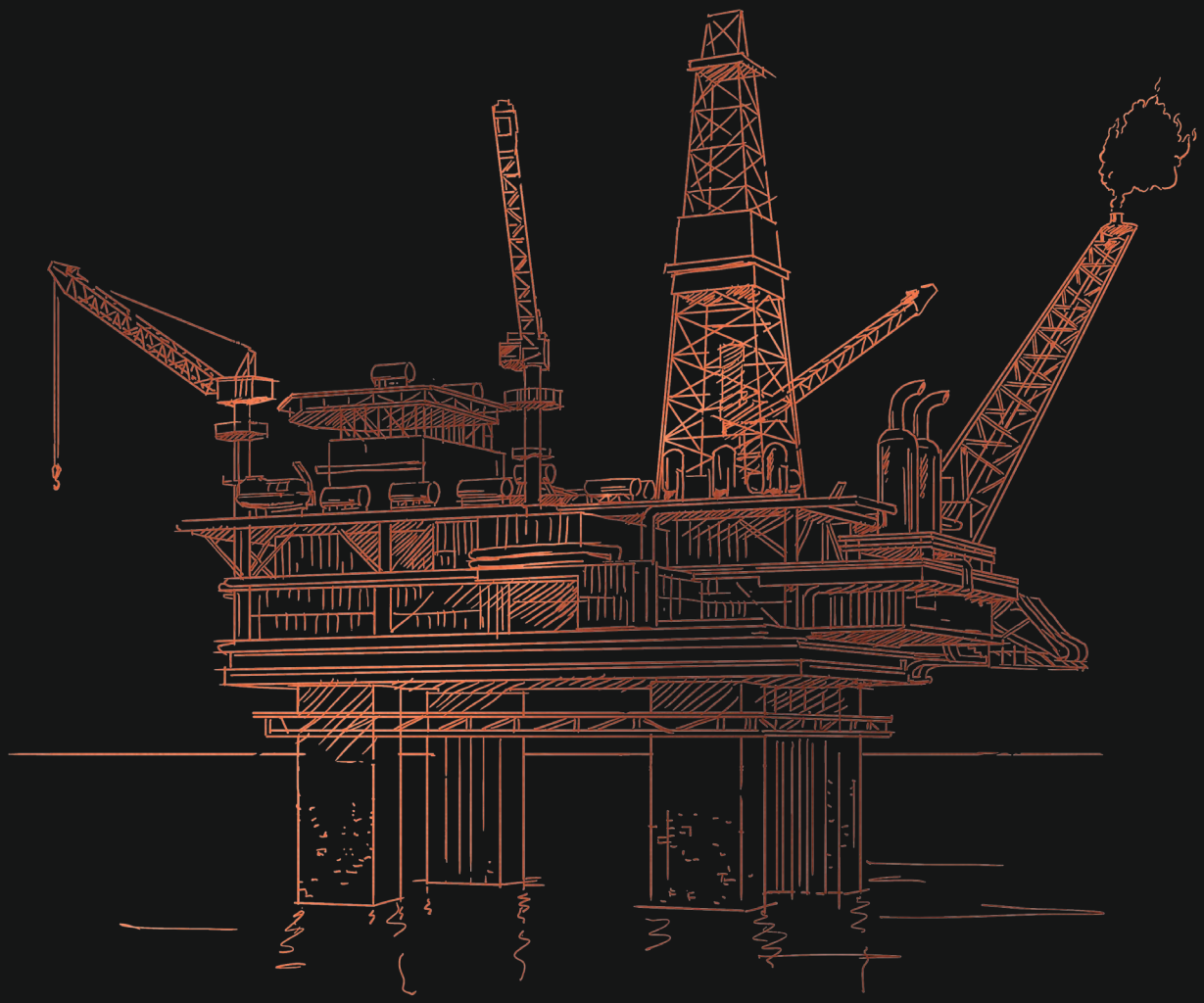
HELUKABEL®

Cables, Wires & Accessories for the

OIL, GAS & PETROCHEMICAL INDUSTRY

Ed. 1.1 // EN



Channeling POWER

Icons

Approvals / Standards


UL


CSA


HAR



VDE REG Number


SPAIN


EAC


CCC


CE



DNV-GL



IPA



DESINA

Properties /Applications



Halogen-Free



UV Radiation


Robust


Drag Chain


Torsion


Wind-Offshore



Meter Marking



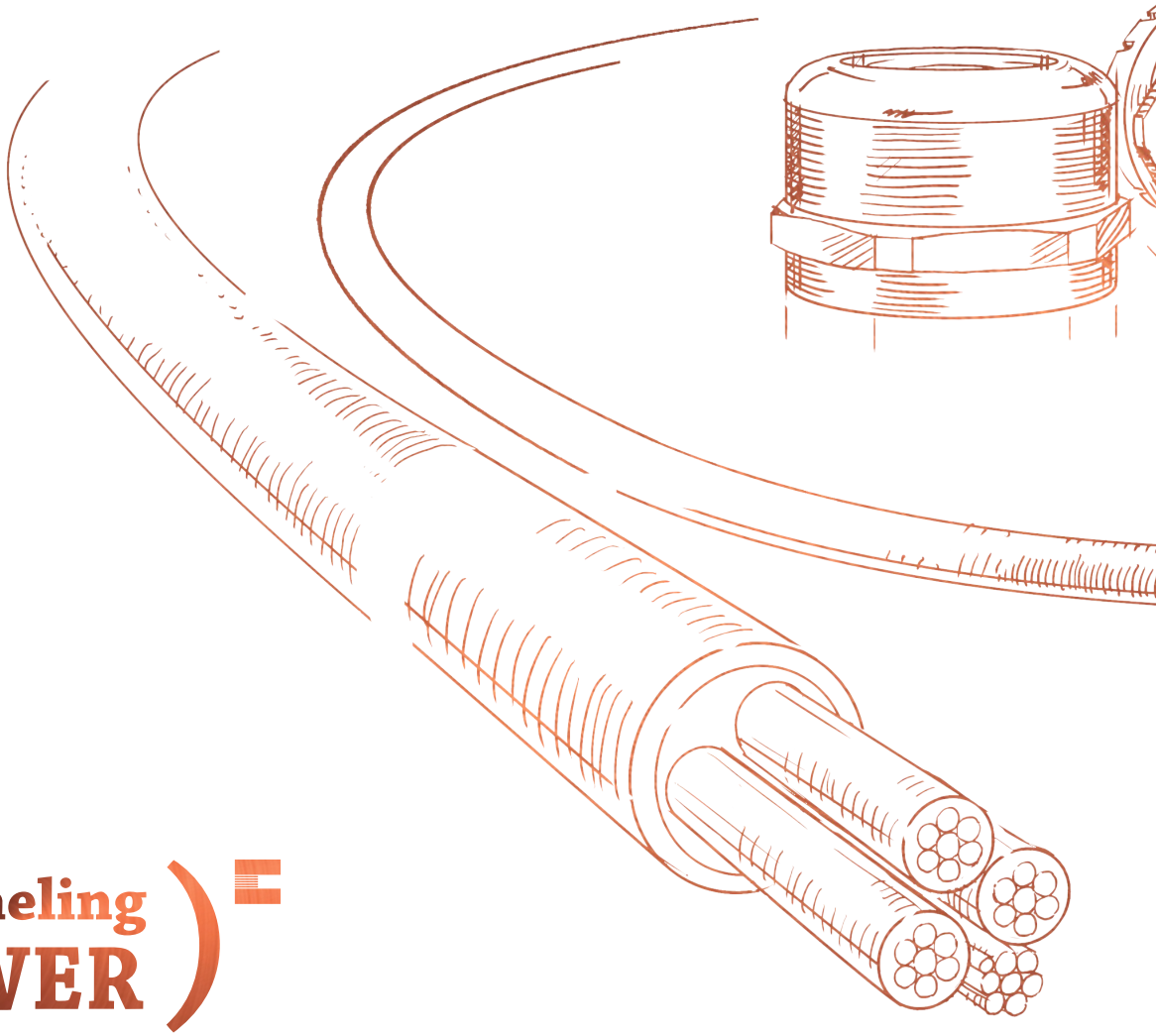
In Feet

Explanation of the icons used in the brochure:

The icons are intended to provide a general overview of material properties and certifications.
For details, please refer to the information in the data sheets.

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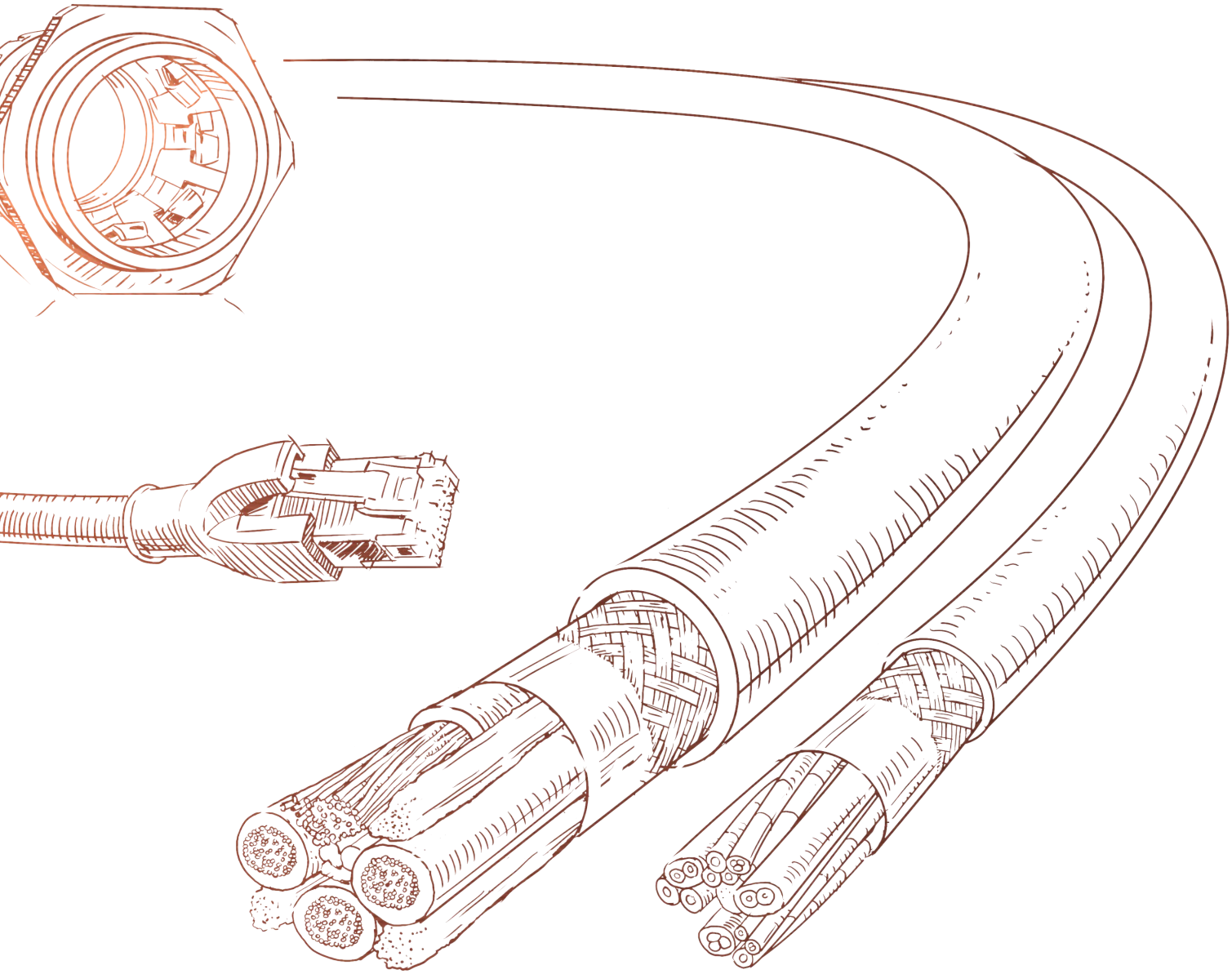


Channeling POWER

Cables are the vital supply lines of complex machines, plants, and systems. Whether operating under extreme mechanical stress, in the middle of the Arctic Ocean, in the scorching heat, or in the vastness of space – such conditions demonstrate what top-of-the-line cables can achieve.

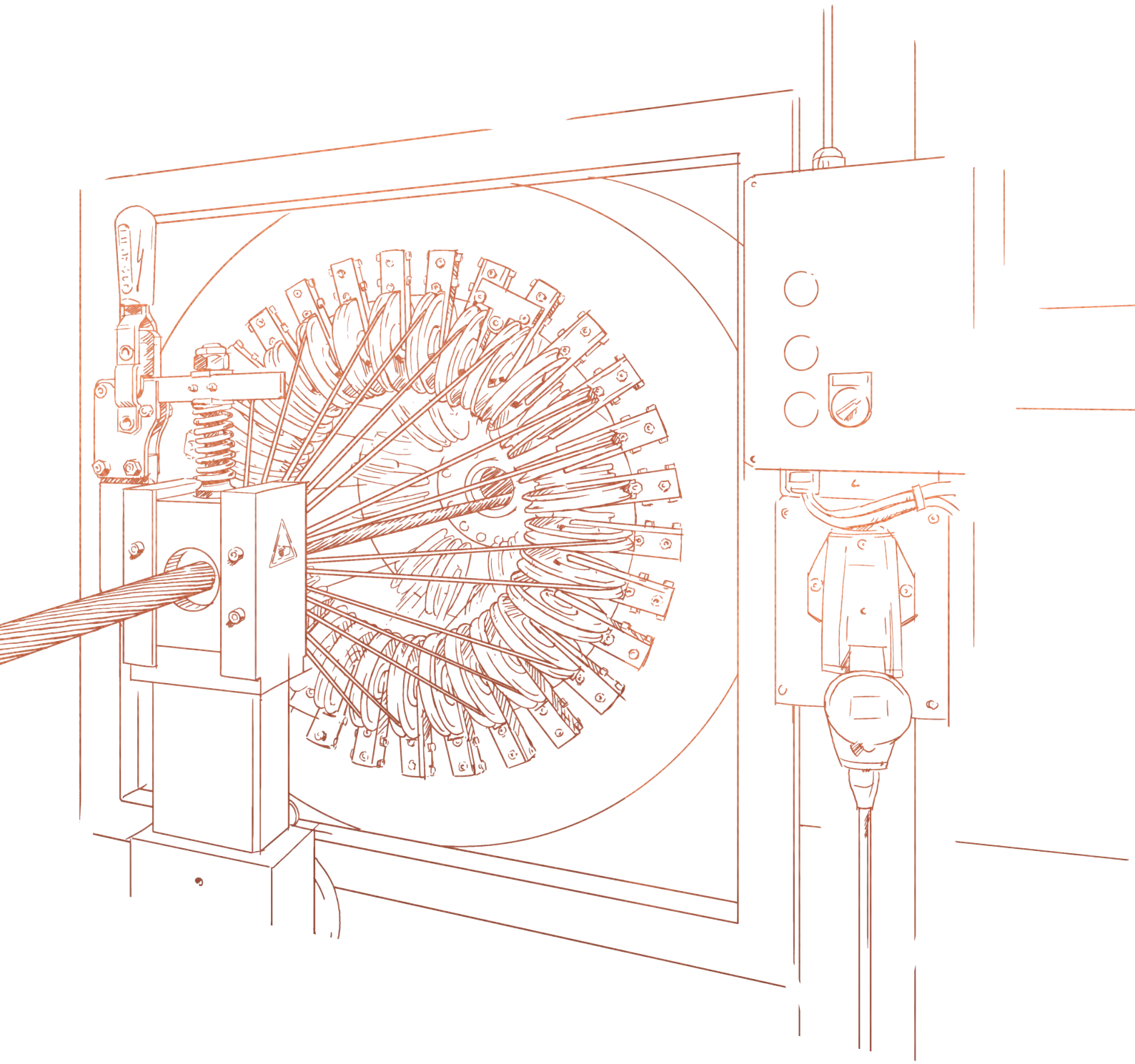
We at HELUKABEL have made it our mission to bring energy and communication to our customers' destinations reliably and consistently at all times, and to make the impossible, possible! "Channeling Power" succinctly summarizes this mission and is our commitment to customers.

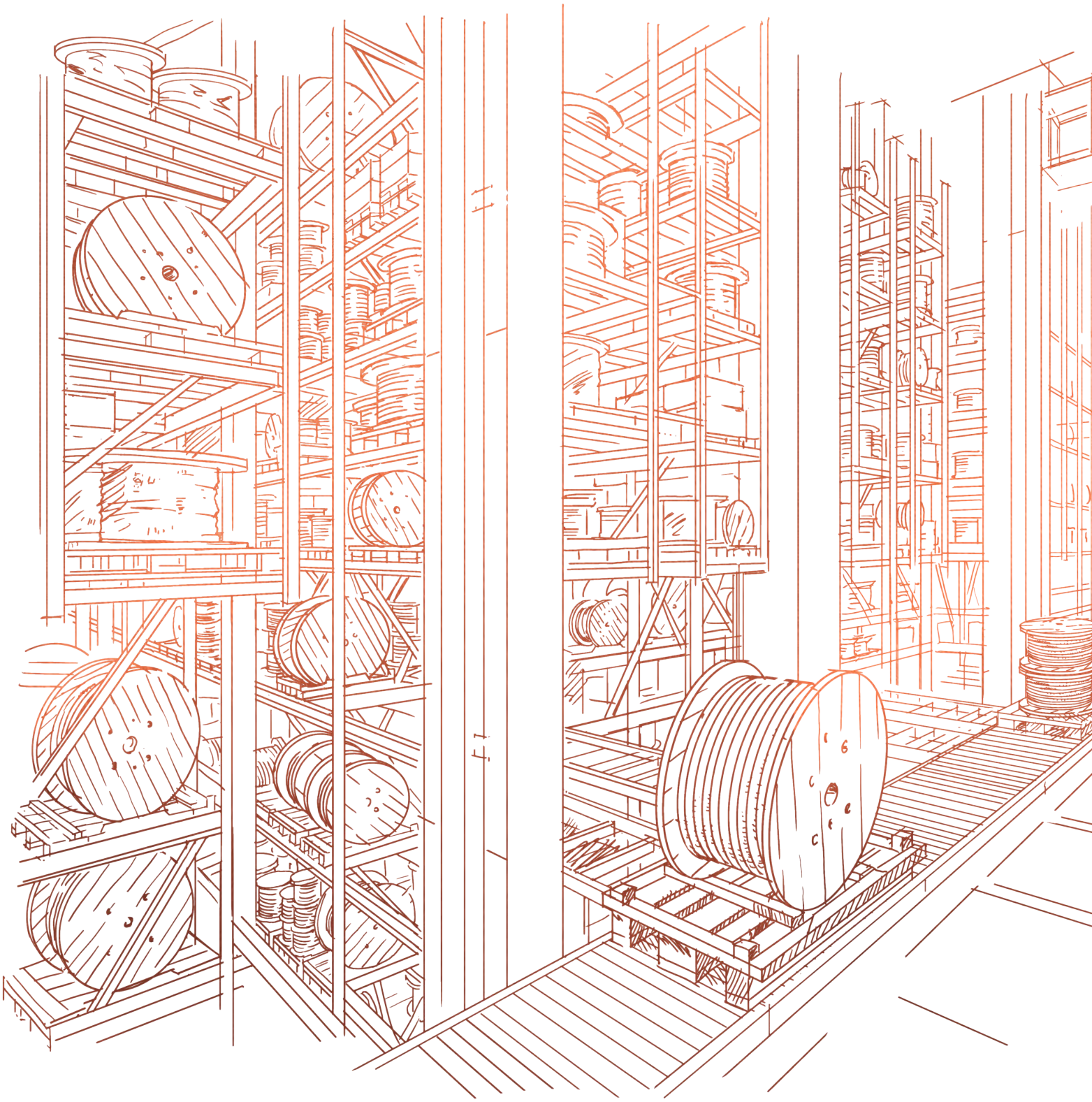
Over 1,700 employees located at 58 sites across 37 countries work towards this common goal. We see it as our challenge to find the right cable solution for you every day, giving you the time to concentrate on more important things than cables and wires. This is where our products truly create value for you and your application.



Channeling INNOVATION

A cable is only as good as the minds that ask the right questions before it's made. We have a lot of bright minds at HELUKABEL who spend every day searching for intelligent answers. This is important because the challenges faced by modern cables and wires are multifaceted: for example, moving applications with more than ten million cycles, exposure to extreme mechanical and chemical loads, tricky bending radii and space-saving hybrid solutions. For each situation, HELUKABEL has answers to help you. To ensure there are no issues during use, all newly developed products undergo rigorous testing at our R&D centre in Windsbach, near Nuremberg. Here we bend, pull, grind and ignite the cable for all it's worth. Our special aging ovens are time machines that simulate a cable's life cycle and far beyond. Our cables are tested to comply with national and international standards, and all results are signed and sealed.





Channeling LOGISTICS

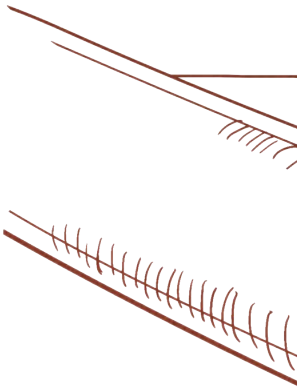


Where there's no cable there's no data nor electricity. When everything's going according to plan, cables are of little interest to anyone; but inevitability the day comes when a machine starts malfunctioning or a missing cable is holding up the completion of a project task. Whatever the situation in which problems occur, the time can be tense and critical for everyone involved.

At HELUKABEL, we try to remove the stress you're experiencing as quickly as possible. To this end, we built the biggest distribution centre for cable products in Europe.

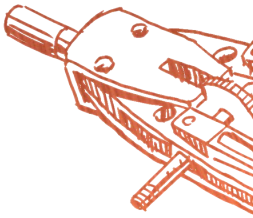
With over 33,000 products stored in a fully automated, high-bay warehouse, we're ready to act upon your needs quickly and ship you the right cable at a moment's notice. Our "known shipper" status with the Federal Office of Civil Aviation means that your goods are checked in and pass security control directly at our warehouse, which speeds up the shipment process. On top of this, we have 33 additional warehouses on 5 continents so you can order your cables in Spanish, Russian, Chinese or in 24 other languages.

Channeling KNOW-HOW

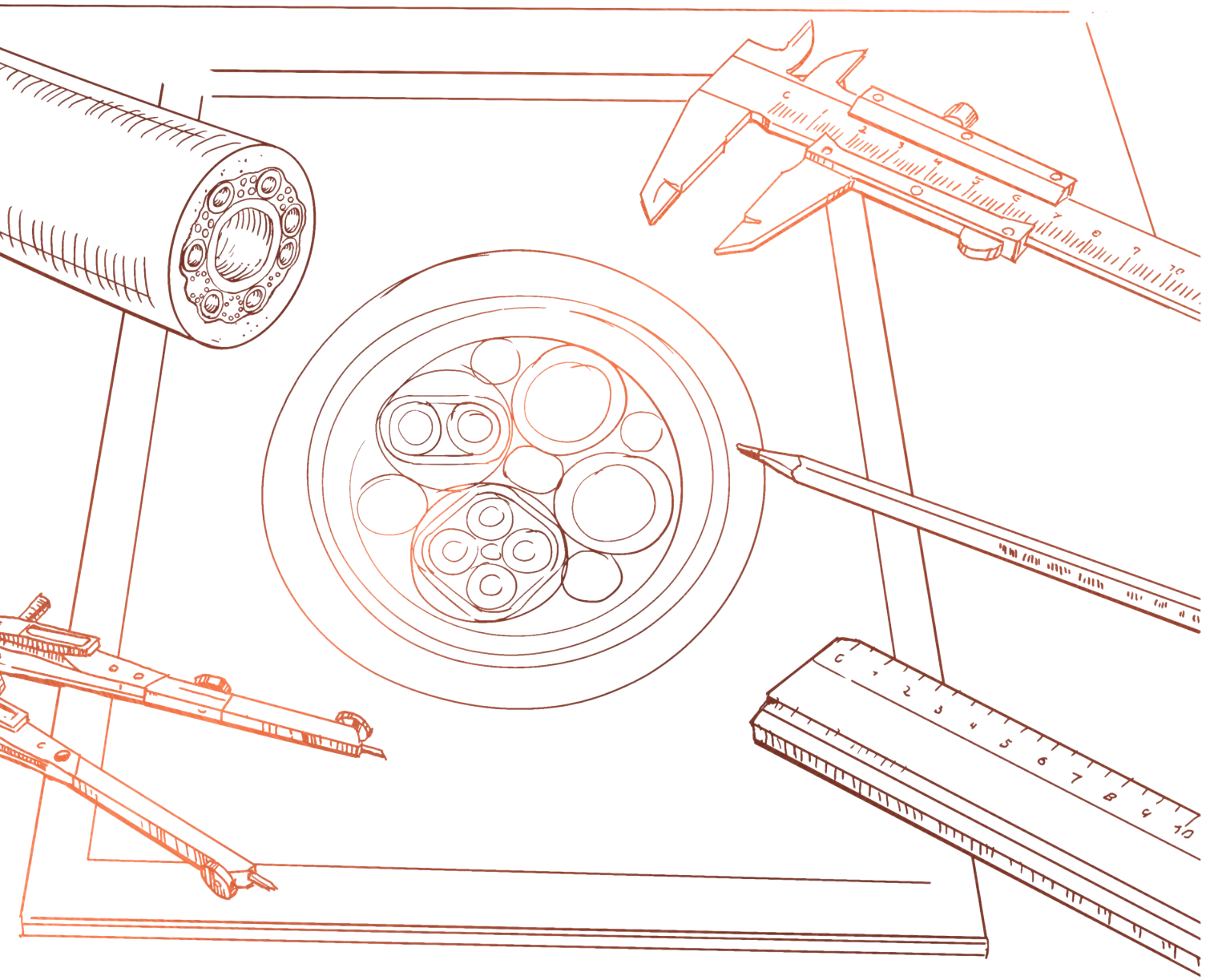


We are mighty proud of our portfolio of more than 33,000 stock items - and yet, among all these products, it still happens that a customer does not find the right solution for a specific application. Luckily, we have a strong backup plan for cases like these: HELUKABEL has in-house experienced specialists who can develop the optimum connection solution precisely tailored to your needs.

Depending on which electrical, chemical and mechanical properties your cable must fulfil in practice, we carefully determine all the parameters: from the cross-section of the conductor and its structure to the insulation and arrangement of the individual elements in the cable, to the shielding and outer sheath. Only when a special cable truly meets all requirements are our engineers fully satisfied - so that you will be too. It's with this approach that we develop reliable solutions together with our customers, even for complex and unusual situations.



In such instances, the results range from small and inconspicuous to great and spectacular: special cables from HELUKABEL can be found, for example, in aerial ladders on fire engines, in sewer robots, tunnel boring machines, on oil platforms or in wind power and biogas plants. After all, when it comes to cables, wires and accessories, there's almost nothing we can't do.



Cables, Wires & Accessories for the Oil, Gas & Petrochemical Industry

Nowadays, more and more research is being conducted into new energy sources that are expected to cover part of the world's energy requirements in a sustainable manner. The oil and gas industry is still the most important branch of industry when it comes to meeting the existing global demand for energy and raw plastic materials. Because the oil and gas industry is found in the most diverse locations around the globe - whether in the deep sea or on land, in the stormy North Sea, at high temperatures in Saudi Arabia or low temperatures in Russia - the cables and pipelines used must withstand a variety of extreme conditions.

HELUKABEL has cabling products and solutions that are perfectly suited to offshore projects on drilling platforms, ships or production platforms, as well as for onshore projects in refineries and petrochemical plants.
In order to meet the different conditions and requirements of the various fields of application, we offer cables, wires and cable accessories with various approvals such as De Norske Veritas - Germanischer Lloyd (DNV GL), American Bureau of Shipping (ABS) and many more.

We look forward to assisting you in identifying the best products for your specific application and to answering any questions you might have.
Call +49 7150 9209-0 or email us:
oilandgas@helukabel.de

Cable & Wire Applications in the Oil, Gas & Petrochemical Industry

OVERVIEW OF OUR RECOMMENDED PRODUCTS FOR IMPORTANT APPLICATIONS IN THE OIL AND GAS INDUSTRY

[1] Instrumentation cables p. 16 / 74 / 108
[2] Thermocouple extension cables p. 92 / 93
[3] Control cables p. 140
[4] Data cables (copper & fibre optics) p. 126
[5] Power cables p. 166
[6] Special cables upon request
[7] HELUTHERM® 145 p. 190
[8] HELUSOUND® PH30 p. 163
[9] MULTIFLEX 512-PUR UL / CSA p. 159
[10] Accessories p. 196

1 Pump Jack

Pumps crude oil out of the ground. Onshore use.
[2] [3] [4] [5] [9] [10]

2 Onshore Rig / Drilling Rig

Drilling machine that drills wells for the extraction of oil or other materials from the ground.
[1] [2] [3] [4] [5] [10]

3 Refinery / Petrochemical Plant

Production facility where raw materials like crude oil or natural gas are processed to become more valuable products, like, for example, petrol or gases of various types of plastics.
[1] [2] [3] [4] [5] [10]

4 Oil, Gas and LNG Terminal

Liquid natural gas (LNG) terminals are port terminals designed to accommodate large LNG carrier ships designed to load, carry and unload LNG.
[1] [2] [3] [4] [5] [10]

5 Oil or Gas Tanker

Ship designed to transport oil or gas by sea or by using other waterways.
[1] [2] [3] [4] [5] [10]

6 Mechanical carrying cable

Mechanical cable (no signal nor power transmission) with support elements (e.g. kevlar braids) to enhance mechanical properties like tensile strength. Used to carry heavy loads by helicopters or cranes.
[6]

7 Platform supply vessel

Ship especially designed to supply offshore oil and gas platforms. Its primary function is to provide logistical support and transport goods, tools and equipment including, for example, ROVs and personnel.
[6] [7] [9]


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8 Diving Bell

Rigid chamber used to transport equipment from the surface to underwater workplaces and back in open water. It is used for performing underwater work. The air supply for the workers or electrical energy for tools is usually transmitted from ships to the diving bell.

Submersible hybrid solutions made of:
[1] [3] [5] [4] [10]

9 ROV

A remotely operated vehicle (ROV) is a cable-operated device for working on the seabed, for example, for inspections, repairs or measurements. Electrical energy, data and video signals are usually transmitted from ships.

Special ROV HYBRID-theters or cables available upon request with: [1] [2] [3] [5] [4] [10]

10 FPSO/FSO

A floating production storage and offloading (FPSO) unit is a floating vessel for the refining, production and processing of hydrocarbons, and for the storage of oil.

IMPORTANT: only with offshore approvals
[1] [2] [3] [4] [5] [7] [9] [10]

11 LNG Carrier

An LNG carrier is a tank ship designed for transporting liquefied natural gas (LNG)

IMPORTANT: only with offshore approvals
[1] [2] [3] [4] [5] [10]

12 Floating Cable

Used for the extraction of oil, gas or other materials as a (partially) self-floating connection to a ship.
[6]

13 Offshore Hotel Platform

Offshore building on a platform that is used for living accommodation for workers of surrounding offshore facilities.

IMPORTANT: only with offshore approvals + CPR requirements
[1] [3] [5] [4] [8] [10]

14 Offshore Oil Rig

Offshore drilling machine that drills wells for the extraction of oil or other materials from the seabed.

IMPORTANT: only with offshore approvals
[1] [3] [5] [4] [10]

15 Oil Well Manifold

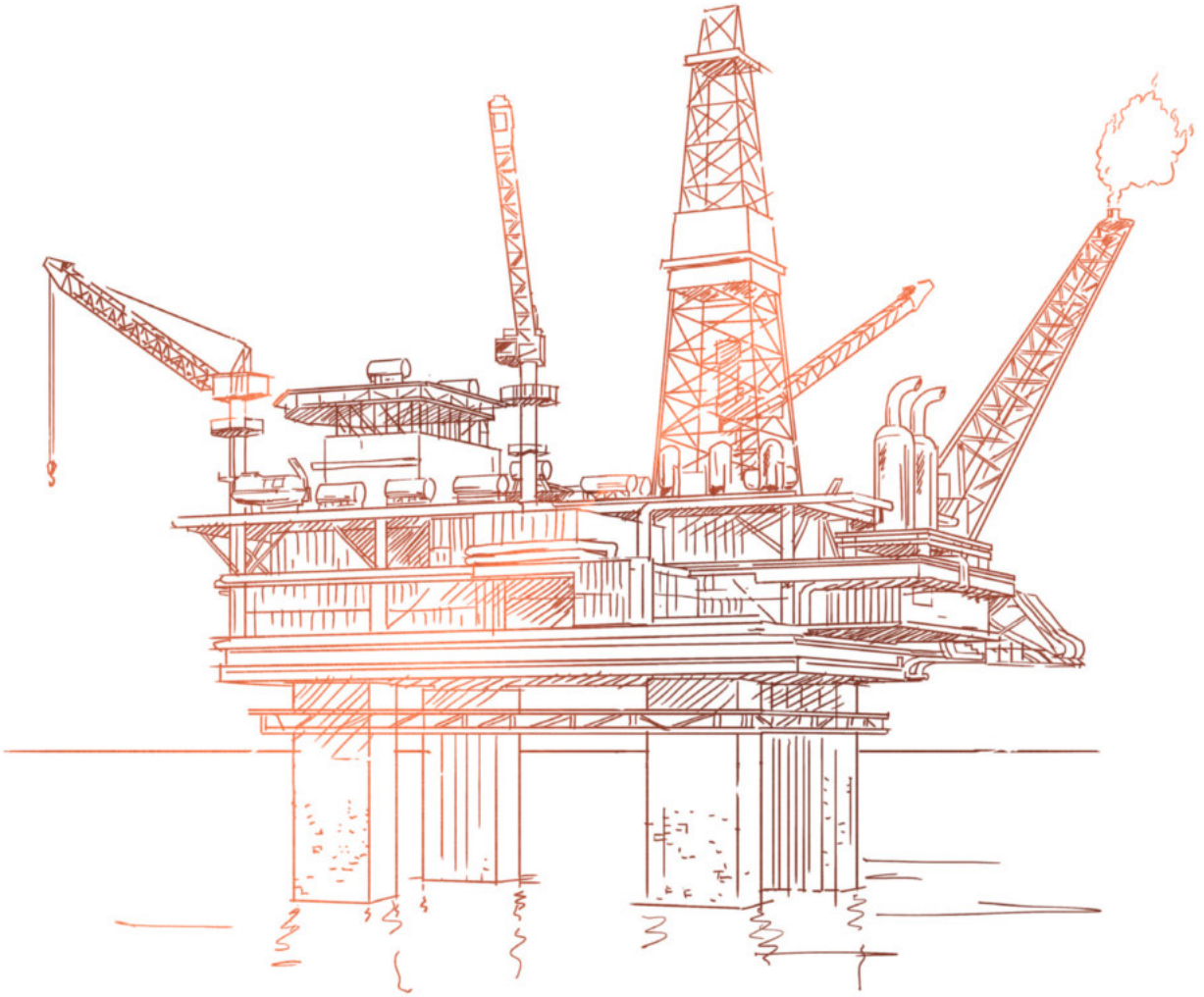
An arrangement of piping or valves designed to control, distribute and typically monitor fluid or gases. It is permanently submersed.
[1] [2] [3] [4] [5] [10]

16 AUV

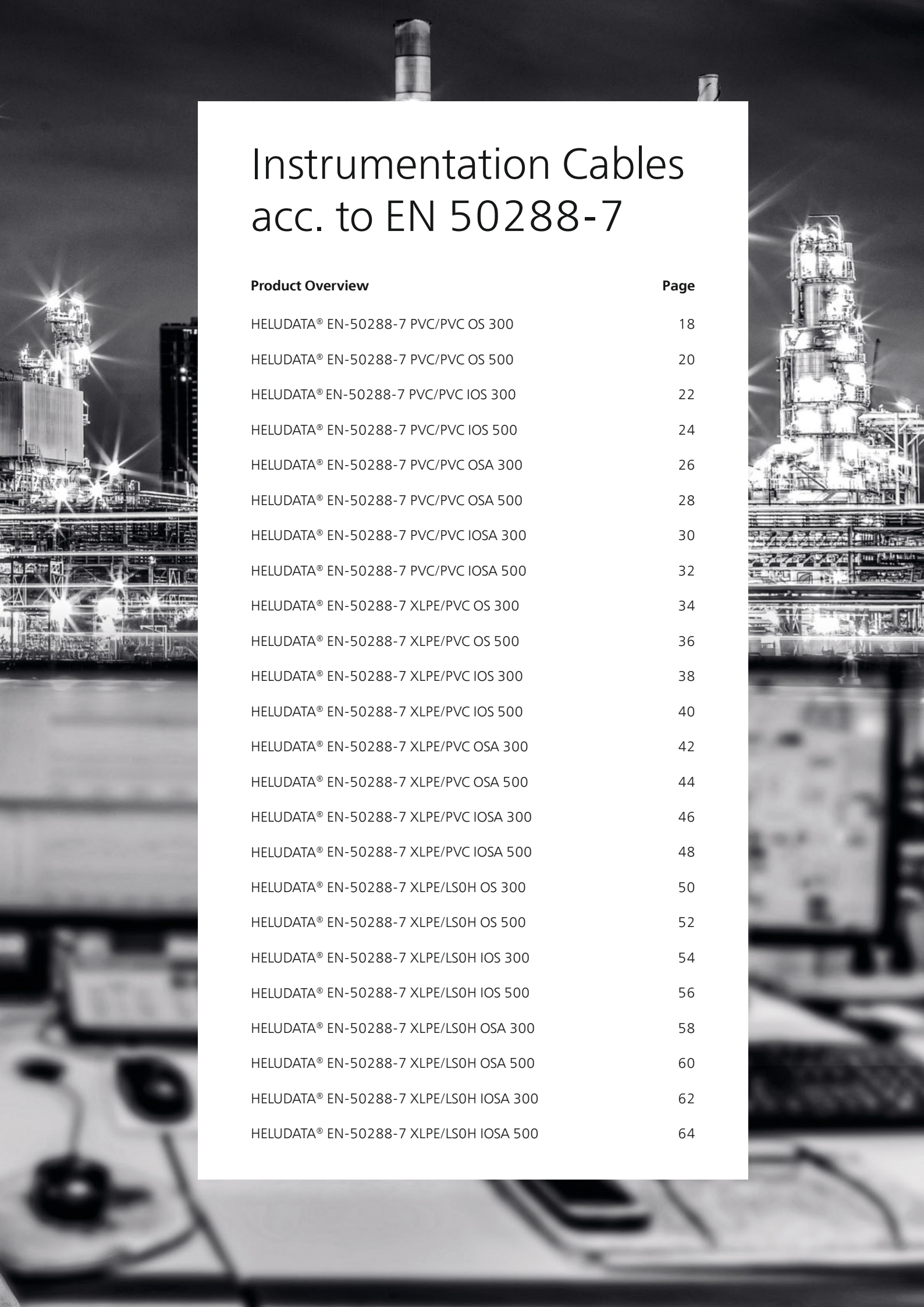
Submersed machines and vehicles working on the seabed on installation and repair projects (e.g. pipelines).
[1] [2] [3] [4] [5] [10]

17 Subsea Technology

Underwater control room where all electrical signals from surrounding machines and devices converge or are distributed.
[1] [2] [3] [4] [5] [10]







Instrumentation Cables acc. to EN 50288-7

Product Overview	Page
HELUDATA® EN-50288-7 PVC/PVC OS 300	18
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HELUDATA® EN-50288-7 PVC/PVC IOSA 300	30
HELUDATA® EN-50288-7 PVC/PVC IOSA 500	32
HELUDATA® EN-50288-7 XLPE/PVC OS 300	34
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HELUDATA® EN-50288-7 XLPE/LS0H OS 300	50
HELUDATA® EN-50288-7 XLPE/LS0H OS 500	52
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HELUDATA® EN-50288-7 XLPE/LS0H IOSA 500	64

HELUDATA® EN-50288-7 PVC/PVC OS 300

Instrumentation cable, PVC/OS/PVC



Technical data

- Instrumentation cable acc. to EN 50288-7
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +70°C
- **Nominal voltage**
  U AC 300 V
- **Test voltage**
  core/core 1500 V
  core/screen 1500 V
- **Minimum bending radius**
  fixed installation 7,5x outer Ø
- **Insulation resistance**
  > 100 MΩxkm
- **Mutual capacitance**
  max. 250 pF/m
- **Inductance**
  max. 1 mH /km
- **L/R (ratio)**
  0,5 mm² < 25 µH/Ω
  0,75 mm² < 25 µH/Ω
  1 mm² < 25 µH/Ω
  1,5 mm² < 40 µH/Ω
  2,5 mm² < 60 µH/Ω

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl.2 / IEC 60228 cl.2
- Core insulation: PVC acc. to EN 50290-2-21
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: WH, BK
  triads: WH, BK, RD
  quads: WH, BK, RD, GY
  white cores with continuous black numbering
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire (7x0,3 mm)
- Outer sheath: PVC acc. to EN 50290-2-22
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- UV resistant acc. to UL 1581 section 1200

Note

- Alternative denomination:
  RE-Y(St)Y
- Available also acc. to PAS 5308
- Not suitable for direct burial
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- We also offer cable glands
  HELUTOP® HT-MS-EX-d

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11015681	11015832	1 x 2 x 0,5	20	4,9 - 6,3	15,4	47
11015682	11015833	2 x 2 x 0,5	20	7,0 - 9,1	25,8	81
11015683	11015834	4 x 2 x 0,5	20	8,2 - 10,7	46,5	120
11015684	11015835	5 x 2 x 0,5	20	8,9 - 11,7	56,9	142
11015685	11015836	6 x 2 x 0,5	20	9,6 - 12,6	67,3	166
11015686	11015837	8 x 2 x 0,5	20	10,9 - 14,4	88,0	207
11015687	11015838	10 x 2 x 0,5	20	12,3 - 16,3	108,8	263
11015688	11015839	12 x 2 x 0,5	20	12,8 - 17,0	129,5	288
11015689	11015840	15 x 2 x 0,5	20	14,2 - 18,7	160,6	355
11015690	11015841	16 x 2 x 0,5	20	14,2 - 18,7	171,0	366
11015691	11015842	20 x 2 x 0,5	20	15,9 - 21,1	212,4	455
11015692	11015843	24 x 2 x 0,5	20	17,5 - 23,3	253,9	533
11015693	11015844	30 x 2 x 0,5	20	18,7 - 24,9	316,1	637
11015694	11015845	36 x 2 x 0,5	20	20,3 - 27,1	378,3	760
11015695	11015846	1 x 3 x 0,5	20	5,4 - 6,8	20,6	58
11015696	11015847	2 x 3 x 0,5	20	7,9 - 10,3	36,2	109
11015697	11015848	3 x 3 x 0,5	20	8,3 - 10,9	51,7	129
11015703	11015854	1 x 4 x 0,5	20	5,7 - 7,4	25,8	68
11015704	11015855	2 x 4 x 0,5	20	9,5 - 12,5	46,5	137
11015705	11015856	3 x 4 x 0,5	20	10,3 - 13,5	67,3	173

Continuation ▸

HELUDATA® EN-50288-7 PVC/PVC OS 300

Instrumentation cable, PVC/OS/PVC

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11015711	11015862	1 x 2 x 0,75	19	5,5 - 6,7	20,6	59
11015712	11015863	2 x 2 x 0,75	19	7,8 - 9,7	36,2	103
11015713	11015864	4 x 2 x 0,75	19	9,0 - 11,1	67,3	148
11015714	11015865	5 x 2 x 0,75	19	9,7 - 12,2	82,8	177
11015715	11015866	6 x 2 x 0,75	19	10,7 - 13,4	98,4	214
11015716	11015867	8 x 2 x 0,75	19	12,0 - 15,0	129,5	259
11015717	11015868	10 x 2 x 0,75	19	13,7 - 17,1	160,6	329
11015718	11015869	12 x 2 x 0,75	19	14,1 - 17,7	191,7	364
11015719	11015870	15 x 2 x 0,75	19	15,8 - 19,8	238,4	463
11015720	11015871	16 x 2 x 0,75	19	15,8 - 19,8	253,9	478
11015721	11015872	20 x 2 x 0,75	19	17,5 - 22,0	316,1	596
11015722	11015873	24 x 2 x 0,75	19	19,5 - 24,6	378,3	682
11015723	11015874	30 x 2 x 0,75	19	20,9 - 26,2	471,6	837
11015724	11015875	36 x 2 x 0,75	19	22,5 - 28,4	564,9	997
11015725	11015876	1 x 3 x 0,75	19	5,8 - 7,1	28,4	69
11015726	11015877	2 x 3 x 0,75	19	8,6 - 10,7	51,7	130
11015727	11015878	3 x 3 x 0,75	19	9,1 - 11,3	75,1	158
11015733	11015884	1 x 4 x 0,75	19	6,2 - 7,6	36,2	82
11015734	11015885	2 x 4 x 0,75	19	10,6 - 13,2	67,3	176
11015735	11015886	3 x 4 x 0,75	19	11,2 - 14,0	98,4	213
11015741	11015892	1 x 2 x 1	18	5,7 - 7,2	25,8	68
11015742	11015893	2 x 2 x 1	18	8,1 - 10,4	46,5	120
11015743	11015894	4 x 2 x 1	18	9,3 - 12,0	88,0	177
11015744	11015895	5 x 2 x 1	18	10,3 - 13,3	108,8	221
11015745	11015896	6 x 2 x 1	18	11,2 - 14,4	129,5	257
11015746	11015897	8 x 2 x 1	18	12,7 - 16,4	171,0	323
11015747	11015898	10 x 2 x 1	18	14,3 - 18,5	212,4	412
11015748	11015899	12 x 2 x 1	18	14,8 - 19,2	253,9	457
11015749	11015900	15 x 2 x 1	18	16,5 - 21,5	316,1	580
11015750	11015901	16 x 2 x 1	18	16,5 - 21,5	336,9	599
11015751	11015902	20 x 2 x 1	18	18,5 - 24,1	419,8	757
11015752	11015903	24 x 2 x 1	18	20,6 - 26,9	502,7	855
11015753	11015904	30 x 2 x 1	18	21,8 - 28,5	627,2	1048
11015754	11015905	36 x 2 x 1	18	23,7 - 31,0	751,6	1251
11015755	11015906	1 x 3 x 1	18	6,0 - 7,6	36,2	80
11015756	11015907	2 x 3 x 1	18	8,9 - 11,4	67,3	155
11015757	11015908	3 x 3 x 1	18	9,5 - 12,2	98,4	190
11015763	11015914	1 x 4 x 1	18	6,4 - 8,1	46,5	97
11015764	11015915	2 x 4 x 1	18	11,0 - 14,2	88,0	206
11015765	11015916	3 x 4 x 1	18	11,7 - 15,2	129,5	257
11015772	11015923	1 x 2 x 1,5	16	6,8 - 8,2	36,2	87
11015773	11015924	2 x 2 x 1,5	16	10,0 - 12,2	67,3	159
11015774	11015925	4 x 2 x 1,5	16	11,7 - 14,3	129,5	250
11015775	11015926	5 x 2 x 1,5	16	13,0 - 15,9	160,6	312
11015776	11015927	6 x 2 x 1,5	16	14,1 - 17,3	191,7	365
11015777	11015928	8 x 2 x 1,5	16	16,0 - 19,7	253,9	460
11015778	11015929	10 x 2 x 1,5	16	18,3 - 22,5	316,1	584
11015779	11015930	12 x 2 x 1,5	16	18,9 - 23,2	378,3	651
11015780	11015931	15 x 2 x 1,5	16	21,2 - 26,0	471,6	825
11015781	11015932	16 x 2 x 1,5	16	21,2 - 26,0	502,7	854
11015782	11015933	20 x 2 x 1,5	16	23,8 - 29,2	627,2	1110
11015783	11015934	24 x 2 x 1,5	16	26,5 - 32,6	751,6	1243
11015784	11015935	30 x 2 x 1,5	16	28,3 - 34,8	938,2	1525
11015785	11015936	36 x 2 x 1,5	16	30,7 - 37,8	1124,8	1818
11015786	11015937	1 x 3 x 1,5	16	7,2 - 8,7	51,7	106
11015787	11015938	2 x 3 x 1,5	16	11,2 - 13,7	98,4	216
11015788	11015939	3 x 3 x 1,5	16	11,9 - 14,6	145,0	270
11015794	11015945	1 x 4 x 1,5	16	7,9 - 9,6	67,3	135
11015795	11015946	2 x 4 x 1,5	16	13,9 - 17,0	129,5	292
11015796	11015947	3 x 4 x 1,5	16	14,8 - 18,2	191,7	376

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 PVC/PVC OS 500

Instrumentation cable, PVC/OS/PVC



Technical data

- Instrumentation cable acc. to EN 50288-7
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +70°C
- **Nominal voltage**
  U AC 500 V
- **Test voltage**
  core/core 2000 V
  core/screen 2000 V
- **Minimum bending radius**
  fixed installation 7,5x outer Ø
- **Insulation resistance**
  > 100 MΩxkm
- **Mutual capacitance**
  single pair max. 250 pF/m
- **Inductance**
  max. 1 mH /km
- **L/R (ratio)**
  0,5 mm² < 25 µH/Ω
  0,75 mm² < 25 µH/Ω
  1 mm² < 25 µH/Ω
  1,5 mm² < 40 µH/Ω
  2,5 mm² < 60 µH/Ω

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl.2 / IEC 60228 cl.2
- Core insulation: PVC acc. to EN 50290-2-21
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: BU, BK
  triads: BU, BK, RD
  quads: BU, BK, RD, GY
  blue cores with continuous black numbering
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire (7x0,3 mm)
- Outer sheath: PVC acc. to EN 50290-2-22
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- UV resistant acc. to UL 1581 section 1200

Note

- Alternative denomination:
  RE-Y(St)Y
- Available also acc. to PAS 5308
- Not suitable for direct burial
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- We also offer cable glands
  HELUTOP® HT-MS-EX-d

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11015983	11016134	1 x 2 x 0,5	20	5,9 - 7,4	15,4	60
11015984	11016135	2 x 2 x 0,5	20	8,4 - 10,7	25,8	105
11015985	11016136	4 x 2 x 0,5	20	9,7 - 12,4	46,5	148
11015986	11016137	5 x 2 x 0,5	20	10,7 - 13,8	56,9	185
11015987	11016138	6 x 2 x 0,5	20	11,7 - 15,0	67,3	214
11015988	11016139	8 x 2 x 0,5	20	13,2 - 17,0	88,0	265
11015989	11016140	10 x 2 x 0,5	20	14,9 - 19,3	108,8	340
11015990	11016141	12 x 2 x 0,5	20	15,6 - 20,1	129,5	370
11015991	11016142	15 x 2 x 0,5	20	17,2 - 22,3	160,6	471
11015992	11016143	16 x 2 x 0,5	20	17,2 - 22,3	171,0	483
11015993	11016144	20 x 2 x 0,5	20	19,3 - 25,0	212,4	612
11015994	11016145	24 x 2 x 0,5	20	21,6 - 27,9	253,9	680
11015995	11016146	30 x 2 x 0,5	20	23,0 - 29,9	316,1	830
11015996	11016147	36 x 2 x 0,5	20	24,8 - 32,2	378,3	989
11015997	11016148	1 x 3 x 0,5	20	6,2 - 7,8	20,6	69
11015998	11016149	2 x 3 x 0,5	20	9,3 - 11,9	36,2	133
11015999	11016150	3 x 3 x 0,5	20	9,8 - 12,6	51,7	158
11016005	11016156	1 x 4 x 0,5	20	6,6 - 8,3	25,8	83
11016006	11016157	2 x 4 x 0,5	20	11,5 - 14,8	46,5	177
11016007	11016158	3 x 4 x 0,5	20	12,2 - 15,7	67,3	214

Continuation ▸

HELUDATA® EN-50288-7 PVC/PVC OS 500

Instrumentation cable, PVC/OS/PVC

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11016013	11016164	1 x 2 x 0,75	19	6,2 - 7,6	20,6	69
11016014	11016165	2 x 2 x 0,75	19	9,0 - 11,1	36,2	124
11016015	11016166	4 x 2 x 0,75	19	10,6 - 13,1	67,3	185
11016016	11016167	5 x 2 x 0,75	19	11,6 - 14,2	82,8	221
11016017	11016168	6 x 2 x 0,75	19	12,8 - 15,7	98,4	267
11016018	11016169	8 x 2 x 0,75	19	14,3 - 17,7	129,5	321
11016019	11016170	10 x 2 x 0,75	19	16,3 - 20,1	160,6	410
11016020	11016171	12 x 2 x 0,75	19	16,8 - 20,9	191,7	452
11016021	11016172	15 x 2 x 0,75	19	18,8 - 23,3	238,4	573
11016022	11016173	16 x 2 x 0,75	19	18,8 - 23,3	253,9	591
11016023	11016174	20 x 2 x 0,75	19	21,1 - 26,2	316,1	770
11016024	11016175	24 x 2 x 0,75	19	23,6 - 29,2	378,3	857
11016025	11016176	30 x 2 x 0,75	19	24,9 - 30,9	471,6	1048
11016026	11016177	36 x 2 x 0,75	19	27,1 - 33,7	564,9	1248
11016027	11016178	1 x 3 x 0,75	19	6,6 - 8,0	28,4	81
11016028	11016179	2 x 3 x 0,75	19	10,0 - 12,3	51,7	164
11016029	11016180	3 x 3 x 0,75	19	10,8 - 13,3	75,1	198
11016035	11016186	1 x 4 x 0,75	19	7,1 - 8,7	36,2	97
11016036	11016187	2 x 4 x 0,75	19	12,4 - 15,3	67,3	221
11016037	11016188	3 x 4 x 0,75	19	13,3 - 16,5	98,4	267
11016043	11016194	1 x 2 x 1	18	6,4 - 8,0	25,8	78
11016044	11016195	2 x 2 x 1	18	9,3 - 11,8	46,5	142
11016045	11016196	4 x 2 x 1	18	11,0 - 13,9	88,0	215
11016046	11016197	5 x 2 x 1	18	12,0 - 15,2	108,8	270
11016047	11016198	6 x 2 x 1	18	13,2 - 16,8	129,5	315
11016048	11016199	8 x 2 x 1	18	14,8 - 18,8	171,0	393
11016049	11016200	10 x 2 x 1	18	16,9 - 21,6	212,4	500
11016050	11016201	12 x 2 x 1	18	17,5 - 22,3	253,9	551
11016051	11016202	15 x 2 x 1	18	19,6 - 24,9	316,1	701
11016052	11016203	16 x 2 x 1	18	19,6 - 24,9	336,9	722
11016053	11016204	20 x 2 x 1	18	22,0 - 28,0	419,8	937
11016054	11016205	24 x 2 x 1	18	24,5 - 31,4	502,7	1045
11016055	11016206	30 x 2 x 1	18	26,1 - 33,4	627,2	1278
11016056	11016207	36 x 2 x 1	18	28,4 - 36,3	751,6	1523
11016057	11016208	1 x 3 x 1	18	6,8 - 8,5	36,2	93
11016058	11016209	2 x 3 x 1	18	10,5 - 13,3	67,3	190
11016059	11016210	3 x 3 x 1	18	11,1 - 14,1	98,4	232
11016065	11016216	1 x 4 x 1	18	7,3 - 9,2	46,5	112
11016066	11016217	2 x 4 x 1	18	13,0 - 16,5	88,0	252
11016067	11016218	3 x 4 x 1	18	13,8 - 17,5	129,5	310
11016074	11016225	1 x 2 x 1,5	16	7,2 - 8,7	36,2	93
11016075	11016226	2 x 2 x 1,5	16	10,7 - 13,1	67,3	180
11016076	11016227	4 x 2 x 1,5	16	12,5 - 15,2	129,5	277
11016077	11016228	5 x 2 x 1,5	16	13,8 - 16,8	160,6	333
11016078	11016229	6 x 2 x 1,5	16	15,2 - 18,6	191,7	434
11016079	11016230	8 x 2 x 1,5	16	17,1 - 20,9	253,9	492
11016080	11016231	10 x 2 x 1,5	16	19,5 - 23,9	316,1	656
11016081	11016232	12 x 2 x 1,5	16	20,4 - 24,9	378,3	698
11016082	11016233	15 x 2 x 1,5	16	22,8 - 27,9	471,6	930
11016083	11016234	16 x 2 x 1,5	16	22,8 - 27,9	502,7	932
11016084	11016235	20 x 2 x 1,5	16	25,6 - 31,2	627,2	1215
11016085	11016236	24 x 2 x 1,5	16	28,5 - 34,9	751,6	1353
11016086	11016237	30 x 2 x 1,5	16	30,4 - 37,2	938,2	1659
11016087	11016238	36 x 2 x 1,5	16	33,0 - 40,4	1124,8	2003
11016088	11016239	1 x 3 x 1,5	16	7,7 - 9,4	51,7	113
11016089	11016240	2 x 3 x 1,5	16	11,9 - 14,4	98,4	231
11016090	11016241	3 x 3 x 1,5	16	12,8 - 15,6	145,0	298
11016096	11016247	1 x 4 x 1,5	16	8,4 - 10,2	67,3	145
11016097	11016248	2 x 4 x 1,5	16	14,8 - 18,1	129,5	324
11016098	11016249	3 x 4 x 1,5	16	16,0 - 19,5	191,7	403
11016104	11016255	1 x 2 x 2,5	14	8,3 - 10,4	56,9	130
11016105	11016256	2 x 2 x 2,5	14	12,3 - 15,5	108,8	254
11016106	11016257	4 x 2 x 2,5	14	14,5 - 18,4	212,4	389
11016107	11016258	5 x 2 x 2,5	14	16,1 - 20,3	264,3	487
11016108	11016259	6 x 2 x 2,5	14	17,5 - 22,3	316,1	633
11016109	11016260	8 x 2 x 2,5	14	19,9 - 25,4	419,8	717
11016110	11016261	10 x 2 x 2,5	14	23,0 - 29,2	523,5	978
11016111	11016262	12 x 2 x 2,5	14	23,7 - 30,3	627,2	1041
11016112	11016263	15 x 2 x 2,5	14	26,6 - 33,8	782,7	1389
11016113	11016264	16 x 2 x 2,5	14	26,6 - 33,8	834,5	1389
11016114	11016265	20 x 2 x 2,5	14	29,8 - 38,1	1041,9	1805
11016115	11016266	24 x 2 x 2,5	14	33,5 - 42,7	1249,2	2015
11016116	11016267	30 x 2 x 2,5	14	35,7 - 45,5	1560,3	2472
11016117	11016268	36 x 2 x 2,5	14	38,7 - 49,4	1871,3	3023
11016118	11016269	1 x 3 x 2,5	14	8,8 - 11,0	82,8	161
11016119	11016270	2 x 3 x 2,5	14	13,8 - 17,5	160,6	334
11016120	11016271	3 x 3 x 2,5	14	14,7 - 18,6	238,4	432
11016126	11016277	1 x 4 x 2,5	14	9,5 - 12,0	108,8	200
11016127	11016278	2 x 4 x 2,5	14	17,2 - 21,9	212,4	519
11016128	11016279	3 x 4 x 2,5	14	18,6 - 23,5	316,1	580

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 PVC/PVC IOS 300

Instrumentation cable, PVC/IS/OS/PVC



Technical data

- Instrumentation cable acc. to EN 50288-7
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +70°C
- **Nominal voltage**
  U AC 300 V
- **Test voltage**
  core/core 1500 V
  core/screen 1500 V
- **Minimum bending radius**
  fixed installation 7,5x outer Ø
- **Insulation resistance**
  > 100 MΩxkm
- **Mutual capacitance**
  max. 250 pF/m
- **Inductance**
  max. 1 mH /km
- **L/R (ratio)**
  0,5 mm² < 25 µH/Ω
  0,75 mm² < 25 µH/Ω
  1 mm² < 25 µH/Ω
  1,5 mm² < 40 µH/Ω
  2,5 mm² < 60 µH/Ω

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl.2 / IEC 60228 cl.2
- Core insulation: PVC acc. to EN 50290-2-21
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: WH, BK
  triads: WH, BK, RD
  quads: WH, BK, RD, GY
  white cores with continuous black numbering
- Individual screen: pairs, triads or quads indiv. screened with AL/PE tape over tinned copper drain wire (solid 0,6 mm)
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire (7x0,3 mm)
- Outer sheath: PVC acc. to EN 50290-2-22
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- UV resistant acc. to UL 1581 section 1200

Note

- Alternative denomination:
  RE-Y(St)Y PiMF
- Available also acc. to PAS 5308
- Not suitable for direct burial
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- We also offer cable glands
  HELUTOP® HT-MS-EX-d

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11014593	11014729	2 x 2 x 0,5	20	8,3 - 10,7	31,6	105
11014594	11014730	4 x 2 x 0,5	20	9,5 - 12,3	58,2	148
11014595	11014731	5 x 2 x 0,5	20	10,5 - 13,7	71,4	184
11014596	11014732	6 x 2 x 0,5	20	11,4 - 14,9	84,7	214
11014597	11014733	8 x 2 x 0,5	20	13,0 - 16,9	111,2	257
11014598	11014734	10 x 2 x 0,5	20	14,6 - 19,0	137,8	328
11014599	11014735	12 x 2 x 0,5	20	15,3 - 19,9	164,4	361
11014600	11014736	15 x 2 x 0,5	20	16,9 - 22,0	204,1	457
11014601	11014737	16 x 2 x 0,5	20	16,9 - 22,0	217,4	471
11014602	11014738	20 x 2 x 0,5	20	18,9 - 24,8	270,5	586
11014603	11014739	24 x 2 x 0,5	20	21,1 - 27,7	323,6	686
11014604	11014740	30 x 2 x 0,5	20	22,3 - 29,3	403,2	838
11014605	11014741	36 x 2 x 0,5	20	24,3 - 31,9	482,9	979
11014606	11014742	2 x 3 x 0,5	20	9,1 - 11,8	42,0	125
11014607	11014743	3 x 3 x 0,5	20	9,6 - 12,4	60,5	152
11014613	11014749	2 x 4 x 0,5	20	10,5 - 13,6	52,4	159
11014614	11014750	3 x 4 x 0,5	20	11,1 - 14,4	76,0	194

Continuation ▸

HELUDATA® EN-50288-7 PVC/PVC IOS 300

Instrumentation cable, PVC/IS/OS/PVC

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11014620	11014756	2 x 2 x 0,75	19	8,9 - 11,0	42,0	122
11014621	11014757	4 x 2 x 0,75	19	10,5 - 13,1	78,9	186
11014622	11014758	5 x 2 x 0,75	19	11,4 - 14,2	97,3	221
11014623	11014759	6 x 2 x 0,75	19	12,4 - 15,4	115,8	258
11014624	11014760	8 x 2 x 0,75	19	14,1 - 17,5	152,7	324
11014625	11014761	10 x 2 x 0,75	19	16,1 - 20,0	189,6	413
11014626	11014762	12 x 2 x 0,75	19	16,6 - 20,8	226,6	458
11014627	11014763	15 x 2 x 0,75	19	18,6 - 23,2	281,9	578
11014628	11014764	16 x 2 x 0,75	19	18,6 - 23,2	300,3	599
11014629	11014765	20 x 2 x 0,75	19	20,9 - 26,0	374,2	745
11014630	11014766	24 x 2 x 0,75	19	23,3 - 29,1	448,0	871
11014631	11014767	30 x 2 x 0,75	19	24,6 - 30,8	558,7	1048
11014632	11014768	36 x 2 x 0,75	19	26,8 - 33,5	669,5	1248
11014633	11014769	2 x 3 x 0,75	19	9,8 - 12,2	57,6	150
11014634	11014770	3 x 3 x 0,75	19	10,6 - 13,2	83,8	192
11014640	11014776	2 x 4 x 0,75	19	11,4 - 14,1	73,1	191
11014641	11014777	3 x 4 x 0,75	19	12,1 - 15,0	107,1	235
11014647	11014783	2 x 2 x 1	18	9,3 - 11,8	52,4	141
11014648	11014784	4 x 2 x 1	18	10,9 - 13,9	99,7	216
11014649	11014785	5 x 2 x 1	18	11,9 - 15,2	123,2	260
11014650	11014786	6 x 2 x 1	18	13,1 - 16,8	146,9	313
11014651	11014787	8 x 2 x 1	18	14,7 - 18,8	194,2	382
11014652	11014788	10 x 2 x 1	18	16,8 - 21,6	241,5	485
11014653	11014789	12 x 2 x 1	18	17,3 - 22,4	288,8	541
11014654	11014790	15 x 2 x 1	18	19,4 - 25,0	359,6	700
11014655	11014791	16 x 2 x 1	18	19,4 - 25,0	383,3	724
11014656	11014792	20 x 2 x 1	18	21,8 - 28,0	477,9	932
11014657	11014793	24 x 2 x 1	18	24,3 - 31,4	572,4	1032
11014658	11014794	30 x 2 x 1	18	25,9 - 33,5	714,2	1266
11014659	11014795	36 x 2 x 1	18	28,1 - 36,4	856,1	1508
11014660	11014796	2 x 3 x 1	18	10,4 - 13,3	73,1	182
11014661	11014797	3 x 3 x 1	18	11,0 - 14,0	107,1	223
11014667	11014803	2 x 4 x 1	18	11,8 - 15,1	93,9	225
11014668	11014804	3 x 4 x 1	18	12,7 - 16,4	138,2	289
11014675	11014811	2 x 2 x 1,5	16	11,4 - 13,9	73,1	191
11014676	11014812	4 x 2 x 1,5	16	13,5 - 16,5	141,2	295
11014677	11014813	5 x 2 x 1,5	16	14,8 - 18,0	175,1	357
11014678	11014814	6 x 2 x 1,5	16	16,3 - 19,9	209,1	460
11014679	11014815	8 x 2 x 1,5	16	18,5 - 22,6	277,1	540
11014680	11014816	10 x 2 x 1,5	16	21,1 - 25,8	345,2	714
11014681	11014817	12 x 2 x 1,5	16	21,8 - 26,6	413,2	762
11014682	11014818	15 x 2 x 1,5	16	24,4 - 29,9	515,2	992
11014683	11014819	16 x 2 x 1,5	16	24,4 - 29,9	549,2	997
11014684	11014820	20 x 2 x 1,5	16	27,4 - 33,6	685,3	1294
11014685	11014821	24 x 2 x 1,5	16	30,8 - 37,7	821,2	1450
11014686	11014822	30 x 2 x 1,5	16	32,8 - 40,2	1025,2	1802
11014687	11014823	36 x 2 x 1,5	16	35,6 - 43,7	1229,4	2171
11014688	11014824	2 x 3 x 1,5	16	12,8 - 15,6	104,2	249
11014689	11014825	3 x 3 x 1,5	16	13,6 - 16,6	153,8	309
11014695	11014831	2 x 4 x 1,5	16	14,7 - 18,0	135,3	310
11014696	11014832	3 x 4 x 1,5	16	15,8 - 19,4	200,4	399

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 PVC/PVC IOS 500

Instrumentation cable, PVC/IS/OS/PVC



Technical data

- Instrumentation cable acc. to EN 50288-7
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +70°C
- **Nominal voltage**
  U AC 500 V
- **Test voltage**
  core/core 2000 V
  core/screen 2000 V
- **Minimum bending radius**
  fixed installation 7,5x outer Ø
- **Insulation resistance**
  > 100 MΩxkm
- **Mutual capacitance**
  single pair max. 250 pF/m
- **Inductance**
  max. 1 mH /km
- **L/R (ratio)**
  0,5 mm² < 25 µH/Ω
  0,75 mm² < 25 µH/Ω
  1 mm² < 25 µH/Ω
  1,5 mm² < 40 µH/Ω
  2,5 mm² < 60 µH/Ω

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl.2 / IEC 60228 cl.2
- Core insulation: PVC acc. to EN 50290-2-21
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: BU, BK
  triads: BU, BK, RD
  quads: BU, BK, RD, GY
  blue cores with continuous black numbering
- Individual screen: pairs, triads or quads indiv. screened with AL/PE tape over tinned copper drain wire (solid 0,6 mm)
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire (7x0,3 mm)
- Outer sheath: PVC acc. to EN 50290-2-22
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- UV resistant acc. to UL 1581 section 1200

Note

- Alternative denomination: **RE-Y(St)Y PiMF**
- Available also acc. to PAS 5308
- Not suitable for direct burial
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- We also offer cable glands **HELUTOP® HT-MS-EX-d**

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11014865	11015001	2 x 2 x 0,5	20	9,6 - 12,2	31,6	127
11014866	11015002	4 x 2 x 0,5	20	11,3 - 14,4	58,2	187
11014867	11015003	5 x 2 x 0,5	20	12,3 - 15,7	71,4	223
11014868	11015004	6 x 2 x 0,5	20	13,6 - 17,3	84,7	269
11014869	11015005	8 x 2 x 0,5	20	15,4 - 19,7	111,2	324
11014870	11015006	10 x 2 x 0,5	20	17,4 - 22,4	137,8	413
11014871	11015007	12 x 2 x 0,5	20	18,2 - 23,3	164,4	453
11014872	11015008	15 x 2 x 0,5	20	20,4 - 26,1	204,1	591
11014873	11015009	16 x 2 x 0,5	20	20,4 - 26,1	217,4	608
11014874	11015010	20 x 2 x 0,5	20	22,8 - 29,3	270,5	787
11014875	11015011	24 x 2 x 0,5	20	25,5 - 32,7	323,6	858
11014876	11015012	30 x 2 x 0,5	20	26,9 - 34,7	403,2	1048
11014877	11015013	36 x 2 x 0,5	20	29,3 - 37,7	482,9	1246
11014878	11015014	2 x 3 x 0,5	20	10,8 - 13,7	42,0	160
11014879	11015015	3 x 3 x 0,5	20	11,4 - 14,6	60,5	191
11014885	11015021	2 x 4 x 0,5	20	12,3 - 15,6	52,4	196
11014886	11015022	3 x 4 x 0,5	20	13,2 - 16,9	76,0	245

Continuation ▸

HELUDATA® EN-50288-7 PVC/PVC IOS 500

Instrumentation cable, PVC/IS/OS/PVC

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11014892	11015028	2 x 2 x 0,75	19	10,4 - 12,7	42,0	151
11014893	11015029	4 x 2 x 0,75	19	12,1 - 14,9	78,9	217
11014894	11015030	5 x 2 x 0,75	19	13,4 - 16,5	97,3	270
11014895	11015031	6 x 2 x 0,75	19	14,6 - 18,0	115,8	318
11014896	11015032	8 x 2 x 0,75	19	16,6 - 20,3	152,7	392
11014897	11015033	10 x 2 x 0,75	19	18,9 - 23,3	189,6	500
11014898	11015034	12 x 2 x 0,75	19	19,6 - 24,1	226,6	550
11014899	11015035	15 x 2 x 0,75	19	21,9 - 27,0	281,9	698
11014900	11015036	16 x 2 x 0,75	19	21,9 - 27,0	300,3	719
11014901	11015037	20 x 2 x 0,75	19	24,6 - 30,3	374,2	933
11014902	11015038	24 x 2 x 0,75	19	27,4 - 33,8	448,0	1042
11014903	11015039	30 x 2 x 0,75	19	29,3 - 36,1	558,7	1272
11014904	11015040	36 x 2 x 0,75	19	31,8 - 39,3	669,5	1514
11014905	11015041	2 x 3 x 0,75	19	11,5 - 14,1	57,6	185
11014906	11015042	3 x 3 x 0,75	19	12,2 - 15,0	83,8	226
11014912	11015048	2 x 4 x 0,75	19	13,3 - 16,4	73,1	237
11014913	11015049	3 x 4 x 0,75	19	14,2 - 17,4	107,1	289
11014919	11015055	2 x 2 x 1	18	10,8 - 13,6	52,4	169
11014920	11015056	4 x 2 x 1	18	12,7 - 15,9	99,7	258
11014921	11015057	5 x 2 x 1	18	13,9 - 17,4	123,2	309
11014922	11015058	6 x 2 x 1	18	15,3 - 19,3	146,9	375
11014923	11015059	8 x 2 x 1	18	17,1 - 21,7	194,2	453
11014924	11015060	10 x 2 x 1	18	19,6 - 24,8	241,5	591
11014925	11015061	12 x 2 x 1	18	20,5 - 25,9	288,8	653
11014926	11015062	15 x 2 x 1	18	22,9 - 29,0	359,6	826
11014927	11015063	16 x 2 x 1	18	22,9 - 29,0	383,3	852
11014928	11015064	20 x 2 x 1	18	25,7 - 32,5	477,9	1106
11014929	11015065	24 x 2 x 1	18	28,6 - 36,4	572,4	1235
11014930	11015066	30 x 2 x 1	18	30,5 - 38,7	714,2	1509
11014931	11015067	36 x 2 x 1	18	33,1 - 42,1	856,1	1795
11014932	11015068	2 x 3 x 1	18	11,9 - 15,0	73,1	213
11014933	11015069	3 x 3 x 1	18	12,8 - 16,2	107,1	271
11014939	11015075	2 x 4 x 1	18	13,8 - 17,4	93,9	272
11014940	11015076	3 x 4 x 1	18	14,7 - 18,6	138,2	347
11014947	11015083	2 x 2 x 1,5	16	12,1 - 14,7	73,1	202
11014948	11015084	4 x 2 x 1,5	16	14,3 - 17,3	141,2	314
11014949	11015085	5 x 2 x 1,5	16	15,8 - 19,3	175,1	393
11014950	11015086	6 x 2 x 1,5	16	17,3 - 21,0	209,1	494
11014951	11015087	8 x 2 x 1,5	16	19,6 - 23,9	277,1	572
11014952	11015088	10 x 2 x 1,5	16	22,4 - 27,3	345,2	763
11014953	11015089	12 x 2 x 1,5	16	23,4 - 28,5	413,2	810
11014954	11015090	15 x 2 x 1,5	16	26,2 - 31,9	515,2	1082
11014955	11015091	16 x 2 x 1,5	16	26,2 - 31,9	549,2	1082
11014956	11015092	20 x 2 x 1,5	16	29,4 - 35,8	685,3	1404
11014957	11015093	24 x 2 x 1,5	16	33,0 - 40,2	821,2	1566
11014958	11015094	30 x 2 x 1,5	16	34,9 - 42,6	1025,2	1942
11014959	11015095	36 x 2 x 1,5	16	38,1 - 46,5	1229,4	2343
11014960	11015096	2 x 3 x 1,5	16	13,6 - 16,5	104,2	267
11014961	11015097	3 x 3 x 1,5	16	14,5 - 17,5	153,8	328
11014967	11015103	2 x 4 x 1,5	16	15,8 - 19,2	135,3	343
11014968	11015104	3 x 4 x 1,5	16	16,8 - 20,4	200,4	428
11014974	11015110	2 x 2 x 2,5	14	13,9 - 17,5	114,6	278
11014975	11015111	4 x 2 x 2,5	14	16,5 - 20,9	224,1	441
11014976	11015112	5 x 2 x 2,5	14	18,2 - 23,0	278,7	551
11014977	11015113	6 x 2 x 2,5	14	19,9 - 25,3	333,5	710
11014978	11015114	8 x 2 x 2,5	14	22,8 - 28,9	443,0	810
11014979	11015115	10 x 2 x 2,5	14	26,1 - 33,1	552,5	1095
11014980	11015116	12 x 2 x 2,5	14	27,0 - 34,2	662,0	1171
11014981	11015117	15 x 2 x 2,5	14	30,4 - 38,6	826,2	1554
11014982	11015118	16 x 2 x 2,5	14	30,4 - 38,6	881,0	1560
11014983	11015119	20 x 2 x 2,5	14	34,2 - 43,3	1100,0	2024
11014984	11015120	24 x 2 x 2,5	14	38,3 - 48,6	1318,9	2288
11014985	11015121	30 x 2 x 2,5	14	40,8 - 51,8	1647,3	2798
11014986	11015122	36 x 2 x 2,5	14	44,3 - 56,3	1975,9	3408
11014987	11015123	2 x 3 x 2,5	14	15,7 - 19,8	166,4	375
11014988	11015124	3 x 3 x 2,5	14	16,7 - 21,1	247,1	468
11014994	11015130	2 x 4 x 2,5	14	18,2 - 23,0	218,3	442
11014995	11015131	3 x 4 x 2,5	14	19,4 - 24,6	324,9	609

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 PVC/PVC OSA 300

Instrumentation cable, PVC/OS/PVC/SWA/PVC



Technical data

- Instrumentation cable acc. to EN 50288-7
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +70°C
- **Nominal voltage**
  U AC 300 V
- **Test voltage**
  core/core 1500 V
  core/screen 1500 V
- **Minimum bending radius**
  fixed installation 10x outer Ø
- **Insulation resistance**
  > 100 MΩxkm
- **Mutual capacitance**
  max. 250 pF/m
- **Inductance**
  max. 1 mH /km
- **L/R (ratio)**
  0,5 mm² < 25 µH/Ω
  0,75 mm² < 25 µH/Ω
  1 mm² < 25 µH/Ω
  1,5 mm² < 40 µH/Ω
  2,5 mm² < 60 µH/Ω

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl.2 / IEC 60228 cl.2
- Core insulation: PVC acc. to EN 50290-2-21
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: WH, BK
  triads: WH, BK, RD
  quads: WH, BK, RD, GY
  white cores with continuous black numbering
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire (7x0,3 mm)
- Inner sheath: PVC acc. to EN 50290-2-22
- Armouring: single layer of galvanised round steel wires acc. to EN 10257-1
- Outer sheath: PVC acc. to EN 50290-2-22
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- UV resistant acc. to UL 1581 section 1200

Note

- Alternative denomination: **RE-Y(St)YRY**
- Suitable for direct burial
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- We also offer cable glands **HELUTOP® HT-MS-EX-d e4**

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11016285	11016436	1 x 2 x 0,5	20	9,0 - 11,0	15,4	206
11016286	11016437	2 x 2 x 0,5	20	11,1 - 13,8	25,8	299
11016287	11016438	4 x 2 x 0,5	20	12,1 - 15,2	46,5	373
11016288	11016439	5 x 2 x 0,5	20	12,8 - 16,2	56,9	411
11016289	11016440	6 x 2 x 0,5	20	13,6 - 17,1	67,3	457
11016290	11016441	8 x 2 x 0,5	20	14,8 - 18,9	88,0	534
11016291	11016442	10 x 2 x 0,5	20	16,2 - 20,8	108,8	643
11016292	11016443	12 x 2 x 0,5	20	16,6 - 21,3	129,5	669
11016293	11016444	15 x 2 x 0,5	20	18,1 - 23,2	160,6	917
11016294	11016445	16 x 2 x 0,5	20	18,1 - 23,2	171,0	928
11016295	11016446	20 x 2 x 0,5	20	20,3 - 26,1	212,4	1085
11016296	11016447	24 x 2 x 0,5	20	22,1 - 28,6	253,9	1217
11016297	11016448	30 x 2 x 0,5	20	23,1 - 30,0	316,1	1389
11016298	11016449	36 x 2 x 0,5	20	24,5 - 31,9	378,3	1569
11016299	11016450	1 x 3 x 0,5	20	9,3 - 11,3	20,6	225
11016300	11016451	2 x 3 x 0,5	20	11,8 - 14,8	36,2	354
11016301	11016452	3 x 3 x 0,5	20	12,2 - 15,4	51,7	383
11016307	11016458	1 x 4 x 0,5	20	9,6 - 11,9	25,8	243
11016308	11016459	2 x 4 x 0,5	20	13,4 - 17,0	46,5	426

Continuation ▶

HELUDATA® EN-50288-7 PVC/PVC OSA 300

Instrumentation cable, PVC/OS/PVC/SWA/PVC

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11016315	11016466	1 x 2 x 0,75	19	9,4 - 11,2	20,6	233
11016316	11016467	2 x 2 x 0,75	19	11,7 - 14,2	36,2	342
11016317	11016468	4 x 2 x 0,75	19	12,9 - 15,6	67,3	416
11016318	11016469	5 x 2 x 0,75	19	13,6 - 16,7	82,8	468
11016319	11016470	6 x 2 x 0,75	19	14,7 - 17,9	98,4	541
11016320	11016471	8 x 2 x 0,75	19	15,9 - 19,5	129,5	610
11016321	11016472	10 x 2 x 0,75	19	17,4 - 21,4	160,6	866
11016322	11016473	12 x 2 x 0,75	19	18,0 - 22,1	191,7	901
11016323	11016474	15 x 2 x 0,75	19	20,2 - 24,8	238,4	1091
11016324	11016475	16 x 2 x 0,75	19	20,2 - 24,8	253,9	1106
11016325	11016476	20 x 2 x 0,75	19	22,1 - 27,3	316,1	1292
11016326	11016477	24 x 2 x 0,75	19	23,9 - 29,6	378,3	1436
11016327	11016478	30 x 2 x 0,75	19	25,2 - 31,2	471,6	1661
11016328	11016479	36 x 2 x 0,75	19	27,0 - 33,6	564,9	2095
11016329	11016480	1 x 3 x 0,75	19	9,7 - 11,6	28,4	244
11016330	11016481	2 x 3 x 0,75	19	12,5 - 15,2	51,7	390
11016331	11016482	3 x 3 x 0,75	19	13,0 - 15,8	75,1	433
11016337	11016488	1 x 4 x 0,75	19	10,1 - 12,1	36,2	271
11016338	11016489	2 x 4 x 0,75	19	14,5 - 17,7	67,3	503
11016345	11016496	1 x 2 x 1	18	9,6 - 11,7	25,8	249
11016346	11016497	2 x 2 x 1	18	12,0 - 14,9	46,5	374
11016347	11016498	4 x 2 x 1	18	13,2 - 16,5	88,0	467
11016348	11016499	5 x 2 x 1	18	14,1 - 17,5	108,8	549
11016349	11016500	6 x 2 x 1	18	15,1 - 18,9	129,5	609
11016350	11016501	8 x 2 x 1	18	16,4 - 20,7	171,0	705
11016351	11016502	10 x 2 x 1	18	18,2 - 23,0	212,4	1002
11016352	11016503	12 x 2 x 1	18	19,3 - 24,4	253,9	1047
11016353	11016504	15 x 2 x 1	18	20,9 - 26,5	316,1	1264
11016354	11016505	16 x 2 x 1	18	20,9 - 26,5	336,9	1283
11016355	11016506	20 x 2 x 1	18	22,9 - 29,1	419,8	1524
11016356	11016507	24 x 2 x 1	18	25,0 - 31,9	502,7	1678
11016357	11016508	30 x 2 x 1	18	26,4 - 33,7	627,2	2165
11016358	11016509	36 x 2 x 1	18	28,5 - 36,5	751,6	2472
11016359	11016510	1 x 3 x 1	18	9,9 - 12,1	36,2	268
11016360	11016511	2 x 3 x 1	18	12,8 - 15,9	67,3	431
11016361	11016512	3 x 3 x 1	18	13,4 - 16,7	98,4	481
11016367	11016518	1 x 4 x 1	18	10,3 - 12,6	46,5	300
11016368	11016519	2 x 4 x 1	18	14,9 - 18,7	88,0	556
11016376	11016527	1 x 2 x 1,5	16	10,7 - 12,7	36,2	297
11016377	11016528	2 x 2 x 1,5	16	13,9 - 16,7	67,3	464
11016378	11016529	4 x 2 x 1,5	16	15,6 - 18,8	129,5	601
11016379	11016530	5 x 2 x 1,5	16	16,7 - 20,2	160,6	700
11016380	11016531	6 x 2 x 1,5	16	18,0 - 21,8	191,7	915
11016381	11016532	8 x 2 x 1,5	16	20,4 - 24,7	253,9	1052
11016382	11016533	10 x 2 x 1,5	16	22,7 - 27,5	316,1	1296
11016383	11016534	12 x 2 x 1,5	16	23,3 - 28,2	378,3	1363
11016384	11016535	15 x 2 x 1,5	16	25,7 - 31,2	471,6	1648
11016385	11016536	16 x 2 x 1,5	16	25,7 - 31,2	502,7	1678
11016386	11016537	20 x 2 x 1,5	16	28,5 - 34,7	627,2	2232
11016387	11016538	24 x 2 x 1,5	16	32,1 - 39,1	751,6	2487
11016388	11016539	30 x 2 x 1,5	16	33,6 - 41,0	938,2	2900
11016389	11016540	36 x 2 x 1,5	16	36,3 - 44,2	1124,8	3304
11016390	11016541	1 x 3 x 1,5	16	11,3 - 13,4	51,7	323
11016391	11016542	2 x 3 x 1,5	16	15,1 - 18,2	98,4	552
11016392	11016543	3 x 3 x 1,5	16	15,8 - 19,0	145,0	622
11016398	11016549	1 x 4 x 1,5	16	11,8 - 14,1	67,3	375
11016399	11016550	2 x 4 x 1,5	16	17,6 - 21,3	129,5	830

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 PVC/PVC OSA 500

Instrumentation cable, PVC/OS/PVC/SWA/PVC



Technical data

- Instrumentation cable acc. to EN 50288-7
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +70°C
- **Nominal voltage**
  U AC 500 V
- **Test voltage**
  core/core 2000 V
  core/screen 2000 V
- **Minimum bending radius**
  fixed installation 10x outer Ø
- **Insulation resistance**
  > 100 MΩxkm
- **Mutual capacitance**
  single pair max. 250 pF/m
- **Inductance**
  max. 1 mH /km
- **L/R (ratio)**
  0,5 mm² < 25 µH/Ω
  0,75 mm² < 25 µH/Ω
  1 mm² < 25 µH/Ω
  1,5 mm² < 40 µH/Ω
  2,5 mm² < 60 µH/Ω

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl.2 / IEC 60228 cl.2
- Core insulation: PVC acc. to EN 50290-2-21
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: BU, BK
  triads: BU, BK, RD
  quads: BU, BK, RD, GY
  blue cores with continuous black numbering
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire (7x0,3 mm)
- Inner sheath: PVC acc. to EN 50290-2-22
- Armouring: single layer of galvanised round steel wires acc. to EN 10257-1
- Outer sheath: PVC acc. to EN 50290-2-22
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- UV resistant acc. to UL 1581 section 1200

Note

- Alternative denomination: **RE-Y(St)YRY**
- Available also acc. to PAS 5308
- Suitable for direct burial
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- We also offer cable glands **HELUTOP® HT-MS-EX-d / e4**

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11016587	11016738	1 x 2 x 0,5	20	9,8 - 11,9	15,4	241
11016588	11016739	2 x 2 x 0,5	20	12,3 - 15,2	25,8	359
11016589	11016740	4 x 2 x 0,5	20	13,6 - 16,9	46,5	438
11016590	11016741	5 x 2 x 0,5	20	14,7 - 18,3	56,9	513
11016591	11016742	6 x 2 x 0,5	20	15,6 - 19,5	67,3	565
11016592	11016743	8 x 2 x 0,5	20	16,9 - 21,3	88,0	647
11016593	11016744	10 x 2 x 0,5	20	19,5 - 24,5	108,8	929
11016594	11016745	12 x 2 x 0,5	20	19,9 - 25,1	129,5	959
11016595	11016746	15 x 2 x 0,5	20	21,8 - 27,5	160,6	1155
11016596	11016747	16 x 2 x 0,5	20	21,8 - 27,5	171,0	1167
11016597	11016748	20 x 2 x 0,5	20	23,7 - 30,1	212,4	1378
11016598	11016749	24 x 2 x 0,5	20	26,1 - 33,2	253,9	1504
11016599	11016750	30 x 2 x 0,5	20	27,4 - 34,9	316,1	1947
11016600	11016751	36 x 2 x 0,5	20	30,2 - 38,4	378,3	2211
11016601	11016752	1 x 3 x 0,5	20	10,1 - 12,3	20,6	257
11016602	11016753	2 x 3 x 0,5	20	13,2 - 16,4	36,2	409
11016603	11016754	3 x 3 x 0,5	20	13,7 - 17,1	51,7	449
11016609	11016760	1 x 4 x 0,5	20	10,5 - 12,8	25,8	285
11016610	11016761	2 x 4 x 0,5	20	15,4 - 19,3	46,5	527

Continuation ▸

HELUDATA® EN-50288-7 PVC/PVC OSA 500

Instrumentation cable, PVC/OS/PVC/SWA/PVC

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11016617	11016768	1 x 2 x 0,75	19	10,1 - 12,1	20,6	258
11016618	11016769	2 x 2 x 0,75	19	12,9 - 15,6	36,2	392
11016619	11016770	4 x 2 x 0,75	19	14,5 - 17,5	67,3	506
11016620	11016771	5 x 2 x 0,75	19	15,5 - 18,7	82,8	571
11016621	11016772	6 x 2 x 0,75	19	16,5 - 20,0	98,4	648
11016622	11016773	8 x 2 x 0,75	19	18,2 - 22,1	129,5	858
11016623	11016774	10 x 2 x 0,75	19	20,7 - 25,1	160,6	1052
11016624	11016775	12 x 2 x 0,75	19	21,2 - 25,9	191,7	1094
11016625	11016776	15 x 2 x 0,75	19	23,2 - 28,4	238,4	1300
11016626	11016777	16 x 2 x 0,75	19	23,2 - 28,4	253,9	1318
11016627	11016778	20 x 2 x 0,75	19	25,7 - 31,5	316,1	1593
11016628	11016779	24 x 2 x 0,75	19	28,1 - 34,5	378,3	1956
11016629	11016780	30 x 2 x 0,75	19	30,3 - 37,1	471,6	2271
11016630	11016781	36 x 2 x 0,75	19	32,7 - 40,1	564,9	2560
11016631	11016782	1 x 3 x 0,75	19	10,5 - 12,5	28,4	278
11016632	11016783	2 x 3 x 0,75	19	13,9 - 16,8	51,7	476
11016633	11016784	3 x 3 x 0,75	19	14,7 - 17,8	75,1	526
11016639	11016790	1 x 4 x 0,75	19	11,2 - 13,4	36,2	315
11016640	11016791	2 x 4 x 0,75	19	16,3 - 19,8	67,3	601
11016647	11016798	1 x 2 x 1	18	10,3 - 12,5	25,8	275
11016648	11016799	2 x 2 x 1	18	13,2 - 16,3	46,5	431
11016649	11016800	4 x 2 x 1	18	14,9 - 18,4	88,0	558
11016650	11016801	5 x 2 x 1	18	15,9 - 19,7	108,8	644
11016651	11016802	6 x 2 x 1	18	16,9 - 21,1	129,5	729
11016652	11016803	8 x 2 x 1	18	19,4 - 24,1	171,0	971
11016653	11016804	10 x 2 x 1	18	21,5 - 26,9	212,4	1185
11016654	11016805	12 x 2 x 1	18	22,0 - 27,5	253,9	1237
11016655	11016806	15 x 2 x 1	18	23,9 - 30,0	316,1	1508
11016656	11016807	16 x 2 x 1	18	23,9 - 30,0	336,9	1529
11016657	11016808	20 x 2 x 1	18	26,5 - 33,3	419,8	2034
11016658	11016809	24 x 2 x 1	18	29,9 - 37,6	502,7	2247
11016659	11016810	30 x 2 x 1	18	31,5 - 39,6	627,2	2590
11016660	11016811	36 x 2 x 1	18	33,8 - 42,5	751,6	2964
11016661	11016812	1 x 3 x 1	18	10,7 - 12,9	36,2	309
11016662	11016813	2 x 3 x 1	18	14,2 - 17,5	67,3	518
11016663	11016814	3 x 3 x 1	18	15,0 - 18,6	98,4	576
11016669	11016820	1 x 4 x 1	18	11,4 - 13,9	46,5	343
11016670	11016821	2 x 4 x 1	18	16,7 - 20,8	88,0	659
11016678	11016829	1 x 2 x 1,5	16	11,3 - 13,4	36,2	310
11016679	11016830	2 x 2 x 1,5	16	14,7 - 17,5	67,3	507
11016680	11016831	4 x 2 x 1,5	16	16,4 - 19,7	129,5	651
11016681	11016832	5 x 2 x 1,5	16	17,5 - 21,1	160,6	754
11016682	11016833	6 x 2 x 1,5	16	19,6 - 23,6	191,7	1023
11016683	11016834	8 x 2 x 1,5	16	21,6 - 26,1	253,9	1135
11016684	11016835	10 x 2 x 1,5	16	23,9 - 28,9	316,1	1423
11016685	11016836	12 x 2 x 1,5	16	24,6 - 29,7	378,3	1465
11016686	11016837	15 x 2 x 1,5	16	27,2 - 33,0	471,6	1827
11016687	11016838	16 x 2 x 1,5	16	27,2 - 33,0	502,7	1828
11016688	11016839	20 x 2 x 1,5	16	30,8 - 37,2	627,2	2439
11016689	11016840	24 x 2 x 1,5	16	34,1 - 41,3	751,6	2685
11016690	11016841	30 x 2 x 1,5	16	36,0 - 43,7	938,2	3125
11016691	11016842	36 x 2 x 1,5	16	38,6 - 46,9	1124,8	3915
11016692	11016843	1 x 3 x 1,5	16	11,7 - 13,9	51,7	343
11016693	11016844	2 x 3 x 1,5	16	15,8 - 18,9	98,4	583
11016694	11016845	3 x 3 x 1,5	16	16,6 - 19,9	145,0	679
11016700	11016851	1 x 4 x 1,5	16	12,3 - 14,7	67,3	398
11016701	11016852	2 x 4 x 1,5	16	19,4 - 23,3	129,5	902
11016708	11016859	1 x 2 x 2,5	14	12,2 - 14,9	56,9	383
11016709	11016860	2 x 2 x 2,5	14	16,2 - 20,0	108,8	634
11016710	11016861	4 x 2 x 2,5	14	18,4 - 22,9	212,4	954
11016711	11016862	5 x 2 x 2,5	14	20,4 - 25,4	264,3	1129
11016712	11016863	6 x 2 x 2,5	14	22,1 - 27,5	316,1	1331
11016713	11016864	8 x 2 x 2,5	14	24,3 - 30,4	419,8	1485
11016714	11016865	10 x 2 x 2,5	14	27,3 - 34,2	523,5	2096
11016715	11016866	12 x 2 x 2,5	14	28,5 - 35,7	627,2	2159
11016716	11016867	15 x 2 x 2,5	14	32,1 - 40,2	782,7	2700
11016717	11016868	16 x 2 x 2,5	14	32,1 - 40,2	834,5	2700
11016718	11016869	20 x 2 x 2,5	14	35,6 - 44,7	1041,9	3272
11016719	11016870	24 x 2 x 2,5	14	39,2 - 49,3	1249,2	3929
11016720	11016871	30 x 2 x 2,5	14	42,2 - 53,0	1560,3	4607
11016721	11016872	36 x 2 x 2,5	14	45,6 - 57,4	1871,3	5356
11016722	11016873	1 x 3 x 2,5	14	12,7 - 15,5	82,8	429
11016723	11016874	2 x 3 x 2,5	14	17,5 - 21,8	160,6	872
11016724	11016875	3 x 3 x 2,5	14	19,3 - 23,9	238,4	1010
11016730	11016881	1 x 4 x 2,5	14	13,4 - 16,5	108,8	490
11016731	11016882	2 x 4 x 2,5	14	21,8 - 27,2	212,4	1204

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 PVC/PVC IOSA 300

Instrumentation cable, PVC/IS/OS/PVC/SWA/PVC



Technical data

- Instrumentation cable acc. to EN 50288-7
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +70°C
- **Nominal voltage**
  U AC 300 V
- **Test voltage**
  core/core 1500 V
  core/screen 1500 V
- **Minimum bending radius**
  fixed installation 10x outer Ø
- **Insulation resistance**
  > 100 MΩxkm
- **Mutual capacitance**
  max. 250 pF/m
- **Inductance**
  max. 1 mH /km
- **L/R (ratio)**
  0,5 mm² < 25 µH/Ω
  0,75 mm² < 25 µH/Ω
  1 mm² < 25 µH/Ω
  1,5 mm² < 40 µH/Ω
  2,5 mm² < 60 µH/Ω

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl.2 / IEC 60228 cl.2
- Core insulation: PVC acc. to EN 50290-2-21
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: WH, BK
  triads: WH, BK, RD
  quads: WH, BK, RD, GY
  white cores with continuous black numbering
- Individual screen: pairs, triads or quads indiv. screened with AL/PE tape over tinned copper drain wire (solid 0,6 mm)
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire (7x0,3 mm)
- Inner sheath: PVC acc. to EN 50290-2-22
- Armouring: single layer of galvanised round steel wires acc. to EN 10257-1
- Outer sheath: PVC acc. to EN 50290-2-22
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- UV resistant acc. to UL 1581 section 1200

Note

- Alternative denomination:
  RE-Y(St)YRY PiMF
- Available also acc. to PAS 5308
- Suitable for direct burial
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- We also offer cable glands
  HELUTOP® HT-MS-EX-d / e4

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11015137	11015273	2 x 2 x 0,5	20	12,2 - 15,2	31,6	351
11015138	11015274	4 x 2 x 0,5	20	13,4 - 16,8	58,2	430
11015139	11015275	5 x 2 x 0,5	20	14,5 - 18,2	71,4	504
11015140	11015276	6 x 2 x 0,5	20	15,3 - 19,4	84,7	556
11015141	11015277	8 x 2 x 0,5	20	16,7 - 21,2	111,2	623
11015142	11015278	10 x 2 x 0,5	20	18,5 - 23,5	137,8	891
11015143	11015279	12 x 2 x 0,5	20	19,6 - 24,9	164,4	924
11015144	11015280	15 x 2 x 0,5	20	21,2 - 27,1	204,1	1113
11015145	11015281	16 x 2 x 0,5	20	21,2 - 27,1	217,4	1127
11015146	11015282	20 x 2 x 0,5	20	23,3 - 29,9	270,5	1311
11015147	11015283	24 x 2 x 0,5	20	25,7 - 33,0	323,6	1482
11015148	11015284	30 x 2 x 0,5	20	26,9 - 34,6	403,2	1720
11015149	11015285	36 x 2 x 0,5	20	29,0 - 37,3	482,9	2120
11015150	11015286	2 x 3 x 0,5	20	13,0 - 16,3	42,0	394
11015151	11015287	3 x 3 x 0,5	20	13,5 - 16,9	60,5	435
11015157	11015293	2 x 4 x 0,5	20	14,2 - 17,9	52,4	473
11015158	11015294	3 x 4 x 0,5	20	15,0 - 18,9	76,0	523

Continuation ▸

HELUDATA® EN-50288-7 PVC/PVC IOSA 300

Instrumentation cable, PVC/IS/OS/PVC/SWA/PVC

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11015164	11015300	2 x 2 x 0,75	19	12,8 - 15,5	42,0	389
11015165	11015301	4 x 2 x 0,75	19	14,4 - 17,5	78,9	500
11015166	11015302	5 x 2 x 0,75	19	15,3 - 18,7	97,3	558
11015167	11015303	6 x 2 x 0,75	19	16,3 - 19,9	115,8	624
11015168	11015304	8 x 2 x 0,75	19	18,0 - 22,0	152,7	731
11015169	11015305	10 x 2 x 0,75	19	20,5 - 25,0	189,6	1041
11015170	11015306	12 x 2 x 0,75	19	21,0 - 25,8	226,6	1086
11015171	11015307	15 x 2 x 0,75	19	23,0 - 28,2	281,9	1290
11015172	11015308	16 x 2 x 0,75	19	23,0 - 28,2	300,3	1310
11015173	11015309	20 x 2 x 0,75	19	25,3 - 31,0	374,2	1552
11015174	11015310	24 x 2 x 0,75	19	27,7 - 34,1	448,0	1753
11015175	11015311	30 x 2 x 0,75	19	30,0 - 37,0	558,7	2210
11015176	11015312	36 x 2 x 0,75	19	32,4 - 39,9	669,5	2516
11015177	11015313	2 x 3 x 0,75	19	13,7 - 16,7	57,6	440
11015178	11015314	3 x 3 x 0,75	19	14,5 - 17,7	83,8	511
11015184	11015320	2 x 4 x 0,75	19	15,3 - 18,6	73,1	528
11015185	11015321	3 x 4 x 0,75	19	16,0 - 19,5	107,1	594
11015191	11015327	2 x 2 x 1	18	13,2 - 16,3	52,4	424
11015192	11015328	4 x 2 x 1	18	14,8 - 18,4	99,7	552
11015193	11015329	5 x 2 x 1	18	15,8 - 19,7	123,2	625
11015194	11015330	6 x 2 x 1	18	16,8 - 21,1	146,9	720
11015195	11015331	8 x 2 x 1	18	18,6 - 23,3	194,2	945
11015196	11015332	10 x 2 x 1	18	21,1 - 26,6	241,5	1156
11015197	11015333	12 x 2 x 1	18	21,9 - 27,6	288,8	1211
11015198	11015334	15 x 2 x 1	18	23,8 - 30,1	359,6	1483
11015199	11015335	16 x 2 x 1	18	23,8 - 30,1	383,3	1507
11015200	11015336	20 x 2 x 1	18	26,3 - 33,3	477,9	1825
11015201	11015337	24 x 2 x 1	18	29,0 - 36,8	572,4	2192
11015202	11015338	30 x 2 x 1	18	31,1 - 39,5	714,2	2553
11015203	11015339	36 x 2 x 1	18	33,5 - 42,6	856,1	2906
11015204	11015340	2 x 3 x 1	18	14,1 - 17,5	73,1	502
11015205	11015341	3 x 3 x 1	18	14,9 - 18,5	107,1	560
11015211	11015347	2 x 4 x 1	18	15,7 - 19,6	93,9	591
11015212	11015348	3 x 4 x 1	18	16,5 - 20,7	138,2	678
11015219	11015355	2 x 2 x 1,5	16	15,3 - 18,4	73,1	528
11015220	11015356	4 x 2 x 1,5	16	17,2 - 20,8	141,2	700
11015221	11015357	5 x 2 x 1,5	16	19,3 - 23,2	175,1	920
11015222	11015358	6 x 2 x 1,5	16	20,6 - 24,9	209,1	1089
11015223	11015359	8 x 2 x 1,5	16	22,8 - 27,6	277,1	1223
11015224	11015360	10 x 2 x 1,5	16	25,7 - 31,0	345,2	1524
11015225	11015361	12 x 2 x 1,5	16	26,4 - 31,9	413,2	1572
11015226	11015362	15 x 2 x 1,5	16	29,8 - 36,1	515,2	2134
11015227	11015363	16 x 2 x 1,5	16	29,8 - 36,1	549,2	2139
11015228	11015364	20 x 2 x 1,5	16	33,0 - 40,0	685,3	2584
11015229	11015365	24 x 2 x 1,5	16	36,4 - 44,1	821,2	2869
11015230	11015366	30 x 2 x 1,5	16	38,4 - 46,7	1025,2	3680
11015231	11015367	36 x 2 x 1,5	16	42,1 - 51,1	1229,4	4209
11015232	11015368	2 x 3 x 1,5	16	16,5 - 19,9	104,2	623
11015233	11015369	3 x 3 x 1,5	16	17,4 - 20,9	153,8	715
11015239	11015375	2 x 4 x 1,5	16	18,6 - 22,5	135,3	873
11015240	11015376	3 x 4 x 1,5	16	20,2 - 24,4	200,4	1002

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 PVC/PVC IOSA 500

Instrumentation cable, PVC/IS/OS/PVC/SWA/PVC



Technical data

- Instrumentation cable acc. to EN 50288-7
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +70°C
- **Nominal voltage**
  U AC 500 V
- **Test voltage**
  core/core 2000 V
  core/screen 2000 V
- **Minimum bending radius**
  fixed installation 10x outer Ø
- **Insulation resistance**
  > 100 MΩxkm
- **Mutual capacitance**
  single pair max. 250 pF/m
- **Inductance**
  max. 1 mH /km
- **L/R (ratio)**
  0,5 mm² < 25 µH/Ω
  0,75 mm² < 25 µH/Ω
  1 mm² < 25 µH/Ω
  1,5 mm² < 40 µH/Ω
  2,5 mm² < 60 µH/Ω

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl.2 / IEC 60228 cl.2
- Core insulation: PVC nach EN 50290-2-21
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: BU, BK
  triads: BU, BK, RD
  quads: BU, BK, RD, GY
  blue cores with continuous black numbering
- Individual screen: pairs, triads or quads indiv. screened with AL/PE tape over tinned copper drain wire (solid 0,6 mm)
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire (7x0,3 mm)
- Inner sheath: PVC acc. to EN 50290-2-22
- Armouring: single layer of galvanised round steel wires acc. to EN 10257-1
- Outer sheath: PVC acc. to EN 50290-2-22
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- UV resistant acc. to UL 1581 section 1200

Note

- Alternative denomination:
  RE-Y(St)YRY PiMF
- Suitable for direct burial
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- We also offer cable glands
  HELUTOP® HT-MS-EX-d / e4

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11015409	11015545	2 x 2 x 0,5	20	13,5 - 16,7	31,6	409
11015410	11015546	4 x 2 x 0,5	20	15,2 - 18,9	58,2	523
11015411	11015547	5 x 2 x 0,5	20	16,2 - 20,2	71,4	589
11015412	11015548	6 x 2 x 0,5	20	17,3 - 21,6	84,7	676
11015413	11015549	8 x 2 x 0,5	20	19,8 - 24,7	111,2	887
11015414	11015550	10 x 2 x 0,5	20	22,0 - 27,6	137,8	1083
11015415	11015551	12 x 2 x 0,5	20	22,6 - 28,4	164,4	1124
11015416	11015552	15 x 2 x 0,5	20	24,5 - 30,9	204,1	1374
11015417	11015553	16 x 2 x 0,5	20	24,5 - 30,9	217,4	1391
11015418	11015554	20 x 2 x 0,5	20	27,2 - 34,3	270,5	1680
11015419	11015555	24 x 2 x 0,5	20	30,7 - 38,7	323,6	2018
11015420	11015556	30 x 2 x 0,5	20	32,5 - 41,1	403,2	2335
11015421	11015557	36 x 2 x 0,5	20	34,9 - 44,1	482,9	2645
11015422	11015558	2 x 3 x 0,5	20	14,7 - 18,2	42,0	480
11015423	11015559	3 x 3 x 0,5	20	15,3 - 19,0	60,5	527
11015429	11015565	2 x 4 x 0,5	20	16,2 - 20,1	52,4	562
11015430	11015566	3 x 4 x 0,5	20	16,9 - 21,2	76,0	634

Continuation ▶

HELUDATA® EN-50288-7 PVC/PVC IOSA 500

Instrumentation cable, PVC/IS/OS/PVC/SWA/PVC

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11015436	11015572	2 x 2 x 0,75	19	14,2 - 17,0	42,0	464
11015437	11015573	4 x 2 x 0,75	19	16,0 - 19,4	78,9	575
11015438	11015574	5 x 2 x 0,75	19	17,1 - 20,8	97,3	675
11015439	11015575	6 x 2 x 0,75	19	18,5 - 22,5	115,8	880
11015440	11015576	8 x 2 x 0,75	19	20,9 - 25,4	152,7	1009
11015441	11015577	10 x 2 x 0,75	19	23,3 - 28,4	189,6	1225
11015442	11015578	12 x 2 x 0,75	19	23,9 - 29,1	226,6	1274
11015443	11015579	15 x 2 x 0,75	19	26,5 - 32,2	281,9	1537
11015444	11015580	16 x 2 x 0,75	19	26,5 - 32,2	300,3	1557
11015445	11015581	20 x 2 x 0,75	19	30,0 - 36,5	374,2	2076
11015446	11015582	24 x 2 x 0,75	19	33,0 - 40,2	448,0	2308
11015447	11015583	30 x 2 x 0,75	19	34,8 - 42,5	558,7	2669
11015448	11015584	36 x 2 x 0,75	19	37,5 - 45,9	669,5	3046
11015449	11015585	2 x 3 x 0,75	19	15,4 - 18,6	57,6	529
11015450	11015586	3 x 3 x 0,75	19	16,1 - 19,5	83,8	585
11015456	11015592	2 x 4 x 0,75	19	17,1 - 20,7	73,1	643
11015457	11015593	3 x 4 x 0,75	19	18,1 - 21,9	107,1	838
11015463	11015599	2 x 2 x 1	18	14,7 - 18,1	52,4	497
11015464	11015600	4 x 2 x 1	18	16,4 - 20,2	99,7	640
11015465	11015601	5 x 2 x 1	18	17,6 - 21,7	123,2	858
11015466	11015602	6 x 2 x 1	18	19,7 - 24,3	146,9	966
11015467	11015603	8 x 2 x 1	18	21,7 - 27,0	194,2	1110
11015468	11015604	10 x 2 x 1	18	24,0 - 29,9	241,5	1374
11015469	11015605	12 x 2 x 1	18	24,6 - 30,7	288,8	1436
11015470	11015606	15 x 2 x 1	18	27,2 - 34,0	359,6	1943
11015471	11015607	16 x 2 x 1	18	27,2 - 34,0	383,3	1969
11015472	11015608	20 x 2 x 1	18	30,9 - 38,5	477,9	2354
11015473	11015609	24 x 2 x 1	18	34,2 - 42,8	572,4	2609
11015474	11015610	30 x 2 x 1	18	36,1 - 45,2	714,2	3015
11015475	11015611	36 x 2 x 1	18	38,7 - 48,5	856,1	3766
11015476	11015612	2 x 3 x 1	18	15,8 - 19,5	73,1	572
11015477	11015613	3 x 3 x 1	18	16,5 - 20,4	107,1	659
11015483	11015619	2 x 4 x 1	18	17,5 - 21,7	93,9	810
11015484	11015620	3 x 4 x 1	18	18,6 - 23,1	138,2	925
11015491	11015627	2 x 2 x 1,5	16	16,0 - 19,2	73,1	560
11015492	11015628	4 x 2 x 1,5	16	18,2 - 21,8	141,2	862
11015493	11015629	5 x 2 x 1,5	16	20,2 - 24,3	175,1	996
11015494	11015630	6 x 2 x 1,5	16	21,8 - 26,2	209,1	1152
11015495	11015631	8 x 2 x 1,5	16	24,0 - 28,9	277,1	1286
11015496	11015632	10 x 2 x 1,5	16	27,0 - 32,5	345,2	1626
11015497	11015633	12 x 2 x 1,5	16	27,8 - 33,5	413,2	1673
11015498	11015634	15 x 2 x 1,5	16	31,6 - 38,1	515,2	2326
11015499	11015635	16 x 2 x 1,5	16	31,6 - 38,1	549,2	2326
11015500	11015636	20 x 2 x 1,5	16	35,0 - 42,3	685,3	2801
11015501	11015637	24 x 2 x 1,5	16	38,5 - 46,7	821,2	3096
11015502	11015638	30 x 2 x 1,5	16	41,6 - 50,3	1025,2	3973
11015503	11015639	36 x 2 x 1,5	16	44,8 - 54,2	1229,4	4542
11015504	11015640	2 x 3 x 1,5	16	17,3 - 20,8	104,2	672
11015505	11015641	3 x 3 x 1,5	16	18,4 - 22,0	153,8	877
11015511	11015647	2 x 4 x 1,5	16	20,2 - 24,2	135,3	945
11015512	11015648	3 x 4 x 1,5	16	21,2 - 25,5	200,4	1072
11015518	11015654	2 x 2 x 2,5	14	17,7 - 21,8	114,6	816
11015519	11015655	4 x 2 x 2,5	14	20,9 - 25,9	224,1	1084
11015520	11015656	5 x 2 x 2,5	14	22,6 - 28,0	278,7	1261
11015521	11015657	6 x 2 x 2,5	14	24,3 - 30,3	333,5	1503
11015522	11015658	8 x 2 x 2,5	14	27,2 - 33,9	443,0	1662
11015523	11015659	10 x 2 x 2,5	14	31,5 - 39,3	552,5	2361
11015524	11015660	12 x 2 x 2,5	14	32,6 - 40,7	662,0	2437
11015525	11015661	15 x 2 x 2,5	14	36,0 - 45,0	826,2	3038
11015526	11015662	16 x 2 x 2,5	14	36,0 - 45,0	881,0	3045
11015527	11015663	20 x 2 x 2,5	14	40,8 - 51,0	1100,0	4027
11015528	11015664	24 x 2 x 2,5	14	45,0 - 56,3	1318,9	4485
11015529	11015665	30 x 2 x 2,5	14	47,7 - 59,7	1647,3	5712
11015530	11015666	36 x 2 x 2,5	14	52,5 - 65,7	1975,9	6606
11015531	11015667	2 x 3 x 2,5	14	20,0 - 24,8	166,4	978
11015532	11015668	3 x 3 x 2,5	14	21,0 - 26,1	247,1	1113
11015538	11015674	2 x 4 x 2,5	14	22,6 - 28,0	218,3	1251
11015539	11015675	3 x 4 x 2,5	14	23,8 - 29,6	324,9	1375

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 XLPE/PVC OS 300

Instrumentation cable, XLPE/OS/PVC



Technical data

- Instrumentation cable acc. to EN 50288-7
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +90°C
- **Nominal voltage**
  U AC 300 V
- **Test voltage**
  core/core 1500 V
  core/screen 1500 V
- **Minimum bending radius**
  fixed installation 7,5x outer Ø
- **Insulation resistance**
  > 5000 MΩxkm
- **Mutual capacitance**
  max. 150 pF/m
- **Inductance**
  max. 1 mH /km
- **L/R (ratio)**
  0,5 mm² < 25 µH/Ω
  0,75 mm² < 25 µH/Ω
  1 mm² < 25 µH/Ω
  1,5 mm² < 40 µH/Ω
  2,5 mm² < 60 µH/Ω

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl.2 / IEC 60228 cl.2
- Core insulation: XLPE acc. to EN 50290-2-29
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: WH, BK
  triads: WH, BK, RD
  quads: WH, BK, RD, GY
  white cores with continuous black numbering
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire (7x0,3 mm)
- Outer sheath: PVC acc. to EN 50290-2-22
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- UV resistant acc. to UL 1581 section 1200

Note

- Alternative denomination:
  RE-2X(St)Y
- Not suitable for direct burial
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- We also offer cable glands
  HELUTOP® HT-MS-EX-d

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11013385	11013536	1 x 2 x 0,5	20	4,9 - 6,3	15,4	38
11013386	11013537	2 x 2 x 0,5	20	7,0 - 9,1	25,8	64
11013387	11013538	4 x 2 x 0,5	20	8,2 - 10,7	46,5	103
11013388	11013539	5 x 2 x 0,5	20	8,9 - 11,7	56,9	123
11013389	11013540	6 x 2 x 0,5	20	9,6 - 12,6	67,3	146
11013390	11013541	8 x 2 x 0,5	20	10,9 - 14,4	88,0	177
11013391	11013542	10 x 2 x 0,5	20	12,3 - 16,3	108,8	203
11013392	11013543	12 x 2 x 0,5	20	12,8 - 17,0	129,5	241
11013393	11013544	15 x 2 x 0,5	20	14,2 - 18,7	160,6	297
11013394	11013545	16 x 2 x 0,5	20	14,2 - 18,7	171,0	309
11013395	11013546	20 x 2 x 0,5	20	15,9 - 21,1	212,4	375
11013396	11013547	24 x 2 x 0,5	20	17,5 - 23,3	253,9	448
11013397	11013548	30 x 2 x 0,5	20	18,7 - 24,9	316,1	541
11013398	11013549	36 x 2 x 0,5	20	20,3 - 27,1	378,3	655
11013399	11013550	1 x 3 x 0,5	20	5,4 - 6,8	20,6	48
11013400	11013551	2 x 3 x 0,5	20	7,9 - 10,3	36,2	85
11013401	11013552	3 x 3 x 0,5	20	8,3 - 10,9	51,7	107
11013407	11013558	1 x 4 x 0,5	20	5,7 - 7,4	25,8	56
11013408	11013559	2 x 4 x 0,5	20	9,5 - 12,5	46,5	108
11013409	11013560	3 x 4 x 0,5	20	10,3 - 13,5	67,3	143

Continuation ▸

HELUDATA® EN-50288-7 XLPE/PVC OS 300

Instrumentation cable, XLPE/OS/PVC

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11013415	11013566	1 x 2 x 0,75	19	5,5 - 6,7	20,6	47
11013416	11013567	2 x 2 x 0,75	19	7,8 - 9,7	36,2	81
11013417	11013568	4 x 2 x 0,75	19	9,0 - 11,1	67,3	126
11013418	11013569	5 x 2 x 0,75	19	9,7 - 12,2	82,8	152
11013419	11013570	6 x 2 x 0,75	19	10,7 - 13,4	98,4	188
11013420	11013571	8 x 2 x 0,75	19	12,0 - 15,0	129,5	222
11013421	11013572	10 x 2 x 0,75	19	13,7 - 17,1	160,6	264
11013422	11013573	12 x 2 x 0,75	19	14,1 - 17,7	191,7	305
11013423	11013574	15 x 2 x 0,75	19	15,8 - 19,8	238,4	387
11013424	11013575	16 x 2 x 0,75	19	15,8 - 19,8	253,9	404
11013425	11013576	20 x 2 x 0,75	19	17,5 - 22,0	316,1	490
11013426	11013577	24 x 2 x 0,75	19	19,5 - 24,6	378,3	574
11013427	11013578	30 x 2 x 0,75	19	20,9 - 26,2	471,6	710
11013428	11013579	36 x 2 x 0,75	19	22,5 - 28,4	564,9	860
11013429	11013580	1 x 3 x 0,75	19	5,8 - 7,1	28,4	57
11013430	11013581	2 x 3 x 0,75	19	8,6 - 10,7	51,7	103
11013431	11013582	3 x 3 x 0,75	19	9,1 - 11,3	75,1	132
11013437	11013588	1 x 4 x 0,75	19	6,2 - 7,6	36,2	67
11013438	11013589	2 x 4 x 0,75	19	10,6 - 13,2	67,3	138
11013439	11013590	3 x 4 x 0,75	19	11,2 - 14,0	98,4	177
11013445	11013596	1 x 2 x 1	18	5,7 - 7,2	25,8	53
11013446	11013597	2 x 2 x 1	18	8,1 - 10,4	46,5	95
11013447	11013598	4 x 2 x 1	18	9,3 - 12,0	88,0	150
11013448	11013599	5 x 2 x 1	18	10,3 - 13,3	108,8	190
11013449	11013600	6 x 2 x 1	18	11,2 - 14,4	129,5	227
11013450	11013601	8 x 2 x 1	18	12,7 - 16,4	171,0	277
11013451	11013602	10 x 2 x 1	18	14,3 - 18,5	212,4	324
11013452	11013603	12 x 2 x 1	18	14,8 - 19,2	253,9	375
11013453	11013604	15 x 2 x 1	18	16,5 - 21,5	316,1	476
11013454	11013605	16 x 2 x 1	18	16,5 - 21,5	336,9	498
11013455	11013606	20 x 2 x 1	18	18,5 - 24,1	419,8	606
11013456	11013607	24 x 2 x 1	18	20,6 - 26,9	502,7	725
11013457	11013608	30 x 2 x 1	18	21,8 - 28,5	627,2	897
11013458	11013609	36 x 2 x 1	18	23,7 - 31,0	751,6	1086
11013459	11013610	1 x 3 x 1	18	6,0 - 7,6	36,2	66
11013460	11013611	2 x 3 x 1	18	8,9 - 11,4	67,3	122
11013461	11013612	3 x 3 x 1	18	9,5 - 12,2	98,4	159
11013467	11013618	1 x 4 x 1	18	6,4 - 8,1	46,5	79
11013468	11013619	2 x 4 x 1	18	11,0 - 14,2	88,0	164
11013469	11013620	3 x 4 x 1	18	11,7 - 15,2	129,5	214
11013476	11013627	1 x 2 x 1,5	16	6,8 - 8,2	36,2	70
11013477	11013628	2 x 2 x 1,5	16	10,0 - 12,2	67,3	128
11013478	11013629	4 x 2 x 1,5	16	11,7 - 14,3	129,5	217
11013479	11013630	5 x 2 x 1,5	16	13,0 - 15,9	160,6	274
11013480	11013631	6 x 2 x 1,5	16	14,1 - 17,3	191,7	329
11013481	11013632	8 x 2 x 1,5	16	16,0 - 19,7	253,9	404
11013482	11013633	10 x 2 x 1,5	16	18,3 - 22,5	316,1	471
11013483	11013634	12 x 2 x 1,5	16	18,9 - 23,2	378,3	561
11013484	11013635	15 x 2 x 1,5	16	21,2 - 26,0	471,6	711
11013485	11013636	16 x 2 x 1,5	16	21,2 - 26,0	502,7	745
11013486	11013637	20 x 2 x 1,5	16	23,8 - 29,2	627,2	907
11013487	11013638	24 x 2 x 1,5	16	26,5 - 32,6	751,6	1083
11013488	11013639	30 x 2 x 1,5	16	28,3 - 34,8	938,2	1341
11013489	11013640	36 x 2 x 1,5	16	30,7 - 37,8	1124,8	1623
11013490	11013641	1 x 3 x 1,5	16	7,2 - 8,7	51,7	89
11013491	11013642	2 x 3 x 1,5	16	11,2 - 13,7	98,4	175
11013492	11013643	3 x 3 x 1,5	16	11,9 - 14,6	145,0	231
11013498	11013649	1 x 4 x 1,5	16	7,9 - 9,6	67,3	113
11013499	11013650	2 x 4 x 1,5	16	13,9 - 17,0	129,5	235
11013500	11013651	3 x 4 x 1,5	16	14,8 - 18,2	191,7	309

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 XLPE/PVC OS 500

Instrumentation cable, XLPE/OS/PVC



Technical data

- Instrumentation cable acc. to EN 50288-7
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +90°C
- **Nominal voltage**
  U AC 500 V
- **Test voltage**
  core/core 2000 V
  core/screen 2000 V
- **Minimum bending radius**
  fixed installation 7,5x outer Ø
- **Insulation resistance**
  > 5000 MΩxkm
- **Mutual capacitance**
  single pair max. 150 pF/m
- **Inductance**
  max. 1 mH /km
- **L/R (ratio)**
  0,5 mm² < 25 µH/Ω
  0,75 mm² < 25 µH/Ω
  1 mm² < 25 µH/Ω
  1,5 mm² < 40 µH/Ω
  2,5 mm² < 60 µH/Ω

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl.2 / IEC 60228 cl.2
- Core insulation: XLPE acc. to EN 50290-2-29
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: BU, BK
  triads: BU, BK, RD
  quads: BU, BK, RD, GY
  blue cores with continuous black numbering
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire (7x0,3 mm)
- Outer sheath: PVC acc. to EN 50290-2-22
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- UV-resistant acc. to UL 1581 section 1200

Note

- Alternative denomination:
  RE-2X(St)Y
- Not suitable for direct burial
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- We also offer cable glands
  HELUTOP® HT-MS-EX-d

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11013687	11013838	1 x 2 x 0,5	20	5,9 - 7,4	15,4	46
11013688	11013839	2 x 2 x 0,5	20	8,4 - 10,7	25,8	81
11013689	11013840	4 x 2 x 0,5	20	9,7 - 12,4	46,5	121
11013690	11013841	5 x 2 x 0,5	20	10,7 - 13,8	56,9	154
11013691	11013842	6 x 2 x 0,5	20	11,7 - 15,0	67,3	184
11013692	11013843	8 x 2 x 0,5	20	13,2 - 17,0	88,0	220
11013693	11013844	10 x 2 x 0,5	20	14,9 - 19,3	108,8	249
11013694	11013845	12 x 2 x 0,5	20	15,6 - 20,1	129,5	296
11013695	11013846	15 x 2 x 0,5	20	17,2 - 22,3	160,6	376
11013696	11013847	16 x 2 x 0,5	20	17,2 - 22,3	171,0	391
11013697	11013848	20 x 2 x 0,5	20	19,3 - 25,0	212,4	459
11013698	11013849	24 x 2 x 0,5	20	21,6 - 27,9	253,9	547
11013699	11013850	30 x 2 x 0,5	20	23,0 - 29,9	316,1	673
11013700	11013851	36 x 2 x 0,5	20	24,8 - 32,2	378,3	815
11013701	11013852	1 x 3 x 0,5	20	6,2 - 7,8	20,6	55
11013702	11013853	2 x 3 x 0,5	20	9,3 - 11,9	36,2	101
11013703	11013854	3 x 3 x 0,5	20	9,8 - 12,6	51,7	127
11013709	11013860	1 x 4 x 0,5	20	6,6 - 8,3	25,8	66
11013710	11013861	2 x 4 x 0,5	20	11,5 - 14,8	46,5	135
11013711	11013862	3 x 4 x 0,5	20	12,2 - 15,7	67,3	170

Continuation ▸

HELUDATA® EN-50288-7 XLPE/PVC OS 500

Instrumentation cable, XLPE/OS/PVC

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11013717	11013868	1 x 2 x 0,75	19	6,2 - 7,6	20,6	53
11013718	11013869	2 x 2 x 0,75	19	9,0 - 11,1	36,2	94
11013719	11013870	4 x 2 x 0,75	19	10,6 - 13,1	67,3	152
11013720	11013871	5 x 2 x 0,75	19	11,6 - 14,2	82,8	185
11013721	11013872	6 x 2 x 0,75	19	12,8 - 15,7	98,4	229
11013722	11013873	8 x 2 x 0,75	19	14,3 - 17,7	129,5	267
11013723	11013874	10 x 2 x 0,75	19	16,3 - 20,1	160,6	315
11013724	11013875	12 x 2 x 0,75	19	16,8 - 20,9	191,7	363
11013725	11013876	15 x 2 x 0,75	19	18,8 - 23,3	238,4	463
11013726	11013877	16 x 2 x 0,75	19	18,8 - 23,3	253,9	482
11013727	11013878	20 x 2 x 0,75	19	21,1 - 26,2	316,1	582
11013728	11013879	24 x 2 x 0,75	19	23,6 - 29,2	378,3	694
11013729	11013880	30 x 2 x 0,75	19	24,9 - 30,9	471,6	854
11013730	11013881	36 x 2 x 0,75	19	27,1 - 33,7	564,9	1034
11013731	11013882	1 x 3 x 0,75	19	6,6 - 8,0	28,4	65
11013732	11013883	2 x 3 x 0,75	19	10,0 - 12,3	51,7	126
11013733	11013884	3 x 3 x 0,75	19	10,8 - 13,3	75,1	159
11013739	11013890	1 x 4 x 0,75	19	7,1 - 8,7	36,2	78
11013740	11013891	2 x 4 x 0,75	19	12,4 - 15,3	67,3	168
11013741	11013892	3 x 4 x 0,75	19	13,3 - 16,5	98,4	213
11013747	11013898	1 x 2 x 1	18	6,4 - 8,0	25,8	60
11013748	11013899	2 x 2 x 1	18	9,3 - 11,8	46,5	108
11013749	11013900	4 x 2 x 1	18	11,0 - 13,9	88,0	178
11013750	11013901	5 x 2 x 1	18	12,0 - 15,2	108,8	218
11013751	11013902	6 x 2 x 1	18	13,2 - 16,8	129,5	270
11013752	11013903	8 x 2 x 1	18	14,8 - 18,8	171,0	318
11013753	11013904	10 x 2 x 1	18	16,9 - 21,6	212,4	379
11013754	11013905	12 x 2 x 1	18	17,5 - 22,3	253,9	446
11013755	11013906	15 x 2 x 1	18	19,6 - 24,9	316,1	567
11013756	11013907	16 x 2 x 1	18	19,6 - 24,9	336,9	592
11013757	11013908	20 x 2 x 1	18	22,0 - 28,0	419,8	716
11013758	11013909	24 x 2 x 1	18	24,5 - 31,4	502,7	839
11013759	11013910	30 x 2 x 1	18	26,1 - 33,4	627,2	1036
11013760	11013911	36 x 2 x 1	18	28,4 - 36,3	751,6	1256
11013761	11013912	1 x 3 x 1	18	6,8 - 8,5	36,2	75
11013762	11013913	2 x 3 x 1	18	10,5 - 13,3	67,3	145
11013763	11013914	3 x 3 x 1	18	11,1 - 14,1	98,4	187
11013769	11013920	1 x 4 x 1	18	7,3 - 9,2	46,5	90
11013770	11013921	2 x 4 x 1	18	13,0 - 16,5	88,0	195
11013771	11013922	3 x 4 x 1	18	13,8 - 17,5	129,5	251
11013778	11013929	1 x 2 x 1,5	16	7,2 - 8,7	36,2	74
11013779	11013930	2 x 2 x 1,5	16	10,7 - 13,1	67,3	141
11013780	11013931	4 x 2 x 1,5	16	12,5 - 15,2	129,5	229
11013781	11013932	5 x 2 x 1,5	16	13,8 - 16,8	160,6	290
11013782	11013933	6 x 2 x 1,5	16	15,2 - 18,6	191,7	350
11013783	11013934	8 x 2 x 1,5	16	17,1 - 20,9	253,9	427
11013784	11013935	10 x 2 x 1,5	16	19,5 - 23,9	316,1	507
11013785	11013936	12 x 2 x 1,5	16	20,4 - 24,9	378,3	591
11013786	11013937	15 x 2 x 1,5	16	22,8 - 27,9	471,6	764
11013787	11013938	16 x 2 x 1,5	16	22,8 - 27,9	502,7	800
11013788	11013939	20 x 2 x 1,5	16	25,6 - 31,2	627,2	969
11013789	11013940	24 x 2 x 1,5	16	28,5 - 34,9	751,6	1157
11013790	11013941	30 x 2 x 1,5	16	30,4 - 37,2	938,2	1429
11013791	11013942	36 x 2 x 1,5	16	33,0 - 40,4	1124,8	1731
11013792	11013943	1 x 3 x 1,5	16	7,7 - 9,4	51,7	94
11013793	11013944	2 x 3 x 1,5	16	11,9 - 14,4	98,4	185
11013794	11013945	3 x 3 x 1,5	16	12,8 - 15,6	145,0	251
11013800	11013951	1 x 4 x 1,5	16	8,4 - 10,2	67,3	119
11013801	11013952	2 x 4 x 1,5	16	14,8 - 18,1	129,5	247
11013802	11013953	3 x 4 x 1,5	16	16,0 - 19,5	191,7	335
11013808	11013959	1 x 2 x 2,5	14	8,3 - 10,4	56,9	106
11013809	11013960	2 x 2 x 2,5	14	12,3 - 15,5	108,8	202
11013810	11013961	4 x 2 x 2,5	14	14,5 - 18,4	212,4	338
11013811	11013962	5 x 2 x 2,5	14	16,1 - 20,3	264,3	428
11013812	11013963	6 x 2 x 2,5	14	17,5 - 22,3	316,1	529
11013813	11013964	8 x 2 x 2,5	14	19,9 - 25,4	419,8	636
11013814	11013965	10 x 2 x 2,5	14	23,0 - 29,2	523,5	755
11013815	11013966	12 x 2 x 2,5	14	23,7 - 30,3	627,2	899
11013816	11013967	15 x 2 x 2,5	14	26,6 - 33,8	782,7	1157
11013817	11013968	16 x 2 x 2,5	14	26,6 - 33,8	834,5	1213
11013818	11013969	20 x 2 x 2,5	14	29,8 - 38,1	1041,9	1471
11013819	11013970	24 x 2 x 2,5	14	33,5 - 42,7	1249,2	1757
11013820	11013971	30 x 2 x 2,5	14	35,7 - 45,5	1560,3	2174
11013821	11013972	36 x 2 x 2,5	14	38,7 - 49,4	1871,3	2657
11013822	11013973	1 x 3 x 2,5	14	8,8 - 11,0	82,8	136
11013823	11013974	2 x 3 x 2,5	14	13,8 - 17,5	160,6	269
11013824	11013975	3 x 3 x 2,5	14	14,7 - 18,6	238,4	370
11013830	11013981	1 x 4 x 2,5	14	9,5 - 12,0	108,8	169
11013831	11013982	2 x 4 x 2,5	14	17,2 - 21,9	212,4	371
11013832	11013983	3 x 4 x 2,5	14	18,6 - 23,5	316,1	495

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 XLPE/PVC IOS 300

Instrumentation cable, XLPE/IS/OS/PVC



Technical data

- Instrumentation cable acc. to EN 50288-7
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +90°C
- **Nominal voltage**
  U AC 300 V
- **Test voltage**
  core/core 1500 V
  core/screen 1500 V
- **Minimum bending radius**
  fixed installation 7,5x outer Ø
- **Insulation resistance**
  > 5000 MΩxkm
- **Mutual capacitance**
  max. 150 pF/m
- **Inductance**
  max. 1 mH /km
- **L/R (ratio)**
  0,5 mm² < 25 µH/Ω
  0,75 mm² < 25 µH/Ω
  1 mm² < 25 µH/Ω
  1,5 mm² < 40 µH/Ω
  2,5 mm² < 60 µH/Ω

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl.2 / IEC 60228 cl.2
- Core insulation: XLPE acc. to EN 50290-2-29
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: WH, BK
  triads: WH, BK, RD
  quads: WH, BK, RD, GY
  white cores with continuous black numbering
- Individual screen: pairs, triads or quads indiv. screened with AL/PE tape over tinned copper drain wire (solid 0,6 mm)
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire (7x0,3 mm)
- Outer sheath: PVC acc. to EN 50290-2-22
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- UV resistant acc. to UL 1581 section 1200

Note

- Alternative denomination: **RE-2X(St)Y PiMF**
- Not suitable for direct burial
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- We also offer cable glands **HELUTOP® HT-MS-EX-d**

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11012297	11012433	2 x 2 x 0,5	20	8,3 - 10,7	31,6	90
11012298	11012434	4 x 2 x 0,5	20	9,5 - 12,3	58,2	140
11012299	11012435	5 x 2 x 0,5	20	10,5 - 13,7	71,4	167
11012300	11012436	6 x 2 x 0,5	20	11,4 - 14,9	84,7	203
11012301	11012437	8 x 2 x 0,5	20	13,0 - 16,9	111,2	238
11012302	11012438	10 x 2 x 0,5	20	14,6 - 19,0	137,8	282
11012303	11012439	12 x 2 x 0,5	20	15,3 - 19,9	164,4	324
11012304	11012440	15 x 2 x 0,5	20	16,9 - 22,0	204,1	407
11012305	11012441	16 x 2 x 0,5	20	16,9 - 22,0	217,4	424
11012306	11012442	20 x 2 x 0,5	20	18,9 - 24,8	270,5	513
11012307	11012443	24 x 2 x 0,5	20	21,1 - 27,7	323,6	608
11012308	11012444	30 x 2 x 0,5	20	22,3 - 29,3	403,2	745
11012309	11012445	36 x 2 x 0,5	20	24,3 - 31,9	482,9	893
11012310	11012446	2 x 3 x 0,5	20	9,1 - 11,8	42,0	108
11012311	11012447	3 x 3 x 0,5	20	9,6 - 12,4	60,5	140
11012317	11012453	2 x 4 x 0,5	20	10,5 - 13,6	52,4	136
11012318	11012454	3 x 4 x 0,5	20	11,1 - 14,4	76,0	170

Continuation ▸

HELUDATA® EN-50288-7 XLPE/PVC IOS 300

Instrumentation cable, XLPE/IS/OS/PVC

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11012324	11012460	2 x 2 x 0,75	19	8,9 - 11,0	42,0	104
11012325	11012461	4 x 2 x 0,75	19	10,5 - 13,1	78,9	165
11012326	11012462	5 x 2 x 0,75	19	11,4 - 14,2	97,3	204
11012327	11012463	6 x 2 x 0,75	19	12,4 - 15,4	115,8	242
11012328	11012464	8 x 2 x 0,75	19	14,1 - 17,5	152,7	293
11012329	11012465	10 x 2 x 0,75	19	16,1 - 20,0	189,6	339
11012330	11012466	12 x 2 x 0,75	19	16,6 - 20,8	226,6	400
11012331	11012467	15 x 2 x 0,75	19	18,6 - 23,2	281,9	503
11012332	11012468	16 x 2 x 0,75	19	18,6 - 23,2	300,3	524
11012333	11012469	20 x 2 x 0,75	19	20,9 - 26,0	374,2	635
11012334	11012470	24 x 2 x 0,75	19	23,3 - 29,1	448,0	753
11012335	11012471	30 x 2 x 0,75	19	24,6 - 30,8	558,7	923
11012336	11012472	36 x 2 x 0,75	19	26,8 - 33,5	669,5	1108
11012337	11012473	2 x 3 x 0,75	19	9,8 - 12,2	57,6	133
11012338	11012474	3 x 3 x 0,75	19	10,6 - 13,2	83,8	168
11012344	11012480	2 x 4 x 0,75	19	11,4 - 14,1	73,1	168
11012345	11012481	3 x 4 x 0,75	19	12,1 - 15,0	107,1	212
11012351	11012487	2 x 2 x 1	18	9,3 - 11,8	52,4	124
11012352	11012488	4 x 2 x 1	18	10,9 - 13,9	99,7	191
11012353	11012489	5 x 2 x 1	18	11,9 - 15,2	123,2	238
11012354	11012490	6 x 2 x 1	18	13,1 - 16,8	146,9	282
11012355	11012491	8 x 2 x 1	18	14,7 - 18,8	194,2	344
11012356	11012492	10 x 2 x 1	18	16,8 - 21,6	241,5	409
11012357	11012493	12 x 2 x 1	18	17,3 - 22,4	288,8	473
11012358	11012494	15 x 2 x 1	18	19,4 - 25,0	359,6	607
11012359	11012495	16 x 2 x 1	18	19,4 - 25,0	383,3	634
11012360	11012496	20 x 2 x 1	18	21,8 - 28,0	477,9	767
11012361	11012497	24 x 2 x 1	18	24,3 - 31,4	572,4	911
11012362	11012498	30 x 2 x 1	18	25,9 - 33,5	714,2	1118
11012363	11012499	36 x 2 x 1	18	28,1 - 36,4	856,1	1343
11012364	11012500	2 x 3 x 1	18	10,4 - 13,3	73,1	154
11012365	11012501	3 x 3 x 1	18	11,0 - 14,0	107,1	196
11012371	11012507	2 x 4 x 1	18	11,8 - 15,1	93,9	195
11012372	11012508	3 x 4 x 1	18	12,7 - 16,4	138,2	250
11012379	11012515	2 x 2 x 1,5	16	11,4 - 13,9	73,1	161
11012380	11012516	4 x 2 x 1,5	16	13,5 - 16,5	141,2	264
11012381	11012517	5 x 2 x 1,5	16	14,8 - 18,0	175,1	331
11012382	11012518	6 x 2 x 1,5	16	16,3 - 19,9	209,1	404
11012383	11012519	8 x 2 x 1,5	16	18,5 - 22,6	277,1	482
11012384	11012520	10 x 2 x 1,5	16	21,1 - 25,8	345,2	572
11012385	11012521	12 x 2 x 1,5	16	21,8 - 26,6	413,2	677
11012386	11012522	15 x 2 x 1,5	16	24,4 - 29,9	515,2	867
11012387	11012523	16 x 2 x 1,5	16	24,4 - 29,9	549,2	905
11012388	11012524	20 x 2 x 1,5	16	27,4 - 33,6	685,3	1095
11012389	11012525	24 x 2 x 1,5	16	30,8 - 37,7	821,2	1301
11012390	11012526	30 x 2 x 1,5	16	32,8 - 40,2	1025,2	1598
11012391	11012527	36 x 2 x 1,5	16	35,6 - 43,7	1229,4	1942
11012392	11012528	2 x 3 x 1,5	16	12,8 - 15,6	104,2	212
11012393	11012529	3 x 3 x 1,5	16	13,6 - 16,6	153,8	282
11012399	11012535	2 x 4 x 1,5	16	14,7 - 18,0	135,3	270
11012400	11012536	3 x 4 x 1,5	16	15,8 - 19,4	200,4	361

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 XLPE/PVC IOS 500

Instrumentation cable, XLPE/IS/OS/PVC



Technical data

- Instrumentation cable acc. to EN 50288-7
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +90°C
- **Nominal voltage**
  U AC 500 V
- **Test voltage**
  core/core 2000 V
  core/screen 2000 V
- **Minimum bending radius**
  fixed installation 7,5x outer Ø
- **Insulation resistance**
  > 5000 MΩxkm
- **Mutual capacitance**
  single pair max. 150 pF/m
- **Inductance**
  max. 1 mH /km
- **L/R (ratio)**
  0,5 mm² < 25 µH/Ω
  0,75 mm² < 25 µH/Ω
  1 mm² < 25 µH/Ω
  1,5 mm² < 40 µH/Ω
  2,5 mm² < 60 µH/Ω

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl.2 / IEC 60228 cl.2
- Core insulation: XLPE acc. to EN 50290-2-29
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: BU, BK
  triads: BU, BK, RD
  quads: BU, BK, RD, GY
  blue cores with continuous black numbering
- Individual screen: pairs, triads or quads indiv. screened with AL/PE tape over tinned copper drain wire (solid 0,6 mm)
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire (7x0,3 mm)
- Outer sheath: PVC acc. to EN 50290-2-22
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- UV resistant acc. to UL 1581 section 1200

Note

- Alternative denomination: **RE-2X(St)Y PiMF**
- Not suitable for direct burial
- The conductor is metrically constructed (mm²). The AWG designatiaon is approximate and purely informative.
- We also offer cable glands **HELUTOP® HT-MS-EX-d**

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11012569	11012705	2 x 2 x 0,5	20	9,6 - 12,2	31,6	110
11012570	11012706	4 x 2 x 0,5	20	11,3 - 14,4	58,2	163
11012571	11012707	5 x 2 x 0,5	20	12,3 - 15,7	71,4	203
11012572	11012708	6 x 2 x 0,5	20	13,6 - 17,3	84,7	247
11012573	11012709	8 x 2 x 0,5	20	15,4 - 19,7	111,2	287
11012574	11012710	10 x 2 x 0,5	20	17,4 - 22,4	137,8	337
11012575	11012711	12 x 2 x 0,5	20	18,2 - 23,3	164,4	386
11012576	11012712	15 x 2 x 0,5	20	20,4 - 26,1	204,1	499
11012577	11012713	16 x 2 x 0,5	20	20,4 - 26,1	217,4	517
11012578	11012714	20 x 2 x 0,5	20	22,8 - 29,3	270,5	621
11012579	11012715	24 x 2 x 0,5	20	25,5 - 32,7	323,6	734
11012580	11012716	30 x 2 x 0,5	20	26,9 - 34,7	403,2	895
11012581	11012717	36 x 2 x 0,5	20	29,3 - 37,7	482,9	1074
11012582	11012718	2 x 3 x 0,5	20	10,8 - 13,7	42,0	132
11012583	11012719	3 x 3 x 0,5	20	11,4 - 14,6	60,5	170
11012589	11012725	2 x 4 x 0,5	20	12,3 - 15,6	52,4	167
11012590	11012726	3 x 4 x 0,5	20	13,2 - 16,9	76,0	207

Continuation ▸

HELUDATA® EN-50288-7 XLPE/PVC IOS 500

Instrumentation cable, XLPE/IS/OS/PVC

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11012596	11012732	2 x 2 x 0,75	19	10,4 - 12,7	42,0	125
11012597	11012733	4 x 2 x 0,75	19	12,1 - 14,9	78,9	196
11012598	11012734	5 x 2 x 0,75	19	13,4 - 16,5	97,3	236
11012599	11012735	6 x 2 x 0,75	19	14,6 - 18,0	115,8	289
11012600	11012736	8 x 2 x 0,75	19	16,6 - 20,3	152,7	347
11012601	11012737	10 x 2 x 0,75	19	18,9 - 23,3	189,6	399
11012602	11012738	12 x 2 x 0,75	19	19,6 - 24,1	226,6	468
11012603	11012739	15 x 2 x 0,75	19	21,9 - 27,0	281,9	602
11012604	11012740	16 x 2 x 0,75	19	21,9 - 27,0	300,3	626
11012605	11012741	20 x 2 x 0,75	19	24,6 - 30,3	374,2	752
11012606	11012742	24 x 2 x 0,75	19	27,4 - 33,8	448,0	889
11012607	11012743	30 x 2 x 0,75	19	29,3 - 36,1	558,7	1087
11012608	11012744	36 x 2 x 0,75	19	31,8 - 39,3	669,5	1304
11012609	11012745	2 x 3 x 0,75	19	11,5 - 14,1	57,6	160
11012610	11012746	3 x 3 x 0,75	19	12,2 - 15,0	83,8	200
11012616	11012752	2 x 4 x 0,75	19	13,3 - 16,4	73,1	194
11012617	11012753	3 x 4 x 0,75	19	14,2 - 17,4	107,1	253
11012623	11012759	2 x 2 x 1	18	10,8 - 13,6	52,4	140
11012624	11012760	4 x 2 x 1	18	12,7 - 15,9	99,7	223
11012625	11012761	5 x 2 x 1	18	13,9 - 17,4	123,2	279
11012626	11012762	6 x 2 x 1	18	15,3 - 19,3	146,9	332
11012627	11012763	8 x 2 x 1	18	17,1 - 21,7	194,2	399
11012628	11012764	10 x 2 x 1	18	19,6 - 24,8	241,5	471
11012629	11012765	12 x 2 x 1	18	20,5 - 25,9	288,8	555
11012630	11012766	15 x 2 x 1	18	22,9 - 29,0	359,6	699
11012631	11012767	16 x 2 x 1	18	22,9 - 29,0	383,3	729
11012632	11012768	20 x 2 x 1	18	25,7 - 32,5	477,9	878
11012633	11012769	24 x 2 x 1	18	28,6 - 36,4	572,4	1057
11012634	11012770	30 x 2 x 1	18	30,5 - 38,7	714,2	1292
11012635	11012771	36 x 2 x 1	18	33,1 - 42,1	856,1	1552
11012636	11012772	2 x 3 x 1	18	11,9 - 15,0	73,1	182
11012637	11012773	3 x 3 x 1	18	12,8 - 16,2	107,1	230
11012643	11012779	2 x 4 x 1	18	13,8 - 17,4	93,9	230
11012644	11012780	3 x 4 x 1	18	14,7 - 18,6	138,2	292
11012651	11012787	2 x 2 x 1,5	16	12,1 - 14,7	73,1	177
11012652	11012788	4 x 2 x 1,5	16	14,3 - 17,3	141,2	287
11012653	11012789	5 x 2 x 1,5	16	15,8 - 19,3	175,1	358
11012654	11012790	6 x 2 x 1,5	16	17,3 - 21,0	209,1	427
11012655	11012791	8 x 2 x 1,5	16	19,6 - 23,9	277,1	518
11012656	11012792	10 x 2 x 1,5	16	22,4 - 27,3	345,2	613
11012657	11012793	12 x 2 x 1,5	16	23,4 - 28,5	413,2	724
11012658	11012794	15 x 2 x 1,5	16	26,2 - 31,9	515,2	912
11012659	11012795	16 x 2 x 1,5	16	26,2 - 31,9	549,2	952
11012660	11012796	20 x 2 x 1,5	16	29,4 - 35,8	685,3	1167
11012661	11012797	24 x 2 x 1,5	16	33,0 - 40,2	821,2	1383
11012662	11012798	30 x 2 x 1,5	16	34,9 - 42,6	1025,2	1697
11012663	11012799	36 x 2 x 1,5	16	38,1 - 46,5	1229,4	2063
11012664	11012800	2 x 3 x 1,5	16	13,6 - 16,5	104,2	223
11012665	11012801	3 x 3 x 1,5	16	14,5 - 17,5	153,8	297
11012671	11012807	2 x 4 x 1,5	16	15,8 - 19,2	135,3	295
11012672	11012808	3 x 4 x 1,5	16	16,8 - 20,4	200,4	380
11012678	11012814	2 x 2 x 2,5	14	13,9 - 17,5	114,6	245
11012679	11012815	4 x 2 x 2,5	14	16,5 - 20,9	224,1	405
11012680	11012816	5 x 2 x 2,5	14	18,2 - 23,0	278,7	508
11012681	11012817	6 x 2 x 2,5	14	19,9 - 25,3	333,5	622
11012682	11012818	8 x 2 x 2,5	14	22,8 - 28,9	443,0	756
11012683	11012819	10 x 2 x 2,5	14	26,1 - 33,1	552,5	893
11012684	11012820	12 x 2 x 2,5	14	27,0 - 34,2	662,0	1055
11012685	11012821	15 x 2 x 2,5	14	30,4 - 38,6	826,2	1348
11012686	11012822	16 x 2 x 2,5	14	30,4 - 38,6	881,0	1410
11012687	11012823	20 x 2 x 2,5	14	34,2 - 43,3	1100,0	1722
11012688	11012824	24 x 2 x 2,5	14	38,3 - 48,6	1318,9	2043
11012689	11012825	30 x 2 x 2,5	14	40,8 - 51,8	1647,3	2533
11012690	11012826	36 x 2 x 2,5	14	44,3 - 56,3	1975,9	3072
11012691	11012827	2 x 3 x 2,5	14	15,7 - 19,8	166,4	325
11012692	11012828	3 x 3 x 2,5	14	16,7 - 21,1	247,1	425
11012698	11012834	2 x 4 x 2,5	14	18,2 - 23,0	218,3	415
11012699	11012835	3 x 4 x 2,5	14	19,4 - 24,6	324,9	557

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 XLPE/PVC OSA 300

Instrumentation cable, XLPE/OS/PVC/SWA/PVC



Technical data

- Instrumentation cable acc. to EN 50288-7
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +90°C
- **Nominal voltage**
  U AC 300 V
- **Test voltage**
  core/core 1500 V
  core/screen 1500 V
- **Minimum bending radius**
  fixed installation 10x outer Ø
- **Insulation resistance**
  > 5000 MΩxkm
- **Mutual capacitance**
  max. 150 pF/m
- **Inductance**
  max. 1 mH /km
- **L/R (ratio)**
  0,5 mm² < 25 µH/Ω
  0,75 mm² < 25 µH/Ω
  1 mm² < 25 µH/Ω
  1,5 mm² < 40 µH/Ω
  2,5 mm² < 60 µH/Ω

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl.2 / IEC 60228 cl.2
- Core insulation: XLPE acc. to EN 50290-2-29
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: WH, BK
  triads: WH, BK, RD
  quads: WH, BK, RD, GY
  white cores with continuous black numbering
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire (7x0,3 mm)
- Inner sheath: PVC acc. to EN 50290-2-22
- Armouring: single layer of galvanised round steel wires acc. to EN 10257-1
- Outer sheath: PVC acc. to EN 50290-2-22
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- UV resistant acc. to UL 1581 section 1200

Note

- Alternative denomination: **RE-2X(St)YRY**
- Suitable for direct burial
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- We also offer cable glands **HELUTOP® HT-MS-EX-d / e4**

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11013989	11014140	1 x 2 x 0,5	20	9,0 - 11,0	15,4	198
11013990	11014141	2 x 2 x 0,5	20	11,1 - 13,8	25,8	288
11013991	11014142	4 x 2 x 0,5	20	12,1 - 15,2	46,5	356
11013992	11014143	5 x 2 x 0,5	20	12,8 - 16,2	56,9	398
11013993	11014144	6 x 2 x 0,5	20	13,6 - 17,1	67,3	443
11013994	11014145	8 x 2 x 0,5	20	14,8 - 18,9	88,0	504
11013995	11014146	10 x 2 x 0,5	20	16,2 - 20,8	108,8	559
11013996	11014147	12 x 2 x 0,5	20	16,6 - 21,3	129,5	620
11013997	11014148	15 x 2 x 0,5	20	18,1 - 23,2	160,6	861
11013998	11014149	16 x 2 x 0,5	20	18,1 - 23,2	171,0	873
11013999	11014150	20 x 2 x 0,5	20	20,3 - 26,1	212,4	1006
11014000	11014151	24 x 2 x 0,5	20	22,1 - 28,6	253,9	1131
11014001	11014152	30 x 2 x 0,5	20	23,1 - 30,0	316,1	1293
11014002	11014153	36 x 2 x 0,5	20	24,5 - 31,9	378,3	1473
11014003	11014154	1 x 3 x 0,5	20	9,3 - 11,3	20,6	216
11014004	11014155	2 x 3 x 0,5	20	11,8 - 14,8	36,2	331
11014005	11014156	3 x 3 x 0,5	20	12,2 - 15,4	51,7	367
11014011	11014162	1 x 4 x 0,5	20	9,6 - 11,9	25,8	237
11014012	11014163	2 x 4 x 0,5	20	13,4 - 17,0	46,5	398

Continuation ▶

HELUDATA® EN-50288-7 XLPE/PVC OSA 300

Instrumentation cable, XLPE/OS/PVC/SWA/PVC

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11014019	11014170	1 x 2 x 0,75	19	9,4 - 11,2	20,6	221
11014020	11014171	2 x 2 x 0,75	19	11,7 - 14,2	36,2	326
11014021	11014172	4 x 2 x 0,75	19	12,9 - 15,6	67,3	400
11014022	11014173	5 x 2 x 0,75	19	13,6 - 16,7	82,8	449
11014023	11014174	6 x 2 x 0,75	19	14,7 - 17,9	98,4	516
11014024	11014175	8 x 2 x 0,75	19	15,9 - 19,5	129,5	579
11014025	11014176	10 x 2 x 0,75	19	17,4 - 21,4	160,6	652
11014026	11014177	12 x 2 x 0,75	19	18,0 - 22,1	191,7	843
11014027	11014178	15 x 2 x 0,75	19	20,2 - 24,8	238,4	1016
11014028	11014179	16 x 2 x 0,75	19	20,2 - 24,8	253,9	1033
11014029	11014180	20 x 2 x 0,75	19	22,1 - 27,3	316,1	1187
11014030	11014181	24 x 2 x 0,75	19	23,9 - 29,6	378,3	1338
11014031	11014182	30 x 2 x 0,75	19	25,2 - 31,2	471,6	1542
11014032	11014183	36 x 2 x 0,75	19	27,0 - 33,6	564,9	1963
11014033	11014184	1 x 3 x 0,75	19	9,7 - 11,6	28,4	238
11014034	11014185	2 x 3 x 0,75	19	12,5 - 15,2	51,7	365
11014035	11014186	3 x 3 x 0,75	19	13,0 - 15,8	75,1	408
11014041	11014192	1 x 4 x 0,75	19	10,1 - 12,1	36,2	257
11014042	11014193	2 x 4 x 0,75	19	14,5 - 17,7	67,3	465
11014049	11014200	1 x 2 x 1	18	9,6 - 11,7	25,8	235
11014050	11014201	2 x 2 x 1	18	12,0 - 14,9	46,5	349
11014051	11014202	4 x 2 x 1	18	13,2 - 16,5	88,0	440
11014052	11014203	5 x 2 x 1	18	14,1 - 17,5	108,8	516
11014053	11014204	6 x 2 x 1	18	15,1 - 18,9	129,5	577
11014054	11014205	8 x 2 x 1	18	16,4 - 20,7	171,0	657
11014055	11014206	10 x 2 x 1	18	18,2 - 23,0	212,4	871
11014056	11014207	12 x 2 x 1	18	19,3 - 24,4	253,9	952
11014057	11014208	15 x 2 x 1	18	20,9 - 26,5	316,1	1146
11014058	11014209	16 x 2 x 1	18	20,9 - 26,5	336,9	1168
11014059	11014210	20 x 2 x 1	18	22,9 - 29,1	419,8	1359
11014060	11014211	24 x 2 x 1	18	25,0 - 31,9	502,7	1544
11014061	11014212	30 x 2 x 1	18	26,4 - 33,7	627,2	1998
11014062	11014213	36 x 2 x 1	18	28,5 - 36,5	751,6	2291
11014063	11014214	1 x 3 x 1	18	9,9 - 12,1	36,2	255
11014064	11014215	2 x 3 x 1	18	12,8 - 15,9	67,3	398
11014065	11014216	3 x 3 x 1	18	13,4 - 16,7	98,4	450
11014071	11014222	1 x 4 x 1	18	10,3 - 12,6	46,5	282
11014072	11014223	2 x 4 x 1	18	14,9 - 18,7	88,0	507
11014080	11014231	1 x 2 x 1,5	16	10,7 - 12,7	36,2	274
11014081	11014232	2 x 2 x 1,5	16	13,9 - 16,7	67,3	425
11014082	11014233	4 x 2 x 1,5	16	15,6 - 18,8	129,5	567
11014083	11014234	5 x 2 x 1,5	16	16,7 - 20,2	160,6	659
11014084	11014235	6 x 2 x 1,5	16	18,0 - 21,8	191,7	879
11014085	11014236	8 x 2 x 1,5	16	20,4 - 24,7	253,9	994
11014086	11014237	10 x 2 x 1,5	16	22,7 - 27,5	316,1	1128
11014087	11014238	12 x 2 x 1,5	16	23,3 - 28,2	378,3	1269
11014088	11014239	15 x 2 x 1,5	16	25,7 - 31,2	471,6	1530
11014089	11014240	16 x 2 x 1,5	16	25,7 - 31,2	502,7	1564
11014090	11014241	20 x 2 x 1,5	16	28,5 - 34,7	627,2	2030
11014091	11014242	24 x 2 x 1,5	16	32,1 - 39,1	751,6	2311
11014092	11014243	30 x 2 x 1,5	16	33,6 - 41,0	938,2	2677
11014093	11014244	36 x 2 x 1,5	16	36,3 - 44,2	1124,8	3088
11014094	11014245	1 x 3 x 1,5	16	11,3 - 13,4	51,7	307
11014095	11014246	2 x 3 x 1,5	16	15,1 - 18,2	98,4	510
11014096	11014247	3 x 3 x 1,5	16	15,8 - 19,0	145,0	588
11014102	11014253	1 x 4 x 1,5	16	11,8 - 14,1	67,3	353
11014103	11014254	2 x 4 x 1,5	16	17,6 - 21,3	129,5	654

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 XLPE/PVC OSA 500

Instrumentation cable, XLPE/OS/PVC/SWA/PVC



Technical data

- Instrumentation cable acc. to EN 50288-7
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +90°C
- **Nominal voltage**
  U AC 500 V
- **Test voltage**
  core/core 2000 V
  core/screen 2000 V
- **Minimum bending radius**
  fixed installation 10x outer Ø
- **Insulation resistance**
  > 5000 MΩxkm
- **Mutual capacitance**
  single pair max. 150 pF/m
- **Inductance**
  max. 1 mH /km
- **L/R (ratio)**
  0,5 mm² < 25 µH/Ω
  0,75 mm² < 25 µH/Ω
  1 mm² < 25 µH/Ω
  1,5 mm² < 40 µH/Ω
  2,5 mm² < 60 µH/Ω

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl.2 / IEC 60228 cl.2
- Core insulation: XLPE acc. to EN 50290-2-29
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: BU, BK
  triads: BU, BK, RD
  quads: BU, BK, RD, GY
  blue cores with continuous black numbering
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire (7x0,3 mm)
- Inner sheath: PVC acc. to EN 50290-2-22
- Armouring: single layer of galvanised round steel wires acc. to EN 10257-1
- Outer sheath: PVC acc. to EN 50290-2-22
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- UV resistant acc. to UL 1581 section 1200

Note

- Alternative denomination: **RE-2X(St)YRY**
- Suitable for direct burial
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- We also offer cable glands **HELUTOP® HT-MS-EX-d / e4**

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11014291	11014442	1 x 2 x 0,5	20	9,8 - 11,9	15,4	229
11014292	11014443	2 x 2 x 0,5	20	12,3 - 15,2	25,8	341
11014293	11014444	4 x 2 x 0,5	20	13,6 - 16,9	46,5	412
11014294	11014445	5 x 2 x 0,5	20	14,7 - 18,3	56,9	482
11014295	11014446	6 x 2 x 0,5	20	15,6 - 19,5	67,3	541
11014296	11014447	8 x 2 x 0,5	20	16,9 - 21,3	88,0	606
11014297	11014448	10 x 2 x 0,5	20	19,5 - 24,5	108,8	800
11014298	11014449	12 x 2 x 0,5	20	19,9 - 25,1	129,5	886
11014299	11014450	15 x 2 x 0,5	20	21,8 - 27,5	160,6	1059
11014300	11014451	16 x 2 x 0,5	20	21,8 - 27,5	171,0	1074
11014301	11014452	20 x 2 x 0,5	20	23,7 - 30,1	212,4	1225
11014302	11014453	24 x 2 x 0,5	20	26,1 - 33,2	253,9	1379
11014303	11014454	30 x 2 x 0,5	20	27,4 - 34,9	316,1	1795
11014304	11014455	36 x 2 x 0,5	20	30,2 - 38,4	378,3	2041
11014305	11014456	1 x 3 x 0,5	20	10,1 - 12,3	20,6	245
11014306	11014457	2 x 3 x 0,5	20	13,2 - 16,4	36,2	383
11014307	11014458	3 x 3 x 0,5	20	13,7 - 17,1	51,7	424
11014313	11014464	1 x 4 x 0,5	20	10,5 - 12,8	25,8	269
11014314	11014465	2 x 4 x 0,5	20	15,4 - 19,3	46,5	485

Continuation ▶

HELUDATA® EN-50288-7 XLPE/PVC OSA 500

Instrumentation cable, XLPE/OS/PVC/SWA/PVC

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11014321	11014472	1 x 2 x 0,75	19	10,1 - 12,1	20,6	243
11014322	11014473	2 x 2 x 0,75	19	12,9 - 15,6	36,2	369
11014323	11014474	4 x 2 x 0,75	19	14,5 - 17,5	67,3	479
11014324	11014475	5 x 2 x 0,75	19	15,5 - 18,7	82,8	536
11014325	11014476	6 x 2 x 0,75	19	16,5 - 20,0	98,4	615
11014326	11014477	8 x 2 x 0,75	19	18,2 - 22,1	129,5	816
11014327	11014478	10 x 2 x 0,75	19	20,7 - 25,1	160,6	910
11014328	11014479	12 x 2 x 0,75	19	21,2 - 25,9	191,7	1007
11014329	11014480	15 x 2 x 0,75	19	23,2 - 28,4	238,4	1214
11014330	11014481	16 x 2 x 0,75	19	23,2 - 28,4	253,9	1233
11014331	11014482	20 x 2 x 0,75	19	25,7 - 31,5	316,1	1415
11014332	11014483	24 x 2 x 0,75	19	28,1 - 34,5	378,3	1814
11014333	11014484	30 x 2 x 0,75	19	30,3 - 37,1	471,6	2081
11014334	11014485	36 x 2 x 0,75	19	32,7 - 40,1	564,9	2366
11014335	11014486	1 x 3 x 0,75	19	10,5 - 12,5	28,4	267
11014336	11014487	2 x 3 x 0,75	19	13,9 - 16,8	51,7	438
11014337	11014488	3 x 3 x 0,75	19	14,7 - 17,8	75,1	487
11014343	11014494	1 x 4 x 0,75	19	11,2 - 13,4	36,2	301
11014344	11014495	2 x 4 x 0,75	19	16,3 - 19,8	67,3	546
11014351	11014502	1 x 2 x 1	18	10,3 - 12,5	25,8	262
11014352	11014503	2 x 2 x 1	18	13,2 - 16,3	46,5	397
11014353	11014504	4 x 2 x 1	18	14,9 - 18,4	88,0	520
11014354	11014505	5 x 2 x 1	18	15,9 - 19,7	108,8	589
11014355	11014506	6 x 2 x 1	18	16,9 - 21,1	129,5	683
11014356	11014507	8 x 2 x 1	18	19,4 - 24,1	171,0	894
11014357	11014508	10 x 2 x 1	18	21,5 - 26,9	212,4	1017
11014358	11014509	12 x 2 x 1	18	22,0 - 27,5	253,9	1129
11014359	11014510	15 x 2 x 1	18	23,9 - 30,0	316,1	1360
11014360	11014511	16 x 2 x 1	18	23,9 - 30,0	336,9	1385
11014361	11014512	20 x 2 x 1	18	26,5 - 33,3	419,8	1617
11014362	11014513	24 x 2 x 1	18	29,9 - 37,6	502,7	2006
11014363	11014514	30 x 2 x 1	18	31,5 - 39,6	627,2	2329
11014364	11014515	36 x 2 x 1	18	33,8 - 42,5	751,6	2677
11014365	11014516	1 x 3 x 1	18	10,7 - 12,9	36,2	291
11014366	11014517	2 x 3 x 1	18	14,2 - 17,5	67,3	473
11014367	11014518	3 x 3 x 1	18	15,0 - 18,6	98,4	531
11014373	11014524	1 x 4 x 1	18	11,4 - 13,9	46,5	321
11014374	11014525	2 x 4 x 1	18	16,7 - 20,8	88,0	600
11014382	11014533	1 x 2 x 1,5	16	11,3 - 13,4	36,2	292
11014383	11014534	2 x 2 x 1,5	16	14,7 - 17,5	67,3	462
11014384	11014535	4 x 2 x 1,5	16	16,4 - 19,7	129,5	595
11014385	11014536	5 x 2 x 1,5	16	17,5 - 21,1	160,6	703
11014386	11014537	6 x 2 x 1,5	16	19,6 - 23,6	191,7	927
11014387	11014538	8 x 2 x 1,5	16	21,6 - 26,1	253,9	1069
11014388	11014539	10 x 2 x 1,5	16	23,9 - 28,9	316,1	1204
11014389	11014540	12 x 2 x 1,5	16	24,6 - 29,7	378,3	1354
11014390	11014541	15 x 2 x 1,5	16	27,2 - 33,0	471,6	1653
11014391	11014542	16 x 2 x 1,5	16	27,2 - 33,0	502,7	1689
11014392	11014543	20 x 2 x 1,5	16	30,8 - 37,2	627,2	2194
11014393	11014544	24 x 2 x 1,5	16	34,1 - 41,3	751,6	2469
11014394	11014545	30 x 2 x 1,5	16	36,0 - 43,7	938,2	2890
11014395	11014546	36 x 2 x 1,5	16	38,6 - 46,9	1124,8	3642
11014396	11014547	1 x 3 x 1,5	16	11,7 - 13,9	51,7	325
11014397	11014548	2 x 3 x 1,5	16	15,8 - 18,9	98,4	541
11014398	11014549	3 x 3 x 1,5	16	16,6 - 19,9	145,0	629
11014404	11014555	1 x 4 x 1,5	16	12,3 - 14,7	67,3	372
11014405	11014556	2 x 4 x 1,5	16	19,4 - 23,3	129,5	812
11014412	11014563	1 x 2 x 2,5	14	12,2 - 14,9	56,9	360
11014413	11014564	2 x 2 x 2,5	14	16,2 - 20,0	108,8	581
11014414	11014565	4 x 2 x 2,5	14	18,4 - 22,9	212,4	914
11014415	11014566	5 x 2 x 2,5	14	20,4 - 25,4	264,3	1070
11014416	11014567	6 x 2 x 2,5	14	22,1 - 27,5	316,1	1226
11014417	11014568	8 x 2 x 2,5	14	24,3 - 30,4	419,8	1403
11014418	11014569	10 x 2 x 2,5	14	27,3 - 34,2	523,5	1602
11014419	11014570	12 x 2 x 2,5	14	28,5 - 35,7	627,2	2021
11014420	11014571	15 x 2 x 2,5	14	32,1 - 40,2	782,7	2468
11014421	11014572	16 x 2 x 2,5	14	32,1 - 40,2	834,5	2525
11014422	11014573	20 x 2 x 2,5	14	35,6 - 44,7	1041,9	2954
11014423	11014574	24 x 2 x 2,5	14	39,2 - 49,3	1249,2	3701
11014424	11014575	30 x 2 x 2,5	14	42,2 - 53,0	1560,3	4309
11014425	11014576	36 x 2 x 2,5	14	45,6 - 57,4	1871,3	4986
11014426	11014577	1 x 3 x 2,5	14	12,7 - 15,5	82,8	404
11014427	11014578	2 x 3 x 2,5	14	17,5 - 21,8	160,6	819
11014428	11014579	3 x 3 x 2,5	14	19,3 - 23,9	238,4	959
11014434	11014585	1 x 4 x 2,5	14	13,4 - 16,5	108,8	458
11014435	11014586	2 x 4 x 2,5	14	21,8 - 27,2	212,4	1065

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 XLPE/PVC IOSA 300

Instrumentation cable, XLPE/IS/OS/PVC/SWA/PVC



Technical data

- Instrumentation cable acc. to EN 50288-7
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +90°C
- **Nominal voltage**
  U AC 300 V
- **Test voltage**
  core/core 1500 V
  core/screen 1500 V
- **Minimum bending radius**
  fixed installation 10x outer Ø
- **Insulation resistance**
  > 5000 MΩxkm
- **Mutual capacitance**
  max. 150 pF/m
- **Inductance**
  max. 1 mH /km
- **L/R (ratio)**
  0,5 mm² < 25 µH/Ω
  0,75 mm² < 25 µH/Ω
  1 mm² < 25 µH/Ω
  1,5 mm² < 40 µH/Ω
  2,5 mm² < 60 µH/Ω

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl.2 / IEC 60228 cl.2
- Core insulation: XLPE acc. to EN 50290-2-29
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: WH, BK
  triads: WH, BK, RD
  quads: WH, BK, RD, GY
  white cores with continuous black numbering
- Individual screen: pairs, triads or quads indiv. screened with AL/PE tape over tinned copper drain wire (solid 0,6 mm)
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire (7x0,3 mm)
- Inner sheath: PVC acc. to EN 50290-2-22
- Armouring: single layer of galvanised round steel wires acc. to EN 10257-1
- Outer sheath: PVC acc. to EN 50290-2-22
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- UV resistant acc. to UL 1581 section 1200

Note

- Alternative denomination:
  RE-2X(St)YRY PiMF
- Suitable for direct burial
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- We also offer cable glands
  HELUTOP® HT-MS-EX-d / e4

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11012841	11012977	2 x 2 x 0,5	20	12,2 - 15,2	31,6	326
11012842	11012978	4 x 2 x 0,5	20	13,4 - 16,8	58,2	418
11012843	11012979	5 x 2 x 0,5	20	14,5 - 18,2	71,4	467
11012844	11012980	6 x 2 x 0,5	20	15,3 - 19,4	84,7	518
11012845	11012981	8 x 2 x 0,5	20	16,7 - 21,2	111,2	597
11012846	11012982	10 x 2 x 0,5	20	18,5 - 23,5	137,8	663
11012847	11012983	12 x 2 x 0,5	20	19,6 - 24,9	164,4	869
11012848	11012984	15 x 2 x 0,5	20	21,2 - 27,1	204,1	1030
11012849	11012985	16 x 2 x 0,5	20	21,2 - 27,1	217,4	1046
11012850	11012986	20 x 2 x 0,5	20	23,3 - 29,9	270,5	1203
11012851	11012987	24 x 2 x 0,5	20	25,7 - 33,0	323,6	1349
11012852	11012988	30 x 2 x 0,5	20	26,9 - 34,6	403,2	1566
11012853	11012989	36 x 2 x 0,5	20	29,0 - 37,3	482,9	1977
11012854	11012990	2 x 3 x 0,5	20	13,0 - 16,3	42,0	373
11012855	11012991	3 x 3 x 0,5	20	13,5 - 16,9	60,5	420
11012861	11012997	2 x 4 x 0,5	20	14,2 - 17,9	52,4	436
11012862	11012998	3 x 4 x 0,5	20	15,0 - 18,9	76,0	484

Continuation ▸

HELUDATA® EN-50288-7 XLPE/PVC IOSA 300

Instrumentation cable, XLPE/IS/OS/PVC/SWA/PVC

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11012868	11013004	2 x 2 x 0,75	19	12,8 - 15,5	42,0	362
11012869	11013005	4 x 2 x 0,75	19	14,4 - 17,5	78,9	465
11012870	11013006	5 x 2 x 0,75	19	15,3 - 18,7	97,3	520
11012871	11013007	6 x 2 x 0,75	19	16,3 - 19,9	115,8	601
11012872	11013008	8 x 2 x 0,75	19	18,0 - 22,0	152,7	673
11012873	11013009	10 x 2 x 0,75	19	20,5 - 25,0	189,6	896
11012874	11013010	12 x 2 x 0,75	19	21,0 - 25,8	226,6	987
11012875	11013011	15 x 2 x 0,75	19	23,0 - 28,2	281,9	1181
11012876	11013012	16 x 2 x 0,75	19	23,0 - 28,2	300,3	1202
11012877	11013013	20 x 2 x 0,75	19	25,3 - 31,0	374,2	1389
11012878	11013014	24 x 2 x 0,75	19	27,7 - 34,1	448,0	1576
11012879	11013015	30 x 2 x 0,75	19	30,0 - 37,0	558,7	2041
11012880	11013016	36 x 2 x 0,75	19	32,4 - 39,9	669,5	2294
11012881	11013017	2 x 3 x 0,75	19	13,7 - 16,7	57,6	419
11012882	11013018	3 x 3 x 0,75	19	14,5 - 17,7	83,8	468
11012888	11013024	2 x 4 x 0,75	19	15,3 - 18,6	73,1	483
11012889	11013025	3 x 4 x 0,75	19	16,0 - 19,5	107,1	564
11012895	11013031	2 x 2 x 1	18	13,2 - 16,3	52,4	402
11012896	11013032	4 x 2 x 1	18	14,8 - 18,4	99,7	505
11012897	11013033	5 x 2 x 1	18	15,8 - 19,7	123,2	590
11012898	11013034	6 x 2 x 1	18	16,8 - 21,1	146,9	663
11012899	11013035	8 x 2 x 1	18	18,6 - 23,3	194,2	889
11012900	11013036	10 x 2 x 1	18	21,1 - 26,6	241,5	996
11012901	11013037	12 x 2 x 1	18	21,9 - 27,6	288,8	1108
11012902	11013038	15 x 2 x 1	18	23,8 - 30,1	359,6	1335
11012903	11013039	16 x 2 x 1	18	23,8 - 30,1	383,3	1362
11012904	11013040	20 x 2 x 1	18	26,3 - 33,3	477,9	1589
11012905	11013041	24 x 2 x 1	18	29,0 - 36,8	572,4	1995
11012906	11013042	30 x 2 x 1	18	31,1 - 39,5	714,2	2302
11012907	11013043	36 x 2 x 1	18	33,5 - 42,6	856,1	2631
11012908	11013044	2 x 3 x 1	18	14,1 - 17,5	73,1	455
11012909	11013045	3 x 3 x 1	18	14,9 - 18,5	107,1	512
11012915	11013051	2 x 4 x 1	18	15,7 - 19,6	93,9	548
11012916	11013052	3 x 4 x 1	18	16,5 - 20,7	138,2	624
11012923	11013059	2 x 2 x 1,5	16	15,3 - 18,4	73,1	477
11012924	11013060	4 x 2 x 1,5	16	17,2 - 20,8	141,2	639
11012925	11013061	5 x 2 x 1,5	16	19,3 - 23,2	175,1	875
11012926	11013062	6 x 2 x 1,5	16	20,6 - 24,9	209,1	990
11012927	11013063	8 x 2 x 1,5	16	22,8 - 27,6	277,1	1129
11012928	11013064	10 x 2 x 1,5	16	25,7 - 31,0	345,2	1276
11012929	11013065	12 x 2 x 1,5	16	26,4 - 31,9	413,2	1431
11012930	11013066	15 x 2 x 1,5	16	29,8 - 36,1	515,2	1932
11012931	11013067	16 x 2 x 1,5	16	29,8 - 36,1	549,2	1971
11012932	11013068	20 x 2 x 1,5	16	33,0 - 40,0	685,3	2282
11012933	11013069	24 x 2 x 1,5	16	36,4 - 44,1	821,2	2609
11012934	11013070	30 x 2 x 1,5	16	38,4 - 46,7	1025,2	3069
11012935	11013071	36 x 2 x 1,5	16	42,1 - 51,1	1229,4	3862
11012936	11013072	2 x 3 x 1,5	16	16,5 - 19,9	104,2	572
11012937	11013073	3 x 3 x 1,5	16	17,4 - 20,9	153,8	656
11012943	11013079	2 x 4 x 1,5	16	18,6 - 22,5	135,3	815
11012944	11013080	3 x 4 x 1,5	16	20,2 - 24,4	200,4	934

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 XLPE/PVC IOSA 500

Instrumentation cable, XLPE/IS/OS/PVC/SWA/PVC



Technical data

- Instrumentation cable acc. to EN 50288-7
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +90°C
- **Nominal voltage**
  U AC 500 V
- **Test voltage**
  core/core 2000 V
  core/screen 2000 V
- **Minimum bending radius**
  fixed installation 10x outer Ø
- **Insulation resistance**
  > 5000 MΩxkm
- **Mutual capacitance**
  single pair max. 150 pF/m
- **Inductance**
  max. 1 mH /km
- **L/R (ratio)**
  0,5 mm² < 25 µH/Ω
  0,75 mm² < 25 µH/Ω
  1 mm² < 25 µH/Ω
  1,5 mm² < 40 µH/Ω
  2,5 mm² < 60 µH/Ω

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl.2 / IEC 60228 cl.2
- Core insulation: XLPE acc. to EN 50290-2-29
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: BU, BK
  triads: BU, BK, RD
  quads: BU, BK, RD, GY
  blue cores with continuous black numbering
- Individual screen: pairs, triads or quads indiv. screened with AL/PE tape over tinned copper drain wire (solid 0,6 mm)
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire (7x0,3 mm)
- Inner sheath: PVC acc. to EN 50290-2-22
- Armouring: single layer of galvanised round steel wires acc. to EN 10257-1
- Outer sheath: PVC acc. to EN 50290-2-22
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- UV resistant acc. to UL 1581 section 1200

Note

- Alternative denomination:
  RE-2X(St)YRY PiMF
- Suited for direct burial
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- We also offer cable glands
  HELUTOP® HT-MS-EX-d / e4

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11013113	11013249	2 x 2 x 0,5	20	13,5 - 16,7	31,6	389
11013114	11013250	4 x 2 x 0,5	20	15,2 - 18,9	58,2	583
11013115	11013251	5 x 2 x 0,5	20	16,2 - 20,2	71,4	562
11013116	11013252	6 x 2 x 0,5	20	17,3 - 21,6	84,7	758
11013117	11013253	8 x 2 x 0,5	20	19,8 - 24,7	111,2	925
11013118	11013254	10 x 2 x 0,5	20	22,0 - 27,6	137,8	925
11013119	11013255	12 x 2 x 0,5	20	22,6 - 28,4	164,4	1120
11013120	11013256	15 x 2 x 0,5	20	24,5 - 30,9	204,1	1300
11013121	11013257	16 x 2 x 0,5	20	24,5 - 30,9	217,4	1321
11013122	11013258	20 x 2 x 0,5	20	27,2 - 34,3	270,5	1483
11013123	11013259	24 x 2 x 0,5	20	30,7 - 38,7	323,6	1869
11013124	11013260	30 x 2 x 0,5	20	32,5 - 41,1	403,2	2083
11013125	11013261	36 x 2 x 0,5	20	34,9 - 44,1	482,9	2383
11013126	11013262	2 x 3 x 0,5	20	14,7 - 18,2	42,0	541
11013127	11013263	3 x 3 x 0,5	20	15,3 - 19,0	60,5	591
11013133	11013269	2 x 4 x 0,5	20	16,2 - 20,1	52,4	612
11013134	11013270	3 x 4 x 0,5	20	16,9 - 21,2	76,0	678

Continuation ▸

HELUDATA® EN-50288-7 XLPE/PVC IOSA 500

Instrumentation cable, XLPE/IS/OS/PVC/SWA/PVC

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11013140	11013276	2 x 2 x 0,75	19	14,2 - 17,0	42,0	419
11013141	11013277	4 x 2 x 0,75	19	16,0 - 19,4	78,9	637
11013142	11013278	5 x 2 x 0,75	19	17,1 - 20,8	97,3	617
11013143	11013279	6 x 2 x 0,75	19	18,5 - 22,5	115,8	834
11013144	11013280	8 x 2 x 0,75	19	20,9 - 25,4	152,7	1025
11013145	11013281	10 x 2 x 0,75	19	23,3 - 28,4	189,6	1049
11013146	11013282	12 x 2 x 0,75	19	23,9 - 29,1	226,6	1259
11013147	11013283	15 x 2 x 0,75	19	26,5 - 32,2	281,9	1463
11013148	11013284	16 x 2 x 0,75	19	26,5 - 32,2	300,3	1489
11013149	11013285	20 x 2 x 0,75	19	30,0 - 36,5	374,2	1870
11013150	11013286	24 x 2 x 0,75	19	33,0 - 40,2	448,0	2124
11013151	11013287	30 x 2 x 0,75	19	34,8 - 42,5	558,7	2395
11013152	11013288	36 x 2 x 0,75	19	37,5 - 45,9	669,5	2738
11013153	11013289	2 x 3 x 0,75	19	15,4 - 18,6	57,6	586
11013154	11013290	3 x 3 x 0,75	19	16,1 - 19,5	83,8	651
11013160	11013296	2 x 4 x 0,75	19	17,1 - 20,7	73,1	670
11013161	11013297	3 x 4 x 0,75	19	18,1 - 21,9	107,1	749
11013167	11013303	2 x 2 x 1	18	14,7 - 18,1	52,4	448
11013168	11013304	4 x 2 x 1	18	16,4 - 20,2	99,7	689
11013169	11013305	5 x 2 x 1	18	17,6 - 21,7	123,2	667
11013170	11013306	6 x 2 x 1	18	19,7 - 24,3	146,9	1029
11013171	11013307	8 x 2 x 1	18	21,7 - 27,0	194,2	1022
11013172	11013308	10 x 2 x 1	18	24,0 - 29,9	241,5	1288
11013173	11013309	12 x 2 x 1	18	24,6 - 30,7	288,8	1385
11013174	11013310	15 x 2 x 1	18	27,2 - 34,0	359,6	1622
11013175	11013311	16 x 2 x 1	18	27,2 - 34,0	383,3	1654
11013176	11013312	20 x 2 x 1	18	30,9 - 38,5	477,9	2077
11013177	11013313	24 x 2 x 1	18	34,2 - 42,8	572,4	2371
11013178	11013314	30 x 2 x 1	18	36,1 - 45,2	714,2	2703
11013179	11013315	36 x 2 x 1	18	38,7 - 48,5	856,1	3409
11013180	11013316	2 x 3 x 1	18	15,8 - 19,5	73,1	629
11013181	11013317	3 x 3 x 1	18	16,5 - 20,4	107,1	701
11013187	11013323	2 x 4 x 1	18	17,5 - 21,7	93,9	724
11013188	11013324	3 x 4 x 1	18	18,6 - 23,1	138,2	936
11013195	11013331	2 x 2 x 1,5	16	16,0 - 19,2	73,1	523
11013196	11013332	4 x 2 x 1,5	16	18,2 - 21,8	141,2	675
11013197	11013333	5 x 2 x 1,5	16	20,2 - 24,3	175,1	931
11013198	11013334	6 x 2 x 1,5	16	21,8 - 26,2	209,1	1144
11013199	11013335	8 x 2 x 1,5	16	24,0 - 28,9	277,1	1197
11013200	11013336	10 x 2 x 1,5	16	27,0 - 32,5	345,2	1363
11013201	11013337	12 x 2 x 1,5	16	27,8 - 33,5	413,2	1534
11013202	11013338	15 x 2 x 1,5	16	31,6 - 38,1	515,2	2072
11013203	11013339	16 x 2 x 1,5	16	31,6 - 38,1	549,2	2112
11013204	11013340	20 x 2 x 1,5	16	35,0 - 42,3	685,3	2455
11013205	11013341	24 x 2 x 1,5	16	38,5 - 46,7	821,2	2796
11013206	11013342	30 x 2 x 1,5	16	41,6 - 50,3	1025,2	3587
11013207	11013343	36 x 2 x 1,5	16	44,8 - 54,2	1229,4	4134
11013208	11013344	2 x 3 x 1,5	16	17,3 - 20,8	104,2	605
11013209	11013345	3 x 3 x 1,5	16	18,4 - 22,0	153,8	829
11013215	11013351	2 x 4 x 1,5	16	20,2 - 24,2	135,3	934
11013216	11013352	3 x 4 x 1,5	16	21,2 - 25,5	200,4	1054
11013222	11013358	2 x 2 x 2,5	14	17,7 - 21,8	114,6	639
11013223	11013359	4 x 2 x 2,5	14	20,9 - 25,9	224,1	1082
11013224	11013360	5 x 2 x 2,5	14	22,6 - 28,0	278,7	1186
11013225	11013361	6 x 2 x 2,5	14	24,3 - 30,3	333,5	1417
11013226	11013362	8 x 2 x 2,5	14	27,2 - 33,9	443,0	1603
11013227	11013363	10 x 2 x 2,5	14	31,5 - 39,3	552,5	2084
11013228	11013364	12 x 2 x 2,5	14	32,6 - 40,7	662,0	2265
11013229	11013365	15 x 2 x 2,5	14	36,0 - 45,0	826,2	2759
11013230	11013366	16 x 2 x 2,5	14	36,0 - 45,0	881,0	2820
11013231	11013367	20 x 2 x 2,5	14	40,8 - 51,0	1100,0	3641
11013232	11013368	24 x 2 x 2,5	14	45,0 - 56,3	1318,9	4118
11013233	11013369	30 x 2 x 2,5	14	47,7 - 59,7	1647,3	4803
11013234	11013370	36 x 2 x 2,5	14	52,5 - 65,7	1975,9	6089
11013235	11013371	2 x 3 x 2,5	14	20,0 - 24,8	166,4	969
11013236	11013372	3 x 3 x 2,5	14	21,0 - 26,1	247,1	1109
11013242	11013378	2 x 4 x 2,5	14	22,6 - 28,0	218,3	1142
11013243	11013379	3 x 4 x 2,5	14	23,8 - 29,6	324,9	1316

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 XLPE/LS0H OS 300

Instrumentation cable, halogen-free, XLPE/OS/LS0H



Technical data

- Instrumentation cable acc. to DIN EN 50288-7
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +90°C
- **Nominal voltage**
  U AC 300 V
- **Test voltage**
  core/core 1500 V
  core/screen 1500 V
- **Minimum bending radius**
  fixed installation 7,5 x outer Ø
- **Insulation resistance**
  > 5000 MΩxkm
- **Mutual capacitance**
  max. 150 pF/m
- **Inductance**
  max. 1 mH /km
- **L/R (ratio)**
  0,5 mm² < 25 µH/Ω
  0,75 mm² < 25 µH/Ω
  1 mm² < 25 µH/Ω
  1,5 mm² < 40 µH/Ω
  2,5 mm² < 60 µH/Ω

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl.2 / IEC 60228 cl.2
- Core insulation: XLPE acc. to EN 50290-2-29
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: BU, BK
  triads: BU, BK, RD
  quads: BU, BK, RD, GY
  blue cores with continuous black numbering
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire (7x0,3 mm)
- Outer sheath: LS0H compound acc. to 50290-2-27
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements have to be produced out of non-hygroscopic materials

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- Corrosivenes of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- UV resistant acc. to UL 1581 section 1200

Note

- Alternative denomination: **RE-2X(St)H**
- Not suitable for direct burial
- The conductor is metrically constructed (mm²). The AWG designatiaon is approximate and purely informative.
- We also offer cable glands **HELUTOP® HT-MS-EX-d**

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.
CE = Product complies to the Low-Voltage Directive 2014/35/EU.

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11011089	11011240	1 x 2 x 0,5	20	4,9 - 6,3	15,4	36
11011090	11011241	2 x 2 x 0,5	20	7,0 - 9,1	25,8	61
11011091	11011242	4 x 2 x 0,5	20	8,2 - 10,7	46,5	98
11011092	11011243	5 x 2 x 0,5	20	8,9 - 11,7	56,9	116
11011093	11011244	6 x 2 x 0,5	20	9,6 - 12,6	67,3	141
11011094	11011245	8 x 2 x 0,5	20	10,9 - 14,4	88,0	168
11011095	11011246	10 x 2 x 0,5	20	12,3 - 16,3	108,8	200
11011096	11011247	12 x 2 x 0,5	20	12,8 - 17,0	129,5	233
11011097	11011248	15 x 2 x 0,5	20	14,2 - 18,7	160,6	286
11011098	11011249	16 x 2 x 0,5	20	14,2 - 18,7	171,0	298
11011099	11011250	20 x 2 x 0,5	20	15,9 - 21,1	212,4	364
11011100	11011251	24 x 2 x 0,5	20	17,5 - 23,3	253,9	435
11011101	11011252	30 x 2 x 0,5	20	18,7 - 24,9	316,1	526
11011102	11011253	36 x 2 x 0,5	20	20,3 - 27,1	378,3	634
11011103	11011254	1 x 3 x 0,5	20	5,4 - 6,8	20,6	46
11011104	11011255	2 x 3 x 0,5	20	7,9 - 10,3	36,2	81
11011105	11011256	3 x 3 x 0,5	20	8,3 - 10,9	51,7	103
11011111	11011262	1 x 4 x 0,5	20	5,7 - 7,4	25,8	54
11011112	11011263	2 x 4 x 0,5	20	9,5 - 12,5	46,5	104
11011113	11011264	3 x 4 x 0,5	20	10,3 - 13,5	67,3	137

Continuation ▸

HELUDATA® EN-50288-7 XLPE/LS0H OS 300

Instrumentation cable, halogen-free, XLPE/OS/LS0H

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11011119	11011270	1 x 2 x 0,75	19	5,5 - 6,7	20,6	44
11011120	11011271	2 x 2 x 0,75	19	7,8 - 9,7	36,2	77
11011121	11011272	4 x 2 x 0,75	19	9,0 - 11,1	67,3	120
11011122	11011273	5 x 2 x 0,75	19	9,7 - 12,2	82,8	152
11011123	11011274	6 x 2 x 0,75	19	10,7 - 13,4	98,4	184
11011124	11011275	8 x 2 x 0,75	19	12,0 - 15,0	129,5	216
11011125	11011276	10 x 2 x 0,75	19	13,7 - 17,1	160,6	266
11011126	11011277	12 x 2 x 0,75	19	14,1 - 17,7	191,7	306
11011127	11011278	15 x 2 x 0,75	19	15,8 - 19,8	238,4	382
11011128	11011279	16 x 2 x 0,75	19	15,8 - 19,8	253,9	399
11011129	11011280	20 x 2 x 0,75	19	17,5 - 22,0	316,1	482
11011130	11011281	24 x 2 x 0,75	19	19,5 - 24,6	378,3	576
11011131	11011282	30 x 2 x 0,75	19	20,9 - 26,2	471,6	696
11011132	11011283	36 x 2 x 0,75	19	22,5 - 28,4	564,9	840
11011133	11011284	1 x 3 x 0,75	19	5,8 - 7,1	28,4	54
11011134	11011285	2 x 3 x 0,75	19	8,6 - 10,7	51,7	100
11011135	11011286	3 x 3 x 0,75	19	9,1 - 11,3	75,1	130
11011141	11011292	1 x 4 x 0,75	19	6,2 - 7,6	36,2	66
11011142	11011293	2 x 4 x 0,75	19	10,6 - 13,2	67,3	133
11011143	11011294	3 x 4 x 0,75	19	11,2 - 14,0	98,4	174
11011149	11011300	1 x 2 x 1	18	5,7 - 7,2	25,8	51
11011150	11011301	2 x 2 x 1	18	8,1 - 10,4	46,5	91
11011151	11011302	4 x 2 x 1	18	9,3 - 12,0	88,0	145
11011152	11011303	5 x 2 x 1	18	10,3 - 13,3	108,8	184
11011153	11011304	6 x 2 x 1	18	11,2 - 14,4	129,5	225
11011154	11011305	8 x 2 x 1	18	12,7 - 16,4	171,0	270
11011155	11011306	10 x 2 x 1	18	14,3 - 18,5	212,4	326
11011156	11011307	12 x 2 x 1	18	14,8 - 19,2	253,9	377
11011157	11011308	15 x 2 x 1	18	16,5 - 21,5	316,1	473
11011158	11011309	16 x 2 x 1	18	16,5 - 21,5	336,9	496
11011159	11011310	20 x 2 x 1	18	18,5 - 24,1	419,8	600
11011160	11011311	24 x 2 x 1	18	20,6 - 26,9	502,7	717
11011161	11011312	30 x 2 x 1	18	21,8 - 28,5	627,2	876
11011162	11011313	36 x 2 x 1	18	23,7 - 31,0	751,6	1057
11011163	11011314	1 x 3 x 1	18	6,0 - 7,6	36,2	64
11011164	11011315	2 x 3 x 1	18	8,9 - 11,4	67,3	120
11011165	11011316	3 x 3 x 1	18	9,5 - 12,2	98,4	158
11011171	11011322	1 x 4 x 1	18	6,4 - 8,1	46,5	79
11011172	11011323	2 x 4 x 1	18	11,0 - 14,2	88,0	160
11011173	11011324	3 x 4 x 1	18	11,7 - 15,2	129,5	212
11011180	11011331	1 x 2 x 1,5	16	6,8 - 8,2	36,2	68
11011181	11011332	2 x 2 x 1,5	16	10,0 - 12,2	67,3	123
11011182	11011333	4 x 2 x 1,5	16	11,7 - 14,3	129,5	209
11011183	11011334	5 x 2 x 1,5	16	13,0 - 15,9	160,6	261
11011184	11011335	6 x 2 x 1,5	16	14,1 - 17,3	191,7	320
11011185	11011336	8 x 2 x 1,5	16	16,0 - 19,7	253,9	388
11011186	11011337	10 x 2 x 1,5	16	18,3 - 22,5	316,1	467
11011187	11011338	12 x 2 x 1,5	16	18,9 - 23,2	378,3	548
11011188	11011339	15 x 2 x 1,5	16	21,2 - 26,0	471,6	690
11011189	11011340	16 x 2 x 1,5	16	21,2 - 26,0	502,7	724
11011190	11011341	20 x 2 x 1,5	16	23,8 - 29,2	627,2	887
11011191	11011342	24 x 2 x 1,5	16	26,5 - 32,6	751,6	1060
11011192	11011343	30 x 2 x 1,5	16	28,3 - 34,8	938,2	1312
11011193	11011344	36 x 2 x 1,5	16	30,7 - 37,8	1124,8	1583
11011194	11011345	1 x 3 x 1,5	16	7,2 - 8,7	51,7	87
11011195	11011346	2 x 3 x 1,5	16	11,2 - 13,7	98,4	169
11011196	11011347	3 x 3 x 1,5	16	11,9 - 14,6	145,0	225
11011202	11011353	1 x 4 x 1,5	16	7,9 - 9,6	67,3	110
11011203	11011354	2 x 4 x 1,5	16	13,9 - 17,0	129,5	226
11011204	11011355	3 x 4 x 1,5	16	14,8 - 18,2	191,7	300

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 XLPE/LS0H OS 500

Instrumentation cable, halogen-free, XLPE/OS/LS0H



Technical data

- Instrumentation cable acc. to EN 50288-7
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +90°C
- **Nominal voltage**
  U AC 500 V
- **Test voltage**
  core/core 2000 V
  core/screen 2000 V
- **Minimum bending radius**
  fixed 7,5 x cable Ø
- **Insulation resistance**
  > 5000 MΩxkm
- **Mutual capacitance**
  single pair max. 150 pF/m
- **Inductance**
  max. 1 mH /km
- **L/R (ratio)**
  0,5 mm² < 25 µH/Ω
  0,75 mm² < 25 µH/Ω
  1 mm² < 25 µH/Ω
  1,5 mm² < 40 µH/Ω
  2,5 mm² < 60 µH/Ω

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl. 2 / IEC 60228 cl. 2
- Core insulation: XLPE acc. to EN 50290-2-29
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: BU, BK
  triads: BU, BK, RD
  quads: BU, BK, RD, GY
  blue cores with continuous black numbering
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PET tape over tinned copper stranded drain wire (7x0,3 mm)
- Outer sheath: LS0H compound acc. to 50290-2-27
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements have to be produced out of non-hygroscopic materials

Tests

- Flame retardant acc. to
- DIN VDE 0482-332-1-2 /
  DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc.
  DIN VDE 0482-332-3-22 /
  DIN EN 60332-3-22 / IEC 60332-3-22
  (Cat. A)
- Halogen-free acc. to
  DIN VDE 0482-754-1 /
  DIN EN 60754-1 / IEC 60754-1
- Corrosivenes of combustion gases acc. to
  DIN VDE 0482-754-2 /
  DIN EN 60754-2 / IEC 60754-2
- Low smoke density acc. to
  DIN VDE 0482-1034-1+2 /
  DIN EN 61034-1+2 / IEC 61034-1+2
- Oil resistant acc. to
  ICEA S-73-532 / NEMA WC 57
- UV resistant acc. to UL 1581 section 1200

Note

- Alternative denomination:
  RE-2X(St)H
- Not suitable for direct burial
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- We also offer cable glands
  HELUTOP® HT-MS-EX-d

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product complies to the Low-Voltage Directive 2014/35/EU.

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11011391	11011542	1 x 2 x 0,5	20	5,9 - 7,4	15,4	44
11011392	11011543	2 x 2 x 0,5	20	8,4 - 10,7	25,8	76
11011393	11011544	4 x 2 x 0,5	20	9,7 - 12,4	46,5	115
11011394	11011545	5 x 2 x 0,5	20	10,7 - 13,8	56,9	145
11011395	11011546	6 x 2 x 0,5	20	11,7 - 15,0	67,3	178
11011396	11011547	8 x 2 x 0,5	20	13,2 - 17,0	88,0	208
11011397	11011548	10 x 2 x 0,5	20	14,9 - 19,3	108,8	248
11011398	11011549	12 x 2 x 0,5	20	15,6 - 20,1	129,5	285
11011399	11011550	15 x 2 x 0,5	20	17,2 - 22,3	160,6	360
11011400	11011551	16 x 2 x 0,5	20	17,2 - 22,3	171,0	375
11011401	11011552	20 x 2 x 0,5	20	19,3 - 25,0	212,4	444
11011402	11011553	24 x 2 x 0,5	20	21,6 - 27,9	253,9	530
11011403	11011554	30 x 2 x 0,5	20	23,0 - 29,9	316,1	652
11011404	11011555	36 x 2 x 0,5	20	24,8 - 32,2	378,3	786
11011405	11011556	1 x 3 x 0,5	20	6,2 - 7,8	20,6	53
11011406	11011557	2 x 3 x 0,5	20	9,3 - 11,9	36,2	96
11011407	11011558	3 x 3 x 0,5	20	9,8 - 12,6	51,7	123
11011413	11011564	1 x 4 x 0,5	20	6,6 - 8,3	25,8	63
11011414	11011565	2 x 4 x 0,5	20	11,5 - 14,8	46,5	129
11011415	11011566	3 x 4 x 0,5	20	12,2 - 15,7	67,3	164

Continuation ▸

HELUDATA® EN-50288-7 XLPE/LS0H OS 500

Instrumentation cable, halogen-free, XLPE/OS/LS0H

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11011421	11011572	1 x 2 x 0,75	19	6,2 - 7,6	20,6	51
11011422	11011573	2 x 2 x 0,75	19	9,0 - 11,1	36,2	91
11011423	11011574	4 x 2 x 0,75	19	10,6 - 13,1	67,3	145
11011424	11011575	5 x 2 x 0,75	19	11,6 - 14,2	82,8	182
11011425	11011576	6 x 2 x 0,75	19	12,8 - 15,7	98,4	223
11011426	11011577	8 x 2 x 0,75	19	14,3 - 17,7	129,5	257
11011427	11011578	10 x 2 x 0,75	19	16,3 - 20,1	160,6	317
11011428	11011579	12 x 2 x 0,75	19	16,8 - 20,9	191,7	363
11011429	11011580	15 x 2 x 0,75	19	18,8 - 23,3	238,4	458
11011430	11011581	16 x 2 x 0,75	19	18,8 - 23,3	253,9	478
11011431	11011582	20 x 2 x 0,75	19	21,1 - 26,2	316,1	574
11011432	11011583	24 x 2 x 0,75	19	23,6 - 29,2	378,3	688
11011433	11011584	30 x 2 x 0,75	19	24,9 - 30,9	471,6	830
11011434	11011585	36 x 2 x 0,75	19	27,1 - 33,7	564,9	1005
11011435	11011586	1 x 3 x 0,75	19	6,6 - 8,0	28,4	64
11011436	11011587	2 x 3 x 0,75	19	10,0 - 12,3	51,7	120
11011437	11011588	3 x 3 x 0,75	19	10,8 - 13,3	75,1	154
11011443	11011594	1 x 4 x 0,75	19	7,1 - 8,7	36,2	77
11011444	11011595	2 x 4 x 0,75	19	12,4 - 15,3	67,3	160
11011445	11011596	3 x 4 x 0,75	19	13,3 - 16,5	98,4	207
11011451	11011602	1 x 2 x 1	18	6,4 - 8,0	25,8	59
11011452	11011603	2 x 2 x 1	18	9,3 - 11,8	46,5	105
11011453	11011604	4 x 2 x 1	18	11,0 - 13,9	88,0	170
11011454	11011605	5 x 2 x 1	18	12,0 - 15,2	108,8	216
11011455	11011606	6 x 2 x 1	18	13,2 - 16,8	129,5	269
11011456	11011607	8 x 2 x 1	18	14,8 - 18,8	171,0	312
11011457	11011608	10 x 2 x 1	18	16,9 - 21,6	212,4	381
11011458	11011609	12 x 2 x 1	18	17,5 - 22,3	253,9	439
11011459	11011610	15 x 2 x 1	18	19,6 - 24,9	316,1	551
11011460	11011611	16 x 2 x 1	18	19,6 - 24,9	336,9	577
11011461	11011612	20 x 2 x 1	18	22,0 - 28,0	419,8	699
11011462	11011613	24 x 2 x 1	18	24,5 - 31,4	502,7	836
11011463	11011614	30 x 2 x 1	18	26,1 - 33,4	627,2	1012
11011464	11011615	36 x 2 x 1	18	28,4 - 36,3	751,6	1230
11011465	11011616	1 x 3 x 1	18	6,8 - 8,5	36,2	92
11011466	11011617	2 x 3 x 1	18	10,5 - 13,3	67,3	139
11011467	11011618	3 x 3 x 1	18	11,1 - 14,1	98,4	184
11011473	11011624	1 x 4 x 1	18	7,3 - 9,2	46,5	91
11011474	11011625	2 x 4 x 1	18	13,0 - 16,5	88,0	188
11011475	11011626	3 x 4 x 1	18	13,8 - 17,5	129,5	247
11011482	11011633	1 x 2 x 1,5	16	7,2 - 8,7	36,2	71
11011483	11011634	2 x 2 x 1,5	16	10,7 - 13,1	67,3	135
11011484	11011635	4 x 2 x 1,5	16	12,5 - 15,2	129,5	220
11011485	11011636	5 x 2 x 1,5	16	13,8 - 16,8	160,6	277
11011486	11011637	6 x 2 x 1,5	16	15,2 - 18,6	191,7	347
11011487	11011638	8 x 2 x 1,5	16	17,1 - 20,9	253,9	409
11011488	11011639	10 x 2 x 1,5	16	19,5 - 23,9	316,1	498
11011489	11011640	12 x 2 x 1,5	16	20,4 - 24,9	378,3	576
11011490	11011641	15 x 2 x 1,5	16	22,8 - 27,9	471,6	739
11011491	11011642	16 x 2 x 1,5	16	22,8 - 27,9	502,7	775
11011492	11011643	20 x 2 x 1,5	16	25,6 - 31,2	627,2	982
11011493	11011644	24 x 2 x 1,5	16	28,5 - 34,9	751,6	1131
11011494	11011645	30 x 2 x 1,5	16	30,4 - 37,2	938,2	1397
11011495	11011646	36 x 2 x 1,5	16	33,0 - 40,4	1124,8	1684
11011496	11011647	1 x 3 x 1,5	16	7,7 - 9,4	51,7	92
11011497	11011648	2 x 3 x 1,5	16	11,9 - 14,4	98,4	178
11011498	11011649	3 x 3 x 1,5	16	12,8 - 15,6	145,0	243
11011504	11011655	1 x 4 x 1,5	16	8,4 - 10,2	67,3	115
11011505	11011656	2 x 4 x 1,5	16	14,8 - 18,1	129,5	239
11011506	11011657	3 x 4 x 1,5	16	16,0 - 19,5	191,7	325
11011512	11011663	1 x 2 x 2,5	14	8,3 - 10,4	56,9	102
11011513	11011664	2 x 2 x 2,5	14	12,3 - 15,5	108,8	195
11011514	11011665	4 x 2 x 2,5	14	14,5 - 18,4	212,4	326
11011515	11011666	5 x 2 x 2,5	14	16,1 - 20,3	264,3	411
11011516	11011667	6 x 2 x 2,5	14	17,5 - 22,3	316,1	509
11011517	11011668	8 x 2 x 2,5	14	19,9 - 25,4	419,8	612
11011518	11011669	10 x 2 x 2,5	14	23,0 - 29,2	523,5	747
11011519	11011670	12 x 2 x 2,5	14	23,7 - 30,3	627,2	879
11011520	11011671	15 x 2 x 2,5	14	26,6 - 33,8	782,7	1122
11011521	11011672	16 x 2 x 2,5	14	26,6 - 33,8	834,5	1178
11011522	11011673	20 x 2 x 2,5	14	29,8 - 38,1	1041,9	1440
11011523	11011674	24 x 2 x 2,5	14	33,5 - 42,7	1249,2	1721
11011524	11011675	30 x 2 x 2,5	14	35,7 - 45,5	1560,3	2130
11011525	11011676	36 x 2 x 2,5	14	38,7 - 49,4	1871,3	2591
11011526	11011677	1 x 3 x 2,5	14	8,8 - 11,0	82,8	132
11011527	11011678	2 x 3 x 2,5	14	13,8 - 17,5	160,6	261
11011528	11011679	3 x 3 x 2,5	14	14,7 - 18,6	238,4	360
11011534	11011685	1 x 4 x 2,5	14	9,5 - 12,0	108,8	164
11011535	11011686	2 x 4 x 2,5	14	17,2 - 21,9	212,4	358
11011536	11011687	3 x 4 x 2,5	14	18,6 - 23,5	316,1	481

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 XLPE/LS0H IOS 300

Instrumentation cable, halogen-free, XLPE/IS/OS/LS0H



Technical data

- Instrumentation cable acc. to EN 50288-7
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +90°C
- **Nominal voltage**
  U AC 300 V
- **Test voltage**
  core/core 1500 V
  core/screen 1500 V
- **Minimum bending radius**
  fixed installation 7,5x outer Ø
- **Insulation resistance**
  > 5000 MΩxkm
- **Mutual capacitance**
  max. 150 pF/m
- **Inductance**
  max. 1 mH /km
- **L/R (ratio)**
  0,5 mm² < 25 µH/Ω
  0,75 mm² < 25 µH/Ω
  1 mm² < 25 µH/Ω
  1,5 mm² < 40 µH/Ω
  2,5 mm² < 60 µH/Ω

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl.2 / IEC 60228 cl.2
- Core insulation: XLPE acc. to EN 50290-2-29
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: WH, BK
  triads: WH, BK, RD
  quads: WH, BK, RD, GY
  white cores with continuous black numbering
- Individual screen: pairs, triads or quads indiv. screened with AL/PE tape over tinned copper drain wire (solid 0,6 mm)
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire (7x0,3 mm)
- Outer sheath: LS0H compound acc. to EN 50290-2-27
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- UV resistant acc. to UL 1581 section 1200

Note

- Alternative denomination: **RE-2X(St)H PiMF**
- Not suitable for direct burial
- The conductor is metrically constructed (mm²). The AWG designatiaon is approximate and purely informative.
- We also offer cable glands **HELUTOP® HT-MS-EX-d**

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11016891	11017027	2 x 2 x 0,5	20	8,3 - 10,7	31,6	85
11016892	11017028	4 x 2 x 0,5	20	9,5 - 12,3	58,2	133
11016893	11017029	5 x 2 x 0,5	20	10,5 - 13,7	71,4	158
11016894	11017030	6 x 2 x 0,5	20	11,4 - 14,9	84,7	190
11016895	11017031	8 x 2 x 0,5	20	13,0 - 16,9	111,2	227
11016896	11017032	10 x 2 x 0,5	20	14,6 - 19,0	137,8	272
11016897	11017033	12 x 2 x 0,5	20	15,3 - 19,9	164,4	313
11016898	11017034	15 x 2 x 0,5	20	16,9 - 22,0	204,1	391
11016899	11017035	16 x 2 x 0,5	20	16,9 - 22,0	217,4	408
11016900	11017036	20 x 2 x 0,5	20	18,9 - 24,8	270,5	496
11016901	11017037	24 x 2 x 0,5	20	21,1 - 27,7	323,6	589
11016902	11017038	30 x 2 x 0,5	20	22,3 - 29,3	403,2	722
11016903	11017039	36 x 2 x 0,5	20	24,3 - 31,9	482,9	863
11016904	11017040	2 x 3 x 0,5	20	9,1 - 11,8	42,0	103
11016905	11017041	3 x 3 x 0,5	20	9,6 - 12,4	60,5	134
11016911	11017047	2 x 4 x 0,5	20	10,5 - 13,6	52,4	129
11016912	11017048	3 x 4 x 0,5	20	11,1 - 14,4	76,0	162

Continuation ▶

HELUDATA® EN-50288-7 XLPE/LS0H IOS 300

Instrumentation cable, halogen-free, XLPE/IS/OS/LS0H

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11016918	11017054	2 x 2 x 0,75	19	8,9 - 11,0	42,0	99
11016919	11017055	4 x 2 x 0,75	19	10,5 - 13,1	78,9	157
11016920	11017056	5 x 2 x 0,75	19	11,4 - 14,2	97,3	193
11016921	11017057	6 x 2 x 0,75	19	12,4 - 15,4	115,8	234
11016922	11017058	8 x 2 x 0,75	19	14,1 - 17,5	152,7	279
11016923	11017059	10 x 2 x 0,75	19	16,1 - 20,0	189,6	340
11016924	11017060	12 x 2 x 0,75	19	16,6 - 20,8	226,6	393
11016925	11017061	15 x 2 x 0,75	19	18,6 - 23,2	281,9	492
11016926	11017062	16 x 2 x 0,75	19	18,6 - 23,2	300,3	516
11016927	11017063	20 x 2 x 0,75	19	20,9 - 26,0	374,2	625
11016928	11017064	24 x 2 x 0,75	19	23,3 - 29,1	448,0	748
11016929	11017065	30 x 2 x 0,75	19	24,6 - 30,8	558,7	907
11016930	11017066	36 x 2 x 0,75	19	26,8 - 33,5	669,5	1095
11016931	11017067	2 x 3 x 0,75	19	9,8 - 12,2	57,6	127
11016932	11017068	3 x 3 x 0,75	19	10,6 - 13,2	83,8	161
11016938	11017074	2 x 4 x 0,75	19	11,4 - 14,1	73,1	159
11016939	11017075	3 x 4 x 0,75	19	12,1 - 15,0	107,1	203
11016945	11017081	2 x 2 x 1	18	9,3 - 11,8	52,4	117
11016946	11017082	4 x 2 x 1	18	10,9 - 13,9	99,7	183
11016947	11017083	5 x 2 x 1	18	11,9 - 15,2	123,2	226
11016948	11017084	6 x 2 x 1	18	13,1 - 16,8	146,9	277
11016949	11017085	8 x 2 x 1	18	14,7 - 18,8	194,2	333
11016950	11017086	10 x 2 x 1	18	16,8 - 21,6	241,5	396
11016951	11017087	12 x 2 x 1	18	17,3 - 22,4	288,8	471
11016952	11017088	15 x 2 x 1	18	19,4 - 25,0	359,6	590
11016953	11017089	16 x 2 x 1	18	19,4 - 25,0	383,3	619
11016954	11017090	20 x 2 x 1	18	21,8 - 28,0	477,9	752
11016955	11017091	24 x 2 x 1	18	24,3 - 31,4	572,4	900
11016956	11017092	30 x 2 x 1	18	25,9 - 33,5	714,2	1095
11016957	11017093	36 x 2 x 1	18	28,1 - 36,4	856,1	1323
11016958	11017094	2 x 3 x 1	18	10,4 - 13,3	73,1	147
11016959	11017095	3 x 3 x 1	18	11,0 - 14,0	107,1	189
11016965	11017101	2 x 4 x 1	18	11,8 - 15,1	93,9	187
11016966	11017102	3 x 4 x 1	18	12,7 - 16,4	138,2	241
11016973	11017109	2 x 2 x 1,5	16	11,4 - 13,9	73,1	154
11016974	11017110	4 x 2 x 1,5	16	13,5 - 16,5	141,2	253
11016975	11017111	5 x 2 x 1,5	16	14,8 - 18,0	175,1	314
11016976	11017112	6 x 2 x 1,5	16	16,3 - 19,9	209,1	381
11016977	11017113	8 x 2 x 1,5	16	18,5 - 22,6	277,1	462
11016978	11017114	10 x 2 x 1,5	16	21,1 - 25,8	345,2	562
11016979	11017115	12 x 2 x 1,5	16	21,8 - 26,6	413,2	658
11016980	11017116	15 x 2 x 1,5	16	24,4 - 29,9	515,2	837
11016981	11017117	16 x 2 x 1,5	16	24,4 - 29,9	549,2	875
11016982	11017118	20 x 2 x 1,5	16	27,4 - 33,6	685,3	1065
11016983	11017119	24 x 2 x 1,5	16	30,8 - 37,7	821,2	1267
11016984	11017120	30 x 2 x 1,5	16	32,8 - 40,2	1025,2	1557
11016985	11017121	36 x 2 x 1,5	16	35,6 - 43,7	1229,4	1886
11016986	11017122	2 x 3 x 1,5	16	12,8 - 15,6	104,2	203
11016987	11017123	3 x 3 x 1,5	16	13,6 - 16,6	153,8	272
11016993	11017129	2 x 4 x 1,5	16	14,7 - 18,0	135,3	259
11016994	11017130	3 x 4 x 1,5	16	15,8 - 19,4	200,4	348

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 XLPE/LS0H IOS 500

Instrumentation cable, halogen-free, XLPE/IS/OS/LS0H



Technical data

- Instrumentation cable acc. to EN 50288-7
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +90°C
- **Nominal voltage**
  U AC 500 V
- **Test voltage**
  core/core 2000 V
  core/screen 2000 V
- **Minimum bending radius**
  fixed installation 7,5x outer Ø
- **Insulation resistance**
  > 5000 MΩxkm
- **Mutual capacitance**
  single pair max. 150 pF/m
- **Inductance**
  max. 1 mH /km
- **L/R (ratio)**
  0,5 mm² < 25 µH/Ω
  0,75 mm² < 25 µH/Ω
  1 mm² < 25 µH/Ω
  1,5 mm² < 40 µH/Ω
  2,5 mm² < 60 µH/Ω

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl.2 / IEC 60228 cl.2
- Core insulation: XLPE acc. to EN 50290-2-29
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: BU, BK
  triads: BU, BK, RD
  quads: BU, BK, RD, GY
  blue cores with continuous black numbering
- Individual screen: pairs, triads or quads indiv. screened with AL/PE tape over tinned copper drain wire (solid 0,6 mm)
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire (7x0,3 mm)
- Outer sheath: LS0H acc. to EN 50290-2-27
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- UV resistant acc. to UL 1581 section 1200

Note

- Alternative denomination: **RE-2X(St)H PiMF**
- Not suitable for direct burial
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- We also offer cable glands **HELUTOP® HT-MS-EX-d**

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11010273	11010409	2 x 2 x 0,5	20	9,6 - 12,2	31,6	103
11010274	11010410	4 x 2 x 0,5	20	11,3 - 14,4	58,2	154
11010275	11010411	5 x 2 x 0,5	20	12,3 - 15,7	71,4	190
11010276	11010412	6 x 2 x 0,5	20	13,6 - 17,3	84,7	230
11010277	11010413	8 x 2 x 0,5	20	15,4 - 19,7	111,2	272
11010278	11010414	10 x 2 x 0,5	20	17,4 - 22,4	137,8	328
11010279	11010415	12 x 2 x 0,5	20	18,2 - 23,3	164,4	375
11010280	11010416	15 x 2 x 0,5	20	20,4 - 26,1	204,1	476
11010281	11010417	16 x 2 x 0,5	20	20,4 - 26,1	217,4	495
11010282	11010418	20 x 2 x 0,5	20	22,8 - 29,3	270,5	599
11010283	11010419	24 x 2 x 0,5	20	25,5 - 32,7	323,6	710
11010284	11010420	30 x 2 x 0,5	20	26,9 - 34,7	403,2	865
11010285	11010421	36 x 2 x 0,5	20	29,3 - 37,7	482,9	1036
11010286	11010422	2 x 3 x 0,5	20	10,8 - 13,7	42,0	125
11010287	11010423	3 x 3 x 0,5	20	11,4 - 14,6	60,5	162
11010293	11010429	2 x 4 x 0,5	20	12,3 - 15,6	52,4	158
11010294	11010430	3 x 4 x 0,5	20	13,2 - 16,9	76,0	198

Continuation ▶

HELUDATA® EN-50288-7 XLPE/LS0H IOS 500

Instrumentation cable, halogen-free, XLPE/IS/OS/LS0H

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11010300	11010436	2 x 2 x 0,75	19	10,4 - 12,7	42,0	118
11010301	11010437	4 x 2 x 0,75	19	12,1 - 14,9	78,9	186
11010302	11010438	5 x 2 x 0,75	19	13,4 - 16,5	97,3	226
11010303	11010439	6 x 2 x 0,75	19	14,6 - 18,0	115,8	281
11010304	11010440	8 x 2 x 0,75	19	16,6 - 20,3	152,7	329
11010305	11010441	10 x 2 x 0,75	19	18,9 - 23,3	189,6	401
11010306	11010442	12 x 2 x 0,75	19	19,6 - 24,1	226,6	461
11010307	11010443	15 x 2 x 0,75	19	21,9 - 27,0	281,9	579
11010308	11010444	16 x 2 x 0,75	19	21,9 - 27,0	300,3	606
11010309	11010445	20 x 2 x 0,75	19	24,6 - 30,3	374,2	735
11010310	11010446	24 x 2 x 0,75	19	27,4 - 33,8	448,0	879
11010311	11010447	30 x 2 x 0,75	19	29,3 - 36,1	558,7	1063
11010312	11010448	36 x 2 x 0,75	19	31,8 - 39,3	669,5	1291
11010313	11010449	2 x 3 x 0,75	19	11,5 - 14,1	57,6	152
11010314	11010450	3 x 3 x 0,75	19	12,2 - 15,0	83,8	191
11010320	11010456	2 x 4 x 0,75	19	13,3 - 16,4	73,1	184
11010321	11010457	3 x 4 x 0,75	19	14,2 - 17,4	107,1	242
11010327	11010463	2 x 2 x 1	18	10,8 - 13,6	52,4	133
11010328	11010464	4 x 2 x 1	18	12,7 - 15,9	99,7	212
11010329	11010465	5 x 2 x 1	18	13,9 - 17,4	123,2	263
11010330	11010466	6 x 2 x 1	18	15,3 - 19,3	146,9	329
11010331	11010467	8 x 2 x 1	18	17,1 - 21,7	194,2	387
11010332	11010468	10 x 2 x 1	18	19,6 - 24,8	241,5	474
11010333	11010469	12 x 2 x 1	18	20,5 - 25,9	288,8	548
11010334	11010470	15 x 2 x 1	18	22,9 - 29,0	359,6	690
11010335	11010471	16 x 2 x 1	18	22,9 - 29,0	383,3	722
11010336	11010472	20 x 2 x 1	18	25,7 - 32,5	477,9	874
11010337	11010473	24 x 2 x 1	18	28,6 - 36,4	572,4	1049
11010338	11010474	30 x 2 x 1	18	30,5 - 38,7	714,2	1273
11010339	11010475	36 x 2 x 1	18	33,1 - 42,1	856,1	1544
11010340	11010476	2 x 3 x 1	18	11,9 - 15,0	73,1	173
11010341	11010477	3 x 3 x 1	18	12,8 - 16,2	107,1	221
11010347	11010483	2 x 4 x 1	18	13,8 - 17,4	93,9	219
11010348	11010484	3 x 4 x 1	18	14,7 - 18,6	138,2	281
11010355	11010491	2 x 2 x 1,5	16	12,1 - 14,7	73,1	168
11010356	11010492	4 x 2 x 1,5	16	14,3 - 17,3	141,2	274
11010357	11010493	5 x 2 x 1,5	16	15,8 - 19,3	175,1	339
11010358	11010494	6 x 2 x 1,5	16	17,3 - 21,0	209,1	410
11010359	11010495	8 x 2 x 1,5	16	19,6 - 23,9	277,1	495
11010360	11010496	10 x 2 x 1,5	16	22,4 - 27,3	345,2	596
11010361	11010497	12 x 2 x 1,5	16	23,4 - 28,5	413,2	702
11010362	11010498	15 x 2 x 1,5	16	26,2 - 31,9	515,2	879
11010363	11010499	16 x 2 x 1,5	16	26,2 - 31,9	549,2	919
11010364	11010500	20 x 2 x 1,5	16	29,4 - 35,8	685,3	1134
11010365	11010501	24 x 2 x 1,5	16	33,0 - 40,2	821,2	1346
11010366	11010502	30 x 2 x 1,5	16	34,9 - 42,6	1025,2	1652
11010367	11010503	36 x 2 x 1,5	16	38,1 - 46,5	1229,4	2000
11010368	11010504	2 x 3 x 1,5	16	13,6 - 16,5	104,2	214
11010369	11010505	3 x 3 x 1,5	16	14,5 - 17,5	153,8	286
11010375	11010511	2 x 4 x 1,5	16	15,8 - 19,2	135,3	282
11010376	11010512	3 x 4 x 1,5	16	16,8 - 20,4	200,4	367
11010382	11010518	2 x 2 x 2,5	14	13,9 - 17,5	114,6	234
11010383	11010519	4 x 2 x 2,5	14	16,5 - 20,9	224,1	388
11010384	11010520	5 x 2 x 2,5	14	18,2 - 23,0	278,7	482
11010385	11010521	6 x 2 x 2,5	14	19,9 - 25,3	333,5	591
11010386	11010522	8 x 2 x 2,5	14	22,8 - 28,9	443,0	724
11010387	11010523	10 x 2 x 2,5	14	26,1 - 33,1	552,5	867
11010388	11010524	12 x 2 x 2,5	14	27,0 - 34,2	662,0	1026
11010389	11010525	15 x 2 x 2,5	14	30,4 - 38,6	826,2	1302
11010390	11010526	16 x 2 x 2,5	14	30,4 - 38,6	881,0	1363
11010391	11010527	20 x 2 x 2,5	14	34,2 - 43,3	1100,0	1676
11010392	11010528	24 x 2 x 2,5	14	38,3 - 48,6	1318,9	1991
11010393	11010529	30 x 2 x 2,5	14	40,8 - 51,8	1647,3	2468
11010394	11010530	36 x 2 x 2,5	14	44,3 - 56,3	1975,9	2982
11010395	11010531	2 x 3 x 2,5	14	15,7 - 19,8	166,4	312
11010396	11010532	3 x 3 x 2,5	14	16,7 - 21,1	247,1	411
11010402	11010538	2 x 4 x 2,5	14	18,2 - 23,0	218,3	399
11010403	11010539	3 x 4 x 2,5	14	19,4 - 24,6	324,9	539

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 XLPE/LS0H OSA 300

Instrumentation cable, halogen-free, XLPE/OS/LS0H/SWA/LS0H



Technical data

- Instrumentation cable acc. to EN 50288-7
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +90°C
- **Nominal voltage**
  U AC 300 V
- **Test voltage**
  core/core 1500 V
  core/screen 1500 V
- **Minimum bending radius**
  fixed installation 10x outer Ø
- **Insulation resistance**
  > 5000 MΩxkm
- **Mutual capacitance**
  max. 150 pF/m
- **Inductance**
  max. 1 mH /km
- **L/R (ratio)**
  0,5 mm² < 25 µH/Ω
  0,75 mm² < 25 µH/Ω
  1 mm² < 25 µH/Ω
  1,5 mm² < 40 µH/Ω
  2,5 mm² < 60 µH/Ω

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl.2 / IEC 60228 cl.2
- Core insulation: XLPE acc. to EN 50290-2-29
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: WH, BK
  triads: WH, BK, RD
  quads: WH, BK, RD, GY
  white cores with continuous black numbering
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire (7x0,3 mm)
- Inner sheath: LS0H compound acc. to EN 50290-2-27
- Armouring: single layer of galvanised round steel wires acc. to EN 10257-1
- Outer sheath: LS0H compound acc. to EN 50290-2-27
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- UV resistant acc. to UL 1581 section 1200

Note

- Alternative denomination: **RE-2X(St)HRH**
- Suitable for direct burial
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- We also offer cable glands **HELUTOP® HT-MS-EX-d e4**

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11011693	11011844	1 x 2 x 0,5	20	9,0 - 11,0	15,4	201
11011694	11011845	2 x 2 x 0,5	20	11,1 - 13,8	25,8	281
11011695	11011846	4 x 2 x 0,5	20	12,1 - 15,2	46,5	348
11011696	11011847	5 x 2 x 0,5	20	12,8 - 16,2	56,9	388
11011697	11011848	6 x 2 x 0,5	20	13,6 - 17,1	67,3	430
11011698	11011849	8 x 2 x 0,5	20	14,8 - 18,9	88,0	492
11011699	11011850	10 x 2 x 0,5	20	16,2 - 20,8	108,8	551
11011700	11011851	12 x 2 x 0,5	20	16,6 - 21,3	129,5	609
11011701	11011852	15 x 2 x 0,5	20	18,1 - 23,2	160,6	844
11011702	11011853	16 x 2 x 0,5	20	18,1 - 23,2	171,0	857
11011703	11011854	20 x 2 x 0,5	20	20,3 - 26,1	212,4	990
11011704	11011855	24 x 2 x 0,5	20	22,1 - 28,6	253,9	1114
11011705	11011856	30 x 2 x 0,5	20	23,1 - 30,0	316,1	1273
11011706	11011857	36 x 2 x 0,5	20	24,5 - 31,9	378,3	1448
11011707	11011858	1 x 3 x 0,5	20	9,3 - 11,3	20,6	211
11011708	11011859	2 x 3 x 0,5	20	11,8 - 14,8	36,2	323
11011709	11011860	3 x 3 x 0,5	20	12,2 - 15,4	51,7	359
11011715	11011866	1 x 4 x 0,5	20	9,6 - 11,9	25,8	232
11011716	11011867	2 x 4 x 0,5	20	13,4 - 17,0	46,5	389

Continuation ▶

HELUDATA® EN-50288-7 XLPE/LS0H OSA 300

Instrumentation cable, halogen-free, XLPE/OS/LS0H/SWA/LS0H

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11011723	11011874	1 x 2 x 0,75	19	9,4 - 11,2	20,6	216
11011724	11011875	2 x 2 x 0,75	19	11,7 - 14,2	36,2	319
11011725	11011876	4 x 2 x 0,75	19	12,9 - 15,6	67,3	391
11011726	11011877	5 x 2 x 0,75	19	13,6 - 16,7	82,8	438
11011727	11011878	6 x 2 x 0,75	19	14,7 - 17,9	98,4	501
11011728	11011879	8 x 2 x 0,75	19	15,9 - 19,5	129,5	565
11011729	11011880	10 x 2 x 0,75	19	17,4 - 21,4	160,6	654
11011730	11011881	12 x 2 x 0,75	19	18,0 - 22,1	191,7	830
11011731	11011882	15 x 2 x 0,75	19	20,2 - 24,8	238,4	997
11011732	11011883	16 x 2 x 0,75	19	20,2 - 24,8	253,9	1014
11011733	11011884	20 x 2 x 0,75	19	22,1 - 27,3	316,1	1169
11011734	11011885	24 x 2 x 0,75	19	23,9 - 29,6	378,3	1318
11011735	11011886	30 x 2 x 0,75	19	25,2 - 31,2	471,6	1519
11011736	11011887	36 x 2 x 0,75	19	27,0 - 33,6	564,9	1933
11011737	11011888	1 x 3 x 0,75	19	9,7 - 11,6	28,4	232
11011738	11011889	2 x 3 x 0,75	19	12,5 - 15,2	51,7	357
11011739	11011890	3 x 3 x 0,75	19	13,0 - 15,8	75,1	400
11011745	11011896	1 x 4 x 0,75	19	10,1 - 12,1	36,2	251
11011746	11011897	2 x 4 x 0,75	19	14,5 - 17,7	67,3	455
11011753	11011904	1 x 2 x 1	18	9,6 - 11,7	25,8	230
11011754	11011905	2 x 2 x 1	18	12,0 - 14,9	46,5	341
11011755	11011906	4 x 2 x 1	18	13,2 - 16,5	88,0	430
11011756	11011907	5 x 2 x 1	18	14,1 - 17,5	108,8	503
11011757	11011908	6 x 2 x 1	18	15,1 - 18,9	129,5	560
11011758	11011909	8 x 2 x 1	18	16,4 - 20,7	171,0	642
11011759	11011910	10 x 2 x 1	18	18,2 - 23,0	212,4	857
11011760	11011911	12 x 2 x 1	18	19,3 - 24,4	253,9	938
11011761	11011912	15 x 2 x 1	18	20,9 - 26,5	316,1	1126
11011762	11011913	16 x 2 x 1	18	20,9 - 26,5	336,9	1148
11011763	11011914	20 x 2 x 1	18	22,9 - 29,1	419,8	1339
11011764	11011915	24 x 2 x 1	18	25,0 - 31,9	502,7	1523
11011765	11011916	30 x 2 x 1	18	26,4 - 33,7	627,2	1972
11011766	11011917	36 x 2 x 1	18	28,5 - 36,5	751,6	2257
11011767	11011918	1 x 3 x 1	18	9,9 - 12,1	36,2	249
11011768	11011919	2 x 3 x 1	18	12,8 - 15,9	67,3	390
11011769	11011920	3 x 3 x 1	18	13,4 - 16,7	98,4	441
11011775	11011926	1 x 4 x 1	18	10,3 - 12,6	46,5	279
11011776	11011927	2 x 4 x 1	18	14,9 - 18,7	88,0	497
11011784	11011935	1 x 2 x 1,5	16	10,7 - 12,7	36,2	271
11011785	11011936	2 x 2 x 1,5	16	13,9 - 16,7	67,3	416
11011786	11011937	4 x 2 x 1,5	16	15,6 - 18,8	129,5	555
11011787	11011938	5 x 2 x 1,5	16	16,7 - 20,2	160,6	643
11011788	11011939	6 x 2 x 1,5	16	18,0 - 21,8	191,7	855
11011789	11011940	8 x 2 x 1,5	16	20,4 - 24,7	253,9	975
11011790	11011941	10 x 2 x 1,5	16	22,7 - 27,5	316,1	1122
11011791	11011942	12 x 2 x 1,5	16	23,3 - 28,2	378,3	1252
11011792	11011943	15 x 2 x 1,5	16	25,7 - 31,2	471,6	1504
11011793	11011944	16 x 2 x 1,5	16	25,7 - 31,2	502,7	1538
11011794	11011945	20 x 2 x 1,5	16	28,5 - 34,7	627,2	2004
11011795	11011946	24 x 2 x 1,5	16	32,1 - 39,1	751,6	2283
11011796	11011947	30 x 2 x 1,5	16	33,6 - 41,0	938,2	2645
11011797	11011948	36 x 2 x 1,5	16	36,3 - 44,2	1124,8	3044
11011798	11011949	1 x 3 x 1,5	16	11,3 - 13,4	51,7	300
11011799	11011950	2 x 3 x 1,5	16	15,1 - 18,2	98,4	500
11011800	11011951	3 x 3 x 1,5	16	15,8 - 19,0	145,0	577
11011806	11011957	1 x 4 x 1,5	16	11,8 - 14,1	67,3	345
11011807	11011958	2 x 4 x 1,5	16	17,6 - 21,3	129,5	641

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 XLPE/LS0H OSA 500

Instrumentation cable, halogen-free, XLPE/OS/LS0H/SWA/LS0H



Technical data

- Instrumentation cable acc. to EN 50288-7
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +90°C
- **Nominal voltage**
  U AC 500 V
- **Test voltage**
  core/core 2000 V
  core/screen 2000 V
- **Minimum bending radius**
  fixed installation 10x outer Ø
- **Insulation resistance**
  > 5000 MΩxkm
- **Mutual capacitance**
  single pair max. 150 pF/m
- **Inductance**
  max. 1 mH /km
- **L/R (ratio)**
  0,5 mm² < 25 µH/Ω
  0,75 mm² < 25 µH/Ω
  1 mm² < 25 µH/Ω
  1,5 mm² < 40 µH/Ω
  2,5 mm² < 60 µH/Ω

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl.2 / IEC 60228 cl.2
- Core insulation: XLPE acc. to EN 50290-2-29
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: BU, BK
  triads: BU, BK, RD
  quads: BU, BK, RD, GY
  blue cores with continuous black numbering
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire (7x0,3 mm)
- Inner sheath: LS0H compound acc. to EN 50290-2-27
- Armouring: single layer of galvanised round steel wires acc to. EN 10257-1
- Outer sheath: LS0H compound acc. to EN 50290-2-27
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- UV resistant acc. to UL 1581 section 1200

Note

- Alternative denomination: **RE-2X(St)HRH**
- Suitable for direct burial
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- We also offer cable glands **HELUTOP® HT-MS-EX-d e4**

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11011995	11012146	1 x 2 x 0,5	20	9,8 - 11,9	15,4	223
11011996	11012147	2 x 2 x 0,5	20	12,3 - 15,2	25,8	333
11011997	11012148	4 x 2 x 0,5	20	13,6 - 16,9	46,5	402
11011998	11012149	5 x 2 x 0,5	20	14,7 - 18,3	56,9	468
11011999	11012150	6 x 2 x 0,5	20	15,6 - 19,5	67,3	523
11012000	11012151	8 x 2 x 0,5	20	16,9 - 21,3	88,0	591
11012001	11012152	10 x 2 x 0,5	20	19,5 - 24,5	108,8	794
11012002	11012153	12 x 2 x 0,5	20	19,9 - 25,1	129,5	871
11012003	11012154	15 x 2 x 0,5	20	21,8 - 27,5	160,6	1039
11012004	11012155	16 x 2 x 0,5	20	21,8 - 27,5	171,0	1054
11012005	11012156	20 x 2 x 0,5	20	23,7 - 30,1	212,4	1205
11012006	11012157	24 x 2 x 0,5	20	26,1 - 33,2	253,9	1357
11012007	11012158	30 x 2 x 0,5	20	27,4 - 34,9	316,1	1769
11012008	11012159	36 x 2 x 0,5	20	30,2 - 38,4	378,3	2007
11012009	11012160	1 x 3 x 0,5	20	10,1 - 12,3	20,6	239
11012010	11012161	2 x 3 x 0,5	20	13,2 - 16,4	36,2	375
11012011	11012162	3 x 3 x 0,5	20	13,7 - 17,1	51,7	415
11012017	11012168	1 x 4 x 0,5	20	10,5 - 12,8	25,8	264
11012018	11012169	2 x 4 x 0,5	20	15,4 - 19,3	46,5	475

Continuation ▶

HELUDATA® EN-50288-7 XLPE/LS0H OSA 500

Instrumentation cable, halogen-free, XLPE/OS/LS0H/SWA/LS0H

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11012025	11012176	1 x 2 x 0,75	19	10,1 - 12,1	20,6	239
11012026	11012177	2 x 2 x 0,75	19	12,9 - 15,6	36,2	361
11012027	11012178	4 x 2 x 0,75	19	14,5 - 17,5	67,3	467
11012028	11012179	5 x 2 x 0,75	19	15,5 - 18,7	82,8	521
11012029	11012180	6 x 2 x 0,75	19	16,5 - 20,0	98,4	596
11012030	11012181	8 x 2 x 0,75	19	18,2 - 22,1	129,5	798
11012031	11012182	10 x 2 x 0,75	19	20,7 - 25,1	160,6	912
11012032	11012183	12 x 2 x 0,75	19	21,2 - 25,9	191,7	990
11012033	11012184	15 x 2 x 0,75	19	23,2 - 28,4	238,4	1190
11012034	11012185	16 x 2 x 0,75	19	23,2 - 28,4	253,9	1210
11012035	11012186	20 x 2 x 0,75	19	25,7 - 31,5	316,1	1393
11012036	11012187	24 x 2 x 0,75	19	28,1 - 34,5	378,3	1789
11012037	11012188	30 x 2 x 0,75	19	30,3 - 37,1	471,6	2052
11012038	11012189	36 x 2 x 0,75	19	32,7 - 40,1	564,9	2329
11012039	11012190	1 x 3 x 0,75	19	10,5 - 12,5	28,4	261
11012040	11012191	2 x 3 x 0,75	19	13,9 - 16,8	51,7	428
11012041	11012192	3 x 3 x 0,75	19	14,7 - 17,8	75,1	477
11012047	11012198	1 x 4 x 0,75	19	11,2 - 13,4	36,2	294
11012048	11012199	2 x 4 x 0,75	19	16,3 - 19,8	67,3	535
11012055	11012206	1 x 2 x 1	18	10,3 - 12,5	25,8	256
11012056	11012207	2 x 2 x 1	18	13,2 - 16,3	46,5	388
11012057	11012208	4 x 2 x 1	18	14,9 - 18,4	88,0	508
11012058	11012209	5 x 2 x 1	18	15,9 - 19,7	108,8	574
11012059	11012210	6 x 2 x 1	18	16,9 - 21,1	129,5	661
11012060	11012211	8 x 2 x 1	18	19,4 - 24,1	171,0	876
11012061	11012212	10 x 2 x 1	18	21,5 - 26,9	212,4	1001
11012062	11012213	12 x 2 x 1	18	22,0 - 27,5	253,9	1112
11012063	11012214	15 x 2 x 1	18	23,9 - 30,0	316,1	1335
11012064	11012215	16 x 2 x 1	18	23,9 - 30,0	336,9	1360
11012065	11012216	20 x 2 x 1	18	26,5 - 33,3	419,8	1594
11012066	11012217	24 x 2 x 1	18	29,9 - 37,6	502,7	1980
11012067	11012218	30 x 2 x 1	18	31,5 - 39,6	627,2	2298
11012068	11012219	36 x 2 x 1	18	33,8 - 42,5	751,6	2634
11012069	11012220	1 x 3 x 1	18	10,7 - 12,9	36,2	286
11012070	11012221	2 x 3 x 1	18	14,2 - 17,5	67,3	463
11012071	11012222	3 x 3 x 1	18	15,0 - 18,6	98,4	520
11012077	11012228	1 x 4 x 1	18	11,4 - 13,9	46,5	314
11012078	11012229	2 x 4 x 1	18	16,7 - 20,8	88,0	588
11012086	11012237	1 x 2 x 1,5	16	11,3 - 13,4	36,2	285
11012087	11012238	2 x 2 x 1,5	16	14,7 - 17,5	67,3	452
11012088	11012239	4 x 2 x 1,5	16	16,4 - 19,7	129,5	582
11012089	11012240	5 x 2 x 1,5	16	17,5 - 21,1	160,6	685
11012090	11012241	6 x 2 x 1,5	16	19,6 - 23,6	191,7	901
11012091	11012242	8 x 2 x 1,5	16	21,6 - 26,1	253,9	1046
11012092	11012243	10 x 2 x 1,5	16	23,9 - 28,9	316,1	1205
11012093	11012244	12 x 2 x 1,5	16	24,6 - 29,7	378,3	1334
11012094	11012245	15 x 2 x 1,5	16	27,2 - 33,0	471,6	1624
11012095	11012246	16 x 2 x 1,5	16	27,2 - 33,0	502,7	1660
11012096	11012247	20 x 2 x 1,5	16	30,8 - 37,2	627,2	2166
11012097	11012248	24 x 2 x 1,5	16	34,1 - 41,3	751,6	2440
11012098	11012249	30 x 2 x 1,5	16	36,0 - 43,7	938,2	2855
11012099	11012250	36 x 2 x 1,5	16	38,6 - 46,9	1124,8	3592
11012100	11012251	1 x 3 x 1,5	16	11,7 - 13,9	51,7	318
11012101	11012252	2 x 3 x 1,5	16	15,8 - 18,9	98,4	530
11012102	11012253	3 x 3 x 1,5	16	16,6 - 19,9	145,0	618
11012108	11012259	1 x 4 x 1,5	16	12,3 - 14,7	67,3	364
11012109	11012260	2 x 4 x 1,5	16	19,4 - 23,3	129,5	798
11012116	11012267	1 x 2 x 2,5	14	12,2 - 14,9	56,9	352
11012117	11012268	2 x 2 x 2,5	14	16,2 - 20,0	108,8	570
11012118	11012269	4 x 2 x 2,5	14	18,4 - 22,9	212,4	897
11012119	11012270	5 x 2 x 2,5	14	20,4 - 25,4	264,3	1045
11012120	11012271	6 x 2 x 2,5	14	22,1 - 27,5	316,1	1192
11012121	11012272	8 x 2 x 2,5	14	24,3 - 30,4	419,8	1373
11012122	11012273	10 x 2 x 2,5	14	27,3 - 34,2	523,5	1580
11012123	11012274	12 x 2 x 2,5	14	28,5 - 35,7	627,2	1996
11012124	11012275	15 x 2 x 2,5	14	32,1 - 40,2	782,7	2430
11012125	11012276	16 x 2 x 2,5	14	32,1 - 40,2	834,5	2487
11012126	11012277	20 x 2 x 2,5	14	35,6 - 44,7	1041,9	2920
11012127	11012278	24 x 2 x 2,5	14	39,2 - 49,3	1249,2	3662
11012128	11012279	30 x 2 x 2,5	14	42,2 - 53,0	1560,3	4262
11012129	11012280	36 x 2 x 2,5	14	45,6 - 57,4	1871,3	4919
11012130	11012281	1 x 3 x 2,5	14	12,7 - 15,5	82,8	396
11012131	11012282	2 x 3 x 2,5	14	17,5 - 21,8	160,6	805
11012132	11012283	3 x 3 x 2,5	14	19,3 - 23,9	238,4	944
11012138	11012289	1 x 4 x 2,5	14	13,4 - 16,5	108,8	450
11012139	11012290	2 x 4 x 2,5	14	21,8 - 27,2	212,4	1048

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 XLPE/LS0H IOSA 300

Instrumentation cable, halogen-free, XLPE/IS/OS/LS0H/SWA/LS0H



Technical data

- Instrumentation cable acc. to EN 50288-7
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +90°C
- **Nominal voltage**
  U AC 300 V
- **Test voltage**
  core/core 1500 V
  core/screen 1500 V
- **Minimum bending radius**
  fixed installation 10x outer Ø
- **Insulation resistance**
  > 5000 MΩxkm
- **Mutual capacitance**
  max. 150 pF/m
- **Inductance**
  max. 1 mH /km
- **L/R (ratio)**
  0,5 mm² < 25 µH/Ω
  0,75 mm² < 25 µH/Ω
  1 mm² < 25 µH/Ω
  1,5 mm² < 40 µH/Ω
  2,5 mm² < 60 µH/Ω

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl.2 / IEC 60228 cl.2
- Core insulation: XLPE acc. to EN 50290-2-29
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: WH, BK
  triads: WH, BK, RD
  quads: WH, BK, RD, GY
  white cores with continuous black numbering
- Individual screen: pairs, triads or quads indiv. screened with AL/PE tape over tinned copper drain wire (solid 0,6 mm)
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire (7x0,3 mm)
- Inner sheath: LS0H acc. to EN 50290-2-27
- Armouring: single layer of galvanised round steel wires acc. to EN 10257-1
- Outer sheath: LS0H acc. to EN 50290-2-27
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- UV resistant acc. to UL 1581 section 1200

Note

- Alternative denomination: **RE-2X(St)HRH PiMF**
- Suitable for direct burial
- The conductor is metrically constructed (mm²). The AWG designatiaon is approximate and purely informative.
- We also offer cable glands **HELUTOP® HT-MS-EX-d / e4**

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product complies to the Low-Voltage Directive 2014/35/EU.

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11010545	11010681	2 x 2 x 0,5	20	12,2 - 15,2	31,6	318
11010546	11010682	4 x 2 x 0,5	20	13,4 - 16,8	58,2	408
11010547	11010683	5 x 2 x 0,5	20	14,5 - 18,2	71,4	455
11010548	11010684	6 x 2 x 0,5	20	15,3 - 19,4	84,7	503
11010549	11010685	8 x 2 x 0,5	20	16,7 - 21,2	111,2	583
11010550	11010686	10 x 2 x 0,5	20	18,5 - 23,5	137,8	652
11010551	11010687	12 x 2 x 0,5	20	19,6 - 24,9	164,4	854
11010552	11010688	15 x 2 x 0,5	20	21,2 - 27,1	204,1	1011
11010553	11010689	16 x 2 x 0,5	20	21,2 - 27,1	217,4	1027
11010554	11010690	20 x 2 x 0,5	20	23,3 - 29,9	270,5	1184
11010555	11010691	24 x 2 x 0,5	20	25,7 - 33,0	323,6	1329
11010556	11010692	30 x 2 x 0,5	20	26,9 - 34,6	403,2	1543
11010557	11010693	36 x 2 x 0,5	20	29,0 - 37,3	482,9	1946
11010558	11010694	2 x 3 x 0,5	20	13,0 - 16,3	42,0	364
11010559	11010695	3 x 3 x 0,5	20	13,5 - 16,9	60,5	410
11010565	11010701	2 x 4 x 0,5	20	14,2 - 17,9	52,4	426
11010566	11010702	3 x 4 x 0,5	20	15,0 - 18,9	76,0	474

Continuation ▸

HELUDATA® EN-50288-7 XLPE/LS0H IOSA 300

Instrumentation cable, halogen-free, XLPE/IS/OS/LS0H/SWA/LS0H

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11010572	11010708	2 x 2 x 0,75	19	12,8 - 15,5	42,0	354
11010573	11010709	4 x 2 x 0,75	19	14,4 - 17,5	78,9	454
11010574	11010710	5 x 2 x 0,75	19	15,3 - 18,7	97,3	506
11010575	11010711	6 x 2 x 0,75	19	16,3 - 19,9	115,8	583
11010576	11010712	8 x 2 x 0,75	19	18,0 - 22,0	152,7	657
11010577	11010713	10 x 2 x 0,75	19	20,5 - 25,0	189,6	888
11010578	11010714	12 x 2 x 0,75	19	21,0 - 25,8	226,6	971
11010579	11010715	15 x 2 x 0,75	19	23,0 - 28,2	281,9	1159
11010580	11010716	16 x 2 x 0,75	19	23,0 - 28,2	300,3	1180
11010581	11010717	20 x 2 x 0,75	19	25,3 - 31,0	374,2	1368
11010582	11010718	24 x 2 x 0,75	19	27,7 - 34,1	448,0	1553
11010583	11010719	30 x 2 x 0,75	19	30,0 - 37,0	558,7	2013
11010584	11010720	36 x 2 x 0,75	19	32,4 - 39,9	669,5	2260
11010585	11010721	2 x 3 x 0,75	19	13,7 - 16,7	57,6	410
11010586	11010722	3 x 3 x 0,75	19	14,5 - 17,7	83,8	459
11010592	11010728	2 x 4 x 0,75	19	15,3 - 18,6	73,1	472
11010593	11010729	3 x 4 x 0,75	19	16,0 - 19,5	107,1	553
11010599	11010735	2 x 2 x 1	18	13,2 - 16,3	52,4	393
11010600	11010736	4 x 2 x 1	18	14,8 - 18,4	99,7	494
11010601	11010737	5 x 2 x 1	18	15,8 - 19,7	123,2	575
11010602	11010738	6 x 2 x 1	18	16,8 - 21,1	146,9	644
11010603	11010739	8 x 2 x 1	18	18,6 - 23,3	194,2	870
11010604	11010740	10 x 2 x 1	18	21,1 - 26,6	241,5	980
11010605	11010741	12 x 2 x 1	18	21,9 - 27,6	288,8	1092
11010606	11010742	15 x 2 x 1	18	23,8 - 30,1	359,6	1312
11010607	11010743	16 x 2 x 1	18	23,8 - 30,1	383,3	1339
11010608	11010744	20 x 2 x 1	18	26,3 - 33,3	477,9	1566
11010609	11010745	24 x 2 x 1	18	29,0 - 36,8	572,4	1968
11010610	11010746	30 x 2 x 1	18	31,1 - 39,5	714,2	2273
11010611	11010747	36 x 2 x 1	18	33,5 - 42,6	856,1	2592
11010612	11010748	2 x 3 x 1	18	14,1 - 17,5	73,1	445
11010613	11010749	3 x 3 x 1	18	14,9 - 18,5	107,1	502
11010619	11010755	2 x 4 x 1	18	15,7 - 19,6	93,9	536
11010620	11010756	3 x 4 x 1	18	16,5 - 20,7	138,2	612
11010627	11010763	2 x 2 x 1,5	16	15,3 - 18,4	73,1	467
11010628	11010764	4 x 2 x 1,5	16	17,2 - 20,8	141,2	625
11010629	11010765	5 x 2 x 1,5	16	19,3 - 23,2	175,1	855
11010630	11010766	6 x 2 x 1,5	16	20,6 - 24,9	209,1	964
11010631	11010767	8 x 2 x 1,5	16	22,8 - 27,6	277,1	1106
11010632	11010768	10 x 2 x 1,5	16	25,7 - 31,0	345,2	1275
11010633	11010769	12 x 2 x 1,5	16	26,4 - 31,9	413,2	1411
11010634	11010770	15 x 2 x 1,5	16	29,8 - 36,1	515,2	1902
11010635	11010771	16 x 2 x 1,5	16	29,8 - 36,1	549,2	1941
11010636	11010772	20 x 2 x 1,5	16	33,0 - 40,0	685,3	2254
11010637	11010773	24 x 2 x 1,5	16	36,4 - 44,1	821,2	2577
11010638	11010774	30 x 2 x 1,5	16	38,4 - 46,7	1025,2	3031
11010639	11010775	36 x 2 x 1,5	16	42,1 - 51,1	1229,4	3809
11010640	11010776	2 x 3 x 1,5	16	16,5 - 19,9	104,2	561
11010641	11010777	3 x 3 x 1,5	16	17,4 - 20,9	153,8	644
11010647	11010783	2 x 4 x 1,5	16	18,6 - 22,5	135,3	800
11010648	11010784	3 x 4 x 1,5	16	20,2 - 24,4	200,4	919

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 XLPE/LS0H IOSA 500

Instrumentation cable, halogen-free, XLPE/IS/OS/LS0H/SWA/LS0H



Technical data

- Instrumentation cable acc. to EN 50288-7
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +90°C
- **Nominal voltage**
  U AC 500 V
- **Test voltage**
  core/core 2000 V
  core/screen 2000 V
- **Minimum bending radius**
  fixed installation 10x outer Ø
- **Insulation resistance**
  > 5000 MΩxkm
- **Mutual capacitance**
  single pair: max. 150 pF/m
- **Inductance**
  max. 1 mH /km
- **L/R (ratio)**
  0,5 mm² < 25 µH/Ω
  0,75 mm² < 25 µH/Ω
  1 mm² < 25 µH/Ω
  1,5 mm² < 40 µH/Ω
  2,5 mm² < 60 µH/Ω

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl.2 / IEC 60228 cl.2
- Core insulation: XLPE acc. to EN 50290-2-29
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: BU, BK
  triads: BU, BK, RD
  quads: BU, BK, RD, GY
  blue cores with continuous black numbering
- Individual screen: pairs, triads or quads indiv. screened with AL/PE tape over tinned copper drain wire (solid 0,6 mm)
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire (7x0,3 mm)
- Inner sheath: LS0H acc. to EN 50290-2-27
- Armouring: single layer of galvanised round steel wires acc to. EN 10257-1
- Outer sheath: LS0H acc. to EN 50290-2-27
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- UV resistant acc. to UL 1581 section 1200

Note

- Alternative denomination: **RE-2X(St)HRH PiMF**
- Suited for direct burial
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- We also offer cable glands **HELUTOP® HT-MS-EX-d / e4**

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11010817	11010953	2 x 2 x 0,5	20	13,5 - 16,7	31,6	380
11010818	11010954	4 x 2 x 0,5	20	15,2 - 18,9	58,2	467
11010819	11010955	5 x 2 x 0,5	20	16,2 - 20,2	71,4	546
11010820	11010956	6 x 2 x 0,5	20	17,3 - 21,6	84,7	608
11010821	11010957	8 x 2 x 0,5	20	19,8 - 24,7	111,2	824
11010822	11010958	10 x 2 x 0,5	20	22,0 - 27,6	137,8	927
11010823	11010959	12 x 2 x 0,5	20	22,6 - 28,4	164,4	1016
11010824	11010960	15 x 2 x 0,5	20	24,5 - 30,9	204,1	1206
11010825	11010961	16 x 2 x 0,5	20	24,5 - 30,9	217,4	1224
11010826	11010962	20 x 2 x 0,5	20	27,2 - 34,3	270,5	1433
11010827	11010963	24 x 2 x 0,5	20	30,7 - 38,7	323,6	1825
11010828	11010964	30 x 2 x 0,5	20	32,5 - 41,1	403,2	2053
11010829	11010965	36 x 2 x 0,5	20	34,9 - 44,1	482,9	2343
11010830	11010966	2 x 3 x 0,5	20	14,7 - 18,2	42,0	430
11010831	11010967	3 x 3 x 0,5	20	15,3 - 19,0	60,5	475
11010837	11010973	2 x 4 x 0,5	20	16,2 - 20,1	52,4	514
11010838	11010974	3 x 4 x 0,5	20	16,9 - 21,2	76,0	570

Continuation ▸

HELUDATA® EN-50288-7 XLPE/LS0H IOSA 500

Instrumentation cable, halogen-free, XLPE/IS/OS/LS0H/SWA/LS0H

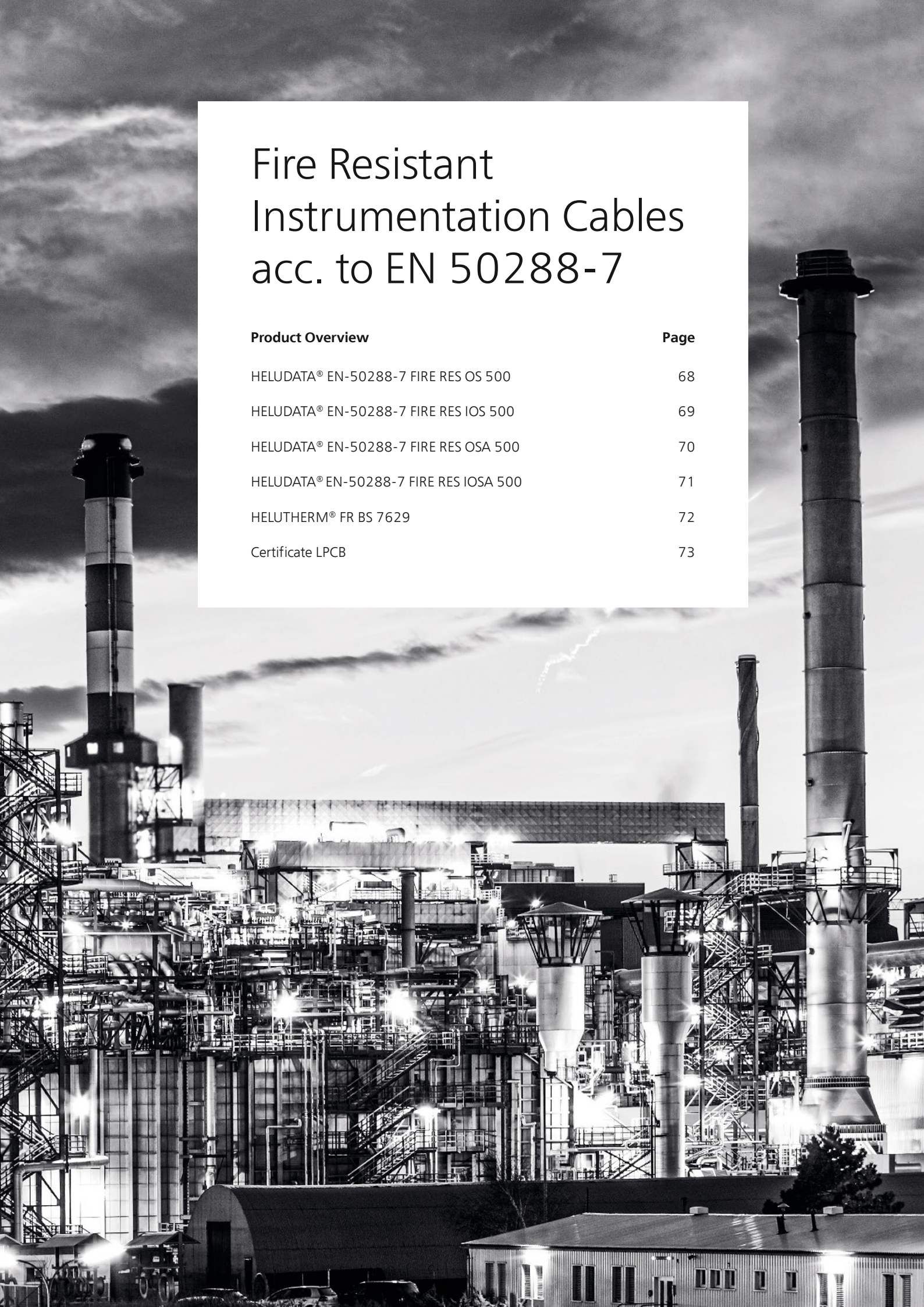
Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11010844	11010980	2 x 2 x 0,75	19	14,2 - 17,0	42,0	410
11010845	11010981	4 x 2 x 0,75	19	16,0 - 19,4	78,9	535
11010846	11010982	5 x 2 x 0,75	19	17,1 - 20,8	97,3	600
11010847	11010983	6 x 2 x 0,75	19	18,5 - 22,5	115,8	811
11010848	11010984	8 x 2 x 0,75	19	20,9 - 25,4	152,7	912
11010849	11010985	10 x 2 x 0,75	19	23,3 - 28,4	189,6	1051
11010850	11010986	12 x 2 x 0,75	19	23,9 - 29,1	226,6	1139
11010851	11010987	15 x 2 x 0,75	19	26,5 - 32,2	281,9	1384
11010852	11010988	16 x 2 x 0,75	19	26,5 - 32,2	300,3	1408
11010853	11010989	20 x 2 x 0,75	19	30,0 - 36,5	374,2	1843
11010854	11010990	24 x 2 x 0,75	19	33,0 - 40,2	448,0	2046
11010855	11010991	30 x 2 x 0,75	19	34,8 - 42,5	558,7	2361
11010856	11010992	36 x 2 x 0,75	19	37,5 - 45,9	669,5	2693
11010857	11010993	2 x 3 x 0,75	19	15,4 - 18,6	57,6	465
11010858	11010994	3 x 3 x 0,75	19	16,1 - 19,5	83,8	547
11010864	11011000	2 x 4 x 0,75	19	17,1 - 20,7	73,1	562
11010865	11011001	3 x 4 x 0,75	19	18,1 - 21,9	107,1	635
11010871	11011007	2 x 2 x 1	18	14,7 - 18,1	52,4	438
11010872	11011008	4 x 2 x 1	18	16,4 - 20,2	99,7	576
11010873	11011009	5 x 2 x 1	18	17,6 - 21,7	123,2	650
11010874	11011010	6 x 2 x 1	18	19,7 - 24,3	146,9	879
11010875	11011011	8 x 2 x 1	18	21,7 - 27,0	194,2	1001
11010876	11011012	10 x 2 x 1	18	24,0 - 29,9	241,5	1131
11010877	11011013	12 x 2 x 1	18	24,6 - 30,7	288,8	1264
11010878	11011014	15 x 2 x 1	18	27,2 - 34,0	359,6	1521
11010879	11011015	16 x 2 x 1	18	27,2 - 34,0	383,3	1550
11010880	11011016	20 x 2 x 1	18	30,9 - 38,5	477,9	2029
11010881	11011017	24 x 2 x 1	18	34,2 - 42,8	572,4	2293
11010882	11011018	30 x 2 x 1	18	36,1 - 45,2	714,2	2666
11010883	11011019	36 x 2 x 1	18	38,7 - 48,5	856,1	3359
11010884	11011020	2 x 3 x 1	18	15,8 - 19,5	73,1	523
11010885	11011021	3 x 3 x 1	18	16,5 - 20,4	107,1	592
11010891	11011027	2 x 4 x 1	18	17,5 - 21,7	93,9	606
11010892	11011028	3 x 4 x 1	18	18,6 - 23,1	138,2	846
11010899	11011035	2 x 2 x 1,5	16	16,0 - 19,2	73,1	511
11010900	11011036	4 x 2 x 1,5	16	18,2 - 21,8	141,2	660
11010901	11011037	5 x 2 x 1,5	16	20,2 - 24,3	175,1	910
11010902	11011038	6 x 2 x 1,5	16	21,8 - 26,2	209,1	1033
11010903	11011039	8 x 2 x 1,5	16	24,0 - 28,9	277,1	1171
11010904	11011040	10 x 2 x 1,5	16	27,0 - 32,5	345,2	1365
11010905	11011041	12 x 2 x 1,5	16	27,8 - 33,5	413,2	1512
11010906	11011042	15 x 2 x 1,5	16	31,6 - 38,1	515,2	2038
11010907	11011043	16 x 2 x 1,5	16	31,6 - 38,1	549,2	2079
11010908	11011044	20 x 2 x 1,5	16	35,0 - 42,3	685,3	2423
11010909	11011045	24 x 2 x 1,5	16	38,5 - 46,7	821,2	2760
11010910	11011046	30 x 2 x 1,5	16	41,6 - 50,3	1025,2	3543
11010911	11011047	36 x 2 x 1,5	16	44,8 - 54,2	1229,4	4075
11010912	11011048	2 x 3 x 1,5	16	17,3 - 20,8	104,2	592
11010913	11011049	3 x 3 x 1,5	16	18,4 - 22,0	153,8	815
11010919	11011055	2 x 4 x 1,5	16	20,2 - 24,2	135,3	852
11010920	11011056	3 x 4 x 1,5	16	21,2 - 25,5	200,4	965
11010926	11011062	2 x 2 x 2,5	14	17,7 - 21,8	114,6	627
11010927	11011063	4 x 2 x 2,5	14	20,9 - 25,9	224,1	1008
11010928	11011064	5 x 2 x 2,5	14	22,6 - 28,0	278,7	1158
11010929	11011065	6 x 2 x 2,5	14	24,3 - 30,3	333,5	1326
11010930	11011066	8 x 2 x 2,5	14	27,2 - 33,9	443,0	1546
11010931	11011067	10 x 2 x 2,5	14	31,5 - 39,3	552,5	2002
11010932	11011068	12 x 2 x 2,5	14	32,6 - 40,7	662,0	2212
11010933	11011069	15 x 2 x 2,5	14	36,0 - 45,0	826,2	2714
11010934	11011070	16 x 2 x 2,5	14	36,0 - 45,0	881,0	2776
11010935	11011071	20 x 2 x 2,5	14	40,8 - 51,0	1100,0	3599
11010936	11011072	24 x 2 x 2,5	14	45,0 - 56,3	1318,9	4072
11010937	11011073	30 x 2 x 2,5	14	47,7 - 59,7	1647,3	4747
11010938	11011074	36 x 2 x 2,5	14	52,5 - 65,7	1975,9	6011
11010939	11011075	2 x 3 x 2,5	14	20,0 - 24,8	166,4	895
11010940	11011076	3 x 3 x 2,5	14	21,0 - 26,1	247,1	1043
11010946	11011082	2 x 4 x 2,5	14	22,6 - 28,0	218,3	1075
11010947	11011083	3 x 4 x 2,5	14	23,8 - 29,6	324,9	1266

Dimensions and specifications may be changed without prior notice.



Fire Resistant Instrumentation Cables acc. to EN 50288-7

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HELUDATA® EN-50288-7 FIRE RES OS 500

Instrumentation cable, fire resistant, halogen-free, XLPE/OS/LS0H



Technical data

- Instrumentation cable acc. to DIN EN 50288-7
- **Temperature range**
  flexing -10°C to +90°C
  fixed installation -30°C to +90°C
- **Nominal voltage**
  U_{AC} 500 V
- **Test voltage**
  2000 V
- **Minimum bending radius**
  fixed 7,5 x cable Ø
- **Insulation resistance**
  > 5000 MΩxkm
- **Mutual capacitance**
  cable element: < 100 pF/m
- **Inductance**
  max. 1 mH/km
- **L/R (ratio)**
  1,5 mm² < 40 µH/Ω
  ⩾ 2,5 mm² < 60 µH/Ω

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl. 2 / IEC 60228 cl. 2
- Fire barrier: MICA tape
- Core insulation: XLPE acc. to EN 50290-2-29
- Cores stranded in pairs, triads, quads or 5 cores
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: BU, BK
  triads: BU, BK, RD
  quads: BU, BK, GY, RD
  5 cores: BU, BN, BK, GY, RD
  blue cores with continuous black numbering
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PET tape over tinned copper stranded drain wire (7x0,3 mm)
- Outer sheath: LS0H compound acc. to EN 50290-2-27
- Outer sheath colour: orange (RAL 2004)
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements have to be produced out of non-hygroscopic materials
- Resistant to hydrocarbons

Tests

- Fire resistant acc. to IEC 60331-21
- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-24 / DIN EN 60332-3-24 / IEC 60332-3-24 (Cat. C)
- Flame test on bunched wires acc. DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Corrosivenes of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Smoke density acc. to DIN VDE 0482-1034-1 / DIN EN 61034-1 / IEC 61034-1
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57 / IEC 60811-404
- UV and sunlight resistant acc. to ISO 4892-3 & UL 1581 sect. 1200
- Suitable for usage in explosive atmospheres acc. to IEC 60079-14 sec. 16.2.2

Note

- The conductor is metrically constructed (mm²). The AWG designatiaon is approximate and purely informative.
- Not suitable for direct burial
- Version suitable for installation on ships acc. to IEC 60092-350 on request

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks. In the case of fire, the cable maintains circuit integrity for min. 180 minutes.

CE = Product complies to the Low-Voltage Directive 2014/35/EU.

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11016430	1 x 2 x 1,5	16	8,1 - 9,7	36,2	91
11016557	2 x 2 x 1,5	16	12,0 - 14,4	67,3	164
11016558	4 x 2 x 1,5	16	14,1 - 17,1	129,5	269
11016559	6 x 2 x 1,5	16	17,1 - 20,7	191,7	418
11016560	8 x 2 x 1,5	16	19,4 - 23,5	253,9	530
11016561	10 x 2 x 1,5	16	22,2 - 26,9	316,1	625
11016562	12 x 2 x 1,5	16	23,1 - 28,0	378,3	724
11016563	1 x 3 x 1,5	16	8,6 - 10,3	51,7	117
11016564	2 x 3 x 1,5	16	13,5 - 16,3	98,4	221

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11016565	4 x 3 x 1,5	16	15,9 - 19,3	177,6	374
11015812	1 x 2 x 2,5	14	9,0 - 11,2	56,9	121
11015813	1 x 3 x 2,5	14	9,6 - 11,9	82,8	159
11015814	1 x 4 x 2,5	14	10,6 - 13,3	108,8	200
11015815	5 x 2,5	14	11,6 - 14,4	124,8	254
11015816	1 x 3 x 4	12	11,3 - 13,8	120,0	221
11015817	1 x 4 x 4	12	12,4 - 15,1	158,4	284
11015818	5 x 4	12	13,7 - 16,7	196,8	365

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 FIRE RES IOS 500

Instrumentation cable, fire resistant, halogen-free, XLPE/IS/OS/LS0H



Technical data

- Instrumentation cable acc. to DIN EN 50288-7
- **Temperature range**
  flexing -10°C to +90°C
  fixed installation -30°C to +90°C
- **Nominal voltage**
  U_{AC} 500 V
- **Test voltage**
  2000 V
- **Minimum bending radius**
  fixed 7,5 x cable Ø
- **Insulation resistance**
  > 5000 MΩxkm
- **Mutual capacitance**
  cable element: < 100 pF/m
- **Inductance**
  max. 1 mH/km
- **L/R (ratio)**
  < 40 µH/Ω

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl. 2 / IEC 60228 cl. 2
- Fire barrier: MICA tape
- Core insulation: XLPE acc. to EN 50290-2-29
- Cores stranded in pairs or triads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: BU, BK
  triads: BU, BK, RD
  blue cores with continuous black numbering
- Indiviudeal screen: pairs or triads indiv. screened with AL/PE tape over tinned copper drain wire (solid 0,6 mm)
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PET tape over tinned copper stranded drain wire (7x0,3 mm)
- Outer sheath: LS0H compound acc. to EN 50290-2-27
- Outer sheath colour: orange (RAL 2004)
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements have to be produced out of non-hygroscopic materials
- Resistant to hydrocarbons

Tests

- Fire resistant acc. to IEC 60331-21
- Flame retardant acc. to DIN VDE 482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-24 / DIN EN 60332-3-24 / IEC 60332-3-24 (Cat. C)
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Corrosivenes of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Smoke density acc. to DIN VDE 0482-1034-1 / DIN EN 61034-1 / IEC 61034-1
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57 / IEC 60811-404
- UV and sunlight resistant acc. to ISO 4892-3 & UL 1581 sect. 1200
- Suitable for usage in explosive atmospheres acc. to IEC 600079-14 sec. 16.2.2

Note

- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- Not suitable for direct burial
- Version suitable for installation on ships acc. to IEC 60092-350 on request

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks. In the case of fire, the cable maintains circuit integrity for min. 180 minutes.

CE = Product complies to the Low-Voltage Directive 2014/35/EU.

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11016566	2 x 2 x 1,5	16	14,9 - 18,0	73,1	206
11016567	4 x 2 x 1,5	16	17,9 - 21,5	141,2	340
11016568	6 x 2 x 1,5	16	21,6 - 26,0	209,1	534
11016569	8 x 2 x 1,5	16	24,5 - 29,5	277,1	669
11016570	10 x 2 x 1,5	16	28,3 - 34,0	345,2	798

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11016571	12 x 2 x 1,5	16	29,3 - 35,2	413,2	918
11016573	2 x 3 x 1,5	16	16,8 - 20,2	104,2	272
11016579	4 x 3 x 1,5	16	19,9 - 24,0	188,4	459

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 FIRE RES OSA 500

Instrumentation cable, fire resistant, halogen-free, XLPE/OS/SWA/LS0H



Technical data

- Instrumentation cable acc. to DIN EN 50288-7
- **Temperature range**
  flexing -10°C to +90°C
  fixed installation -30°C to +90°C
- **Nominal voltage**
  U_{AC} 500 V
- **Test voltage**
  2000 V
- **Minimum bending radius**
  fixed 10 x cable Ø
- **Insulation resistance**
  > 5000 MΩxkm
- **Mutual capacitance**
  cable element: < 100 pF/m
- **Inductance**
  max. 1 mH/km
- **L/R (ratio)**
  1,5 mm² < 40 µH/Ω
  ⩾ 2,5 mm² < 60 µH/Ω

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl. 2 / IEC 60228 cl. 2
- Fire barrier: MICA tape
- Core insulation: XLPE acc. to EN 50290-2-29
- Cores stranded in pairs or triads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: BU, BK
  triads: BU, BK, RD
  quads: BU, BK, GY, RD
  5 cores: BU, BN, BK, GY, RD
  blue cores with continuous black numbering
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PET tape over tinned copper stranded drain wire (7x0,3 mm)
- Inner sheath: LS0H compound acc. to EN 50290-2-27
- Armouring: single layer of galvanised round steel wires acc to. EN 10257-1
- Outer sheath: LS0H compound acc. to EN 50290-2-27
- Inner and outer sheath colour: orange (RAL 2004)
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements have to be produced out of non-hygroscopic materials
- Resistant to hydrocarbons

Tests

- Fire resistant acc. to IEC 60331-21
- Flame retardant acc. to DIN VDE 482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-24 / DIN EN 60332-3-24 / IEC 60332-3-24 (Cat. C)
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Corrosivenes of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Smoke density acc. to DIN VDE 0482-1034-1 / DIN EN 61034-1 / IEC 61034-1
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57 / IEC 60811-404
- UV and sunlight resistant acc. to ISO 4892-3 & UL 1581 sect. 1200
- Suitable for usage in explosive atmospheres acc. to IEC 600079-14 sec. 16.2.2

Note

- The conductor is metrically constructed (mm²). The AWG designatiaon is approximate and purely informative.
- Suitable for direct burial
- Version suitable for installation on ships acc. to IEC 60092-350 on request

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks. In the case of fire, the cable maintains circuit integrity for min. 180 minutes.

CE = Product complies to the Low-Voltage Directive 2014/35/EU.

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11016406	1 x 2 x 1,5	16	12,0 - 14,2	36,2	347
11016407	2 x 2 x 1,5	16	15,9 - 18,9	67,3	542
11016408	4 x 2 x 1,5	16	18,0 - 21,6	129,5	828
11016409	6 x 2 x 1,5	16	21,6 - 25,9	191,7	1107
11016410	8 x 2 x 1,5	16	23,8 - 28,6	253,9	1312
11016411	10 x 2 x 1,5	16	26,7 - 32,1	316,1	1535
11016412	12 x 2 x 1,5	16	27,5 - 33,1	378,3	1880
11016413	1 x 3 x 1,5	16	12,5 - 14,8	51,7	392
11016414	2 x 3 x 1,5	16	17,2 - 20,5	98,4	640

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11016415	4 x 3 x 1,5	16	20,3 - 24,3	177,6	1018
11015824	1 x 2 x 2,5	14	12,9 - 15,7	56,9	416
11015825	1 x 3 x 2,5	14	13,5 - 16,4	82,8	471
11015826	1 x 4 x 2,5	14	14,5 - 17,7	108,8	538
11015953	5 x 2,5	14	15,5 - 18,9	124,8	628
11015954	1 x 3 x 4	12	15,3 - 18,3	120,0	581
11015955	1 x 4 x 4	12	16,3 - 19,6	158,4	682
11015956	5 x 4	12	17,5 - 21,0	196,8	859

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 FIRE RES IOSA 500

Instrumentation cable, fire resistant, halogen-free, XLPE/IS/OS/LS0H/SWA/LS0H



Technical data

- Instrumentation cable acc. to DIN EN 50288-7
- **Temperature range**
  flexing -10°C to +90°C
  fixed installation -30°C to +90°C
- **Nominal voltage**
  U_{AC} 500 V
- **Test voltage**
  2000 V
- **Minimum bending radius**
  fixed 10 x cable Ø
- **Insulation resistance**
  > 5000 MΩxkm
- **Mutual capacitance**
  cable element: < 100 pF/m
- **Inductance**
  max. 1 mH/km
- **L/R (ratio)**
  < 40 µH/Ω

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl. 2 / IEC 60228 cl. 2
- Fire barrier: MICA tape
- Core insulation: XLPE acc. to EN 50290-2-29
- Cores stranded in pairs or triads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: BU, BK
  triads: BU, BK, RD
  blue cores with continuous black numbering
- Individual screen: pairs or traids indiv. screened with AL/PE tape over tinned copper drain wire (solid 0,6 mm)
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire (7x0,3 mm)
- Inner sheath: LS0H compound acc. to EN 50290-2-27
- Armouring: single layer of galvanised round steel wires acc to. EN 10257-1
- Outer sheath: LS0H compound acc. to EN 50290-2-27
- Inner and outer sheath colour: orange (RAL 2004)
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements have to be produced out of non-hygroscopic materials
- Resistant to hydrocarbons

Tests

- Fire resistant acc. to IEC 60331-21
- Flame retardant acc. to DIN VDE 482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-24 / DIN EN 60332-3-24 / IEC 60332-3-24 (Cat. C)
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Corrosivenes of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Smoke density acc. to DIN VDE 0482-1034-1 / DIN EN 61034-1 / IEC 61034-1
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57 / IEC 60811-404
- UV and sunlight resistant acc. to ISO 4892-3 & UL 1581 sect. 1200
- Suitable for usage in explosive atmospheres acc. to IEC 600079-14 sec. 16.2.2

Note

- The conductor is metrically constructed (mm²). The AWG designatiaon is approximate and purely informative.
- Suitable for direct burial
- Version suitable for installation on ships acc. to IEC 60092-350 on request

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks. In the case of fire, the cable maintains circuit integrity for min. 180 minutes.

CE = Product complies to the Low-Voltage Directive 2014/35/EU.

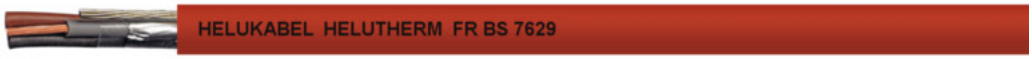
Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11016416	2 x 2 x 1,5	16	19,5 - 23,2	73,1	706
11016417	4 x 2 x 1,5	16	22,2 - 26,5	141,2	1002
11016418	6 x 2 x 1,5	16	26,0 - 31,0	209,1	1357
11016419	8 x 2 x 1,5	16	29,9 - 35,7	277,1	1702
11016420	10 x 2 x 1,5	16	33,7 - 40,2	345,2	2103

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø min. - max. mm	Copper weight kg / km	Weight app. kg / km
11016421	12 x 2 x 1,5	16	34,8 - 41,6	413,2	2279
11016428	2 x 3 x 1,5	16	21,2 - 25,3	104,2	897
11016429	4 x 3 x 1,5	16	24,3 - 29,0	188,4	1210

Dimensions and specifications may be changed without prior notice.

HELUTHERM® FR BS 7629

high temperature, halogen-free, fire resistant, LPCB certified



Technical data

- LS0H fire resistant cable acc. to BS7629-1:2008 BS EN50200 PH30/PH120 - BS6387 CWZ
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +80°C
  on conductor -40°C to +180°C
- **Nominal voltage**
  U_0/U 300/500V
- **Test voltage**
  2000V
- **Breakdown voltage**
  4000V
- **Insulation resistance**
  > 200 MOhm x km at +20°C
- **Minimum bending radius**
  8 x cable Ø

Cable structure

- Bare copper conductor to BS EN 60228
  1 to 2,5 qmm class 1
  from 4 qmm class 2
- Core insulation of silicon rubber mix
- Core identification acc. to DIN VDE 0293-308
  2 cores: BN & BU
  3 cores: BN, BK & GY
  4 cores: BU, BN, BK & GY
- Collective screening with aluminium / polyester tape. Metalic side facing down and in contact with the solid tinned copper drain wire
- LS0H outer sheath type LTS3
- Sheath colour red
- With meter marking

Properties

- LPCB certified to
  BS 7629-1:2008
  BS 6387:2013 (CWZ)
  BS 5839-1:2013 (Clause 26.2d Standard)
  EN 50200:2006 (Class PH30/PH120)
  EN 50200:2006 Annex E (30 mins)
- Halogen-free
- Extremely fire resistant
- Screen earthing through drain wire positioning
- UV resistant
- Oil resistant

Tests

- Cat. "C" from BS 6387
  3h at 950°C - only fire
- Cat. "W" from BS 6387
  15min. at 650°C - fire + water
- Cat. "Z" from BS 6387
  30min. at 950°C - fire + mech. shock
- Cat. PH120 from EN 50200
  60min. at 830°C - fire + mech. shock
- Cat. PH60 from EN 50200 ANNEX E
  30min. at 830°C - fire + mech. shock
  + 15min of fire + mech. shock & water
- Flame retardant acc. to IEC 60332-1-2
- Flame test on bunched wires acc. to IEC 60332-3-24
  (cat. C)
- Accid gas emission acc. to BS EN 50267-2-1 amd. 2
- Smoke density acc. to BS EN 61034-2

Application

Fire alarm cable for fire detection systems or emergency lighting systems in public buildings and offices where human safety is of primary concern or where expensive or sensitive equipment may be damaged by exposure to acid forming gases.

CE = Product complies to the Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km	Conductor type
11007300	2 x 1	7,8	28,0	67	solid
11007301	3 x 1	8,1	37,0	84	solid
11007302	4 x 1	8,7	46,0	101	solid
11007310	2 x 1,5	8,7	39,0	87	solid
11007311	3 x 1,5	9,1	52,0	114	solid
11007312	4 x 1,5	9,8	66,0	139	solid
11007320	2 x 2,5	9,8	65,0	131	solid
11007321	3 x 2,5	10,3	87,0	168	solid
11007322	4 x 2,5	11,2	109,0	211	solid

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km	Conductor type
11007358	2 x 1	8,0	28,0	69	class 2
11007359	3 x 1	8,4	37,0	87	class 2
11007360	4 x 1	9,1	47,0	109	class 2
11007368	2 x 1,5	9,0	41,0	96	class 2
11007369	3 x 1,5	9,5	55,0	121	class 2
11007370	4 x 1,5	10,2	69,0	147	class 2
11007378	2 x 2,5	10,3	68,0	138	class 2
11007379	3 x 2,5	10,8	90,0	176	class 2
11007380	4 x 2,5	11,8	113,0	222	class 2
11007388	2 x 4	11,3	108,0	192	class 2
11007389	3 x 4	11,9	145,0	247	class 2
11007390	4 x 4	13,0	181,0	304	class 2

Dimensions and specifications may be changed without prior notice.

Certificate LPCB



LPCB®

www.redbooklive.com

Certificate of Product Approval

Certificate Number: 568c-(cl-8) Issue: 01

HELUKABEL GmbH

Dieselstraße 8-12
71282 Hemmingen
Germany

is authorised to use the LPCB mark in association with the product(s) listed in this certificate and appendix having complied with the requirements of the standard(s) detailed below:

Product(s)

Cable Types as listed below:
HELUTHERM® FR BS 7629
See Certificate Appendix for details

Standard(s) (see Appendix for details)

BS 7629-1:2008
BS 6387:2013 (CWZ)
EN 50200:2006 (Class PH30/PH120)
EN 50200:2006 Annex E (30 mins)
BS 5839-1:2013 (Clause 26.2d Standard)

This Certificate is maintained and held in force through regular surveil
corresponding ISO 9001 Certificate being maintained.

Karen Coull
Certification Scheme Manager

20 February
Date of Issue

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LPCB®

Appendix to Certificate No: 568c-(cl-8) Issue: 01

HELUKABEL GmbH

Product name						LPCB Ref. No.
HELUTHERM® FR BS 7629						568c/02
Nominal csa of conductor (mm²)	Core Construction	BS 7629-1	BS 6387	EN 50200	EN 50200 Annex E	BS 5839-1 Clause 26.2
1.0[1]	2, 3 & 4	Complies[3]	C,W,Z	PH120	30min[4]	Standard[5]
1.5[1]	2, 3 & 4	Complies[3]	C,W,Z	PH120	30min[4]	Standard[5]
2.5[1]	2, 3 & 4	Complies[3]	C,W,Z	PH120	30min[4]	Standard[5]
4[1]	2, 3 & 4	Complies[3]	C,W,Z	PH120	30min[4]	Standard[5]

Uo/U 300/500 V

Notes:

1. Solid and Stranded conductors.
2. Stranded conductor only.
3. In meeting the requirements of BS 7629-1:2008, the HELUTHERM® FR BS 7629 cables listed met the requirements for smoke density of EN 61034-2: 2005, the fire resistance requirements in BS 6387:2013 Categories CWZ and achieved less than 0.5%HCl for the outer covering, binder tape & insulation when tested in accordance with EN 50267-2-1: 1999.
4. The duration of 30 min when tested in accordance with EN 50200: 2006 Annex E is achieved by 15 min for the fire and mechanical shock phase and an additional 15 min for the fire, mechanical shock and water phase.
5. The HELUTHERM® FR BS 7629 cables listed conform to BS 7629-1:2008, met Class PH120 when tested in accordance with EN 50200:2006 and met the 30min duration when tested in accordance with EN 50200:2006 Annex E and hence met the requirements for a standard fire resistant cable as described in Clause 26.2 of BS 5839-1:2013.

This Certificate is maintained and held in force through regular surveillance activities and subject to the corresponding ISO 9001 Certificate being maintained.

Karen Coull
Certification Scheme Manager

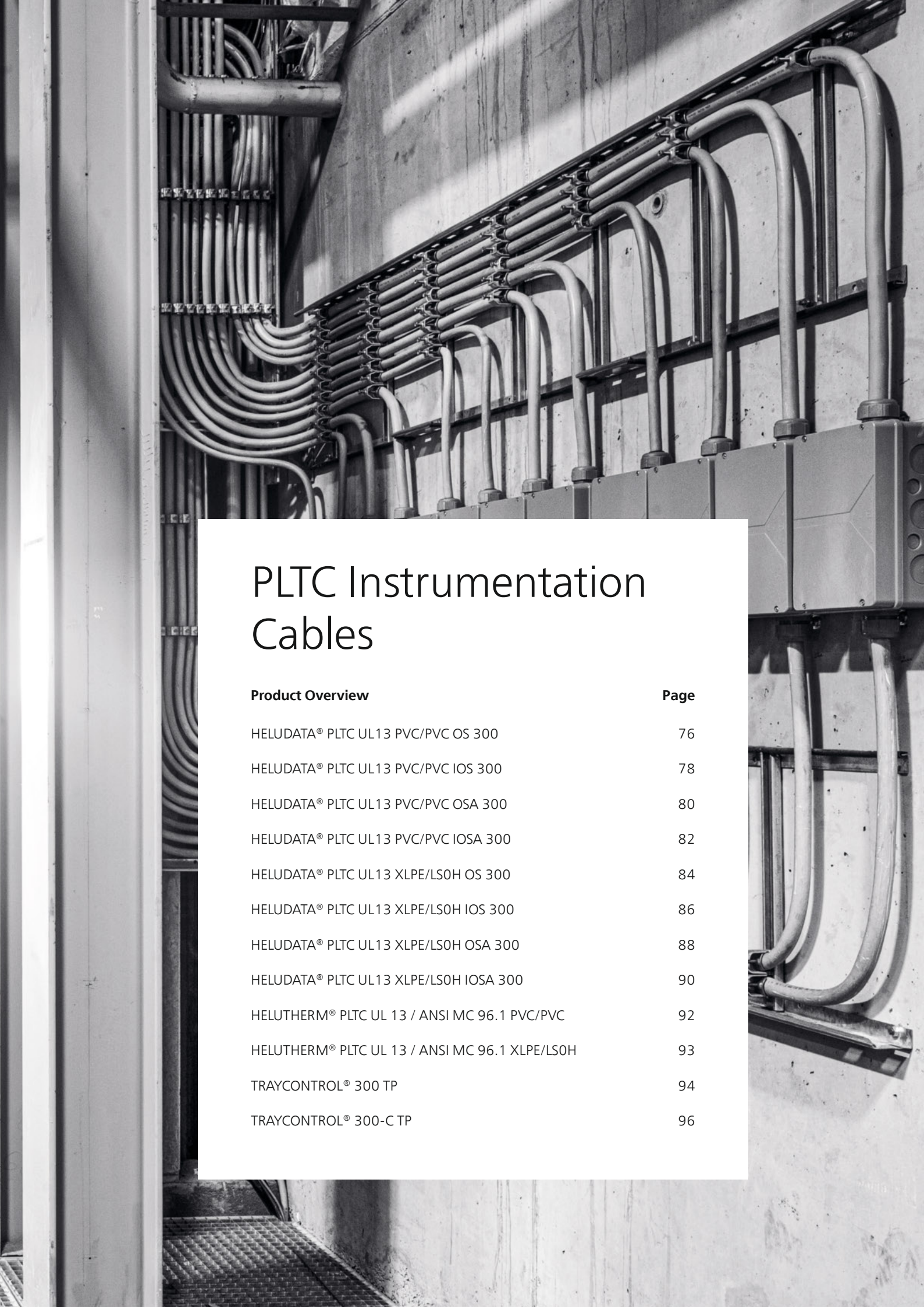
20 February 2018
Date of Issue

20 February 2018
Date of First Issue

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DN 125-14-10 PAM GLOBAL® S
DN 125-14-10 PAM GLOBAL® S
RAUCHABZUG
RAUCHABZUG



PLTC Instrumentation Cables

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TRAYCONTROL® 300-C TP	96

HELUDATA® PLTC UL13 PVC/PVC OS 300

Instrumentation cable, PVC/OS/PVC



Technical data

- Instrumentation cable acc. to UL 13 PLTC
- in compliance with NEC code, sec. 725 PLTC
- acc. to ASTM 1239
- in compliance with NEC article 336, for use in hazardous classified locations class I & II division 2 acc. to NEC 501
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +80°C
  permissible operating temperature of the conductor -30°C to +105°C
- **Nominal voltage**
  U 300 V
- **Test voltage**
  core/core 2000 V
  core/screen 2000 V
- **Minimum bending radius**
  8x outer Ø

Cable structure

- Class B stranded annealed bare copper per ASTM B3 and B8
- Core insulation: heat resistant PVC
- Cores stranded in pairs or triads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: white, black
  triads: white, black, red
  white cores with continuous black numbering
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper drain wire
- Outer sheath: PVC
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low Smoke Low Halogen (LSLH)
- Resistant to hydrocarbons
- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame test on bunched wires acc. to UL 1685 FT4 / IEEE 1202
- UV and sunlight resistant acc. to UL 1581 section 1200
- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2 and UL VW-1 / UL 1581 sec. 1060 (FT1)
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Limiting Oxygen Index (LOI) acc. to ISO 4589-2: min. 30%
- Smoke density acc. to DIN VDE 0482-1034-1 / DIN EN 61034-1 / IEC 61034-1
- Low amount of halogen acid gas acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1 (max. 1.3%)
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- Installation in hazardous areas acc. to IEC 60079-14 ANNEX E but only with the correct ATEX conform accessories.

Note

- Alternative denomination:
  RE-Y(St)Y
- Not suitable for direct burial
- We also offer cable glands
  HELUTOP® HT-MS-EX-d

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Continuation ▸

HELUDATA® PLTC UL13 PVC/PVC OS 300

Instrumentation cable, PVC/OS/PVC

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. AWG-no.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11014702	11015266	1 x 2 x 18	6,2	17,7	62,0
11014703	11015267	2 x 2 x 18	8,3	33,7	100,0
11014704	11015382	3 x 2 x 18	8,8	49,8	129,0
11014705	11015383	4 x 2 x 18	9,6	65,8	160,0
11014706	11015384	5 x 2 x 18	14,3	81,8	330,0
11014707	11015385	6 x 2 x 18	15,2	97,8	372,0
11014708	11015386	7 x 2 x 18	15,2	113,8	397,0
11014709	11015387	8 x 2 x 18	16,3	129,8	443,0
11014710	11015388	10 x 2 x 18	18,2	161,9	528,0
11014711	11015389	12 x 2 x 18	18,7	194,0	587,0
11014712	11015390	16 x 2 x 18	20,3	258,0	719,0
11014713	11015391	19 x 2 x 18	21,3	306,0	813,0
11018972	11018973	20 x 2 x 18	22,4	322,0	858,0
11014714	11015392	24 x 2 x 18	24,3	386,1	994,0
11014715	11015393	36 x 2 x 18	27,9	578,3	1397,0
11014716	11015394	1 x 3 x 18	6,5	25,7	76,0
11014722	11015395	2 x 3 x 18	9,6	49,7	134,0
11014723	11015396	3 x 3 x 18	14,0	73,8	314,0
11014838	11015402	4 x 3 x 18	15,0	97,8	369,0
11014839	11015403	6 x 3 x 18	17,2	145,8	484,0
11011233	11017141	8 x 3 x 18	18,5	194,0	585,0
11011234	11017142	12 x 3 x 18	21,5	290,0	790,0
11014840	11017143	16 x 3 x 18	23,5	386,1	979,0
11014841	11017000	1 x 2 x 16	6,8	27,1	77,0
11014842	11017001	2 x 2 x 16	9,2	52,5	130,0
11014843	11017002	3 x 2 x 16	13,6	77,9	303,0
11014844	11017003	4 x 2 x 16	14,5	103,3	356,0
11014845	11017004	5 x 2 x 16	15,5	128,6	411,0
11014846	11017005	6 x 2 x 16	16,6	154,0	468,0
11014847	11017006	7 x 2 x 16	16,6	179,4	505,0
11014848	11017007	8 x 2 x 16	17,9	204,8	565,0
11014849	11017008	10 x 2 x 16	20,1	255,6	679,0
11014850	11017009	12 x 2 x 16	20,6	306,4	763,0
11014851	11017010	16 x 2 x 16	22,5	407,9	947,0
11014852	11017011	19 x 2 x 16	23,6	484,1	1078,0
11018970	11018974	20 x 2 x 16	24,9	509,5	1139,0
11014858	11017012	24 x 2 x 16	27,6	611,1	1370,0
11014859	11017013	36 x 2 x 16	31,1	915,7	1885,0
11015246	11017014	1 x 3 x 16	7,1	39,8	98,0
11015247	11017020	2 x 3 x 16	14,6	77,9	320,0
11015248	11017021	3 x 3 x 16	15,2	116,0	388,0
11015249	11017136	4 x 3 x 16	16,3	154,0	464,0
11015250	11017137	6 x 3 x 16	18,8	230,2	620,0
11015251	11017138	8 x 3 x 16	20,4	306,4	760,0
11015252	11017139	12 x 3 x 16	23,8	458,7	1045,0
11015253	11017140	16 x 3 x 16	26,6	611,0	1351,0
11015254	11018971	1 x 2 x 14	8,0	42,4	107,0
11015255	11017144	2 x 2 x 14	14,9	83,0	332,0
11015256	11017145	3 x 2 x 14	15,5	123,7	404,0
11015257	11017146	5 x 2 x 14	17,9	205,0	565,0
11015258	11017147	1 x 3 x 14	8,4	62,7	140,0
11015259	11017148	2 x 3 x 14	16,8	123,7	426,0
11015260	11017149	3 x 3 x 14	17,6	184,7	530,0

Dimensions and specifications may be changed without prior notice.

HELUDATA® PLTC UL13 PVC/PVC IOS 300

Instrumentation cable, PVC/IS/OS/PVC



Technical data

- Instrumentation cable acc. to UL 13 PLTC
- in compliance with NEC code, sec. 725 PLTC
- acc. to ASTM 1239
- in compliance with NEC article 336, for use in hazardous classified locations class I & II division 2 acc. to NEC 501
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +80°C
  permissible operating temperature of the conductor -30°C to +105°C
- **Nominal voltage**
  U 300 V
- **Test voltage**
  core/core 2000 V
  core/screen 2000 V
- **Minimum bending radius**
  8x outer Ø

Cable structure

- Class B stranded annealed bare copper per ASTM B3 and B8
- Core insulation: heat resistant PVC
- Cores stranded in pairs or triads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: white, black
  triads: white,black, red
  white cores with continuous black numbering
- Cable elements are stranded in optimal lay length
- Individual screen: AL/PE tape over tinned copper drain wire
- Overall screen: AL/PE tape over tinned copper drain wire
- Outer sheath: PVC
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low Smoke Low Halogen (LSLH)
- Resistant to hydrocarbons
- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame test on bunched wires acc. to UL 1685 FT4 / IEEE 1202
- UV and sunlight resistant acc. to UL 1581 section 1200
- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2 and UL VW-1 / UL 1581 sec. 1060 (FT1)
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Limiting Oxygen Index (LOI) acc. to ISO 4589-2: min. 30%
- Smoke density acc. to DIN VDE 0482-1034-1 / DIN EN 61034-1 / IEC 61034-1
- Low amount of halogen acid gas acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1 (max. 1.3%)
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- Installation in hazardous areas acc. to IEC 60079-14 ANNEX E, but only using the correct ATEX conform accessories.

Note

- Alternative denomination:
  RE-Y(St)Y PimF
- Not suitable for direct burial
- We also offer cable glands
  HELUTOP® HT-MS-EX-d

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Continuation ▸

HELUDATA® PLTC UL13 PVC/PVC IOS 300

Instrumentation cable, PVC/IS/OS/PVC

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. AWG-no.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11017150	11011211	2 x 2 x 18	8,6	37,1	111,0
11017156	11011212	3 x 2 x 18	9,0	54,8	145,0
11017157	11011213	4 x 2 x 18	13,7	72,5	314,0
11011814	11011214	5 x 2 x 18	14,6	90,3	360,0
11011815	11011215	6 x 2 x 18	15,5	108,0	407,0
11018975	11011216	7 x 2 x 18	15,5	125,7	437,0
11011816	11011217	8 x 2 x 18	16,7	143,4	488,0
11011817	11011218	10 x 2 x 18	18,7	178,8	584,0
11011818	11011219	12 x 2 x 18	19,2	214,2	655,0
11011819	11011220	16 x 2 x 18	20,9	285,1	805,0
11011820	11011221	19 x 2 x 18	21,9	338,2	913,0
11011821	11011222	24 x 2 x 18	25,6	426,8	1161,0
11011822	11011223	36 x 2 x 18	28,8	639,3	1585,0
11011823	11011224	2 x 3 x 18	13,7	53,1	279,0
11011824	11011225	3 x 3 x 18	14,3	78,9	332,0
11011825	11011226	4 x 3 x 18	15,3	104,6	394,0
11011826	11011232	6 x 3 x 18	17,6	156,0	520,0
11011827	11011361	8 x 3 x 18	19,0	207,5	631,0
11011828	11011362	12 x 3 x 18	22,0	310,3	857,0
11011829	11011363	16 x 3 x 18	24,1	413,2	1067,0
11011830	11011364	2 x 2 x 16	9,5	55,9	141,0
11011836	11011365	3 x 2 x 16	13,8	83,0	321,0
11011837	11011366	4 x 2 x 16	14,8	110,0	381,0
11011838	11011367	5 x 2 x 16	15,8	137,1	441,0
11011965	11011368	6 x 2 x 16	16,9	164,2	503,0
11011966	11011369	7 x 2 x 16	16,9	191,3	545,0
11011967	11011370	8 x 2 x 16	18,3	218,4	611,0
11011968	11011371	10 x 2 x 16	20,6	272,6	735,0
11011969	11011372	12 x 2 x 16	21,1	326,7	831,0
11011970	11011373	16 x 2 x 16	23,1	435,1	1033,0
11011971	11011374	19 x 2 x 16	24,2	516,3	1179,0
11011972	11011375	24 x 2 x 16	28,4	651,8	1498,0
11011973	11011376	36 x 2 x 16	32,0	976,8	2074,0
11011974	11011377	2 x 3 x 16	14,8	81,3	336,0
11011975	11011383	3 x 3 x 16	15,5	121,1	409,0
11011976	11011384	4 x 3 x 16	16,7	160,8	492,0
11011977	11011385	6 x 3 x 16	19,3	240,4	660,0
11011978	11010654	8 x 3 x 16	20,9	319,9	813,0
11011979	11010655	12 x 3 x 16	24,4	479,1	1121,0
11011980	11010656	16 x 3 x 16	27,3	638,2	1451,0
11011981	11010657	2 x 2 x 14	15,1	84,6	348,0
11011987	11010658	3 x 2 x 14	15,8	128,8	425,0
11011988	11010659	5 x 2 x 14	18,3	213,5	598,0
11011989	11018818	2 x 3 x 14	17,0	127,1	442,0
11011210	11018819	3 x 3 x 14	17,9	189,7	553,0

Dimensions and specifications may be changed without prior notice.

HELUDATA® PLTC UL13 PVC/PVC OSA 300

Instrumentation cable, PVC/OS/PVC/SWA/PVC



Technical data

- Instrumentation cable acc. to UL 13 PLTC
- in compliance with NEC code, sec. 725 PLTC
- acc. to ASTM 1239
- in compliance with NEC article 336, for use in hazardous classified locations class I & II division 2 acc. to NEC 501
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +80°C
  permissible operating temperature of the conductor -30°C to +105°C
- **Nominal voltage**
  U 300 V
- **Test voltage**
  core/core 2000 V
  core/screen 2000 V
- **Minimum bending radius**
  14x outer Ø

Cable structure

- Class B stranded annealed bare copper per ASTM B3 and B8
- Core insulation: heat resistant PVC
- Cores stranded in pairs or triads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: white, black
  triads: white, black, red
  white cores with continuous black numbering
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper drain wire
- Inner sheath: PVC
- Inner sheath colour: like outer sheath
- Armouring: galvanized steel wire
- Outer sheath: PVC
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low Smoke Low Halogen (LSLH)
- Resistant to hydrocarbons
- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame test on bunched wires acc. to UL 1685 FT4 / IEEE 1202
- UV and sunlight resistant acc. to UL 1581 section 1200
- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2 and UL VW-1 / UL 1581 sec. 1060 (FT1)
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Limiting Oxygen Index (LOI) acc. to ISO 4589-2: min. 30%
- Smoke density acc. to DIN VDE 0482-1034-1 / DIN EN 61034-1 / IEC 61034-1
- Low amount of halogen acid gas acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1 (max. 1.3%)
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- Installation in hazardous areas acc. to IEC 60079-14 ANNEX E, but only using the correct ATEX conform accessories.

Note

- Alternative denomination:
  RE-Y(St)YRY
- Suitable for direct burial
- We also offer cable glands
  HELUTOP® HT-MS-EX-d / e4

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Continuation ▸

HELUDATA® PLTC UL13 PVC/PVC OSA 300

Instrumentation cable, PVC/OS/PVC/SWA/PVC

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. AWG-no.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11010660	11014264	1 x 2 x 18	13,5	17,7	347,0
11010661	11014265	2 x 2 x 18	15,9	33,7	470,0
11010662	11014266	3 x 2 x 18	16,4	49,7	514,0
11010663	11014267	4 x 2 x 18	17,2	65,8	571,0
11010664	11014268	5 x 2 x 18	18,6	81,8	662,0
11010665	11014269	6 x 2 x 18	19,5	97,8	726,0
11010666	11014270	7 x 2 x 18	19,5	113,8	751,0
11010667	11014271	8 x 2 x 18	20,6	129,8	823,0
11010668	11014272	10 x 2 x 18	23,2	161,9	1068,0
11010674	11014273	12 x 2 x 18	24,2	193,9	1185,0
11010675	11014274	16 x 2 x 18	26,4	258,0	1407,0
11010790	11014275	19 x 2 x 18	27,3	306,0	1529,0
11010791	11014276	24 x 2 x 18	31,0	386,1	1970,0
11010792	11014277	36 x 2 x 18	35,1	578,3	2562,0
11010793	11014283	1 x 3 x 18	13,8	25,7	372,0
11010794	11014284	2 x 3 x 18	17,3	49,7	548,0
11010795	11014285	3 x 3 x 18	18,3	73,8	640,0
11010796	11013506	4 x 3 x 18	19,3	97,8	718,0
11010797	11013507	6 x 3 x 18	21,5	145,8	883,0
11010798	11013508	8 x 3 x 18	23,5	193,9	1134,0
11010799	11013509	12 x 3 x 18	27,5	290,0	1514,0
11014125	11013510	16 x 3 x 18	30,2	386,1	1923,0
11010800	11013511	1 x 2 x 16	14,1	27,1	382,0
11010801	11013512	2 x 2 x 16	16,9	52,5	529,0
11010802	11013513	3 x 2 x 16	17,9	77,9	619,0
11010803	11013514	4 x 2 x 16	18,8	103,3	694,0
11010804	11013515	5 x 2 x 16	19,8	128,7	772,0
11010810	11013516	6 x 2 x 16	20,9	154,0	854,0
11010811	11013517	7 x 2 x 16	20,9	179,4	891,0
11014110	11013518	8 x 2 x 16	22,9	204,8	1095,0
11014111	11013519	10 x 2 x 16	26,1	255,6	1357,0
11014112	11013520	12 x 2 x 16	26,7	306,4	1461,0
11014113	11013521	16 x 2 x 16	29,3	407,9	1855,0
11014114	11013522	19 x 2 x 16	30,3	484,1	2026,0
11014115	11013528	24 x 2 x 16	34,8	611,0	2523,0
11014116	11013529	36 x 2 x 16	39,1	915,7	3417,0
11014117	11013530	1 x 3 x 16	14,5	39,8	415,0
11014118	11013657	2 x 3 x 16	18,9	77,9	660,0
11014119	11013658	3 x 3 x 16	19,5	116,0	743,0
11014120	11013659	4 x 3 x 16	20,7	154,0	845,0
11014121	11013660	6 x 3 x 16	24,4	230,2	1221,0
11014122	11013661	8 x 3 x 16	26,5	306,4	1451,0
11014123	11013662	12 x 3 x 16	30,5	458,7	2001,0
11014124	11013663	16 x 3 x 16	33,4	611,0	2416,0
11014126	11018969	1 x 2 x 14	15,6	42,4	464,0
11014132	11013664	2 x 2 x 14	19,2	83,0	679,0
11014133	11013665	3 x 2 x 14	19,9	123,7	766,0
11014134	11013666	5 x 2 x 14	23,0	205,0	1098,0
11014261	11013667	1 x 3 x 14	16,0	62,7	512,0
11014262	11013668	2 x 3 x 14	21,1	123,7	816,0
11014263	11013669	3 x 3 x 14	22,6	184,7	1052,0

Dimensions and specifications may be changed without prior notice.

HELUDATA® PLTC UL13 PVC/PVC IOSA 300

Instrumentation cable, PVC/IS/OS/PVC/SWA/PVC



Technical data

- Instrumentation cable acc. to UL 13 PLTC
- in compliance with NEC code, sec. 725 PLTC
- acc. to ASTM 1239
- in compliance with NEC article 336, for use in hazardous classified locations class I & II division 2 acc. to NEC 501
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +80°C
  permissible operating temperature of the conductor -30°C to +105°C
- **Nominal voltage**
  U 300 V
- **Test voltage**
  core/core 2000 V
  core/screen 2000 V
- **Minimum bending radius**
  14x outer Ø

Cable structure

- Class B stranded annealed bare copper per ASTM B3 and B8
- Core insulation: heat resistant PVC
- Cores stranded in pairs or triads
- Cores twisted together in cable elements in optimal lay length
- Core indentification
  pairs: white, black
  triads: white, black, red
  white cores with continuous black numbering
- Cable elements are stranded in optimal lay length
- Indiviudeal screen: AL/PE tape over tinned copper drain wire
- Overall screen: AL/PE tape over tinned copper drain wire
- Inner sheath: PVC
- Inner sheath colour: like outer sheath
- Armouring: galvanized steel wire
- Outer sheath: PVC
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low Smoke Low Halogen (LSLH)
- Resistant to hydrocarbons
- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame test on bunched wires acc. to UL 1685 FT4 / IEEE 1202
- UV and sunlight resistant acc. to UL 1581 section 1200
- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2 and UL VW-1 / UL 1581 sec. 1060 (FT1)
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Limiting Oxygen Index (LOI) acc. to ISO 4589-2: min. 30%
- Smoke density acc. to DIN VDE 0482-1034-1 / DIN EN 61034-1 / IEC 61034-1
- Low amount of halogen acid gas acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1 (max. 1.3%)
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- Installation in hazardous areas acc. to IEC 60079-14 ANNEX E, but only using the correct ATEX conform accessories.

Note

- Alternative denomination:
  RE-Y(St)YRY PimF
- Suitable for direct burial
- We also offer cable glands
  HELUTOP® HT-MS-EX-d / e4

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Continuation ▸

HELUDATA® PLTC UL13 PVC/PVC IOSA 300

Instrumentation cable, PVC/IS/OS/PVC/SWA/PVC

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. AWG-no.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11013670	11012410	2 x 2 x 18	16,2	37,1	490,0
11013671	11012411	3 x 2 x 18	16,7	54,8	539,0
11013672	11012412	4 x 2 x 18	18,0	72,5	634,0
11013673	11012413	5 x 2 x 18	18,9	90,3	701,0
11013679	11012414	6 x 2 x 18	19,9	108,0	770,0
11013680	11012415	7 x 2 x 18	19,9	125,7	800,0
11013681	11012416	8 x 2 x 18	21,0	143,4	879,0
11012950	11012417	10 x 2 x 18	24,2	178,8	1183,0
11012951	11012418	12 x 2 x 18	24,8	214,2	1268,0
11012952	11012419	16 x 2 x 18	27,0	285,1	1514,0
11012953	11012420	19 x 2 x 18	27,9	338,2	1652,0
11012954	11012426	24 x 2 x 18	32,3	426,8	2187,0
11012955	11012427	36 x 2 x 18	36,8	639,3	3009,0
11012956	11012542	2 x 3 x 18	18,1	53,1	600,0
11012957	11012543	3 x 3 x 18	18,7	78,9	668,0
11012958	11012544	4 x 3 x 18	19,7	104,6	751,0
11012959	11012545	6 x 3 x 18	22,6	156,0	1042,0
11012960	11012546	8 x 3 x 18	24,5	207,5	1238,0
11012961	11012547	12 x 3 x 18	28,8	310,3	1748,0
11012962	11012548	16 x 3 x 18	30,9	413,2	2037,0
11012963	11012549	2 x 2 x 16	17,1	55,9	549,0
11012964	11012550	3 x 2 x 16	18,2	83,0	646,0
11012970	11012551	4 x 2 x 16	19,1	110,0	726,0
11012971	11012552	5 x 2 x 16	20,2	137,1	811,0
11013086	11012553	6 x 2 x 16	21,3	164,2	898,0
11013087	11012554	7 x 2 x 16	21,3	191,3	939,0
11013088	11012555	8 x 2 x 16	23,3	218,4	1153,0
11013089	11012556	10 x 2 x 16	26,6	272,6	1431,0
11013090	11012562	12 x 2 x 16	27,2	326,7	1544,0
11013091	11012563	16 x 2 x 16	29,9	435,1	1965,0
11013092	11015957	19 x 2 x 16	31,0	516,3	2153,0
11013093	11015958	24 x 2 x 16	36,4	651,8	2902,0
11013094	11015959	36 x 2 x 16	40,0	976,8	3648,0
11013095	11015960	2 x 3 x 16	19,2	81,3	683,0
11013096	11015961	3 x 3 x 16	19,9	121,0	772,0
11013097	11015962	4 x 3 x 16	21,0	160,8	881,0
11013098	11015963	6 x 3 x 16	24,8	240,4	1276,0
11013099	11015964	8 x 3 x 16	27,0	319,9	1519,0
11013100	11015965	12 x 3 x 16	31,1	479,1	2101,0
11013106	11015966	16 x 3 x 16	34,0	638,2	2543,0
11013107	11015967	2 x 2 x 14	19,4	86,4	700,0
11012406	11015968	3 x 2 x 14	20,1	128,8	793,0
11012407	11015969	5 x 2 x 14	23,3	213,5	1141,0
11012408	11015975	2 x 3 x 14	21,4	127,1	840,0
11012409	11015976	3 x 3 x 14	22,9	189,7	1086,0

Dimensions and specifications may be changed without prior notice.

HELUDATA® PLTC UL13 XLPE/LS0H OS 300

Instrumentation cable, XLPE/OS/LS0H



Technical data

- Instrumentation cable acc. to UL 13 PLTC
- in compliance with NEC code, sec. 725 PLTC
- acc. to ASTM 1239
- in compliance with NEC article 336, for use in hazardous classified locations class I & II division 2 acc. to NEC 501
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +75°C
  permissible operating temperature of the conductor -30°C to +90°C
- **Nominal voltage**
  U 300 V
- **Test voltage**
  core/core 2000 V
  core/screen 2000 V
- **Minimum bending radius**
  8x outer Ø

Cable structure

- Class B stranded annealed bare copper per ASTM B3 and B8
- Core insulation: XLPE
- Cores stranded in pairs or triads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: white, black
  triads: white, black, red
  white cores with continuous black numbering
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper drain wire
- Outer sheath: LS0H
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low Smoke Zero Halogen (LS0H)
- Resistant to hydrocarbons
- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame test on bunched wires acc. to UL 1685 FT4 / IEEE 1202
- UV and sunlight resistant acc. to UL 1581 section 1200
- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2 and UL VW-1 / UL 1581 sec. 1060 (FT1)
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Limiting Oxygen Index (LOI) acc. to ISO 4589-2: min. 30%
- Smoke density acc. to DIN VDE 0482-1034-1 / DIN EN 61034-1 / IEC 61034-1
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1 (max. 0.5%)
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- Installation in hazardous areas acc. to IEC 60079-14 ANNEX E, but only using the correct ATEX conform accessories.

Note

- Alternative denomination:
  RE-2X(St)H
- Not suitable for direct burial
- We also offer cable glands
  HELUTOP® HT-MS-EX-d

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Continuation ▸

HELUDATA® PLTC UL13 XLPE/LS0H OS 300

Instrumentation cable, XLPE/OS/LS0H

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. AWG-no.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11018400	11018451	1 x 2 x 18	6,2	17,7	56,0
11018401	11018452	2 x 2 x 18	8,7	33,7	95,0
11018402	11018453	3 x 2 x 18	9,2	49,7	120,0
11018403	11018454	4 x 2 x 18	13,9	65,8	274,0
11018404	11018455	5 x 2 x 18	14,8	81,8	312,0
11018405	11018456	6 x 2 x 18	15,8	97,8	351,0
11018406	11018457	7 x 2 x 18	15,8	113,8	374,0
11018407	11018458	8 x 2 x 18	17,0	129,8	417,0
11018408	11018459	10 x 2 x 18	19,0	161,9	496,0
11018409	11018460	12 x 2 x 18	19,5	193,9	550,0
11018410	11018461	16 x 2 x 18	21,3	258,0	671,0
11018411	11018462	19 x 2 x 18	22,2	306,0	756,0
11018412	11018463	24 x 2 x 18	26,0	386,1	960,0
11018413	11018464	36 x 2 x 18	29,3	578,3	1294,0
11018414	11018465	1 x 3 x 18	6,5	25,7	69,0
11018415	11018466	2 x 3 x 18	9,6	49,7	123,0
11018416	11018467	3 x 3 x 18	14,0	73,8	288,0
11018417	11018468	4 x 3 x 18	15,0	97,8	338,0
11018418	11018469	6 x 3 x 18	17,2	145,8	442,0
11018419	11018498	8 x 3 x 18	18,5	193,9	535,0
11018420	11018499	12 x 3 x 18	21,5	290,0	719,0
11018421	11015977	16 x 3 x 18	23,5	386,1	890,0
11018422	11018470	1 x 2 x 16	6,8	27,1	72,0
11018423	11018471	2 x 2 x 16	13,5	52,5	244,0
11018424	11018472	3 x 2 x 16	14,1	77,9	288,0
11018425	11018473	4 x 2 x 16	15,1	103,3	339,0
11018426	11018474	5 x 2 x 16	16,1	128,6	391,0
11018427	11018475	6 x 2 x 16	17,2	154,0	443,0
11018428	11018476	7 x 2 x 16	17,2	179,4	477,0
11018429	11018477	8 x 2 x 16	18,6	204,8	535,0
11018430	11018478	10 x 2 x 16	21,0	255,6	642,0
11018431	11018479	12 x 2 x 16	21,6	306,4	721,0
11018432	11018480	16 x 2 x 16	23,6	407,9	890,0
11018433	11018481	19 x 2 x 16	24,7	484,1	1012,0
11018434	11018482	24 x 2 x 16	29,0	611,0	1286,0
11018435	11018483	36 x 2 x 16	32,7	915,7	1763,0
11018436	11018484	1 x 3 x 16	7,1	39,8	91,0
11018437	11018485	2 x 3 x 16	14,6	77,9	297,0
11018438	11018486	3 x 3 x 16	15,2	116,0	359,0
11018439	11018487	4 x 3 x 16	16,3	154,0	429,0
11018440	11018488	6 x 3 x 16	18,8	230,2	572,0
11018441	11018489	8 x 3 x 16	20,4	306,4	701,0
11018442	11018490	12 x 3 x 16	23,8	458,7	963,0
11018443	11018491	16 x 3 x 16	26,6	611,0	1244,0
11018444	11018492	1 x 2 x 14	7,6	42,4	95,0
11018445	11018493	2 x 2 x 14	14,8	83,0	303,0
11018446	11018494	3 x 2 x 14	15,4	123,7	365,0
11018447	11018495	5 x 2 x 14	17,8	205,0	509,0
11018448	11018399	1 x 3 x 14	8,0	62,7	123,0
11018449	11018496	2 x 3 x 14	16,0	123,7	375,0
11018450	11018497	3 x 3 x 14	16,8	184,7	466,0

Dimensions and specifications may be changed without prior notice.

HELUDATA® PLTC UL13 XLPE/LS0H IOS 300

Instrumentation cable, XLPE/IS/OS/LS0H



Technical data

- Instrumentation cable acc. to UL 13 PLTC
- in compliance with NEC code, sec. 725 PLTC
- acc. to ASTM 1239
- in compliance with NEC article 336, for use in hazardous classified locations class I & II division 2 acc. to NEC 501
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +75°C
  permissible operating temperature of the conductor -30°C to +90°C
- **Nominal voltage**
  U 300 V
- **Test voltage**
  core/core 2000 V
  core/screen 2000 V
- **Minimum bending radius**
  8x outer Ø

Cable structure

- Class B stranded annealed bare copper per ASTM B3 and B8
- Core insulation: XLPE
- Cores stranded in pairs or triads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: white, black
  triads: white, black, red
  white cores with continuous black numbering
- Cable elements are stranded in optimal lay length
- Indiviudeal screen: AL/PE foil over tinned copper drain wire
- Overall screen: AL/PE tape over tinned copper drain wire
- Outer sheath: LS0H
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low Smoke Zero Halogen (LS0H)
- Resistant to hydrocarbons
- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame test on bunched wires acc. to UL 1685 FT4 / IEEE 1202
- UV and sunlight resistant acc. to UL 1581 section 1200
- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2 and UL VW-1 / UL 1581 sec. 1060 (FT1)
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Limiting Oxygen Index (LOI) acc. to ISO 4589-2: min. 30%
- Smoke density acc. to DIN VDE 0482-1034-1 / DIN EN 61034-1 / IEC 61034-1
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1 (max. 0.5%)
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- Installation in hazardous areas acc. to IEC 60079-14 ANNEX E, but only using the correct ATEX conform accessories.

Note

- Alternative denomination:
  RE-2X(St)H PimF
- Not suitable for direct burial
- We also offer cable glands
  HELUTOP® HT-MS-EX-d

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Continuation ▸

HELUDATA® PLTC UL13 XLPE/LS0H IOS 300

Instrumentation cable, XLPE/IS/OS/LS0H

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. AWG-no.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11018570	11018525	2 x 2 x 18	9,0	37,1	106,0
11018571	11018526	3 x 2 x 18	9,5	54,8	136,0
11018572	11018527	4 x 2 x 18	14,2	72,5	298,0
11018573	11018528	5 x 2 x 18	15,1	90,3	341,0
11018574	11018529	6 x 2 x 18	16,1	108,0	386,0
11018575	11018530	7 x 2 x 18	16,1	125,7	414,0
11018576	11018531	8 x 2 x 18	17,4	143,4	462,0
11018577	11018532	10 x 2 x 18	19,5	178,8	552,0
11018578	11018533	12 x 2 x 18	20,1	214,2	616,0
11018579	11018534	16 x 2 x 18	21,9	285,1	757,0
11018580	11018535	19 x 2 x 18	22,9	338,2	857,0
11018581	11018976	20 x 2 x 18	24,2	355,9	905,0
11018582	11018536	24 x 2 x 18	26,8	426,8	1089,0
11018583	11018537	36 x 2 x 18	30,2	639,3	1482,0
11018584	11018538	2 x 3 x 18	13,7	53,1	257,0
11018585	11018539	3 x 3 x 18	14,3	78,9	307,0
11018586	11018540	4 x 3 x 18	15,3	104,6	362,0
11018395	11018541	6 x 3 x 18	17,6	156,0	479,0
11018396	11018542	8 x 3 x 18	19,0	207,5	580,0
11018397	11018543	12 x 3 x 18	22,0	310,3	787,0
11018398	11018544	16 x 3 x 18	24,1	413,2	977,0
11018500	11018545	2 x 2 x 16	13,8	55,9	259,0
11018501	11018546	3 x 2 x 16	14,4	83,0	307,0
11018502	11018547	4 x 2 x 16	15,4	110,0	363,0
11018503	11018548	5 x 2 x 16	16,5	137,1	420,0
11018504	11018549	6 x 2 x 16	17,6	164,2	479,0
11018505	11018550	7 x 2 x 16	17,6	191,3	517,0
11018506	11018551	8 x 2 x 16	19,1	218,4	580,0
11018507	11018552	10 x 2 x 16	21,5	272,6	697,0
11018508	11018553	12 x 2 x 16	22,1	326,7	787,0
11018509	11018554	16 x 2 x 16	24,2	435,1	977,0
11018510	11018555	19 x 2 x 16	25,9	516,3	1150,0
11018511	11018556	24 x 2 x 16	29,8	651,8	1414,0
11018512	11018557	36 x 2 x 16	33,6	976,8	1950,0
11018513	11018558	2 x 3 x 16	14,8	81,3	312,0
11018514	11018559	3 x 3 x 16	15,5	121,0	380,0
11018515	11018560	4 x 3 x 16	16,7	160,8	455,0
11018516	11018561	6 x 3 x 16	19,3	240,4	612,0
11018517	11018562	8 x 3 x 16	20,9	319,9	752,0
11018518	11018563	12 x 3 x 16	24,4	479,1	1037,0
11018519	11018564	16 x 3 x 16	27,3	638,2	1343,0
11018520	11018565	2 x 2 x 14	15,0	86,4	317,0
11018521	11018566	3 x 2 x 14	15,7	128,8	386,0
11018522	11018567	5 x 2 x 14	18,2	213,5	542,0
11018523	11018568	2 x 3 x 14	16,3	127,1	391,0
11018524	11018569	3 x 3 x 14	17,1	189,7	487,0

Dimensions and specifications may be changed without prior notice.

HELUDATA® PLTC UL13 XLPE/LS0H OSA 300

Instrumentation cable, XLPE/OS/LS0H/SWA/LS0H



Technical data

- Instrumentation cable acc. to UL 13 PLTC
- in compliance with NEC code, sec. 725 PLTC
- acc. to ASTM 1239
- in compliance with NEC article 336, for use in hazardous classified locations class I & II division 2 acc. to NEC 501
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +75°C
  permissible operating temperature of the conductor -30°C to +90°C
- **Nominal voltage**
  U 300 V
- **Test voltage**
  core/core 2000 V
  core/screen 2000 V
- **Minimum bending radius**
  14x outer Ø

Cable structure

- Class B stranded annealed bare copper per ASTM B3 and B8
- Core insulation: XLPE
- Cores stranded in pairs or triads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: white, black
  triads: white, black, red
  white cores with continuous black numbering
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper drain wire
- Inner sheath: LS0H
- Innersheath colour: like outer sheath
- Armouring: galvanized steel wire
- Outer sheath: LS0H
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low Smoke Zero Halogen (LS0H)
- Resistant to hydrocarbons
- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame test on bunched wires acc. to UL 1685 FT4 / IEEE 1202
- UV and sunlight resistant acc. to UL 1581 section 1200
- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2 and UL VW-1 / UL 1581 sec. 1060 (FT1)
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Limiting Oxygen Index (LOI) acc. to ISO 4589-2: min. 30%
- Smoke density acc. to DIN VDE 0482-1034-1 / DIN EN 61034-1 / IEC 61034-1
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1 (max. 0.5%)
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- Installation in hazardous areas acc. to IEC 60079-14 ANNEX E, but only using the correct ATEX conform accessories.

Note

- Alternative denomination:
  RE-2X(St)HRH
- Suitable for direct burial
- We also offer cable glands
  HELUTOP® HT-MS-EX-d / e4

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Continuation ▸

HELUDATA® PLTC UL13 XLPE/LS0H OSA 300

Instrumentation cable, XLPE/OS/LS0H/SWA/LS0H

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. AWG-no.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11018600	11018651	1 x 2 x 18	13,5	17,7	330,0
11018601	11018652	2 x 2 x 18	16,3	33,7	460,0
11018602	11018653	3 x 2 x 18	16,8	49,7	503,0
11018603	11018654	4 x 2 x 18	18,2	65,8	587,0
11018604	11018655	5 x 2 x 18	19,1	81,8	647,0
11018605	11018656	6 x 2 x 18	20,1	97,8	707,0
11018606	11018657	7 x 2 x 18	20,1	113,8	730,0
11018607	11018658	8 x 2 x 18	21,3	129,8	800,0
11018608	11018659	10 x 2 x 18	24,5	161,9	1087,0
11018609	11018660	12 x 2 x 18	25,6	193,9	1192,0
11018610	11018661	16 x 2 x 18	27,3	258,0	1368,0
11018611	11018662	19 x 2 x 18	29,0	306,0	1631,0
11018612	11018663	24 x 2 x 18	32,7	386,1	1978,0
11018613	11018664	36 x 2 x 18	37,3	578,3	2707,0
11018614	11018665	1 x 3 x 18	13,8	25,7	352,0
11018615	11018666	2 x 3 x 18	17,3	49,7	518,0
11018616	11018667	3 x 3 x 18	18,3	73,8	605,0
11018617	11018668	4 x 3 x 18	19,3	97,8	677,0
11018618	11018669	6 x 3 x 18	21,5	145,8	831,0
11018619	11018670	8 x 3 x 18	23,5	193,9	1069,0
11018620	11018587	12 x 3 x 18	27,5	290,0	1423,0
11018621	11018588	16 x 3 x 18	30,2	386,1	1812,0
11018900	11018622	1 x 2 x 16	14,1	27,1	363,0
11018901	11018623	2 x 2 x 16	17,8	52,5	550,0
11018902	11018624	3 x 2 x 16	18,4	77,9	606,0
11018903	11018625	4 x 2 x 16	19,4	103,3	679,0
11018904	11018626	5 x 2 x 16	20,4	128,6	755,0
11018905	11018627	6 x 2 x 16	21,5	154,0	833,0
11018906	11018628	7 x 2 x 16	21,5	179,4	867,0
11018907	11018629	8 x 2 x 16	24,1	204,8	1113,0
11018908	11018630	10 x 2 x 16	27,0	255,6	1330,0
11018909	11018631	12 x 2 x 16	27,6	306,4	1427,0
11018910	11018632	16 x 2 x 16	30,3	407,9	1816,0
11018911	11018633	19 x 2 x 16	31,4	484,1	1980,0
11018977	11018634	20 x 2 x 16	33,3	509,5	2146,0
11018912	11018635	24 x 2 x 16	37,0	611,0	2685,0
11018913	11018636	36 x 2 x 16	40,7	915,7	3334,0
11018914	11018637	1 x 3 x 16	14,5	39,8	394,0
11018915	11018638	2 x 3 x 16	18,9	77,9	626,0
11018916	11018639	3 x 3 x 16	19,5	116,0	703,0
11018917	11018640	4 x 3 x 16	20,7	154,0	799,0
11018918	11018641	6 x 3 x 16	24,4	230,2	1157,0
11018919	11018642	8 x 3 x 16	26,5	306,4	1372,0
11018920	11018643	12 x 3 x 16	30,5	458,7	1896,0
11018599	11018961	16 x 3 x 16	33,4	611,0	2284,0
11018644	11018962	1 x 2 x 14	15,2	42,4	424,0
11018645	11018963	2 x 2 x 14	19,1	83,0	636,0
11018646	11018964	3 x 2 x 14	19,8	123,7	715,0
11018647	11018965	5 x 2 x 14	22,8	205,0	1025,0
11018648	11018966	1 x 3 x 14	15,6	62,7	465,0
11018649	11018967	2 x 3 x 14	20,3	123,7	737,0
11018650	11018968	3 x 3 x 14	21,1	184,7	846,0

Dimensions and specifications may be changed without prior notice.

HELUDATA® PLTC UL13 XLPE/LS0H IOSA 300

Instrumentation cable, XLPE/IS/OS/LS0H/SWA/LS0H



Technical data

- Instrumentation cable acc. to UL 13 PLTC
- in compliance with NEC code, sec. 725 PLTC
- acc. to. ASTM D1239
- in compliance with NEC article 336, for use in hazardous classified locations class I & II division 2 acc. to NEC 501
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +75°C
  permissible operating temperature of the conductor -30°C to +90°C
- **Nominal voltage**
  U 300 V
- **Test voltage**
  core/core 2000 V
  core/screen 2000 V
- **Minimum bending radius**
  14x outer Ø

Cable structure

- Class B stranded annealed bare copper per ASTM B3 and B8
- Core insulation: XLPE
- Cores stranded in pairs or triads
- Cores twisted together in cable elements in optimal lay length
- Core identification
  pairs: white, black
  triads: white, black, red
  white cores with continuous black numbering
- Cable elements are stranded in optimal lay length
- Individual screen: AL/PE tape over tinned copper drain wire
- Overall screen: AL/PE tape over tinned copper drain wire
- Inner sheath: LS0H
- Inner sheath colour: like outer sheath
- Armouring: galvanized steel wire
- Outer sheath: LS0H
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low Smoke Zero Halogen (LS0H)
- Resistant to hydrocarbons
- Low level of line attenuations and low mutual capacitances enable long transmission distances
- Cable elements are produced of non-hygroscopic materials

Tests

- Flame test on bunched wires acc. to UL 1685 FT4 / IEEE 1202
- UV and sunlight resistant acc. to UL 1581 section 1200
- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2 and UL VW-1 / UL 1581 sec. 1060 (FT1)
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
- Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Limiting Oxygen Index (LOI) acc. to ISO 4589-2: min. 30%
- Smoke density acc. to DIN VDE 0482-1034-1 / DIN EN 61034-1 / IEC 61034-1
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1 (max. 0.5%)
- Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
- Installation in hazardous areas acc. to IEC 60079-14 ANNEX E, but only using the correct ATEX conform accessories.

Note

- Alternative denomination:
  RE-2X(St)HRH PimF
- Suitable for direct burial
- We also offer cable glands
  HELUTOP® HT-MS-EX-d / e4

Application

For the transmission of digital and analog signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Continuation ▸

HELUDATA® PLTC UL13 XLPE/LS0H IOSA 300

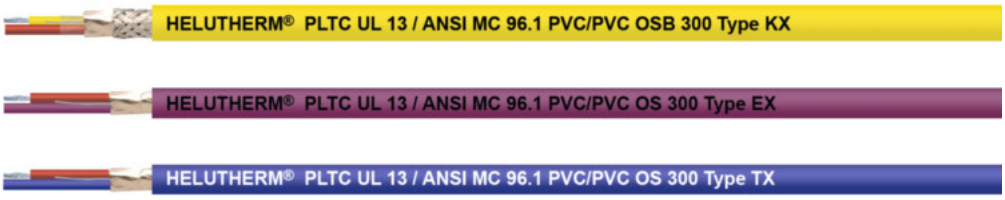
Instrumentation cable, XLPE/IS/OS/LS0H/SWA/LS0H

Part no. Sheath colour BK	Sheath colour BU	No.pairs x cross-sec. AWG-no.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11018870	11018820	2 x 2 x 18	16,6	37,1	481,0
11018871	11018821	3 x 2 x 18	17,1	54,8	528,0
11018872	11018822	4 x 2 x 18	18,5	72,5	619,0
11018873	11018823	5 x 2 x 18	19,5	90,3	684,0
11018874	11018824	6 x 2 x 18	20,5	108,0	752,0
11018875	11018825	7 x 2 x 18	20,5	125,7	780,0
11018876	11018826	8 x 2 x 18	22,4	143,4	966,0
11018877	11018827	10 x 2 x 18	25,6	178,8	1196,0
11018878	11018828	12 x 2 x 18	26,1	214,2	1277,0
11018879	11018829	16 x 2 x 18	28,0	285,1	1475,0
11018880	11018830	19 x 2 x 18	29,7	338,2	1759,0
11018881	11018831	24 x 2 x 18	33,6	426,8	2138,0
11018882	11018832	36 x 2 x 18	38,3	639,3	2939,0
11018883	11018833	2 x 3 x 18	18,1	53,1	569,0
11018884	11018834	3 x 3 x 18	18,7	78,9	631,0
11018885	11018835	4 x 3 x 18	19,7	104,6	710,0
11018886	11018836	6 x 3 x 18	22,6	156,0	988,0
11018887	11018837	8 x 3 x 18	24,5	207,5	1170,0
11018888	11018838	12 x 3 x 18	28,8	310,3	1656,0
11018889	11018839	16 x 3 x 18	30,9	413,2	1925,0
11018850	11018840	2 x 2 x 16	18,1	55,9	570,0
11018851	11018841	3 x 2 x 16	18,7	83,0	633,0
11018852	11018842	4 x 2 x 16	19,7	110,0	711,0
11018853	11018843	5 x 2 x 16	20,8	137,1	793,0
11018854	11018844	6 x 2 x 16	22,7	164,2	989,0
11018855	11018845	7 x 2 x 16	22,7	191,3	1029,0
11018856	11018846	8 x 2 x 16	24,6	218,4	1173,0
11018857	11018847	10 x 2 x 16	27,6	272,6	1404,0
11018858	11018848	12 x 2 x 16	28,9	326,7	1659,0
11018859	11018849	16 x 2 x 16	31,0	435,1	1927,0
11018860	11018890	19 x 2 x 16	32,7	516,3	2164,0
11018861	11018891	24 x 2 x 16	37,8	651,8	2852,0
11018862	11018892	36 x 2 x 16	41,7	976,8	3567,0
11018863	11018893	2 x 3 x 16	19,2	81,3	649,0
11018864	11018894	3 x 3 x 16	19,9	121,0	732,0
11018865	11018895	4 x 3 x 16	21,0	160,8	834,0
11018866	11018896	6 x 3 x 16	24,8	240,4	1211,0
11018867	11018897	8 x 3 x 16	27,0	319,9	1440,0
11018868	11018898	12 x 3 x 16	31,1	479,1	1994,0
11018869	11018899	16 x 3 x 16	34,0	638,2	2409,0
11018589	11018594	2 x 2 x 14	19,4	86,4	658,0
11018590	11018595	3 x 2 x 14	20,1	128,8	743,0
11018591	11018596	5 x 2 x 14	23,2	213,5	1069,0
11018592	11018597	2 x 3 x 14	20,6	127,1	760,0
11018593	11018598	3 x 3 x 14	21,4	189,7	875,0

Dimensions and specifications may be changed without prior notice.

HELUTHERM® PLTC UL 13 / ANSI MC 96.1 PVC/PVC

Thermocouple extension cable



Technical data

- PVC thermocouple extension cable acc. to PLTC UL13 & ANSI MC 96.1 and ASTM D 1239
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +105°C
- **Nominal voltage**
  U_{AC} 300 V
- **Test voltage**
  2000 V
- **Insulation resistance**
  > 25 MOhm x km @ +20°C
- **Minimum bending radius**
  fixed 8 x cable Ø

Cable structure

- Special solid alloys acc. to ANSI MC 96.1
- Type K/KX = NiCr(+) / Cu-Ni(-)
  Core coding: red, yellow
- Type J/JX = Fe(+) / Cu-Ni(-)
  Core coding: red, white
- Type T/TX = Cu(+) / Cu-Ni(-)
  Core coding: red, blue
- Type E/EX = NiCr (+) / Cu-Ni(-)
  Core coding: violet, red
- Core insulation: PVC
- Core coding acc. to ANSI MC 96.1
- Overall screen: AL/PE tape over tinned copper drain wire
- Outer sheath: PVC
- Outer sheath colour acc. to ANSI MC 96.1

Properties

- Low Smoke Low Halogen (LSLH)
- Installation in classified areas acc. to NEC 725 PLTC section 501 Cl. 1 Div. 2 & Cl. 2 Div. 2

Tests

- Flame test on bunched wires acc. to UL 1685
- UV resistant acc. to UL 1581 section 1200
- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to IEC 60332-3-24 (Cat. C) & IEC 60332-3-22 (Cat. A)
- Acidity (ph value) and conductivity acc. to DIN EN 60754-2 / IEC 60754-2
- ISO 4589-2: 2017
  Limiting Oxygen Index (LOI) (min. 30%)
- Smoke density acc. to DIN VDE 482-1034-1 / DIN EN 61034-1 / IEC 61034-1
- Low amount of halogen acid gas acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC60754-1 (max. 1.3%)
- Hydrocarbon resistant acc. to IRAM IAP

Application

Thermocouple extension cables are used for measurement of temperatures.
CE = Product complies to the Low-Voltage Directive 2014/35/EU.

Part no.	Description	Thermocouple type	Armour	No.pairs x cross-sec. AWG	Outer sheath colour	Outer Ø app. mm	Weight app. kg / km
17001401	PVC/PVC OS 300 Type KX	K	no	1 x 2 x 18	YE	5,9	58
17001391	PVC/PVC OS 300 Type JX	J	no	1 x 2 x 18	BK	5,9	58
17001392	PVC/PVC OS 300 Type EX	E	no	1 x 2 x 18	VT	5,9	58
17001393	PVC/PVC OS 300 Type TX	T	no	1 x 2 x 18	BU	5,9	58
17001402	PVC/PVC OSB 300 Type KX	K	galvanised steel wire braid	1 x 2 x 18	YE	8,8	179
17001403	PVC/PVC OSA 300 Type KX	K	galvanised steel wire armour	1 x 2 x 18	YE	9,0	211
17001601	PVC/PVC OS 300 Type KX	K	no	1 x 2 x 16	YE	6,4	73
17001604	PVC/PVC OS 300 Type JX	J	no	1 x 2 x 16	BK	6,4	73
17001605	PVC/PVC OS 300 Type EX	E	no	1 x 2 x 16	VT	6,4	73
17001606	PVC/PVC OS 300 Type TX	T	no	1 x 2 x 16	BU	6,4	73
17001602	PVC/PVC OSB 300 Type KX	K	galvanised steel wire braid	1 x 2 x 16	YE	9,3	202
17001603	PVC/PVC OSA 300 Type KX	K	galvanised steel wire armour	1 x 2 x 16	YE	13,7	375

Dimensions and specifications may be changed without prior notice.

HELUTHERM® PLTC UL 13 / ANSI MC 96.1 XLPE/LS0H

Thermocouple extension cable, halogen-free



Technical data

- LS0H thermocouple extension cable acc. to PLTC UL13 & ANSI MC 96.1 and ASTM D 1239
- **Temperature range**
  flexing -5°C to +50°C
  fixed installation -30°C to +90°C
- **Nominal voltage**
  U_{AC} 300 V
- **Test voltage**
  2000 V
- **Insulation resistance**
  > 5000 MOhm x km @ +20°C
- **Minimum bending radius**
  fixed 8 x cable Ø

Cable structure

- Special solid alloys acc. to ANSI MC 96.1
- Type K/KX = NiCr(+) / Cu-Ni(-)
  Core coding: red, yellow
- Type J/JX = Fe(+) / Cu-Ni(-)
  Core coding: red, white
- Type T/TX = Cu(+) / Cu-Ni(-)
  Core coding: red, blue
- Type E/EX = NiCr (+) / Cu-Ni(-)
  Core coding: violet, red
- Core insulation: XLPE
- Core coding acc. to ANSI MC 96.1
- Overall screen: AL/PE tape over tinned copper drain wire
- Outer sheath: LS0H
- Outer sheath colour acc. to ANSI MC 96.1

Properties

- Low Smoke Zero Halogen (LS0H)
- Installation in classified areas acc. to NEC 725 PLTC section 501 Cl. 1 Div. 2 & Cl. 2 Div. 2

Tests

- Flame test on bunched wires acc. to UL 1685
- UV and sunlight resistant acc. to UL 1581 section 1200
- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to IEC 60332-3-24 (Cat. C) & IEC 60332-3-22 (Cat. A)
- Acidity (ph value) and conductivity acc. to DIN EN 60754-2 / IEC 60754-2
- ISO 4589-2: 2017
  Limiting Oxygen Index (LOI) (min. 37%)
- Low smoke conformity acc. to DIN VDE 0482-1034-1 / DIN EN 61034-1 / IEC 61034-1
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1 (max. 0.5%)
- Hydrocarbon resistant acc. to IRAM IAP

Application

Thermocouple extension cables are used for measurement of temperatures.
CE = Product complies to the Low-Voltage Directive 2014/35/EU.

Part no.	Description	Thermocouple type	Armour	No.pairs x cross-sec. AWG	Outer sheath colour	Outer Ø app. mm	Weight app. kg / km
17001400	XLPE/LSOH OS 300 Type KX	K	no	1 x 2 x 18	YE	5,8	59
17001607	XLPE/LSOH OS 300 Type JX	J	no	1 x 2 x 18	BK	5,8	59
17001608	XLPE/LSOH OS 300 Type EX	E	no	1 x 2 x 18	VT	5,8	59
17001609	XLPE/LSOH OS 300 Type TX	T	no	1 x 2 x 18	BU	5,8	59
17001610	XLPE/LSOH OSB 300 Type KX	K	galvanised steel wire braid	1 x 2 x 18	YE	8,9	165
17001611	XLPE/LSOH OSA 300 Type KX	K	galvanised steel wire armour	1 x 2 x 16	YE	9,5	199
17001600	XLPE/LSOH OS 300 Type KX	K	no	1 x 2 x 16	YE	6,3	77
17001612	XLPE/LSOH OS 300 Type JX	J	no	1 x 2 x 16	BK	6,3	77
17001613	XLPE/LSOH OS 300 Type EX	E	no	1 x 2 x 16	VT	6,3	77
17001614	XLPE/LSOH OS 300 Type TX	T	no	1 x 2 x 16	BU	6,3	77
17001615	XLPE/LSOH OSB 300 Type KX	K	galvanised steel wire braid	1 x 2 x 16	YE	9,4	185
17001616	XLPE/LSOH OSA 300 Type KX	K	galvanised steel wire armour	1 x 2 x 16	YE	13,8	349

Dimensions and specifications may be changed without prior notice.

TRAYCONTROL® 300 TP

twisted pair, flexible, oil resistant, NFPA 79



Technical data

- Flexible PVC data and control cable
- **Temperature range**
  -25°C to +105°C
- **Nominal voltage**
  300 V
- **Test voltage**
  2000 V
- **Minimum bending radius**
  flexing 6x cable Ø
- **Radiation resistance**
  up to 80x10⁶ cJ/kg (up to 80 Mrad)

Cable structure

- Tinned copper conductor, fine wire with AWG dimensions
- Core insulation of special PVC (AWG 22 - AWG 18 with transparent nylon skin)
- Core identification (pair) acc. to international colour code
- Cores stranded in pairs with optimal lay length
- Pairs stranded in layers with optimal lay length
- Separator
- Outer sheath of special PVC
- Sheath colour: grey (RAL 7001)
- With length marking in feet

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Self-extinguishing and flame retardant acc. to CSA FT4
- **UL (AWG 22 - AWG 18)**:
  PLTC-ER, ITC-ER, Type CM, NFPA 79, OIL RES I & II, Class I Div. 2, NEC Art. 501, 725, 760 & 800, AWM 2517
- **UL (AWG 24 - AWG 26)**:
  CM, AWM 2517, rated OIL RES I & II, NEC Art. 725, 760 & 800, NFPA 79
- **CSA**:
  CSA CMG FT4, AWM I/II A/B FT4

Note

Advantages

- Highly flexible, easy to install
- Oil resistant to OIL RES I & II

Available on request

- PUR or TPE outer sheath
- Sheath colour to suit customer requirement

Application

HELUKABEL® TRAYCONTROL® 300 TP is a twisteded pair data and control cable. Cross-sections with PLTC-ER and ITC-ER approval for open, unprotected installation in cable trays to the machine; their outstanding oil resistance (OIL RES I & II) makes them ideally suited as connecting and joining cables and also for control, signal and measuring systems in industrial plants. The flexible cable structure facilitates installation inside and outside of machines and switch cabinets. Applications: tool machines, control panels, measuring devices, production automation, cable ducts, renewable energies.
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	Cross-section mm²	No.pairs x No.cores x AWG-no.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
62794	0,154	1 x 2 x 26	4,0	3,0	20,0
62795	0,154	2 x 2 x 26	5,2	5,0	24,0
62796	0,154	3 x 2 x 26	5,5	8,0	30,0
62797	0,154	4 x 2 x 26	5,9	11,0	38,0
62798	0,154	5 x 2 x 26	6,4	14,0	44,0
62799	0,154	6 x 2 x 26	6,9	16,0	51,0
62800	0,154	7 x 2 x 26	6,9	19,0	57,0
61928	0,154	8 x 2 x 26	7,6	22,0	64,0
61929	0,154	10 x 2 x 26	8,7	27,0	76,0
61930	0,154	12 x 2 x 26	9,0	33,0	93,0
61931	0,154	14 x 2 x 26	9,4	38,0	103,0
61932	0,154	15 x 2 x 26	10,4	41,0	109,0
61933	0,154	16 x 2 x 26	10,4	43,0	112,0
61934	0,154	18 x 2 x 26	11,0	49,0	119,0
61935	0,154	20 x 2 x 26	11,4	54,0	130,0
61936	0,154	22 x 2 x 26	11,9	59,0	150,0
61937	0,154	24 x 2 x 26	12,5	65,0	169,0
61938	0,154	25 x 2 x 26	12,5	67,0	178,0

Part no.	Cross-section mm²	No.pairs x No.cores x AWG-no.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
61939	0,241	1 x 2 x 24	4,3	5,0	32,0
61940	0,241	2 x 2 x 24	5,7	10,0	36,0
61941	0,241	3 x 2 x 24	6,0	15,0	48,0
61942	0,241	4 x 2 x 24	6,5	20,0	56,0
61943	0,241	5 x 2 x 24	7,0	25,0	71,0
61944	0,241	6 x 2 x 24	7,8	29,0	80,0
61945	0,241	7 x 2 x 24	7,8	34,0	89,0
61946	0,241	8 x 2 x 24	8,4	39,0	98,0
61947	0,241	10 x 2 x 24	9,7	49,0	111,0
61948	0,241	12 x 2 x 24	10,6	59,0	135,0
61949	0,241	14 x 2 x 24	11,0	69,0	160,0
61950	0,241	15 x 2 x 24	11,6	74,0	171,0
61951	0,241	16 x 2 x 24	11,6	79,0	185,0
61952	0,241	18 x 2 x 24	12,2	89,0	209,0
61953	0,241	20 x 2 x 24	12,8	98,0	230,0
61954	0,241	22 x 2 x 24	13,3	109,0	248,0
61955	0,241	24 x 2 x 24	14,0	118,0	279,0
61956	0,241	25 x 2 x 24	14,0	124,0	292,0

Continuation ▸

TRAYCONTROL® 300 TP

twisted pair, flexible, oil resistant, NFPA 79

Part no.	Cross-section mm²	No.pairs x No.cores x AWG-no.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
61957	0,382	1 x 2 x 22	6,5	7,0	38,0
61958	0,382	2 x 2 x 22	8,8	13,0	44,0
61959	0,382	3 x 2 x 22	9,2	20,0	60,0
61960	0,382	4 x 2 x 22	10,0	29,0	79,0
61961	0,382	5 x 2 x 22	10,9	33,0	92,0
61962	0,382	6 x 2 x 22	11,8	39,0	119,0
61963	0,382	7 x 2 x 22	11,8	46,0	128,0
61964	0,382	8 x 2 x 22	12,7	52,0	139,0
61965	0,382	10 x 2 x 22	15,6	65,0	171,0
61966	0,382	12 x 2 x 22	16,1	78,0	194,0
61967	0,382	14 x 2 x 22	16,9	92,0	222,0
61968	0,382	15 x 2 x 22	17,8	98,0	231,0
61969	0,382	16 x 2 x 22	17,8	105,0	240,0
61970	0,382	18 x 2 x 22	18,6	118,0	264,0
61971	0,382	20 x 2 x 22	19,6	131,0	291,0
61972	0,382	22 x 2 x 22	20,5	144,0	300,0
61973	0,382	24 x 2 x 22	22,7	157,0	359,0
61974	0,382	25 x 2 x 22	22,7	163,0	381,0
61975	0,616	1 x 2 x 20	6,9	11,0	60,0
61976	0,616	2 x 2 x 20	9,6	22,0	80,0
61977	0,616	3 x 2 x 20	10,1	32,0	94,0
61978	0,616	4 x 2 x 20	10,9	43,0	104,0
61979	0,616	5 x 2 x 20	11,9	54,0	130,0
61980	0,616	6 x 2 x 20	12,9	65,0	151,0
61981	0,616	7 x 2 x 20	12,9	75,0	174,0
61982	0,616	8 x 2 x 20	14,8	86,0	262,0
61983	0,616	10 x 2 x 20	15,9	108,0	298,0
61984	0,616	12 x 2 x 20	17,7	129,0	302,0
61985	0,616	14 x 2 x 20	18,5	151,0	327,0
61986	0,616	15 x 2 x 20	19,5	161,0	370,0
61987	0,616	16 x 2 x 20	19,5	172,0	402,0
61988	0,616	18 x 2 x 20	20,5	194,0	480,0
61989	0,616	20 x 2 x 20	22,0	215,0	551,0
61990	0,616	22 x 2 x 20	23,1	237,0	621,0
61991	0,616	24 x 2 x 20	24,4	258,0	703,0
61992	0,616	25 x 2 x 20	24,4	269,0	721,0
61993	0,963	1 x 2 x 18	7,4	18,0	61,0
61994	0,963	2 x 2 x 18	10,3	36,0	77,0
61995	0,963	3 x 2 x 18	10,8	54,0	103,0
61996	0,963	6 x 2 x 18	14,9	107,0	216,0
61997	0,963	9 x 2 x 18	17,2	162,0	328,0
61998	0,963	15 x 2 x 18	21,3	271,0	542,0

Dimensions and specifications may be changed without prior notice. (RN02)

TRAYCONTROL® 300-C TP

twisted pair, flexible, screened, oil resistant, EMC-preferred type, NFPA 79



Technical data

- Flexible screened PVC data and control cable
- **Temperature range** -25°C to +105°C
- **Nominal voltage** 300 V
- **Test voltage** 2000 V
- **Minimum bending radius** flexing 6x cable Ø
- **Coupling resistance** max. 250 Ohm/km
- **Radiation resistance** up to 80x10⁶ cJ/kg (up to 80 Mrad)

Cable structure

- Tinned copper conductor, fine wire with AWG dimensions
- Core insulation of special PVC (AWG 22 - AWG 18 with transparent nylon skin)
- Core identification (pair) acc. to international colour code
- Cores stranded in pairs with optimal lay length
- Pairs stranded in layers with optimal lay length
- 1. Screening with special aluminium foil
- Drain wire
- 2. Tinned copper braided screen, approx. 85% coverage
- Separator
- Outer sheath of special PVC
- Sheath colour: grey (RAL 7001)
- With length marking in feet

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Self-extinguishing and flame retardant acc. to CSA FT4
- **UL (AWG 22 - AWG 18)**: PLTC-ER, ITC-ER, CM, NFPA 79, OIL RES I & II, Class I Div. 2, NEC Art. 501, 725, 760 & 800, AWM 2517
- **UL (AWG 24 - AWG 26)**: CM, AWM 2517, rated OIL RES I & II, NEC Art. 725, 760 & 800, NFPA 79
- **CSA**: CSA CMG FT4, AWM I/II A/B FT4

Note

Advantages

- Highly flexible, easy to install
- Oil resistant to OIL RES I & II

Available on request

- PUR or TPE outer sheath
- Sheath colour to suit customer requirement

Application

HELUKABEL® TRAYCONTROL® 300-C TP is a screened, twisted pair data and control cable. Cross-sections with PLTC-ER and ITC-ER approval suitable for open, unprotected installation in cable trays to the machine; their outstanding oil resistance (OIL RES I & II) makes them ideally suited as connecting and joining cables and also for control, signal and measuring systems in industrial plants. The flexible cable structure facilitates installation inside and outside of machines and switch cabinets. The double-screening with aluminium foil (100% coverage) and copper braid (approx. 85% coverage) guarantee superior EMC protection. Applications: tool machines, control panels, measuring devices, production automation, cable ducts, renewable energies.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	Cross-section mm²	No.pairs x No.cores x AWG-no.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
61999	0,154	1 x 2 x 26	4,4	16,0	32,0
59760	0,154	2 x 2 x 26	5,6	20,0	39,0
59761	0,154	3 x 2 x 26	5,9	24,0	47,0
59762	0,154	4 x 2 x 26	6,3	27,0	55,0
59763	0,154	5 x 2 x 26	6,8	31,0	68,0
59764	0,154	6 x 2 x 26	7,5	50,0	86,0
59765	0,154	7 x 2 x 26	7,5	52,0	92,0
59766	0,154	8 x 2 x 26	8,0	54,0	97,0
59767	0,154	10 x 2 x 26	9,1	60,0	111,0
59768	0,154	12 x 2 x 26	9,4	67,0	141,0
59769	0,154	14 x 2 x 26	10,4	75,0	150,0
59770	0,154	15 x 2 x 26	10,8	77,0	154,0
59771	0,154	16 x 2 x 26	10,8	80,0	155,0
59772	0,154	18 x 2 x 26	11,3	84,0	170,0
59773	0,154	20 x 2 x 26	11,8	98,0	183,0
59774	0,154	22 x 2 x 26	12,3	104,0	207,0
59775	0,154	24 x 2 x 26	13,0	112,0	228,0
59776	0,154	25 x 2 x 26	13,0	114,0	239,0

Part no.	Cross-section mm²	No.pairs x No.cores x AWG-no.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
59777	0,241	1 x 2 x 24	4,6	16,0	46,0
59778	0,241	2 x 2 x 24	6,2	27,0	53,0
59779	0,241	3 x 2 x 24	6,5	32,0	65,0
59780	0,241	4 x 2 x 24	7,2	37,0	79,0
59781	0,241	5 x 2 x 24	7,8	55,0	98,0
59782	0,241	6 x 2 x 24	8,3	66,0	114,0
59783	0,241	7 x 2 x 24	8,3	60,0	121,0
59784	0,241	8 x 2 x 24	8,9	74,0	129,0
59785	0,241	10 x 2 x 24	10,8	109,0	152,0
59786	0,241	12 x 2 x 24	11,0	116,0	189,0
59787	0,241	14 x 2 x 24	11,5	121,0	213,0
59788	0,241	15 x 2 x 24	12,1	132,0	225,0
59789	0,241	16 x 2 x 24	12,1	142,0	227,0
59790	0,241	18 x 2 x 24	12,6	147,0	238,0
59791	0,241	20 x 2 x 24	13,2	161,0	270,0
59792	0,241	22 x 2 x 24	13,8	171,0	300,0
59793	0,241	24 x 2 x 24	14,5	230,0	321,0
59794	0,241	25 x 2 x 24	14,5	231,0	340,0

Continuation ▶

TRAYCONTROL® 300-C TP

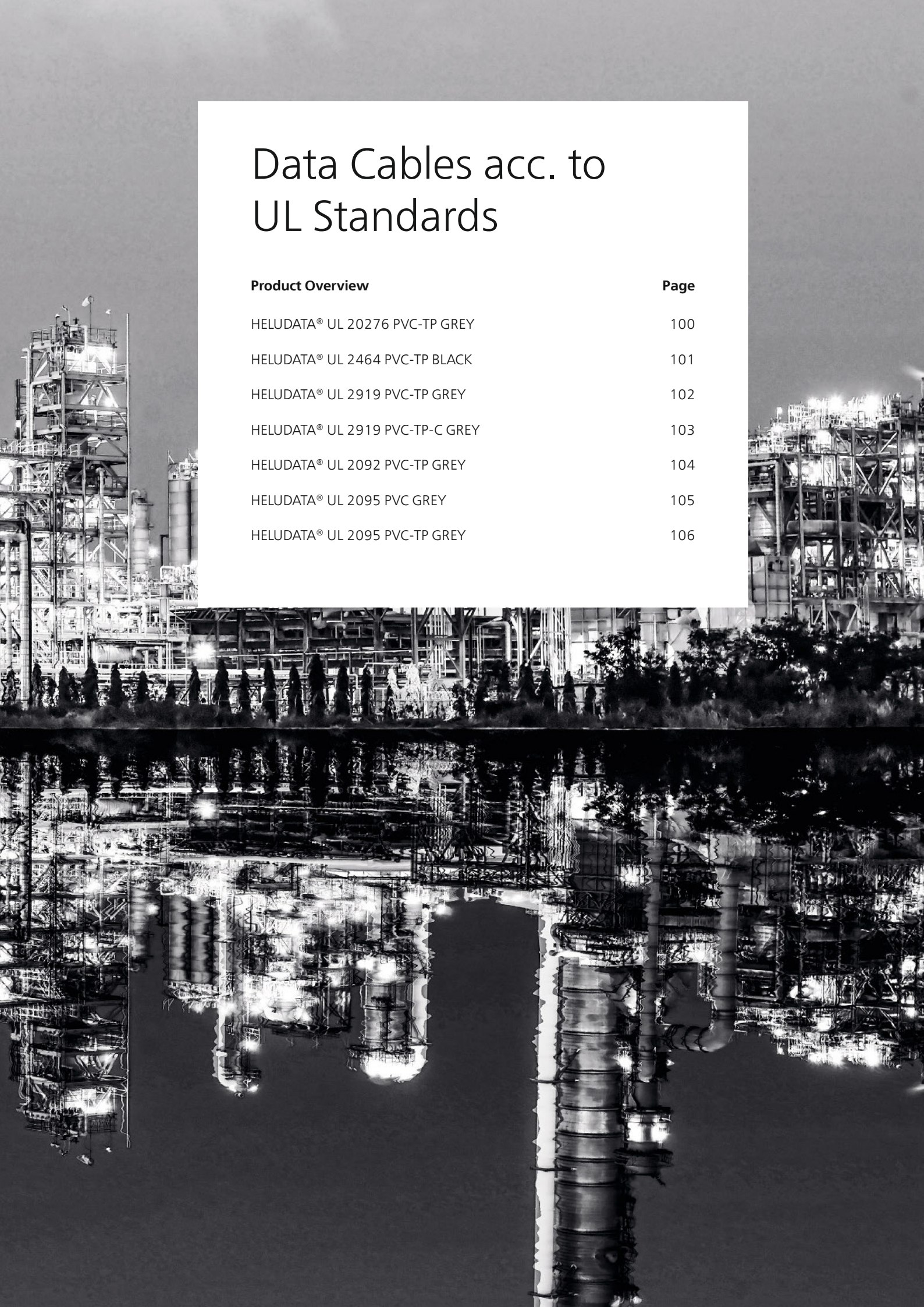
twisted pair, flexible, screened, oil resistant, EMC-preferred type, NFPA 79

Part no.	Cross-section mm²	No.pairs x No.cores x AWG-no.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
59795	0,382	1 x 2 x 22	6,9	17,0	58,0
59796	0,382	2 x 2 x 22	9,3	37,0	65,0
59797	0,382	3 x 2 x 22	9,7	45,0	79,0
59798	0,382	4 x 2 x 22	10,5	54,0	88,0
59799	0,382	5 x 2 x 22	11,4	63,0	110,0
59800	0,382	6 x 2 x 22	12,3	73,0	126,0
59801	0,382	7 x 2 x 22	12,3	79,0	140,0
59802	0,382	8 x 2 x 22	13,2	88,0	148,0
59803	0,382	10 x 2 x 22	15,9	107,0	184,0
59804	0,382	12 x 2 x 22	16,6	122,0	210,0
59805	0,382	14 x 2 x 22	17,4	138,0	241,0
59806	0,382	15 x 2 x 22	18,2	154,0	245,0
59807	0,382	16 x 2 x 22	18,2	161,0	251,0
59808	0,382	18 x 2 x 22	19,1	198,0	275,0
59809	0,382	20 x 2 x 22	20,1	211,0	300,0
59810	0,382	22 x 2 x 22	21,0	218,0	320,0
59811	0,382	24 x 2 x 22	23,1	230,0	371,0
59812	0,382	25 x 2 x 22	23,1	239,0	402,0
59813	0,616	1 x 2 x 20	7,4	26,0	70,0
59814	0,616	2 x 2 x 20	10,0	56,0	89,0
59815	0,616	3 x 2 x 20	10,5	72,0	102,0
59816	0,616	4 x 2 x 20	11,4	92,0	119,0
59817	0,616	5 x 2 x 20	12,4	107,0	140,0
59818	0,616	6 x 2 x 20	13,4	122,0	162,0
59819	0,616	7 x 2 x 20	13,4	132,0	198,0
59820	0,616	8 x 2 x 20	15,3	144,0	272,0
59821	0,616	10 x 2 x 20	16,4	180,0	307,0
59822	0,616	12 x 2 x 20	18,3	202,0	318,0
59823	0,616	14 x 2 x 20	19,2	221,0	342,0
59824	0,616	15 x 2 x 20	20,1	232,0	381,0
59825	0,616	16 x 2 x 20	20,1	257,0	417,0
59826	0,616	18 x 2 x 20	21,2	282,0	494,0
59827	0,616	20 x 2 x 20	22,7	307,0	570,0
59828	0,616	22 x 2 x 20	23,8	322,0	643,0
59829	0,616	24 x 2 x 20	25,0	342,0	724,0
59830	0,616	25 x 2 x 20	25,0	361,0	740,0
59831	0,963	1 x 2 x 18	7,8	28,0	104,0
59832	0,963	2 x 2 x 18	10,8	57,0	121,0
59833	0,963	3 x 2 x 18	11,3	75,0	150,0
59834	0,963	6 x 2 x 18	15,4	139,0	328,0
59835	0,963	9 x 2 x 18	17,9	212,0	490,0
59836	0,963	15 x 2 x 18	21,9	358,0	811,0

Dimensions and specifications may be changed without prior notice. (RN02)



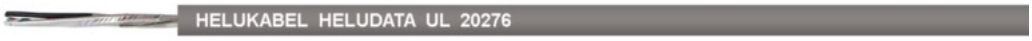
Data Cables acc. to UL Standards



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HELUDATA® UL 20276 PVC-TP GREY

high density PE cores, pairs individually foiled, PVC outer sheath



Technical data

- Data cable approved to UL style 20276
- **Temperature range**
  fixed installation -20°C to +60°C
- **Nominal voltage**
  30 V
- **Test voltage**
  500 V
- **Insulation resistance**
  min. 5 GOhm x km
- **Minimum bending radius**
  flexing 20 x cable Ø
  fixed 15 x cable Ø

Cable structure

- Tinned annealed copper wires class 2
- Core insulation PE
- Core indentification:
  1P = BK & RD
  2P = GN & WH
- Cores twisted together in pairs with 100 % aluminium foiling
- Tinned copper drain wire
- Outer sheath: PVC
- Outer sheath colour: mouse grey (RAL 7005)

Properties

- 100% foil screen coverage

Tests

- PVC self-extinguishing and flame retardant acc. to IEC 60332-1-2 / VW-1

Note

- For use in damp and dry conditons within buildings
- UL approved

Application

Ideal for high data transmission rates due to individual pair foil screening. Mainly used as a data transmission cable in machine and switchboard systems where near cross talk attenuation can be a problem.

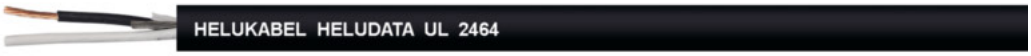
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.pairs	No. cores	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11000630	2	4	22	4,3	20,5	28,4

Dimensions and specifications may be changed without prior notice.

HELUDATA® UL 2464 PVC-TP BLACK

high temperature PVC cores, pairs individually screened, PVC outer sheath



Technical data

- HT PVC data cable approved to UL style 2464
- **Temperature range**
  fixed installation -30°C to +105°C
- **Nominal voltage**
  300 V
- **Test voltage**
  2000 V
- **Insulation resistance**
  min. 2 GOhm x km
- **Minimum bending radius**
  flexing 20 x cable Ø
  fixed 15 x cable Ø

Cable structure

- Bare annealed copper wires class 2
- Core insulation HT PVC
- Core identification:
  1P = BK & WH
- Cores twisted together in pairs with 100 % aluminium foiling
- Tinned annealed copper drain wire
- Outer sheath: PVC
- Outer sheath colour: black (RAL 9005)

Properties

- 100 % foil screen coverage

Tests

- PVC self-extinguishing and flame retardant acc. to IEC 60332-1-2 / VW-1

Note

- For use in damp and dry conditons within buildings
- UL approved

Application

Data control cable for use in building- and factory automation. Error free transmission of medium and high frequencies due to 100% foiling. UV resistant outer sheath.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.pairs	No. cores	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11000620	1	2	16	6,7	28,8	70

Dimensions and specifications may be changed without prior notice.

HELUDATA® UL 2919 PVC-TP GREY

foamed PE multi-pairs, overall screened, PVC outer sheath



Technical data

- Data cable approved to UL style 2919
- **Temperature range**
  fixed installation -30°C to +80°C
- **Nominal voltage**
  30 V
- **Test voltage**
  1000 V
- **Insulation resistance**
  min. 5 GOhm x km
- **Minimum bending radius**
  flexing 20 x cable Ø
  fixed 15 x cable Ø

Cable structure

- Tinned annealed copper wires class 2
- Core insulation high density foamed PE
- Core identification 1P = WH/BN & BN/WH
- Core identification 2P = WH/BU & BU/WH
- Core identification 3P = WH/OG & OG/WH
- Core identification 4P = WH/GN & GN/WH
- Cores twisted together in pairs with 100 % aluminium foiling
- Tinned annealed copper drain wire
- Outer sheath: PVC
- Outer sheath colour: mouse grey (RAL 7005)

Properties

- 100 % foil screen coverage

Tests

- PVC self-extinguishing and flame retardant acc. to IEC 60332-1-2 / VW-1

Note

- For use in damp and dry conditons within buildings
- UL approved

Application

Ideal for wiring of data systems with high transmission rates, CAD/CAM systems. It is designed for use as Data Highway in (DH) RS 232, RS 422 and RS 485 interfaces and also suitable as control and instrumentation cable in industrial equipment. Suitable for flexible and static installation in dry and damp locations.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.pairs	No. cores	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
18024379	2	4	24	6,3	10,5	44,9

Part no.	No.pairs	No. cores	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
18024380	4	8	24	7,1	19,0	55

Dimensions and specifications may be changed without prior notice.

HELUDATA® UL 2919 PVC-TP-C GREY

PE multi-pairs, foiled and braided, PVC outer sheath



Technical data

- Data cable approved to UL style 2919
- **Temperature range**
  fixed installation -30°C to +80°C
- **Nominal voltage**
  30 V
- **Test voltage**
  1000 V
- **Insulation resistance**
  min. 5 GOhm x km
- **Minimum bending radius**
  flexing 20 x cable Ø
  fixed 15 x cable Ø

Cable structure

- Tinned annealed copper wires class 2
- Core insulation PE
- Core identification 1P = WH/BU & BU/WH
- Core identification 2P = WH/OG & OG/WH
- Cores twisted together in pairs with 100 % aluminium foiling
- Tinned annealed copper drain wire
- Tinned annealed copper braiding
- PVC outer sheath pebble grey (RAL 7032)

Properties

- 100 % foil screen coverage

Tests

- PVC self-extinguishing and flame retardant acc. to IEC 60332-1-2 / VW-1

Note

- For use in damp and dry conditons within buildings
- UL approved

Application

Ideal for wiring of data systems with high transmission rates, CAD/CAM systems. It is designed for use as Data Highway in (DH) RS 232, RS 422 and RS 485 interfaces and also suitable as control and instrumentation cable in industrial equipment. Suitable for flexible and static installation in dry and damp locations.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.pairs	No. cores	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11005140	1	2	24	5,9	21,3	46

Part no.	No.pairs	No. cores	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11005141	2	4	24	8,8	33,0	86

Dimensions and specifications may be changed without prior notice.

HELUDATA® UL 2092 PVC-TP GREY

PE core insulation, pairs individually screened, PVC outer sheath



Technical data

- Data cable approved to UL style 2092
- **Temperature range**
  fixed installation
  -20°C to +60°C (22 AWG)
  -30°C to +60°C (18 AWG)
- **Nominal voltage**
  300 V
- **Test voltage**
  2000 V
- **Insulation resistance**
  min. 2 GOhm x km
- **Minimum bending radius**
  flexing 20 x cable Ø
  fixed 15 x cable Ø

Cable structure

- Tinned annealed copper wires class 2
- Core insulation PE
- Core identification black & natural
- Cores twisted together in pairs with 100 % aluminium foiling
- Tinned annealed copper drain wire
- Outer sheath: PVC
- Outer sheath colour: pebble grey (RAL 7032)

Properties

- 100 % foil screen coverage

Tests

- PVC self-extinguishing and flame retardant acc. to IEC 60332-1-2 / VW-1

Note

- For use in damp and dry conditons within buildings
- UL approved

Application

Low frequency data transmission cable for static installations. Its high degree of screening is ideal for transmitting error-free audio and measurement control signals.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.pairs	No. cores	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11000611	1	2	22	4,5	10,3	29

Part no.	No.pairs	No. cores	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11000612	1	2	18	5,6	20,7	45

Dimensions and specifications may be changed without prior notice.

HELUDATA® UL 2095 PVC GREY

PE insulated, overall screened, PVC outer sheath



Technical data

- Data cable approved to UL style 2095
- **Temperature range**
  Flexing -30°C to +80°C
  Fixed installation -30°C to +80°C
- **Nominal voltage**
  U 300 V
- **Test voltage**
  1000 V
- **Minimum bending radius**
  Flexing 20x cable Ø
  Fixed 15x cable Ø

Cable structure

- Tinned annealed copper wires acc. to UL 758
- Core insulation: PE
- Core identification: black (RAL 9005), red (RAL 3000), natural
- Cores twisted together with 100 % aluminium foiling
- Drain wire: tinned annealed copper
- Outer sheath: PVC
- Outer sheath colour: pebble grey (RAL 7032)

Properties

- 100% foil screen coverage

Tests

- PVC self-extinguishing and flame retardant acc. to IEC 60332-1-2

Note

- For use in damp and dry conditons within buildings
- UL approved

Application

Data transmission cable for indoor use in dry and damp areas. Ideal for security, data network & alarm systems. Its 100% screening enables an error-free transmission of medium and high frequencies.

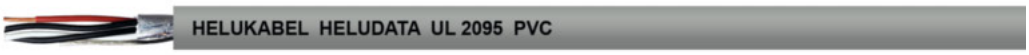
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No. cores	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
18024750	3	20	5,5	21,4	46
18024751	3	18	6,2	28,9	50

Dimensions and specifications may be changed without prior notice.

HELUDATA® UL 2095 PVC-TP GREY

PVC insulated, pairs individually screened, PVC outer sheath



Technical data

- Data cable approved to UL style 2095
- **Temperature range**
  flexing -20°C to +80°C
  fixed installation -20°C to +80°C
- **Nominal voltage**
  U 300 V
- **Test voltage**
  1000 V
- **Minimum bending radius**
  flexing 20x cable Ø
  fixed 15x cable Ø

Cable structure

- Bare annealed copper acc.to UL 758
- Core insulation: PVC
- Core identification:
  1P = BK & RD
  2P = BK & WH
- Filler: PP string
- Cores twisted together in pairs with 100 % aluminium foiling
- Drain wire: tinned annealed copper
- Outer sheath: PVC
- Outer sheath colour: pebble grey (RAL 7032)

Properties

- 100% foil screen coverage

Tests

- PVC self-extinguishing and flame retardant acc. to IEC 60332-1-2 / VW-1

Note

- For use in damp and dry conditons within buildings
- UL approved

Application

Data transmission cable for indoor use in dry and damp areas. Ideal for security, data network & alarm systems. Its 100 % foil screening enables an error-free transmission of medium and high frequencies.

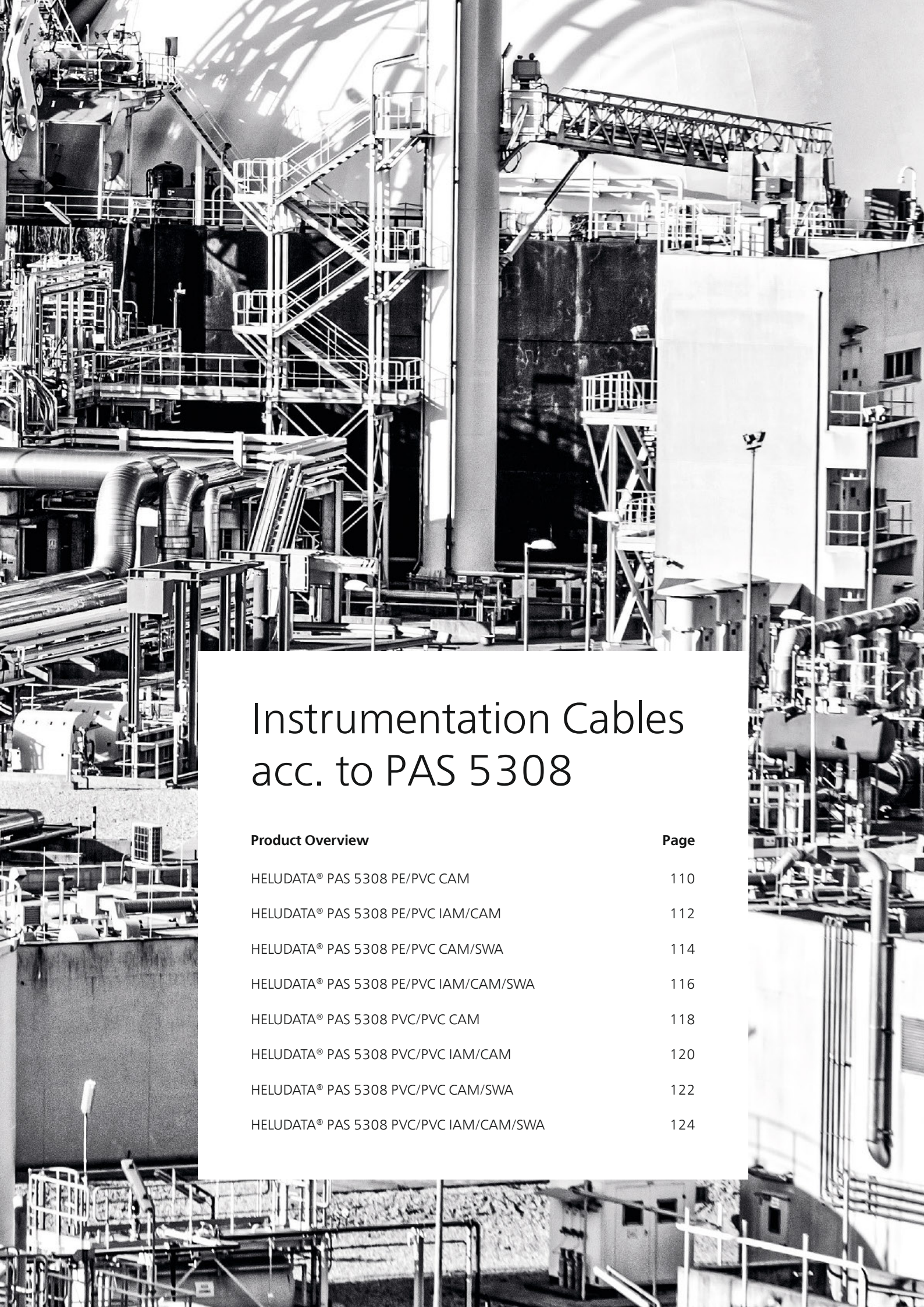
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.pairs	No. cores	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
18024700	2	2	18	6,7	39,3	74,1

Dimensions and specifications may be changed without prior notice.





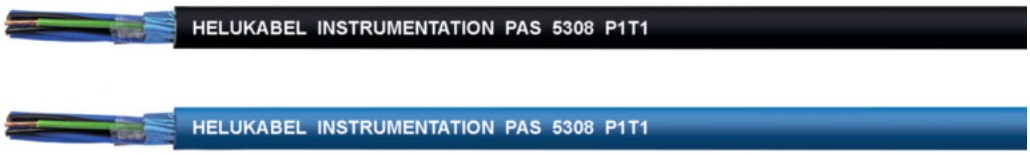


Instrumentation Cables acc. to PAS 5308

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HELUDATA® PAS 5308 PE/PVC CAM

PE/PVC, overall screened, unarmoured



Technical data

- Instrumentation cable in ref. to PAS 5308 part 1 type 1
- PE/CAM/PVC
- **Temperature range**
  fixed installation -30°C to +80°C
- **Nominal voltage**
  Uo/U 300/500 V
- **Test voltage**
  2000 V
- **Minimum bending radius**
  fixed 6x cable Ø
- **Insulation resistance**
  > 5 GOhm x km
- **Mutual capacitance at 1 kHz**
  0.5/0.75/1 mm²: max. 115 pF/m
  1.5 mm²: max. 120 pF/m
  2.5 mm²: max. 140 pF/m
- **L(R (ratio)**
  0.5/0.75/1 mm² max. 25 µH/Ω
  1.5 mm² max. 40 µH/Ω
  2.5 mm² max. 60 µH/Ω

Cable structure

- Bare copper wire in ref. to EN 60228
  0.5 & 0.75 mm² - class 5
  1 mm² - class 1
  1.5 & 2.5 mm² - class 2
- Core insulation: PE acc. to EN 50290-2-23
- Cores stranded in pairs, triads or quads
- Cores stranded together in in cable elements in optimal lay length
- Core identification: colour coding acc. to PAS 5308-1 Annex C
  Triads: black, white, red
  Quads: black, blue, green, brown
- Overall screen: AL/PE tape over tinned copper stranded drain wire
- Outer sheath: PVC acc. to EN 50290-2-22
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuation and low mutual capacitances enable long transmission distances.

Tests

- Flame retardant acc. to EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to EN 60332-3-24 / IEC 60332-3-24
- UV resistant acc. to ISO 4892-2

Note

- Alternative denomination:
  RE-2Y(St)Y
- Not suited for direct burial
- AWG sizes are approximate equivalent values. The actual cross section is in mm².
- The dimensions 2x2xX are quads, no pairs
- Additional cores and sizes available on request

Application

For the transmission of data and control signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = The product complies to the Low-Voltage Directive 2014/35/EU.

BLACK outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11000640	1 x 2 x 0,5	20	6,0	12,5	38,8
11000641	2 x 2 x 0,5	20	6,9	22,0	68,7
11000642	4 x 2 x 0,5	20	10,6	40,9	104,4
11000643	5 x 2 x 0,5	20	12,1	50,4	123,6
11000644	6 x 2 x 0,5	20	13,1	59,8	160,8
11000645	8 x 2 x 0,5	20	14,3	78,8	197,7
11000646	10 x 2 x 0,5	20	16,3	97,7	239,8
11000647	12 x 2 x 0,5	20	16,7	116,6	272,4
11000648	15 x 2 x 0,5	20	18,8	145,1	336,4
11000649	16 x 2 x 0,5	20	18,9	154,5	351
11000650	20 x 2 x 0,5	20	21,3	192,4	455,2
11000651	24 x 2 x 0,5	20	23,0	230,3	530,5
11000652	30 x 2 x 0,5	20	26,0	287,1	629,4
11000653	36 x 2 x 0,5	20	27,9	343,9	732,7
11000654	1 x 3 x 0,5	20	6,3	17,2	47,2
11000655	1 x 2 x 0,75	19	6,4	16,7	45
11000656	2 x 2 x 0,75	19	7,4	30,3	81,4
11000657	4 x 2 x 0,75	19	11,8	57,6	127,3
11000658	5 x 2 x 0,75	19	13,0	71,2	169,5
11000659	6 x 2 x 0,75	19	14,1	84,8	195,8
11000660	8 x 2 x 0,75	19	15,6	112,1	243
11000661	10 x 2 x 0,75	19	17,6	139,4	304,5
11000662	12 x 2 x 0,75	19	18,0	166,6	347
11000663	15 x 2 x 0,75	19	20,5	207,5	448,6
11000664	16 x 2 x 0,75	19	20,6	221,2	468
11000665	20 x 2 x 0,75	19	23,6	275,7	565,5
11000666	24 x 2 x 0,75	19	26,2	330,3	661,7
11000667	30 x 2 x 0,75	19	28,0	412,1	790,7
11000668	36 x 2 x 0,75	19	30,1	493,9	924,1
11000669	1 x 3 x 0,75	19	6,8	23,5	56,1
11000670	1 x 2 x 1	18	6,5	21,6	52,1
11000671	2 x 2 x 1	18	7,4	40,1	95,5
11000672	4 x 2 x 1	18	11,5	77,3	159
11000673	5 x 2 x 1	18	13,3	95,8	202,9
11000674	6 x 2 x 1	18	14,4	114,4	235,3
11000675	8 x 2 x 1	18	15,8	151,5	294,1
11000676	10 x 2 x 1	18	17,8	188,6	368,8
11000677	12 x 2 x 1	18	18,2	225,7	451,8

BLACK outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11000678	15 x 2 x 1	18	20,5	281,4	544,2
11000679	16 x 2 x 1	18	20,8	300,0	569,1
11000680	20 x 2 x 1	18	23,4	374,2	690,8
11000681	24 x 2 x 1	18	25,3	448,4	811
11000682	30 x 2 x 1	18	28,3	559,8	974,4
11000683	36 x 2 x 1	18	30,5	671,1	1143,3
11000684	1 x 3 x 1	18	6,8	30,9	66,4
11000685	1 x 2 x 1,5	16	7,4	30,4	64,5
11000686	2 x 2 x 1,5	16	8,8	57,8	119,7
11000687	4 x 2 x 1,5	16	13,5	112,5	217,1
11000688	5 x 2 x 1,5	16	15,4	139,8	259,8
11000689	6 x 2 x 1,5	16	16,7	167,2	302,6
11000690	8 x 2 x 1,5	16	18,4	221,9	391
11000691	10 x 2 x 1,5	16	20,8	276,7	510,1
11000692	12 x 2 x 1,5	16	21,4	331,4	585,4
11000693	15 x 2 x 1,5	16	24,4	413,5	709,4
11000694	16 x 2 x 1,5	16	24,6	440,9	744,2
11000695	20 x 2 x 1,5	16	27,5	550,3	907,3
11000696	24 x 2 x 1,5	16	29,9	659,8	1069,2
11000697	30 x 2 x 1,5	16	33,3	823,9	1293,1
11000698	36 x 2 x 1,5	16	35,9	988,1	1539,9
11000699	1 x 3 x 1,5	16	8,0	44,1	83,5
11000700	1 x 2 x 2,5	14	8,2	48,2	87,4
11000701	2 x 2 x 2,5	14	9,7	93,3	184,4
11000702	4 x 2 x 2,5	14	15,1	183,6	305,9
11000703	5 x 2 x 2,5	14	17,2	228,7	369,4
11000704	6 x 2 x 2,5	14	18,7	273,8	442,1
11000705	8 x 2 x 2,5	14	20,6	364,1	593,6
11000706	10 x 2 x 2,5	14	24,1	454,4	728,7
11000707	12 x 2 x 2,5	14	24,6	544,7	843,5
11000708	15 x 2 x 2,5	14	28,2	680,1	1029
11000709	16 x 2 x 2,5	14	28,4	725,2	1083,2
11000710	20 x 2 x 2,5	14	31,9	905,7	1328
11000711	24 x 2 x 2,5	14	34,5	1086,3	1588,4
11000712	30 x 2 x 2,5	14	37,9	1357,1	1932,1
11000713	36 x 2 x 2,5	14	40,9	1627,98	2342,5
11000714	1 x 3 x 2,5	14	8,9	70,7	121

Continuation ▶

HELUDATA® PAS 5308 PE/PVC CAM

PE/PVC, overall screened, unarmoured

BLUE outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11000715	1 x 2 x 0,5	20	6,0	12,5	38,8
11000716	2 x 2 x 0,5	20	6,9	22,0	68,7
11000717	4 x 2 x 0,5	20	10,6	40,9	104,4
11000718	5 x 2 x 0,5	20	12,1	50,4	123,6
11000719	6 x 2 x 0,5	20	13,1	59,8	160,8
11000720	8 x 2 x 0,5	20	14,3	78,8	197,7
11000721	10 x 2 x 0,5	20	16,3	97,7	239,8
11000722	12 x 2 x 0,5	20	16,7	116,6	272,4
11000723	15 x 2 x 0,5	20	18,8	145,1	336,4
11000724	16 x 2 x 0,5	20	18,9	154,5	351
11000725	20 x 2 x 0,5	20	21,3	192,4	455,2
11000726	24 x 2 x 0,5	20	23,0	230,3	530,5
11000727	30 x 2 x 0,5	20	26,0	287,1	629,4
11000728	36 x 2 x 0,5	20	27,9	343,9	732,7
11000729	1 x 3 x 0,5	20	6,3	17,2	47,2
11000730	1 x 2 x 0,75	19	6,4	16,7	45
11000731	2 x 2 x 0,75	19	7,4	30,3	81,4
11000732	4 x 2 x 0,75	19	11,8	57,6	127,3
11000733	5 x 2 x 0,75	19	13,0	71,2	169,5
11000734	6 x 2 x 0,75	19	14,1	84,8	195,8
11000735	8 x 2 x 0,75	19	15,6	112,1	243
11000736	10 x 2 x 0,75	19	17,6	139,4	304,5
11000737	12 x 2 x 0,75	19	18,0	166,6	347
11000738	15 x 2 x 0,75	19	20,5	207,5	448,6
11000739	16 x 2 x 0,75	19	20,6	221,2	468
11000740	20 x 2 x 0,75	19	23,6	275,7	565,5
11000741	24 x 2 x 0,75	19	26,2	330,3	661,7
11000742	30 x 2 x 0,75	19	28,0	412,1	790,7
11000743	36 x 2 x 0,75	19	30,1	493,9	924,1
11000744	1 x 3 x 0,75	19	6,8	23,5	56,1
11000745	1 x 2 x 1	18	6,5	21,6	52,1
11000746	2 x 2 x 1	18	7,4	40,1	95,5
11000747	4 x 2 x 1	18	11,5	77,3	159
11000748	5 x 2 x 1	18	13,3	95,8	202,9
11000749	6 x 2 x 1	18	14,4	114,4	235,3
11000750	8 x 2 x 1	18	15,8	151,5	294,1
11000751	10 x 2 x 1	18	17,8	188,6	368,8
11000752	12 x 2 x 1	18	18,2	225,7	451,8

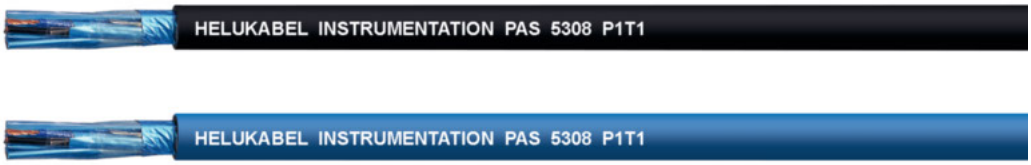
BLUE outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11000753	15 x 2 x 1	18	20,5	281,4	544,2
11000754	16 x 2 x 1	18	20,8	300,0	569,1
11000755	20 x 2 x 1	18	23,4	374,2	690,8
11000756	24 x 2 x 1	18	25,3	448,4	811
11000757	30 x 2 x 1	18	28,3	559,8	974,4
11000758	36 x 2 x 1	18	30,5	671,1	1143,3
11000759	1 x 3 x 1	18	6,8	30,9	66,4
11000760	1 x 2 x 1,5	16	7,4	30,4	64,5
11000761	2 x 2 x 1,5	16	8,8	57,8	119,7
11000762	4 x 2 x 1,5	16	13,5	112,5	217,1
11000763	5 x 2 x 1,5	16	15,4	139,8	259,8
11000764	6 x 2 x 1,5	16	16,7	167,2	302,6
11000765	8 x 2 x 1,5	16	18,4	221,9	391
11000766	10 x 2 x 1,5	16	20,8	276,7	510,1
11000767	12 x 2 x 1,5	16	21,4	331,4	585,4
11000768	15 x 2 x 1,5	16	24,4	413,5	709,4
11000769	16 x 2 x 1,5	16	24,6	440,9	744,2
11000770	20 x 2 x 1,5	16	27,5	550,3	907,3
11000771	24 x 2 x 1,5	16	29,9	659,8	1069,2
11000772	30 x 2 x 1,5	16	33,3	823,9	1293,1
11000773	36 x 2 x 1,5	16	35,9	988,1	1539,9
11000774	1 x 3 x 1,5	16	8,0	44,1	83,5
11000775	1 x 2 x 2,5	14	8,2	48,2	87,4
11000776	2 x 2 x 2,5	14	9,7	93,3	184,4
11000777	4 x 2 x 2,5	14	15,1	183,6	305,9
11000778	5 x 2 x 2,5	14	17,2	228,7	369,4
11000779	6 x 2 x 2,5	14	18,7	273,8	442,1
11000780	8 x 2 x 2,5	14	20,6	364,1	593,6
11000781	10 x 2 x 2,5	14	24,1	454,4	728,7
11000782	12 x 2 x 2,5	14	24,6	544,7	843,5
11000783	15 x 2 x 2,5	14	28,2	680,1	1029
11000784	16 x 2 x 2,5	14	28,4	725,2	1083,2
11000785	20 x 2 x 2,5	14	31,9	905,7	1328
11000786	24 x 2 x 2,5	14	34,5	1086,3	1588,4
11000787	30 x 2 x 2,5	14	37,9	1357,1	1932,1
11000788	36 x 2 x 2,5	14	40,9	1627,98	2342,5
11000789	1 x 3 x 2,5	14	8,9	70,7	121

Dimensions and specifications may be changed without prior notice.

HELUDATA® PAS 5308 PE/PVC IAM/CAM

PE/PVC, individual and overall screened, unarmoured



Technical data

- Instrumentation cable in ref. to PAS 5308 part 1 type 1
- PE/IAM/CAM/PVC
- **Temperature range**
  fixed installation -30°C to +80°C
- **Nominal voltage**
  Uo/U 300/500 V
- **Test voltage**
  2000 V
- **Minimum bending radius**
  fixed 6x cable Ø
- **Insulation resistance**
  > 5 GOhm x km
- **Mutual capacitance at 1 kHz**
  0.5/0.75/1 mm²: max. 115 pF/m
  1.5 mm²: max. 120 pF/m
  2.5 mm²: max. 140 pF/m
- **L/R (ratio)**
  0.5/0.75/1 mm² max. 25 µH/Ω
  1.5 mm² max. 40 µH/Ω
  2.5 mm² max. 60 µH/Ω

Cable structure

- Bare copper wire in ref. to EN 60228
  0.5 & 0.75 mm² - class 5
  1 mm² - class 1
  1.5 & 2.5 mm² - class 2
- Core insulation: PE acc. to EN 50290-2-23
- Cores stranded in pairs
- Cores stranded together in in cable elements in optimal lay length
- Core identification: colour coding acc. to PAS 5308-1 Annex C
- Individual screen: pairs indiv. screened with AL/PE tape over tinned copper stranded drain wire
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire
- Outer sheath: PVC acc. to EN 50290-2-22
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances.

Tests

- Flame retardant acc. to EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to EN 60332-3-24 / IEC 60332-3-24
- UV resistant acc. to ISO 4892-2

Note

- Alternative denomination:
  RE-2Y(St)Y PiMF
- Not suited for direct burial
- AWG sizes are approximate equivalent values. The actual cross section is in mm²
- Additional cores and sizes available on request

Application

For the transmission of data and control signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = The product complies to the Low-Voltage Directive 2014/35/EU.

BLACK outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11000790	2 x 2 x 0,5	20	10,0	28,0	83
11000791	4 x 2 x 0,5	20	11,9	53,0	130,6
11000792	5 x 2 x 0,5	20	13,0	65,5	173,5
11000793	6 x 2 x 0,5	20	14,6	78,0	200,6
11000794	8 x 2 x 0,5	20	15,8	103,0	249,3
11000795	10 x 2 x 0,5	20	18,6	128,0	312,4
11000796	12 x 2 x 0,5	20	18,8	153,0	356,8
11000797	15 x 2 x 0,5	20	21,6	190,4	460,5
11000798	16 x 2 x 0,5	20	21,8	202,9	480,6
11000799	20 x 2 x 0,5	20	24,2	252,9	581,1
11000800	24 x 2 x 0,5	20	26,6	302,9	680,4
11000801	30 x 2 x 0,5	20	29,1	377,8	813,7
11000802	36 x 2 x 0,5	20	31,8	452,8	952,1
11000803	2 x 2 x 0,75	19	10,7	36,3	95,8
11000804	4 x 2 x 0,75	19	12,7	69,7	171,2
11000805	5 x 2 x 0,75	19	14,0	86,3	203,4
11000806	6 x 2 x 0,75	19	15,7	103,0	235,9
11000807	8 x 2 x 0,75	19	17,0	136,3	235,9
11000808	10 x 2 x 0,75	19	20,0	169,6	369,6
11000809	12 x 2 x 0,75	19	20,0	202,9	453
11000810	15 x 2 x 0,75	19	23,5	252,9	545,6
11000811	16 x 2 x 0,75	19	23,5	269,6	570,6
11000812	20 x 2 x 0,75	19	26,5	336,2	692,1
11000813	24 x 2 x 0,75	19	28,7	402,9	812,6
11000814	30 x 2 x 0,75	19	31,5	502,8	976,2
11000815	36 x 2 x 0,75	19	34,5	602,8	1144,6
11000816	2 x 2 x 1	18	10,8	46,2	110,2
11000817	4 x 2 x 1	18	12,8	89,4	198,8
11000818	5 x 2 x 1	18	14,1	110,9	236,8
11000819	6 x 2 x 1	18	15,8	132,5	275,2
11000820	8 x 2 x 1	18	17,2	175,7	354,9
11000821	10 x 2 x 1	18	20,2	218,9	464,7
11000822	12 x 2 x 1	18	20,6	262,0	531,4
11000823	15 x 2 x 1	18	23,7	326,8	641,8
11000824	16 x 2 x 1	18	23,9	348,4	672,4
11000825	20 x 2 x 1	18	26,6	434,7	818,4
11000826	24 x 2 x 1	18	29,0	521,0	962,9
11000827	30 x 2 x 1	18	31,4	605,5	1160,9
11000828	36 x 2 x 1	18	34,9	780,0	1381,2

BLACK outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11000829	2 x 2 x 1,5	16	12,7	63,8	153,4
11000830	4 x 2 x 1,5	16	15,1	124,6	247,7
11000831	5 x 2 x 1,5	16	16,6	155,0	297,3
11000832	6 x 2 x 1,5	16	18,7	185,4	355,7
11000833	8 x 2 x 1,5	16	20,3	246,1	478,3
11000834	10 x 2 x 1,5	16	23,9	306,9	585,2
11000835	12 x 2 x 1,5	16	24,2	367,7	673,2
11000836	15 x 2 x 1,5	16	27,6	458,9	817,5
11000837	16 x 2 x 1,5	16	28,1	489,3	858,5
11000838	20 x 2 x 1,5	16	31,1	610,8	1048,8
11000839	24 x 2 x 1,5	16	34,2	732,4	1253,6
11000840	30 x 2 x 1,5	16	36,8	914,7	1516,9
11000841	36 x 2 x 1,5	16	41,3	1097,0	1786,6
11000842	2 x 2 x 2,5	14	14,1	99,3	202
11000843	4 x 2 x 2,5	14	17,0	195,7	337,4
11000844	5 x 2 x 2,5	14	18,7	243,8	416,2
11000845	6 x 2 x 2,5	14	21,1	292,0	517,6
11000846	8 x 2 x 2,5	14	22,9	388,3	655,4
11000847	10 x 2 x 2,5	14	26,9	484,6	805,1
11000848	12 x 2 x 2,5	14	27,2	581,0	933
11000849	15 x 2 x 2,5	14	31,1	725,4	1138,8
11000850	16 x 2 x 2,5	14	31,8	773,6	1199,1
11000851	20 x 2 x 2,5	14	35,3	966,3	1487,9
11000852	24 x 2 x 2,5	14	38,7	1158,9	1759,9
11000853	30 x 2 x 2,5	14	41,8	1447,9	2201,8
11000854	36 x 2 x 2,5	14	46,7	1736,8	2596,8

Continuation ▸

HELUDATA® PAS 5308 PE/PVC IAM/CAM

PE/PVC, individual and overall screened, unarmoured

BLUE outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11000855	2 x 2 x 0,5	20	10,0	28,0	83
11000856	4 x 2 x 0,5	20	11,9	53,0	130,6
11000857	5 x 2 x 0,5	20	13,0	65,5	173,5
11000858	6 x 2 x 0,5	20	14,6	78,0	200,6
11000859	8 x 2 x 0,5	20	15,8	103,0	249,3
11000860	10 x 2 x 0,5	20	18,6	128,0	312,4
11000861	12 x 2 x 0,5	20	18,8	153,0	356,8
11000862	15 x 2 x 0,5	20	21,6	190,4	460,5
11000863	16 x 2 x 0,5	20	21,8	202,9	480,6
11000864	20 x 2 x 0,5	20	24,2	252,9	581,1
11000865	24 x 2 x 0,5	20	26,6	302,9	680,4
11000866	30 x 2 x 0,5	20	29,1	377,8	813,7
11000867	36 x 2 x 0,5	20	31,8	452,8	952,1
11000868	2 x 2 x 0,75	19	10,7	36,3	95,8
11000869	4 x 2 x 0,75	19	12,7	69,7	171,2
11000870	5 x 2 x 0,75	19	14,0	86,3	203,4
11000871	6 x 2 x 0,75	19	15,7	103,0	235,9
11000872	8 x 2 x 0,75	19	17,0	136,3	235,9
11000873	10 x 2 x 0,75	19	20,0	169,6	369,6
11000874	12 x 2 x 0,75	19	20,0	202,9	453
11000875	15 x 2 x 0,75	19	23,5	252,9	545,6
11000876	16 x 2 x 0,75	19	23,5	269,6	570,6
11000877	20 x 2 x 0,75	19	26,5	336,2	692,1
11000878	24 x 2 x 0,75	19	28,7	402,9	812,6
11000879	30 x 2 x 0,75	19	31,5	502,8	976,2
11000880	36 x 2 x 0,75	19	34,5	602,8	1144,6
11000881	2 x 2 x 1	18	10,8	46,2	110,2
11000882	4 x 2 x 1	18	12,8	89,4	198,8
11000883	5 x 2 x 1	18	14,1	110,9	236,8
11000884	6 x 2 x 1	18	15,8	132,5	275,2
11000885	8 x 2 x 1	18	17,2	175,7	354,9
11000886	10 x 2 x 1	18	20,2	218,9	464,7
11000887	12 x 2 x 1	18	20,6	262,0	531,4

BLUE outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11000888	15 x 2 x 1	18	23,7	326,8	641,8
11000889	16 x 2 x 1	18	23,9	348,4	672,4
11000890	20 x 2 x 1	18	26,6	434,7	818,4
11000891	24 x 2 x 1	18	29,0	521,0	962,9
11000892	30 x 2 x 1	18	31,4	605,5	1160,9
11000893	36 x 2 x 1	18	34,9	780,0	1381,2
11000894	2 x 2 x 1,5	16	12,7	63,8	153,4
11000895	4 x 2 x 1,5	16	15,1	124,6	247,7
11000896	5 x 2 x 1,5	16	16,6	155,0	297,3
11000897	6 x 2 x 1,5	16	18,7	185,4	355,7
11000898	8 x 2 x 1,5	16	20,3	246,1	478,3
11000899	10 x 2 x 1,5	16	23,9	306,9	585,2
11000900	12 x 2 x 1,5	16	24,2	367,7	673,2
11000901	15 x 2 x 1,5	16	27,6	458,9	817,5
11000902	16 x 2 x 1,5	16	28,1	489,3	858,5
11000903	20 x 2 x 1,5	16	31,1	610,8	1048,8
11000904	24 x 2 x 1,5	16	34,2	732,4	1253,6
11000905	30 x 2 x 1,5	16	36,8	914,7	1516,9
11000906	36 x 2 x 1,5	16	41,3	1097,0	1786,6
11000907	2 x 2 x 2,5	14	14,1	99,3	202
11000908	4 x 2 x 2,5	14	17,0	195,7	337,4
11000909	5 x 2 x 2,5	14	18,7	243,8	416,2
11000910	6 x 2 x 2,5	14	21,1	292,0	517,6
11000911	8 x 2 x 2,5	14	22,9	388,3	655,4
11000912	10 x 2 x 2,5	14	26,9	484,6	805,1
11000913	12 x 2 x 2,5	14	27,2	581,0	933
11000914	15 x 2 x 2,5	14	31,1	725,4	1138,8
11000915	16 x 2 x 2,5	14	31,8	773,6	1199,1
11000916	20 x 2 x 2,5	14	35,3	966,3	1487,9
11000917	24 x 2 x 2,5	14	38,7	1158,9	1759,9
11000918	30 x 2 x 2,5	14	41,8	1447,9	2201,8
11000919	36 x 2 x 2,5	14	46,7	1736,8	2596,8

Dimensions and specifications may be changed without prior notice.

HELUDATA® PAS 5308 PE/PVC CAM/SWA

PE/PVC, overall screened, armoured





Technical data

- Instrumentation cable in ref. to PAS 5308 part 1 type 2
- PE/CAM/PE/SWA/PVC
- **Temperature range**
  fixed installation -30°C to +80°C
- **Nominal voltage**
  Uo/U 300/500 V
- **Test voltage**
  2000 V
- **Minimum bending radius**
  fixed 6x cable Ø
- **Insulation resistance**
  > 5 GOhm x km
- **Mutual capacitance at 1 kHz**
  0.5/0.75/1 mm²: max. 115 pF/m
  1.5 mm²: max. 120 pF/m
  2.5 mm²: max. 140 pF/m
- **L(R (ratio)**
  0.5/0.75/1 mm² max. 25 µH/Ω
  1.5 mm² max. 40 µH/Ω
  2.5 mm² max. 60 µH/Ω

Cable structure

- Bare copper wire in ref. to EN 60228
  0.5 & 0.75 mm² - class 5
  1 mm² - class 1
  1.5 & 2.5 mm² - class 2
- Core insulation: PE acc. to EN 50290-2-23
- Conductors stranded in pairs, triads or quads
- Cores stranded together in in cable elements in optimal lay length
- Core identification pairs: colour coding acc. to PAS 5308-1 Annex C
  Triads: black, white, red
  Quads: black, blue, green, brown
- Overall screen: AL/PE tape over tinned copper stranded drain wire
- Inner sheath: PE acc. to EN 50290-2-24
- Inner sheath colour: black
- Armouring: single layer of galvanized round steel wires acc. to EN 10257-1
- Outer sheath: PVC acc. to EN 50290-2-22
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances.

Tests

- Flame retardant acc. to EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to EN 60332-3-24 / IEC 60332-3-24
- UV resistant acc. to ISO 4892-2

Note

- Alternative denomination:
  RE-2Y(St)2YRY
- Suited for direct burial
- AWG sizes are approximate equivalent values. The actual cross section is in mm².
- The dimensions 2x2xX are quads, no pairs
- Additional cores and sizes available on request

Application

For the transmission of data and control signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks and are suited for direct burial.
CE = The product complies to the Low-Voltage Directive 2014/35/EU.

BLACK outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11000920	1 x 2 x 0,5	20	10,4	12,5	192,5
11000921	2 x 2 x 0,5	20	11,3	22,0	283,3
11000922	4 x 2 x 0,5	20	15,4	40,9	347,5
11000923	5 x 2 x 0,5	20	16,9	50,4	394,1
11000924	6 x 2 x 0,5	20	18,8	59,8	465,5
11000925	8 x 2 x 0,5	20	20,0	78,8	528,4
11000926	10 x 2 x 0,5	20	21,9	97,7	728,2
11000927	12 x 2 x 0,5	20	23,3	116,6	775,2
11000928	15 x 2 x 0,5	20	25,4	145,1	905,3
11000929	16 x 2 x 0,5	20	25,7	154,5	919,8
11000930	20 x 2 x 0,5	20	28,1	192,4	1252,3
11000931	24 x 2 x 0,5	20	30,0	230,3	1412,4
11000932	30 x 2 x 0,5	20	32,9	287,1	1558,7
11000933	36 x 2 x 0,5	20	36,0	343,9	1291,5
11000934	1 x 3 x 0,5	20	10,7	17,2	207,2
11000935	1 x 2 x 0,75	19	10,8	16,7	206,4
11000936	2 x 2 x 0,75	19	12,0	30,3	309
11000937	4 x 2 x 0,75	19	16,2	57,6	393,9
11000938	5 x 2 x 0,75	19	18,3	71,2	471
11000939	6 x 2 x 0,75	19	19,8	84,8	520,4
11000940	8 x 2 x 0,75	19	21,1	112,1	703,4
11000941	10 x 2 x 0,75	19	23,8	139,4	843,9
11000942	12 x 2 x 0,75	19	24,6	166,6	902,5
11000943	15 x 2 x 0,75	19	26,9	207,5	1220,7
11000944	16 x 2 x 0,75	19	27,0	221,2	1240,1
11000945	20 x 2 x 0,75	19	29,8	275,7	1433,8
11000946	24 x 2 x 0,75	19	32,2	330,3	1607,7
11000947	30 x 2 x 0,75	19	34,0	412,1	2000,4
11000948	36 x 2 x 0,75	19	37,9	493,9	2219,4
11000949	1 x 3 x 0,75	19	11,4	23,5	224,3
11000950	1 x 2 x 1	18	10,9	21,6	221,1
11000951	2 x 2 x 1	18	12,0	40,1	336,2
11000952	4 x 2 x 1	18	17,0	77,3	446
11000953	5 x 2 x 1	18	18,7	95,8	522,4
11000954	6 x 2 x 1	18	19,9	114,4	580
11000955	8 x 2 x 1	18	21,3	151,5	783,2
11000956	10 x 2 x 1	18	23,3	188,6	942,9
11000957	12 x 2 x 1	18	24,8	225,7	1202

BLACK outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11000958	15 x 2 x 1	18	27,1	281,4	1365,7
11000959	16 x 2 x 1	18	27,6	300,0	1390,7
11000960	20 x 2 x 1	18	30,2	374,2	1616,4
11000961	24 x 2 x 1	18	32,5	448,4	2035,4
11000962	30 x 2 x 1	18	35,2	559,8	2266,1
11000963	36 x 2 x 1	18	38,6	671,1	2527,8
11000964	1 x 3 x 1	18	11,4	30,9	243
11000965	1 x 2 x 1,5	16	12,0	30,4	245,1
11000966	2 x 2 x 1,5	16	13,4	57,8	387,6
11000967	4 x 2 x 1,5	16	19,2	112,5	537
11000968	5 x 2 x 1,5	16	21,1	139,8	711,8
11000969	6 x 2 x 1,5	16	23,3	167,2	790,5
11000970	8 x 2 x 1,5	16	25,0	221,9	940,3
11000971	10 x 2 x 1,5	16	27,4	276,7	1302,3
11000972	12 x 2 x 1,5	16	28,4	331,4	1401,2
11000973	15 x 2 x 1,5	16	31,2	413,5	1620,5
11000974	16 x 2 x 1,5	16	31,6	440,9	1655,2
11000975	20 x 2 x 1,5	16	34,7	550,3	2133,5
11000976	24 x 2 x 1,5	16	38,1	659,8	2408,4
11000977	30 x 2 x 1,5	16	41,5	823,9	2707,6
11000978	36 x 2 x 1,5	16	45,7	988,1	3087,8
11000979	1 x 3 x 1,5	16	12,6	44,1	272,4
11000980	1 x 2 x 2,5	14	12,8	48,2	286,5
11000981	2 x 2 x 2,5	14	14,3	93,3	497,6
11000982	4 x 2 x 2,5	14	21,0	183,6	773,5
11000983	5 x 2 x 2,5	14	23,1	228,7	876,9
11000984	6 x 2 x 2,5	14	25,7	273,8	1009,3
11000985	8 x 2 x 2,5	14	27,6	364,1	1378,4
11000986	10 x 2 x 2,5	14	31,1	454,4	1637,9
11000987	12 x 2 x 2,5	14	32,0	544,7	1780,8
11000988	15 x 2 x 2,5	14	35,4	680,1	2280,1
11000989	16 x 2 x 2,5	14	36,6	725,2	2334,2
11000990	20 x 2 x 2,5	14	40,0	905,7	2719,7
11000991	24 x 2 x 2,5	14	43,0	1086,3	3142
11000992	30 x 2 x 2,5	14	46,5	1357,1	3575
11000993	36 x 2 x 2,5	14	51,3	1627,98	4158,1
11000994	1 x 3 x 2,5	14	13,5	70,7	334,1

Continuation ▸

HELUDATA® PAS 5308 PE/PVC CAM/SWA

PE/PVC, overall screened, armoured

BLUE outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11000995	1 x 2 x 0,5	20	10,4	12,5	192,5
11000996	2 x 2 x 0,5	20	11,3	22,0	283,3
11000997	4 x 2 x 0,5	20	15,4	40,9	347,5
11000998	5 x 2 x 0,5	20	16,9	50,4	394,1
11000999	6 x 2 x 0,5	20	18,8	59,8	465,5
11001000	8 x 2 x 0,5	20	20,0	78,8	528,4
11001001	10 x 2 x 0,5	20	21,9	97,7	728,2
11001002	12 x 2 x 0,5	20	23,3	116,6	775,2
11001003	15 x 2 x 0,5	20	25,4	145,1	905,3
11001004	16 x 2 x 0,5	20	25,7	154,5	919,8
11001005	20 x 2 x 0,5	20	28,1	192,4	1252,3
11001006	24 x 2 x 0,5	20	30,0	230,3	1412,4
11001007	30 x 2 x 0,5	20	32,9	287,1	1558,7
11001008	36 x 2 x 0,5	20	36,0	343,9	1291,5
11001009	1 x 3 x 0,5	20	10,7	17,2	207,2
11001010	1 x 2 x 0,75	19	10,8	16,7	206,4
11001011	2 x 2 x 0,75	19	12,0	30,3	309
11001012	4 x 2 x 0,75	19	16,2	57,6	393,9
11001013	5 x 2 x 0,75	19	18,3	71,2	471
11001014	6 x 2 x 0,75	19	19,8	84,8	520,4
11001015	8 x 2 x 0,75	19	21,1	112,1	703,4
11001016	10 x 2 x 0,75	19	23,8	139,4	843,9
11001017	12 x 2 x 0,75	19	24,6	166,6	902,5
11001018	15 x 2 x 0,75	19	26,9	207,5	1220,7
11001019	16 x 2 x 0,75	19	27,0	221,2	1240,1
11001020	20 x 2 x 0,75	19	29,8	275,7	1433,8
11001021	24 x 2 x 0,75	19	32,2	330,3	1607,7
11001022	30 x 2 x 0,75	19	34,0	412,1	2000,4
11001023	36 x 2 x 0,75	19	37,9	493,9	2219,4
11001024	1 x 3 x 0,75	19	11,4	23,5	224,3
11001025	1 x 2 x 1	18	10,9	21,6	221,1
11001026	2 x 2 x 1	18	12,0	40,1	336,2
11001027	4 x 2 x 1	18	17,0	77,3	446
11001028	5 x 2 x 1	18	18,7	95,8	522,4
11001029	6 x 2 x 1	18	19,9	114,4	580
11001030	8 x 2 x 1	18	21,3	151,5	783,2
11001031	10 x 2 x 1	18	23,3	188,6	942,9
11001032	12 x 2 x 1	18	24,8	225,7	1202

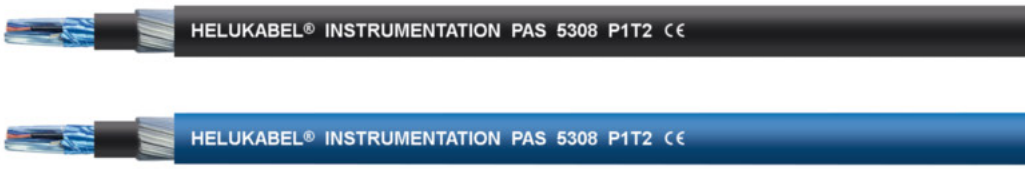
BLUE outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11001033	15 x 2 x 1	18	27,1	281,4	1365,7
11001034	16 x 2 x 1	18	27,6	300,0	1390,7
11001035	20 x 2 x 1	18	30,2	374,2	1616,4
11001036	24 x 2 x 1	18	32,5	448,4	2035,4
11001037	30 x 2 x 1	18	35,2	559,8	2266,1
11001038	36 x 2 x 1	18	38,6	671,1	2527,8
11001039	1 x 3 x 1	18	11,4	30,9	243
11001040	1 x 2 x 1,5	16	12,0	30,4	245,1
11001041	2 x 2 x 1,5	16	13,4	57,8	387,6
11001042	4 x 2 x 1,5	16	19,2	112,5	537
11001043	5 x 2 x 1,5	16	21,1	139,8	711,8
11001044	6 x 2 x 1,5	16	23,3	167,2	790,5
11001045	8 x 2 x 1,5	16	25,0	221,9	940,3
11001046	10 x 2 x 1,5	16	27,4	276,7	1302,3
11001047	12 x 2 x 1,5	16	28,4	331,4	1401,2
11001048	15 x 2 x 1,5	16	31,2	413,5	1620,5
11001049	16 x 2 x 1,5	16	31,6	440,9	1655,2
11001050	20 x 2 x 1,5	16	34,7	550,3	2133,5
11001051	24 x 2 x 1,5	16	38,1	659,8	2408,4
11001052	30 x 2 x 1,5	16	41,5	823,9	2707,6
11001053	36 x 2 x 1,5	16	45,7	988,1	3087,8
11001054	1 x 3 x 1,5	16	12,6	44,1	272,4
11001055	1 x 2 x 2,5	14	12,8	48,2	286,5
11001056	2 x 2 x 2,5	14	14,3	93,3	497,6
11001057	4 x 2 x 2,5	14	21,0	183,6	773,5
11001058	5 x 2 x 2,5	14	23,1	228,7	876,9
11001059	6 x 2 x 2,5	14	25,7	273,8	1009,3
11001060	8 x 2 x 2,5	14	27,6	364,1	1378,4
11001061	10 x 2 x 2,5	14	31,1	454,4	1637,9
11001062	12 x 2 x 2,5	14	32,0	544,7	1780,8
11001063	15 x 2 x 2,5	14	35,4	680,1	2280,1
11001064	16 x 2 x 2,5	14	36,6	725,2	2334,2
11001065	20 x 2 x 2,5	14	40,0	905,7	2719,7
11001066	24 x 2 x 2,5	14	43,0	1086,3	3142
11001067	30 x 2 x 2,5	14	46,5	1357,1	3575
11001068	36 x 2 x 2,5	14	51,3	1627,98	4158,1
11001069	1 x 3 x 2,5	14	13,5	70,7	334,1

Dimensions and specifications may be changed without prior notice.

HELUDATA® PAS 5308 PE/PVC IAM/CAM/SWA

PE/PVC, individual and overall screened, armoured



Technical data

- Instrumentation cable in ref. to PAS 5308 part 1 type 2
- PE/IAM/CAM/PE/SWA/PVC
- **Temperature range**
  fixed installation -30°C to +80°C
- **Nominal voltage**
  Uo/U 300/500 V
- **Test voltage**
  2000 V
- **Minimum bending radius**
  fixed 6x cable Ø
- **Insulation resistance**
  > 5 GOhm x km
- **Mutual capacitance at 1 kHz**
  0.5/0.75/1 mm²: max. 115 pF/m
  1.5 mm²: max. 120 pF/m
  2.5 mm²: max. 140 pF/m
- **L(R (ratio)**
  0.5/0.75/1 mm² max. 25 µH/Ω
  1.5 mm² max. 40 µH/Ω
  2.5 mm² max. 60 µH/Ω

Cable structure

- Bare copper wire in ref. to EN 60228
  0.5 & 0.75 mm² - class 5
  1 mm² - class 1
  1.5 & 2.5 mm² - class 2
- Core insulation: PE acc. to EN 50290-2-23
- Cores stranded in pairs
- Cores stranded together in in cable elements in optimal lay length
- Core identification: colour coding acc. to PAS 5308-1 Annex C
- Individual screen: pairs indiv. screened with AL/PE tape over tinned copper stranded drain wire
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire
- Inner sheath: PE acc. to EN 50290-2-24
- Inner sheath colour: black
- Armouring: single layer of galvanised round steel wires acc. to EN 10257-1
- Outer sheath: PVC acc. to EN 50290-2-22
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuation and low mutual capacitances enable long transmission distances.

Tests

- Flame retardant acc. to EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to EN 60332-3-24 / IEC 60332-3-24
- UV-resistant nach ISO 4892-2

Note

- Alternative denomination:
  RE-2Y(St)2YRY PiMF
- Suited for direct burial
- AWG sizes are approximate equivalent values. The actual cross section is in mm²
- Additional cores and sizes available on request

Application

For the transmission of data and control signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = The product complies to the Low-Voltage Directive 2014/35/EU.

BLACK outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11001070	2 x 2 x 0,5	20	14,6	28,0	312
11001071	4 x 2 x 0,5	20	17,4	53,0	399,2
11001072	5 x 2 x 0,5	20	18,5	65,5	477,3
11001073	6 x 2 x 0,5	20	21,2	78,0	527,7
11001074	8 x 2 x 0,5	20	22,4	103,0	713,3
11001075	10 x 2 x 0,5	20	25,2	128,0	856,1
11001076	12 x 2 x 0,5	20	25,6	153,0	916,7
11001077	15 x 2 x 0,5	20	28,4	190,4	1238,6
11001078	16 x 2 x 0,5	20	28,8	202,9	1528,7
11001079	20 x 2 x 0,5	20	31,2	252,9	29,5
11001080	24 x 2 x 0,5	20	33,8	302,9	1634,1
11001081	30 x 2 x 0,5	20	36,3	377,8	2033,3
11001082	36 x 2 x 0,5	20	40,2	452,8	2258,1
11001083	2 x 2 x 0,75	19	15,3	36,3	338,9
11001084	4 x 2 x 0,75	19	18,2	69,7	469,9
11001085	5 x 2 x 0,75	19	19,5	86,3	526,2
11001086	6 x 2 x 0,75	19	22,3	103,0	690,1
11001087	8 x 2 x 0,75	19	23,6	136,3	789
11001088	10 x 2 x 0,75	19	26,6	169,6	950
11001089	12 x 2 x 0,75	19	27,2	202,9	1211,2
11001090	15 x 2 x 0,75	19	30,3	252,9	1376,1
11001091	16 x 2 x 0,75	19	30,7	269,6	1401,05
11001092	20 x 2 x 0,75	19	33,3	336,2	1628
11001093	24 x 2 x 0,75	19	36,9	402,9	2050,8
11001094	30 x 2 x 0,75	19	39,5	502,8	2282,5
11001095	36 x 2 x 0,75	19	44,1	602,8	2545
11001096	2 x 2 x 1	18	15,4	46,2	374,7
11001097	4 x 2 x 1	18	18,3	89,4	514,5
11001098	5 x 2 x 1	18	19,6	110,9	578,7
11001099	6 x 2 x 1	18	22,4	132,5	756,7
11001100	8 x 2 x 1	18	23,8	175,7	896,8
11001101	10 x 2 x 1	18	26,8	218,9	1246
11001102	12 x 2 x 1	18	27,4	262,0	1335,8

BLACK outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11001103	15 x 2 x 1	18	30,5	326,8	1539,8
11001104	16 x 2 x 1	18	30,9	348,4	1570,3
11001105	20 x 2 x 1	18	33,6	434,7	2026,8
11001106	24 x 2 x 1	18	37,2	521,0	2282,1
11001107	30 x 2 x 1	18	39,6	605,5	2553,9
11001108	36 x 2 x 1	18	44,5	780,0	2905,4
11001109	2 x 2 x 1,5	16	18,2	63,8	452,1
11001110	4 x 2 x 1,5	16	20,8	124,6	589
11001111	5 x 2 x 1,5	16	22,3	155,0	779,9
11001112	6 x 2 x 1,5	16	25,5	185,4	894,6
11001113	8 x 2 x 1,5	16	27,1	246,1	1224,5
11001114	10 x 2 x 1,5	16	30,7	306,9	1448
11001115	12 x 2 x 1,5	16	31,2	367,7	1562,3
11001116	15 x 2 x 1,5	16	34,6	458,9	1986,3
11001117	16 x 2 x 1,5	16	36,3	489,3	2027,3
11001118	20 x 2 x 1,5	16	39,3	610,8	2366
11001119	24 x 2 x 1,5	16	42,6	732,4	2722,8
11001120	30 x 2 x 1,5	16	45,2	914,7	3069,4
11001121	36 x 2 x 1,5	16	51,3	1097,0	3454,3
11001122	2 x 2 x 2,5	14	19,6	99,3	534,9
11001123	4 x 2 x 2,5	14	23,6	195,7	835,3
11001124	5 x 2 x 2,5	14	25,3	243,8	975
11001125	6 x 2 x 2,5	14	28,1	292,0	1284,7
11001126	8 x 2 x 2,5	14	29,9	388,3	1506,8
11001127	10 x 2 x 2,5	14	33,9	484,6	1967,2
11001128	12 x 2 x 2,5	14	35,4	581,0	2148,5
11001129	15 x 2 x 2,5	14	39,3	725,4	2477,9
11001130	16 x 2 x 2,5	14	40,2	773,6	2538,2
11001131	20 x 2 x 2,5	14	43,7	966,3	3009,4
11001132	24 x 2 x 2,5	14	48,5	1158,9	3427,3
11001133	30 x 2 x 2,5	14	51,6	1447,9	4015,9
11001134	36 x 2 x 2,5	14	57,1	1736,8	4572,6

Continuation ▸

HELUDATA® PAS 5308 PE/PVC IAM/CAM/SWA

PE/PVC, individual and overall screened, armoured

BLUE outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11001135	2 x 2 x 0,5	20	14,6	28,0	312
11001136	4 x 2 x 0,5	20	17,4	53,0	399,2
11001137	5 x 2 x 0,5	20	18,5	65,5	477,3
11001138	6 x 2 x 0,5	20	21,2	78,0	527,7
11001139	8 x 2 x 0,5	20	22,4	103,0	713,3
11001140	10 x 2 x 0,5	20	25,2	128,0	856,1
11001141	12 x 2 x 0,5	20	25,6	153,0	916,7
11001142	15 x 2 x 0,5	20	28,4	190,4	1238,6
11001143	16 x 2 x 0,5	20	28,8	202,9	1528,7
11001144	20 x 2 x 0,5	20	31,2	252,9	29,5
11001145	24 x 2 x 0,5	20	33,8	302,9	1634,1
11001146	30 x 2 x 0,5	20	36,3	377,8	2033,3
11001147	36 x 2 x 0,5	20	40,2	452,8	2258,1
11001148	2 x 2 x 0,75	19	15,3	36,3	338,9
11001149	4 x 2 x 0,75	19	18,2	69,7	469,9
11001150	5 x 2 x 0,75	19	19,5	86,3	526,2
11001151	6 x 2 x 0,75	19	22,3	103,0	690,1
11001152	8 x 2 x 0,75	19	23,6	136,3	789
11001153	10 x 2 x 0,75	19	26,6	169,6	950
11001154	12 x 2 x 0,75	19	27,2	202,9	1211,2
11001155	15 x 2 x 0,75	19	30,3	252,9	1376,1
11001156	16 x 2 x 0,75	19	30,7	269,6	1401,05
11001157	20 x 2 x 0,75	19	33,3	336,2	1628
11001158	24 x 2 x 0,75	19	36,9	402,9	2050,8
11001159	30 x 2 x 0,75	19	39,5	502,8	2282,5
11001160	36 x 2 x 0,75	19	44,1	602,8	2545
11001161	2 x 2 x 1	18	15,4	46,2	374,7
11001162	4 x 2 x 1	18	18,3	89,4	514,5
11001163	5 x 2 x 1	18	19,6	110,9	578,7
11001164	6 x 2 x 1	18	22,4	132,5	756,7
11001165	8 x 2 x 1	18	23,8	175,7	896,8
11001166	10 x 2 x 1	18	26,8	218,9	1246
11001167	12 x 2 x 1	18	27,4	262,0	1335,8

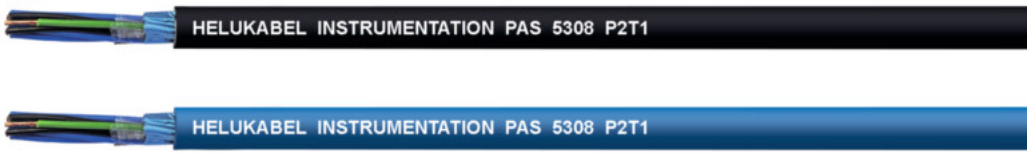
BLUE outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11001168	15 x 2 x 1	18	30,5	326,8	1539,8
11001169	16 x 2 x 1	18	30,9	348,4	1570,3
11001170	20 x 2 x 1	18	33,6	434,7	2026,8
11001171	24 x 2 x 1	18	37,2	521,0	2282,1
11001172	30 x 2 x 1	18	39,6	605,5	2553,9
11001173	36 x 2 x 1	18	44,5	780,0	2905,4
11001174	2 x 2 x 1,5	16	18,2	63,8	452,1
11001175	4 x 2 x 1,5	16	20,8	124,6	589
11001176	5 x 2 x 1,5	16	22,3	155,0	779,9
11001177	6 x 2 x 1,5	16	25,5	185,4	894,6
11001178	8 x 2 x 1,5	16	27,1	246,1	1224,5
11001179	10 x 2 x 1,5	16	30,7	306,9	1448
11001180	12 x 2 x 1,5	16	31,2	367,7	1562,3
11001181	15 x 2 x 1,5	16	34,6	458,9	1986,3
11001182	16 x 2 x 1,5	16	36,3	489,3	2027,3
11001183	20 x 2 x 1,5	16	39,3	610,8	2366
11001184	24 x 2 x 1,5	16	42,6	732,4	2722,8
11001185	30 x 2 x 1,5	16	45,2	914,7	3069,4
11001186	36 x 2 x 1,5	16	51,3	1097,0	3454,3
11001187	2 x 2 x 2,5	14	19,6	99,3	534,9
11001188	4 x 2 x 2,5	14	23,6	195,7	835,3
11001189	5 x 2 x 2,5	14	25,3	243,8	975
11001190	6 x 2 x 2,5	14	28,1	292,0	1284,7
11001191	8 x 2 x 2,5	14	29,9	388,3	1506,8
11001192	10 x 2 x 2,5	14	33,9	484,6	1967,2
11001193	12 x 2 x 2,5	14	35,4	581,0	2148,5
11001194	15 x 2 x 2,5	14	39,3	725,4	2477,9
11001195	16 x 2 x 2,5	14	40,2	773,6	2538,2
11001196	20 x 2 x 2,5	14	43,7	966,3	3009,4
11001197	24 x 2 x 2,5	14	48,5	1158,9	3427,3
11001198	30 x 2 x 2,5	14	51,6	1447,9	4015,9
11001199	36 x 2 x 2,5	14	57,1	1736,8	4572,6

Dimensions and specifications may be changed without prior notice.

HELUDATA® PAS 5308 PVC/PVC CAM

PVC/PVC, overall screened, unarmoured



Technical data

- Instrumentation cable in ref. to PAS 5308 part 2 type 1
- PVC/CAM/PVC
- **Temperature range**
  fixed installation -30°C to +80°C
- **Nominal voltage**
  Uo/U 300/500 V
- **Test voltage**
  2000 V
- **Minimum bending radius**
  fixed 6x cable Ø
- **Insulation resistance**
  > 5 GOhm x km
- **Mutual capacitance at 1 kHz**
  Between pairs or adjacent cores: max. 250 pF/m
  between any core and screen: max. 450 pF/m
- **L/R (ratio)**
  0.5/0.75/1 mm² max. 25 µH/Ω
  1.5 mm² max. 40 µH/Ω
  2.5 mm² max. 60 µH/Ω

Cable structure

- Bare copper wire in ref. to EN 60228
  0.5 & 0.75 mm² - class 5
  1 mm² - class 1
  1.5 & 2.5 mm² - class 2
- Core insulation:
  PVC acc. to EN 50290-2-21
- Cores stranded in pairs, triads or quads
- Cores stranded together in in cable elements in optimal lay length
- Core identification pairs: colour coding acc. to PAS 5308-2 Annex C item C2
  Triads: black, white, red
  Quads: black, blue, green, brown
- Overall screen: AL/PE tape over tinned copper stranded drain wire
- Outer sheath: PVC acc. to EN 50290-2-22
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuation and low mutual capacitances enable long transmission distances.

Tests

- Flame retardant acc. to EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to EN 60332-3-24 / IEC 60332-3-24
- UV resistant acc. to ISO 4892-2

Note

- Alternative denomination:
  RE-Y(St)Y
- Not suited for direct burial
- AWG sizes are approximate equivalent values. The actual cross section is in mm².
- The dimensions 2x2xX are quads, no pairs
- Additional cores and sizes available on request

Application

For the transmission of data and control signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = The product complies to the Low-Voltage Directive 2014/35/EU.

BLACK outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11002071	1 x 2 x 0,5	20	6,0	12,5	42
11002072	2 x 2 x 0,5	20	6,9	22,0	73,3
11002073	4 x 2 x 0,5	20	10,4	40,9	115
11002074	5 x 2 x 0,5	20	11,9	50,4	137
11002075	6 x 2 x 0,5	20	12,9	59,8	164,7
11002076	8 x 2 x 0,5	20	14,1	78,7	219,1
11002077	10 x 2 x 0,5	20	16,5	10,0	266,7
11002078	12 x 2 x 0,5	20	16,9	116,6	305,3
11002079	15 x 2 x 0,5	20	19,0	50,4	377,6
11002080	16 x 2 x 0,5	20	19,3	154,5	395,3
11002081	20 x 2 x 0,5	20	21,5	192,4	509,9
11002082	24 x 2 x 0,5	20	23,0	230,2	597
11002083	30 x 2 x 0,5	20	25,8	287,0	714
11002084	36 x 2 x 0,5	20	27,9	343,8	835,4
11002085	1 x 3 x 0,5	20	6,3	17,2	52
11002086	1 x 2 x 0,75	19	6,4	16,7	48,7
11002087	2 x 2 x 0,75	19	7,4	30,3	86,7
11002088	4 x 2 x 0,75	19	11,6	57,5	139,1
11002089	5 x 2 x 0,75	19	12,8	71,2	172,5
11002090	6 x 2 x 0,75	19	13,9	84,8	213,4
11002091	8 x 2 x 0,75	19	15,2	112,1	267
11002092	10 x 2 x 0,75	19	18,0	139,4	326,5
11002093	12 x 2 x 0,75	19	18,6	166,6	384,2
11002094	15 x 2 x 0,75	19	20,9	207,5	493,9
11002095	16 x 2 x 0,75	19	21,0	221,1	516,8
11002096	20 x 2 x 0,75	19	23,6	275,7	627,5
11002097	24 x 2 x 0,75	19	25,4	330,2	737,2
11002098	30 x 2 x 0,75	19	28,0	412,0	886,6
11002099	36 x 2 x 0,75	19	30,1	493,8	1040,8
11002100	1 x 3 x 0,75	19	6,8	23,5	61,5
11002101	1 x 2 x 1	18	6,5	21,6	56,1
11002102	2 x 2 x 1	18	7,6	40,1	101,3
11002103	4 x 2 x 1	18	11,5	77,2	166,6
11002104	5 x 2 x 1	18	12,9	95,8	218,7
11002105	6 x 2 x 1	18	14,2	114,3	254,6
11002106	8 x 2 x 1	18	15,6	151,4	321,1
11002107	10 x 2 x 1	18	18,2	188,6	402,2
11002108	12 x 2 x 1	18	18,6	225,7	464,4

BLACK outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11002109	15 x 2 x 1	18	21,1	281,4	595,1
11002110	16 x 2 x 1	18	21,2	299,9	624
11002111	20 x 2 x 1	18	23,6	374,2	760,2
11002112	24 x 2 x 1	18	25,5	448,4	895,4
11002113	30 x 2 x 1	18	28,3	559,7	1081,9
11002114	36 x 2 x 1	18	30,5	671,1	1273,3
11002115	1 x 3 x 1	18	6,8	30,9	72,5
11002116	1 x 2 x 1,5	16	7,4	30,4	69,2
11002117	2 x 2 x 1,5	16	8,8	57,8	126,2
11002118	4 x 2 x 1,5	16	13,3	112,4	231,3
11002119	5 x 2 x 1,5	16	15,0	139,8	278,2
11002120	6 x 2 x 1,5	16	16,5	167,2	325,3
11002121	8 x 2 x 1,5	16	18,2	221,9	413,8
11002122	10 x 2 x 1,5	16	21,2	276,7	547,5
11002123	12 x 2 x 1,5	16	21,6	331,3	631,7
11002124	15 x 2 x 1,5	16	24,6	413,5	768,2
11002125	16 x 2 x 1,5	16	24,8	440,8	807,5
11002126	20 x 2 x 1,5	16	27,7	550,3	988
11002127	24 x 2 x 1,5	16	29,9	659,7	1166,6
11002128	30 x 2 x 1,5	16	33,1	823,9	1417,1
11002129	36 x 2 x 1,5	16	35,7	988,1	1689,3
11002130	1 x 3 x 1,5	16	7,8	44,1	90,4
11002131	1 x 2 x 2,5	14	8,2	47,5	92,1
11002132	2 x 2 x 2,5	14	9,7	91,9	189,7
11002133	4 x 2 x 2,5	14	15,5	183,5	323,5
11002134	5 x 2 x 2,5	14	17,2	225,3	387,7
11002135	6 x 2 x 2,5	14	18,7	273,8	469,3
11002136	8 x 2 x 2,5	14	20,6	364,1	629,7
11002137	10 x 2 x 2,5	14	24,1	447,5	765,9
11002138	12 x 2 x 2,5	14	24,6	544,6	899,9
11002139	15 x 2 x 2,5	14	28,2	669,8	1088,2
11002140	16 x 2 x 2,5	14	28,4	725,2	1160,4
11002141	20 x 2 x 2,5	14	31,9	892,0	1409,6
11002142	24 x 2 x 2,5	14	34,5	1086,2	1706,2
11002143	30 x 2 x 2,5	14	37,9	1357,1	2082,3
11002144	36 x 2 x 2,5	14	40,9	1627,9	2465,1
11002145	1 x 3 x 2,5	14	8,9	69,7	128

Continuation ▸

HELUDATA® PAS 5308 PVC/PVC CAM

PVC/PVC, overall screened, unarmoured

BLUE outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11002146	1 x 2 x 0,5	20	6,0	12,5	42
11002147	2 x 2 x 0,5	20	6,9	22,0	73,3
11002148	4 x 2 x 0,5	20	10,4	40,9	115
11002149	5 x 2 x 0,5	20	11,9	50,4	137
11002150	6 x 2 x 0,5	20	12,9	59,8	164,7
11002151	8 x 2 x 0,5	20	14,1	78,7	219,1
11002152	10 x 2 x 0,5	20	16,5	10,0	266,7
11002153	12 x 2 x 0,5	20	16,9	116,6	305,3
11002154	15 x 2 x 0,5	20	19,0	50,4	377,6
11002155	16 x 2 x 0,5	20	19,3	154,5	395,3
11002156	20 x 2 x 0,5	20	21,5	192,4	509,9
11002157	24 x 2 x 0,5	20	23,0	230,2	597
11002158	30 x 2 x 0,5	20	25,8	287,0	714
11002159	36 x 2 x 0,5	20	27,9	343,8	835,4
11002160	1 x 3 x 0,5	20	6,3	17,2	52
11002161	1 x 2 x 0,75	19	6,4	16,7	48,7
11002162	2 x 2 x 0,75	19	7,4	30,3	86,7
11002163	4 x 2 x 0,75	19	11,6	57,5	139,1
11002164	5 x 2 x 0,75	19	12,8	71,2	172,5
11002165	6 x 2 x 0,75	19	13,9	84,8	213,4
11002166	8 x 2 x 0,75	19	15,2	112,1	267
11002167	10 x 2 x 0,75	19	18,0	139,4	326,5
11002168	12 x 2 x 0,75	19	18,6	166,6	384,2
11002169	15 x 2 x 0,75	19	20,9	207,5	493,9
11002170	16 x 2 x 0,75	19	21,0	221,1	516,8
11002171	20 x 2 x 0,75	19	23,6	275,7	627,5
11002172	24 x 2 x 0,75	19	25,4	330,2	737,2
11002173	30 x 2 x 0,75	19	28,0	412,0	886,6
11002174	36 x 2 x 0,75	19	30,1	493,8	1040,8
11002175	1 x 3 x 0,75	19	6,8	23,5	61,5
11002176	1 x 2 x 1	18	6,5	21,6	56,1
11002177	2 x 2 x 1	18	7,6	40,1	101,3
11002178	4 x 2 x 1	18	11,5	77,2	166,6
11002179	5 x 2 x 1	18	12,9	95,8	218,7
11002180	6 x 2 x 1	18	14,2	114,3	254,6
11002181	8 x 2 x 1	18	15,6	151,4	321,1
11002182	10 x 2 x 1	18	18,2	188,6	402,2
11002183	12 x 2 x 1	18	18,6	225,7	464,4

BLUE outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11002184	15 x 2 x 1	18	21,1	281,4	595,1
11002185	16 x 2 x 1	18	21,2	299,9	624
11002186	20 x 2 x 1	18	23,6	374,2	760,2
11002187	24 x 2 x 1	18	25,5	448,4	895,4
11002188	30 x 2 x 1	18	28,3	559,7	1081,9
11002189	36 x 2 x 1	18	30,5	671,1	1273,3
11002190	1 x 3 x 1	18	6,8	30,9	72,5
11002191	1 x 2 x 1,5	16	7,4	30,4	69,2
11002192	2 x 2 x 1,5	16	8,8	57,8	126,2
11002193	4 x 2 x 1,5	16	13,3	112,4	231,3
11002194	5 x 2 x 1,5	16	15,0	139,8	278,2
11002195	6 x 2 x 1,5	16	16,5	167,2	325,3
11002196	8 x 2 x 1,5	16	18,2	221,9	413,8
11002197	10 x 2 x 1,5	16	21,2	276,7	547,5
11002198	12 x 2 x 1,5	16	21,6	331,3	631,7
11002199	15 x 2 x 1,5	16	24,6	413,5	768,2
11002200	16 x 2 x 1,5	16	24,8	440,8	807,5
11002201	20 x 2 x 1,5	16	27,7	550,3	988
11002202	24 x 2 x 1,5	16	29,9	659,7	1166,6
11002203	30 x 2 x 1,5	16	33,1	823,9	1417,1
11002204	36 x 2 x 1,5	16	35,7	988,1	1689,3
11002205	1 x 3 x 1,5	16	7,8	44,1	90,4
11002206	1 x 2 x 2,5	14	8,2	47,5	92,1
11002207	2 x 2 x 2,5	14	9,7	91,9	189,7
11002208	4 x 2 x 2,5	14	15,5	183,5	323,5
11002209	5 x 2 x 2,5	14	17,2	225,3	387,7
11002210	6 x 2 x 2,5	14	18,7	273,8	469,3
11002211	8 x 2 x 2,5	14	20,6	364,1	629,7
11002212	10 x 2 x 2,5	14	24,1	447,5	765,9
11002213	12 x 2 x 2,5	14	24,6	544,6	899,9
11002214	15 x 2 x 2,5	14	28,2	669,8	1088,2
11002215	16 x 2 x 2,5	14	28,4	725,2	1160,4
11002216	20 x 2 x 2,5	14	31,9	892,0	1409,6
11002217	24 x 2 x 2,5	14	34,5	1086,2	1706,2
11002218	30 x 2 x 2,5	14	37,9	1357,1	2082,3
11002219	36 x 2 x 2,5	14	40,9	1627,9	2465,1
11002220	1 x 3 x 2,5	14	8,9	69,7	128

Dimensions and specifications may be changed without prior notice.

HELUDATA® PAS 5308 PVC/PVC IAM/CAM

PVC/PVC, individual and overall screened, unarmoured





Technical data

- Instrumentation cable in ref. to PAS 5308 part 2 type 1
- PVC/IAM/CAM/PVC
- **Temperature range**
  fixed installation -30°C to +80°C
- **Nominal voltage**
  Uo/U 300/500 V
- **Test voltage**
  2000 V
- **Minimum bending radius**
  fixed 6x cable Ø
- **Insulation resistance**
  > 5 GOhm x km
- **Mutual capacitance at 1 kHz**
  Between pairs or adjacent cores: max. 250 pF/m
  between any core and screen: max. 450 pF/m
- **L/R (ratio)**
  0.5/0.75/1 mm² max. 25 µH/Ω
  1.5 mm² max. 40 µH/Ω
  2.5 mm² max. 60 µH/Ω

Cable structure

- Bare copper wire in ref. to EN 60228
  0.5 & 0.75 mm² - class 5
  1 mm² - class 1
  1.5 & 2.5 mm² - class 2
- Core insulation:
  PVC acc. to EN 50290-2-21
- Cores stranded in pairs
- Cores stranded together in in cable elements in optimal lay length
- Core identification: colour coding acc. to PAS 5308-2 Annex C item C2
- Individual screen: pairs indiv. screened with AL/PE tape over tinned copper stranded drain wire
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire
- Outer sheath: PVC acc. to EN 50290-2-22
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuation and low mutual capacitances enable long transmission distances.

Tests

- Flame retardant acc. to EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to EN 60332-3-24 / IEC 60332-3-24
- UV resistant acc. to ISO 4892-2

Note

- Alternative denomination:
  RE-Y(St)Y PiMF
- Not suited for direct burial
- AWG sizes are approximate equivalent values. The actual cross section is in mm²
- Additional cores and sizes available on request

Application

For the transmission of data and control signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = The product complies to the Low-Voltage Directive 2014/35/EU.

BLACK outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11002221	2 x 2 x 0,5	20	10,0	28,0	87,6
11002222	4 x 2 x 0,5	20	11,9	53,0	140,7
11002223	5 x 2 x 0,5	20	13,0	65,5	174,4
11002224	6 x 2 x 0,5	20	14,6	78,0	215,9
11002225	8 x 2 x 0,5	20	15,8	103,0	270,3
11002226	10 x 2 x 0,5	20	18,6	128,0	330,5
11002227	12 x 2 x 0,5	20	18,8	153,0	388,9
11002228	15 x 2 x 0,5	20	21,6	190,4	500
11002229	16 x 2 x 0,5	20	21,8	202,9	523,2
11002230	20 x 2 x 0,5	20	24,2	252,9	635,3
11002231	24 x 2 x 0,5	20	26,6	302,9	746,5
11002232	30 x 2 x 0,5	20	29,1	377,8	898,2
11002233	36 x 2 x 0,5	20	31,8	452,0	1054,3
11002234	2 x 2 x 0,75	19	10,7	36,3	101,2
11002235	4 x 2 x 0,75	19	12,7	69,7	171
11002236	5 x 2 x 0,75	19	14,0	86,3	217,7
11002237	6 x 2 x 0,75	19	15,7	13,6	103
11002238	8 x 2 x 0,75	19	17,0	136,3	318,8
11002239	10 x 2 x 0,75	19	20,0	169,6	399,2
11002240	12 x 2 x 0,75	19	20,4	202,9	460,5
11002241	15 x 2 x 0,75	19	23,5	252,9	590,5
11002242	16 x 2 x 0,75	19	23,7	269,6	619
11002243	20 x 2 x 0,75	19	26,3	336,2	753,7
11002244	24 x 2 x 0,75	19	28,7	402,9	887,4
11002245	30 x 2 x 0,75	19	31,3	502,8	1071,6
11002246	36 x 2 x 0,75	19	34,5	602,8	1260,4
11002247	2 x 2 x 1	18	11,0	46,2	115,7
11002248	4 x 2 x 1	18	13,0	89,4	210,8
11002249	5 x 2 x 1	18	14,3	110,9	100,4
11002250	6 x 2 x 1	18	16,2	132,5	294,8
11002251	8 x 2 x 1	18	17,6	175,7	373,3
11002252	10 x 2 x 1	18	20,6	218,9	496,4
11002253	12 x 2 x 1	18	20,8	262,0	571

BLACK outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11002254	15 x 2 x 1	18	23,9	326,8	692,2
11002255	16 x 2 x 1	18	23,9	348,4	727,1
11002256	20 x 2 x 1	18	26,8	434,7	887,3
11002257	24 x 2 x 1	18	29,4	521,0	1046,6
11002258	30 x 2 x 1	18	31,4	650,5	1267,6
11002259	36 x 2 x 1	18	35,5	780,0	1509,8
11002260	2 x 2 x 1,5	16	12,7	63,8	148
11002261	4 x 2 x 1,5	16	15,1	124,6	262,1
11002262	5 x 2 x 1,5	16	16,6	155,0	315,8
11002263	6 x 2 x 1,5	16	18,7	185,4	369,8
11002264	8 x 2 x 1,5	16	20,3	246,1	480,4
11002265	10 x 2 x 1,5	16	23,9	306,9	622,2
11002266	12 x 2 x 1,5	16	24,2	367,7	719,3
11002267	15 x 2 x 1,5	16	27,6	458,9	876
11002268	16 x 2 x 1,5	16	27,9	489,3	921,5
11002269	20 x 2 x 1,5	16	31,2	610,8	1128,8
11002270	24 x 2 x 1,5	16	34,2	732,4	1334,5
11002271	30 x 2 x 1,5	16	36,8	914,7	1639,5
11002272	36 x 2 x 1,5	16	41,3	1097,0	1935,6
11002273	2 x 2 x 2,5	14	14,1	98,0	207,6
11002274	4 x 2 x 2,5	14	17,0	195,7	354,9
11002275	5 x 2 x 2,5	14	18,7	240,4	434,3
11002276	6 x 2 x 2,5	14	21,1	292,0	515,2
11002277	8 x 2 x 2,5	14	22,9	388,3	691,4
11002278	10 x 2 x 2,5	14	26,9	477,8	841,9
11002279	12 x 2 x 2,5	14	27,2	581,0	989,4
11002280	15 x 2 x 2,5	14	31,1	715,2	1197,7
11002281	16 x 2 x 2,5	14	31,8	773,6	1276,2
11002282	20 x 2 x 2,5	14	35,3	952,5	1552,3
11002283	24 x 2 x 2,5	14	38,7	1158,9	1877,5
11002284	30 x 2 x 2,5	14	41,8	1447,9	2292,2
11002285	36 x 2 x 2,5	14	46,7	1736,8	2775,1

Continuation ▸

HELUDATA® PAS 5308 PVC/PVC IAM/CAM

PVC/PVC, individual and overall screened, unarmoured

BLUE outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11002286	2 x 2 x 0,5	20	10,0	28,0	87,6
11002287	4 x 2 x 0,5	20	11,9	53,0	140,7
11002288	5 x 2 x 0,5	20	13,0	65,5	174,4
11002289	6 x 2 x 0,5	20	14,6	78,0	215,9
11002290	8 x 2 x 0,5	20	15,8	103,0	270,3
11002291	10 x 2 x 0,5	20	18,6	128,0	330,5
11002292	12 x 2 x 0,5	20	18,8	153,0	388,9
11002293	15 x 2 x 0,5	20	21,6	190,4	500
11002294	16 x 2 x 0,5	20	21,8	202,9	523,2
11002295	20 x 2 x 0,5	20	24,2	252,9	635,3
11002296	24 x 2 x 0,5	20	26,6	302,9	746,5
11002297	30 x 2 x 0,5	20	29,1	377,8	898,2
11002298	36 x 2 x 0,5	20	31,8	452,0	1054,3
11002299	2 x 2 x 0,75	19	10,7	36,3	101,2
11002300	4 x 2 x 0,75	19	12,7	69,7	171
11002301	5 x 2 x 0,75	19	14,0	86,3	217,7
11002302	6 x 2 x 0,75	19	15,7	13,6	103
11002303	8 x 2 x 0,75	19	17,0	136,3	318,8
11002304	10 x 2 x 0,75	19	20,0	169,6	399,2
11002305	12 x 2 x 0,75	19	20,4	202,9	460,5
11002306	15 x 2 x 0,75	19	23,5	252,9	590,5
11002307	16 x 2 x 0,75	19	23,7	269,6	619
11002308	20 x 2 x 0,75	19	26,3	336,2	753,7
11002309	24 x 2 x 0,75	19	28,7	402,9	887,4
11002310	30 x 2 x 0,75	19	31,3	502,8	1071,6
11002311	36 x 2 x 0,75	19	34,5	602,8	1260,4
11002312	2 x 2 x 1	18	11,0	46,2	115,7
11002313	4 x 2 x 1	18	13,0	89,4	210,8
11002314	5 x 2 x 1	18	14,3	110,9	100,4
11002315	6 x 2 x 1	18	16,2	132,5	294,8
11002316	8 x 2 x 1	18	17,6	175,7	373,3
11002317	10 x 2 x 1	18	20,6	218,9	496,4
11002318	12 x 2 x 1	18	20,8	262,0	571

BLUE outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11002319	15 x 2 x 1	18	23,9	326,8	692,2
11002320	16 x 2 x 1	18	23,9	348,4	727,1
11002321	20 x 2 x 1	18	26,8	434,7	887,3
11002322	24 x 2 x 1	18	29,4	521,0	1046,6
11002323	30 x 2 x 1	18	31,4	650,5	1267,6
11002324	36 x 2 x 1	18	35,5	780,0	1509,8
11002325	2 x 2 x 1,5	16	12,7	63,8	148
11002326	4 x 2 x 1,5	16	15,1	124,6	262,1
11002327	5 x 2 x 1,5	16	16,6	155,0	315,8
11002328	6 x 2 x 1,5	16	18,7	185,4	369,8
11002329	8 x 2 x 1,5	16	20,3	246,1	480,4
11002330	10 x 2 x 1,5	16	23,9	306,9	622,2
11002331	12 x 2 x 1,5	16	24,2	367,7	719,3
11002332	15 x 2 x 1,5	16	27,6	458,9	876
11002333	16 x 2 x 1,5	16	27,9	489,3	921,5
11002334	20 x 2 x 1,5	16	31,2	610,8	1128,8
11002335	24 x 2 x 1,5	16	34,2	732,4	1334,5
11002336	30 x 2 x 1,5	16	36,8	914,7	1639,5
11002337	36 x 2 x 1,5	16	41,3	1097,0	1935,6
11002338	2 x 2 x 2,5	14	14,1	98,0	207,6
11002339	4 x 2 x 2,5	14	17,0	195,7	354,9
11002340	5 x 2 x 2,5	14	18,7	240,4	434,3
11002341	6 x 2 x 2,5	14	21,1	292,0	515,2
11002342	8 x 2 x 2,5	14	22,9	388,3	691,4
11002343	10 x 2 x 2,5	14	26,9	477,8	841,9
11002344	12 x 2 x 2,5	14	27,2	581,0	989,4
11002345	15 x 2 x 2,5	14	31,1	715,2	1197,7
11002346	16 x 2 x 2,5	14	31,8	773,6	1276,2
11002347	20 x 2 x 2,5	14	35,3	952,5	1552,3
11002348	24 x 2 x 2,5	14	38,7	1158,9	1877,5
11002349	30 x 2 x 2,5	14	41,8	1447,9	2292,2
11002350	36 x 2 x 2,5	14	46,7	1736,8	2775,1

Dimensions and specifications may be changed without prior notice.

HELUDATA® PAS 5308 PVC/PVC CAM/SWA

PVC/PVC, overall screened, armoured





Technical data

- Instrumentation cable in ref. to PAS 5308 part 2 type 2
- PVC/CAM/PVC/SWA/PVC
- **Temperature range**
  fixed installation -30°C to +80°C
- **Nominal voltage**
  Uo/U 300/500 V
- **Test voltage**
  2000 V
- **Minimum bending radius**
  fixed 6x cable Ø
- **Insulation resistance**
  > 5 GOhm x km
- **Mutual capacitance at 1 kHz**
  Between pairs or adjacent cores: max. 250 pF/m
  between any core and screen: max. 450 pF/m
- **L/R (ratio)**
  0.5/0.75/1 mm² max. 25 µH/Ω
  1.5 mm² max. 40 µH/Ω
  2.5 mm² max. 60 µH/Ω

Cable structure

- Bare copper wire in ref. to EN 60228
  0.5 & 0.75 mm² - class 5
  1 mm² - class 1
  1.5 & 2.5 mm² - class 2
- Core insulation:
  PVC acc. to EN 50290-2-21
- Cores stranded in pairs, triads or quads
- Cores stranded together in in cable elements in optimal lay length
- Core identification pairs: colour coding acc. to PAS 5308-2 Annex C item C2
  Triads: black, white, red
  Quads: black, blue, green, brown
- Overall screen: AL/PE tape over tinned copper stranded drain wire
- Inner sheath: PVC acc. to EN 50290-2-22
- Inner sheath colour: black
- Armouring: single layer of galvanised round steel wires acc. to EN 10257-1
- Outer sheath: PVC acc. to EN 50290-2-22
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuation and low mutual capacitances enable long transmission distances.

Tests

- Flame retardant acc. to EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to EN 60332-3-24 / IEC 60332-3-24
- UV resistant acc. to ISO 4892-2

Note

- Alternative denomination:
  RE-Y(St)YRY
- Suited for direct burial
- AWG sizes are approximate equivalent values. The actual cross section is in mm².
- The dimensions 2x2xX are quads, no pairs
- Additional cores and sizes available on request

Application

For the transmission of data and control signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = The product complies to the Low-Voltage Directive 2014/35/EU.

BLACK outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11002351	1 x 2 x 0,5	20	10,4	12,5	195,7
11002352	2 x 2 x 0,5	20	11,3	22,0	274,5
11002353	4 x 2 x 0,5	20	15,2	40,9	348,3
11002354	5 x 2 x 0,5	20	16,7	50,4	382,7
11002355	6 x 2 x 0,5	20	18,6	59,8	448,2
11002356	8 x 2 x 0,5	20	19,8	78,8	535,9
11002357	10 x 2 x 0,5	20	22,2	97,7	722,4
11002358	12 x 2 x 0,5	20	23,5	116,6	786,1
11002359	15 x 2 x 0,5	20	25,6	145,1	908,1
11002360	16 x 2 x 0,5	20	25,9	154,5	938,9
11002361	20 x 2 x 0,5	20	28,3	192,4	1234
11002362	24 x 2 x 0,5	20	30,2	230,3	1424,8
11002363	30 x 2 x 0,5	20	32,8	287,1	1600,8
11002364	36 x 2 x 0,5	20	35,9	343,9	1783,6
11002365	1 x 3 x 0,5	20	10,7	17,2	208
11002366	1 x 2 x 0,75	19	10,8	16,7	205,9
11002367	2 x 2 x 0,75	19	12,0	30,3	300,1
11002368	4 x 2 x 0,75	19	16,7	57,6	387,2
11002369	5 x 2 x 0,75	19	18,3	71,2	446,5
11002370	6 x 2 x 0,75	19	20,5	84,8	524,5
11002371	8 x 2 x 0,75	19	21,8	112,1	604,9
11002372	10 x 2 x 0,75	19	24,6	139,4	813,5
11002373	12 x 2 x 0,75	19	25,4	166,6	915,2
11002374	15 x 2 x 0,75	19	27,7	207,5	1078,4
11002375	16 x 2 x 0,75	19	28,0	221,2	1115,6
11002376	20 x 2 x 0,75	19	30,6	275,7	1402,3
11002377	24 x 2 x 0,75	19	32,6	330,3	1639,6
11002378	30 x 2 x 0,75	19	35,2	412,1	1837,7
11002379	36 x 2 x 0,75	19	38,5	493,9	2275,4
11002380	1 x 3 x 0,75	19	11,2	23,5	225,4
11002381	1 x 2 x 1	18	11,1	21,6	220,9
11002382	2 x 2 x 1	18	12,2	40,1	326,7
11002383	4 x 2 x 1	18	17,2	77,3	437,4
11002384	5 x 2 x 1	18	18,8	95,8	517,7
11002385	6 x 2 x 1	18	21,0	114,4	584,5
11002386	8 x 2 x 1	18	22,4	151,5	789,1
11002387	10 x 2 x 1	18	25,0	188,6	937,6
11002388	12 x 2 x 1	18	25,6	225,7	1029,3

BLACK outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11002389	15 x 2 x 1	18	28,1	281,4	1341,3
11002390	16 x 2 x 1	18	28,4	300,0	1409,1
11002391	20 x 2 x 1	18	30,8	374,2	1600,7
11002392	24 x 2 x 1	18	33,7	448,4	1858
11002393	30 x 2 x 1	18	36,5	559,8	2313,1
11002394	36 x 2 x 1	18	40,3	671,1	2591,9
11002395	1 x 3 x 1	18	11,4	30,9	244,5
11002396	1 x 2 x 1,5	16	12,0	30,4	245,2
11002397	2 x 2 x 1,5	16	13,4	57,8	369,5
11002398	4 x 2 x 1,5	16	19,0	112,5	537,8
11002399	5 x 2 x 1,5	16	20,9	139,8	602,1
11002400	6 x 2 x 1,5	16	23,3	167,2	792,1
11002401	8 x 2 x 1,5	16	25,0	221,9	922,2
11002402	10 x 2 x 1,5	16	28,0	276,7	1267,4
11002403	12 x 2 x 1,5	16	28,6	331,4	1411,4
11002404	15 x 2 x 1,5	16	31,6	413,5	1595,6
11002405	16 x 2 x 1,5	16	32,0	440,9	1677,1
11002406	20 x 2 x 1,5	16	34,9	550,3	1905,6
11002407	24 x 2 x 1,5	16	38,1	659,8	2442,5
11002408	30 x 2 x 1,5	16	41,3	823,9	2763,8
11002409	36 x 2 x 1,5	16	45,5	988,1	3162,5
11002410	1 x 3 x 1,5	16	12,4	44,1	274,6
11002411	1 x 2 x 2,5	14	12,8	47,5	285,6
11002412	2 x 2 x 2,5	14	14,3	91,9	481,9
11002413	4 x 2 x 2,5	14	21,0	183,6	666,7
11002414	5 x 2 x 2,5	14	23,1	225,3	859,3
11002415	6 x 2 x 2,5	14	25,7	273,8	1011,2
11002416	8 x 2 x 2,5	14	27,6	364,1	1380,1
11002417	10 x 2 x 2,5	14	31,1	447,5	1588,5
11002418	12 x 2 x 2,5	14	31,8	544,7	1794,3
11002419	15 x 2 x 2,5	14	35,4	669,8	2211,1
11002420	16 x 2 x 2,5	14	36,6	725,2	2336,4
11002421	20 x 2 x 2,5	14	40,1	892,0	2676,1
11002422	24 x 2 x 2,5	14	43,1	1086,3	3184,8
11002423	30 x 2 x 2,5	14	46,5	1357,1	3644,9
11002424	36 x 2 x 2,5	14	50,9	1627,9	4143,8
11002425	1 x 3 x 2,5	14	13,5	69,7	335,2

Continuation ▸

HELUDATA® PAS 5308 PVC/PVC CAM/SWA

PVC/PVC, overall screened, armoured

BLUE outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11002426	1 x 2 x 0,5	20	10,4	12,5	195,7
11002427	2 x 2 x 0,5	20	11,3	22,0	274,5
11002428	4 x 2 x 0,5	20	15,2	40,9	348,3
11002429	5 x 2 x 0,5	20	16,7	50,4	382,7
11002430	6 x 2 x 0,5	20	18,6	59,8	448,2
11002431	8 x 2 x 0,5	20	19,8	78,8	535,9
11002432	10 x 2 x 0,5	20	22,2	97,7	722,4
11002433	12 x 2 x 0,5	20	23,5	116,6	786,1
11002434	15 x 2 x 0,5	20	25,6	145,1	908,1
11002435	16 x 2 x 0,5	20	25,9	154,5	938,9
11002436	20 x 2 x 0,5	20	28,3	192,4	1234
11002437	24 x 2 x 0,5	20	30,2	230,3	1424,8
11002438	30 x 2 x 0,5	20	32,8	287,1	1600,8
11002439	36 x 2 x 0,5	20	35,9	343,9	1783,6
11002440	1 x 3 x 0,5	20	10,7	17,2	208
11002441	1 x 2 x 0,75	19	10,8	16,7	205,9
11002442	2 x 2 x 0,75	19	12,0	30,3	300,1
11002443	4 x 2 x 0,75	19	16,7	57,6	387,2
11002444	5 x 2 x 0,75	19	18,3	71,2	446,5
11002445	6 x 2 x 0,75	19	20,5	84,8	524,5
11002446	8 x 2 x 0,75	19	21,8	112,1	604,9
11002447	10 x 2 x 0,75	19	24,6	139,4	813,5
11002448	12 x 2 x 0,75	19	25,4	166,6	915,2
11002449	15 x 2 x 0,75	19	27,7	207,5	1078,4
11002450	16 x 2 x 0,75	19	28,0	221,2	1115,6
11002451	20 x 2 x 0,75	19	30,6	275,7	1402,3
11002452	24 x 2 x 0,75	19	32,6	330,3	1639,6
11002453	30 x 2 x 0,75	19	35,2	412,1	1837,7
11002454	36 x 2 x 0,75	19	38,5	493,9	2275,4
11002455	1 x 3 x 0,75	19	11,2	23,5	225,4
11002456	1 x 2 x 1	18	11,4	21,6	220,9
11002457	2 x 2 x 1	18	12,2	40,1	326,7
11002458	4 x 2 x 1	18	17,2	77,3	437,4
11002459	5 x 2 x 1	18	18,8	95,8	517,7
11002460	6 x 2 x 1	18	21,0	114,4	584,5
11002461	8 x 2 x 1	18	22,4	151,5	789,1
11002462	10 x 2 x 1	18	25,0	188,6	937,6
11002463	12 x 2 x 1	18	25,6	225,7	1029,3

BLUE outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11002464	15 x 2 x 1	18	28,1	281,4	1341,3
11002465	16 x 2 x 1	18	28,4	300,0	1409,1
11002466	20 x 2 x 1	18	30,8	374,2	1600,7
11002467	24 x 2 x 1	18	33,7	448,4	1858
11002468	30 x 2 x 1	18	36,5	559,8	2313,1
11002469	36 x 2 x 1	18	40,3	671,1	2591,9
11002470	1 x 3 x 1	18	11,2	30,9	244,5
11002471	1 x 2 x 1,5	16	12,0	30,4	245,2
11002472	2 x 2 x 1,5	16	13,4	57,8	369,5
11002473	4 x 2 x 1,5	16	19,0	112,5	537,8
11002474	5 x 2 x 1,5	16	20,9	139,8	602,1
11002475	6 x 2 x 1,5	16	23,3	167,2	792,1
11002476	8 x 2 x 1,5	16	25,0	221,9	922,2
11002477	10 x 2 x 1,5	16	28,0	276,7	1267,4
11002478	12 x 2 x 1,5	16	28,6	331,4	1411,4
11002479	15 x 2 x 1,5	16	31,6	413,5	1595,6
11002480	16 x 2 x 1,5	16	32,0	440,9	1677,1
11002481	20 x 2 x 1,5	16	34,9	550,3	1905,6
11002482	24 x 2 x 1,5	16	38,1	659,8	2442,5
11002483	30 x 2 x 1,5	16	41,3	823,9	2763,8
11002484	36 x 2 x 1,5	16	45,5	988,1	3162,5
11002485	1 x 3 x 1,5	16	12,4	44,1	274,6
11002486	1 x 2 x 2,5	14	12,8	47,5	285,6
11002487	2 x 2 x 2,5	14	14,3	91,9	481,9
11002488	4 x 2 x 2,5	14	21,0	183,6	666,7
11002489	5 x 2 x 2,5	14	23,1	225,3	859,3
11002490	6 x 2 x 2,5	14	25,7	273,8	1011,2
11002491	8 x 2 x 2,5	14	27,6	364,1	1380,1
11002492	10 x 2 x 2,5	14	31,1	447,5	1588,5
11002493	12 x 2 x 2,5	14	31,8	544,7	1794,3
11002494	15 x 2 x 2,5	14	35,4	669,8	2211,1
11002495	16 x 2 x 2,5	14	36,6	725,2	2336,4
11002496	20 x 2 x 2,5	14	40,1	892,0	2676,1
11002497	24 x 2 x 2,5	14	43,1	1086,3	3184,8
11002498	30 x 2 x 2,5	14	46,5	1357,1	3644,9
11002499	36 x 2 x 2,5	14	50,9	1627,9	4143,8
11002500	1 x 3 x 2,5	14	13,5	69,7	335,2

Dimensions and specifications may be changed without prior notice.

HELUDATA® PAS 5308 PVC/PVC IAM/CAM/SWA

PVC/PVC, individual and overall screened, armoured



Technical data

- Instrumentation cable in ref. to PAS 5308 part 2 type 2
- PVC/IAM/CAM/PVC/SWA/PVC
- **Temperature range**
  fixed installation -30°C to +80°C
- **Nominal voltage**
  Uo/U 300/500 V
- **Test voltage**
  2000 V
- **Minimum bending radius**
  fixed 6x cable Ø
- **Insulation resistance**
  > 5 GOhm x km
- **Mutual capacitance at 1 kHz**
  Between pairs or adjacent cores:
  max. 250 pF/m
  between any core and screen:
  max. 450 pF/m
- **L/R (ratio)**
  0.5/0.75/1 mm² max. 25 µH/Ω
  1.5 mm² max. 40 µH/Ω
  2.5 mm² max. 60 µH/Ω

Cable structure

- Bare copper wire in ref. to EN 60228
  0.5 & 0.75 mm² - class 5
  1 mm² - class 1
  1.5 & 2.5 mm² - class 2
- Core insulation:
  PVC acc. to EN 50290-2-21
- Cores stranded in pairs
- Cores stranded together in in cable elements in optimal lay length
- Core identification: colour coding acc. to PAS 5308-2 Annex C item C2
- Individual screen: pairs indiv. screened with AL/PE tape over tinned copper stranded drain wire
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire
- Inner sheath: PVC acc. to EN 50290-2-22
- Inner sheath colour: black
- Armouring: single layer of galvanised round steel wires acc. to EN 10257-1
- Outer sheath: PVC acc. to EN 50290-2-22
- Outer sheath colour: black or blue
- With meter marking

Properties

- Low level of line attenuation and low mutual capacitances enable long transmission distances.

Tests

- Flame retardant acc. to EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to EN 60332-3-24 / IEC 60332-3-24
- UV resistant acc. to ISO 4892-2

Note

- Alternative denomination:
  RE-Y(St)YRY PiMF
- Suited for direct burial
- AWG sizes are approximate equivalent values. The actual cross section is in mm²
- Additional cores and sizes available on request

Application

For the transmission of data and control signals in harsh environments like oil, gas and petrochemical industries. The cables are suitable for fixed installation in dry and damp locations, open spaces and in underground networks.

CE = The product complies to the Low-Voltage Directive 2014/35/EU.

BLACK outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11002501	2 x 2 x 0,5	20	14,6	28,0	303
11002502	4 x 2 x 0,5	20	17,2	53,0	391,3
11002503	5 x 2 x 0,5	20	18,5	65,5	451,2
11002504	6 x 2 x 0,5	20	21,2	78,0	530,1
11002505	8 x 2 x 0,5	20	22,4	103,0	611,6
11002506	10 x 2 x 0,5	20	25,2	128,0	822,6
11002507	12 x 2 x 0,5	20	25,6	153,0	925,5
11002508	15 x 2 x 0,5	20	28,4	190,4	1209
11002509	16 x 2 x 0,5	20	28,8	202,9	1269,3
11002510	20 x 2 x 0,5	20	31,2	252,9	1418,4
11002511	24 x 2 x 0,5	20	33,8	302,9	1658,7
11002512	30 x 2 x 0,5	20	36,3	377,8	1859,7
11002513	36 x 2 x 0,5	20	40,2	452,8	2302,4
11002514	2 x 2 x 0,75	19	15,3	36,3	329,1
11002515	4 x 2 x 0,75	19	18,2	69,7	449,5
11002516	5 x 2 x 0,75	19	19,5	86,3	520,6
11002517	6 x 2 x 0,75	19	22,3	103,0	587,1
11002518	8 x 2 x 0,75	19	23,6	136,3	792,9
11002519	10 x 2 x 0,75	19	26,6	169,6	941,8
11002520	12 x 2 x 0,75	19	27,2	202,9	1033,1
11002521	15 x 2 x 0,75	19	30,3	252,9	1346,7
11002522	16 x 2 x 0,75	19	30,7	269,6	1414,5
11002523	20 x 2 x 0,75	19	33,3	336,2	1605,8
11002524	24 x 2 x 0,75	19	36,9	402,9	2054,5
11002525	30 x 2 x 0,75	19	39,5	502,8	2320
11002526	36 x 2 x 0,75	19	44,1	602,8	2597,8
11002527	2 x 2 x 1	18	16,5	46,2	356,6
11002528	4 x 2 x 1	18	18,7	89,4	514,2
11002529	5 x 2 x 1	18	20,0	110,9	573,2
11002530	6 x 2 x 1	18	23,0	132,5	756,6
11002531	8 x 2 x 1	18	24,4	175,7	876
11002532	10 x 2 x 1	18	27,4	218,9	1208,3
11002533	12 x 2 x 1	18	27,8	262,0	1342

BLACK outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11002534	15 x 2 x 1	18	30,9	326,8	1510,5
11002535	16 x 2 x 1	18	32,3	348,4	1586,7
11002536	20 x 2 x 1	18	35,0	434,7	1794,1
11002537	24 x 2 x 1	18	37,8	521,0	2307,1
11002538	30 x 2 x 1	18	40,5	650,5	2597,9
11002539	36 x 2 x 1	18	45,5	780,0	2964,8
11002540	2 x 2 x 1,5	16	18,2	63,8	420,1
11002541	4 x 2 x 1,5	16	20,8	124,6	589,6
11002542	5 x 2 x 1,5	16	22,3	155,0	767,3
11002543	6 x 2 x 1,5	16	25,5	185,4	869,9
11002544	8 x 2 x 1,5	16	27,1	246,1	1043,7
11002545	10 x 2 x 1,5	16	30,7	306,9	1394,3
11002546	12 x 2 x 1,5	16	31,2	367,7	1570,4
11002547	15 x 2 x 1,5	16	34,6	458,9	1765,7
11002548	16 x 2 x 1,5	16	36,3	489,3	1856,3
11002549	20 x 2 x 1,5	16	39,3	610,8	2336,3
11002550	24 x 2 x 1,5	16	42,6	732,4	2709,8
11002551	30 x 2 x 1,5	16	45,2	914,7	3121,2
11002552	36 x 2 x 1,5	16	51,3	1097,0	3526,1
11002553	2 x 2 x 2,5	14	19,6	98,0	518,7
11002554	4 x 2 x 2,5	14	23,6	195,7	832,3
11002555	5 x 2 x 2,5	14	25,3	240,4	955,1
11002556	6 x 2 x 2,5	14	28,1	292,0	1094,7
11002557	8 x 2 x 2,5	14	29,9	388,3	1493
11002558	10 x 2 x 2,5	14	33,9	477,8	1723,2
11002559	12 x 2 x 2,5	14	35,4	581,0	1947,8
11002560	15 x 2 x 2,5	14	39,3	715,2	2420,4
11002561	16 x 2 x 2,5	14	40,2	773,6	2555,6
11002562	20 x 2 x 2,5	14	43,7	952,5	2913,5
11002563	24 x 2 x 2,5	14	48,5	1158,9	3467,6
11002564	30 x 2 x 2,5	14	51,6	1447,9	3974,2
11002565	36 x 2 x 2,5	14	57,1	1736,8	4658,7

Continuation ▸

HELUDATA® PAS 5308 PVC/PVC IAM/CAM/SWA

PVC/PVC, individual and overall screened, armoured

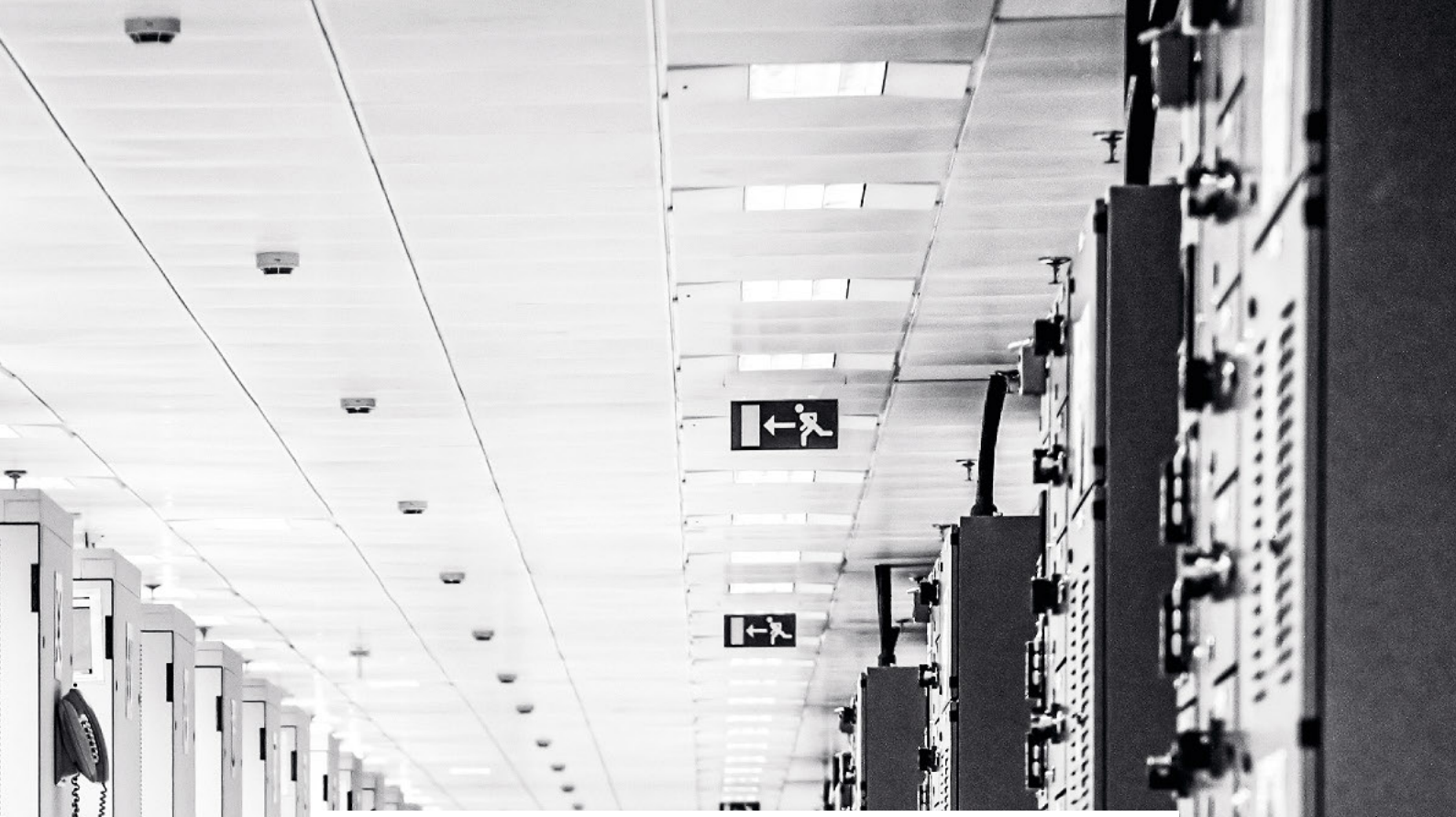
BLUE outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11002566	2 x 2 x 0,5	20	14,6	28,0	303
11002567	4 x 2 x 0,5	20	17,2	53,0	391,3
11002568	5 x 2 x 0,5	20	18,5	65,5	451,2
11002569	6 x 2 x 0,5	20	21,2	78,0	530,1
11002570	8 x 2 x 0,5	20	22,4	103,0	611,6
11002571	10 x 2 x 0,5	20	25,2	128,0	822,6
11002572	12 x 2 x 0,5	20	25,6	153,0	925,5
11002573	15 x 2 x 0,5	20	28,4	190,4	1209
11002574	16 x 2 x 0,5	20	28,8	202,9	1269,3
11002575	20 x 2 x 0,5	20	31,2	252,9	1418,4
11002576	24 x 2 x 0,5	20	33,8	302,9	1658,7
11002577	30 x 2 x 0,5	20	36,3	377,8	1859,7
11002578	36 x 2 x 0,5	20	40,2	452,8	2302,4
11002579	2 x 2 x 0,75	19	15,3	36,3	329,1
11002580	4 x 2 x 0,75	19	18,2	69,7	449,5
11002581	5 x 2 x 0,75	19	19,5	86,3	520,6
11002582	6 x 2 x 0,75	19	22,3	103,0	587,1
11002583	8 x 2 x 0,75	19	23,6	136,3	792,9
11002584	10 x 2 x 0,75	19	26,6	169,6	941,8
11002585	12 x 2 x 0,75	19	27,2	202,9	1033,1
11002586	15 x 2 x 0,75	19	30,3	252,9	1346,7
11002587	16 x 2 x 0,75	19	30,7	269,6	1414,5
11002588	20 x 2 x 0,75	19	33,3	336,2	1605,8
11002589	24 x 2 x 0,75	19	36,9	402,9	2054,5
11002590	30 x 2 x 0,75	19	39,5	502,8	2320
11002591	36 x 2 x 0,75	19	44,1	602,8	2597,8
11002592	2 x 2 x 1	18	16,5	46,2	356,6
11002593	4 x 2 x 1	18	18,7	89,4	514,2
11002594	5 x 2 x 1	18	20,0	110,9	573,2
11002595	6 x 2 x 1	18	23,0	132,5	756,6
11002596	8 x 2 x 1	18	24,4	175,7	876
11002597	10 x 2 x 1	18	27,4	218,9	1208,3
11002598	12 x 2 x 1	18	27,8	262,0	1342

BLUE outer sheath

Part no.	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11002599	15 x 2 x 1	18	30,9	326,8	1510,5
11002600	16 x 2 x 1	18	32,3	348,4	1586,7
11002601	20 x 2 x 1	18	35,0	434,7	1794,1
11002602	24 x 2 x 1	18	37,8	521,0	2307,1
11002603	30 x 2 x 1	18	40,5	650,5	2597,9
11002604	36 x 2 x 1	18	45,5	780,0	2964,8
11002605	2 x 2 x 1,5	16	18,2	63,8	420,1
11002606	4 x 2 x 1,5	16	20,8	124,6	589,6
11002607	5 x 2 x 1,5	16	22,3	155,0	767,3
11002608	6 x 2 x 1,5	16	25,5	185,4	869,9
11002609	8 x 2 x 1,5	16	27,1	246,1	1043,7
11002610	10 x 2 x 1,5	16	30,7	306,9	1394,3
11002611	12 x 2 x 1,5	16	31,2	367,7	1570,4
11002612	15 x 2 x 1,5	16	34,6	458,9	1765,7
11002613	16 x 2 x 1,5	16	36,3	489,3	1856,3
11002614	20 x 2 x 1,5	16	39,3	610,8	2336,3
11002615	24 x 2 x 1,5	16	42,6	732,4	2709,8
11002616	30 x 2 x 1,5	16	45,2	914,7	3121,2
11002617	36 x 2 x 1,5	16	51,3	1097,0	3526,1
11002618	2 x 2 x 2,5	14	19,6	98,0	518,7
11002619	4 x 2 x 2,5	14	23,6	195,7	832,3
11002620	5 x 2 x 2,5	14	25,3	240,4	955,1
11002621	6 x 2 x 2,5	14	28,1	292,0	1094,7
11002622	8 x 2 x 2,5	14	29,9	388,3	1493
11002623	10 x 2 x 2,5	14	33,9	477,8	1723,2
11002624	12 x 2 x 2,5	14	35,4	581,0	1947,8
11002625	15 x 2 x 2,5	14	39,3	715,2	2420,4
11002626	16 x 2 x 2,5	14	40,2	773,6	2555,6
11002627	20 x 2 x 2,5	14	43,7	952,5	2913,5
11002628	24 x 2 x 2,5	14	48,5	1158,9	3467,6
11002629	30 x 2 x 2,5	14	51,6	1447,9	3974,2
11002630	36 x 2 x 2,5	14	57,1	1736,8	4658,7

Dimensions and specifications may be changed without prior notice.



Data, Network & Bus Technology

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LAN Cable

Category 6

HELUKAT® 250





Cable structure

U/UTP 4x2xAWG 23/1 PVC

Inner conductor Ø:	0,54 mm
Conductor material:	Copper, bare
Core insulation:	PE
Core colours:	whbu/bu, whog/og, whgn/gn, whbn/bn
Separator:	-
Screen over stranding element:	-
Screen 1 over stranding:	-
Screen 2 over stranding:	-
Outer sheath material:	PVC
Outer diameter:	app. 5,6 mm
Outer sheath colour:	Grey similar to RAL 7035

Electrical data

Characteristic impedance:	100 Ohm ± 15 Ohm at 1 to 100 MHz 100 Ohm ± 20 Ohm at 101 up to 350 MHz
Loop resistance:	182 Ohm/km max.
Mutual capacitance:	50 nF/km nom.
Rel. propagation velocity:	70 %

Typical values

Frequency	(MHz)	4	10	20	62,5	100	250	350
Attenuation	(db/100m)	3,5	5,5	7,9	14,3	18,7	30,9	36,1
Next	(db)	70,0	64	60,0	53,0	49,0	44,0	40,0
ACR	(db)	66,5	58,5	52,1	38,7	30,3	13,1	3,9

Technical data

Weight:	app. 52 kg/km
bending radius, repeated:	90 mm
Operating temperature range min.:	-20°C
Operating temperature range max.:	+60°C
Caloric load, approx. value:	0,675 MJ/m
Copper weight:	20,00 kg/km

Norms

Acc. to ISO/IEC 11801, Acc. to EN 50173, Acc. to EIA/TIA 568-A, Category 6, Flame-retardant acc. to IEC 60332-1-2

Application

HELUKAT®250 data cables are used in the tertiary, but also in the secondary level of a network. They are characterized by large performance reserves and outstanding performance. They can be used to implement services such as Gigabit Ethernet, Fast Ethernet, Ethernet, ATM155, FDDI, token ring 4/16 Mbit/s, or ISDN absolutely trouble-free. Likewise, the mechanical characteristics are perfectly suited for the application in tight cable channels and platforms due to their optimized construction.

Part no.

18024721, U/UTP 4x2xAWG23/1 PVC

Dimensions and specifications may be changed without prior notice.

Fibre Optic Indoor/Outdoor Cable acc. DIN VDE 0888

HELUCOM® A/I-DQ(ZN)BH, central





Designation	No. of fibres	Fibre type	Fibre category	Number of fibres per core	Outer Ø app. mm	Max. tensile force N	Min. stat. bending radius mm	Caloric load app. MJ / m	Max. transverse pressure N / cm	Weight kg / km	**Part no.**
A/I-DQ(ZN)BH	4	Multimode G50/125	OM2	4	10,0	2500	150,0	1,50	300	75,0	**80270**
A/I-DQ(ZN)BH	4	Multimode G62.5/125	OM1	4	10,0	2500	150,0	1,50	300	75,0	**80276**
A/I-DQ(ZN)BH	4	Single-mode E9/125	ITU-T G.652d	4	10,0	2500	150,0	1,50	300	75,0	**80264**
A/I-DQ(ZN)BH	6	Multimode G50/125	OM2	6	10,0	2500	150,0	1,50	300	75,0	**80271**
A/I-DQ(ZN)BH	6	Multimode G62.5/125	OM1	6	10,0	2500	150,0	1,50	300	75,0	**80265**
A/I-DQ(ZN)BH	6	Single-mode E9/125	ITU-T G.652d	6	10,0	2500	150,0	1,50	300	75,0	**80272**
A/I-DQ(ZN)BH	8	Multimode G50/125	OM2	8	10,0	2500	150,0	1,50	300	75,0	**80273**
A/I-DQ(ZN)BH	8	Multimode G62.5/125	OM1	8	10,0	2500	150,0	1,50	300	75,0	**80274**
A/I-DQ(ZN)BH	8	Single-mode E9/125	ITU-T G.652d	8	10,0	2500	150,0	1,50	300	75,0	**80275**
A/I-DQ(ZN)BH	12	Multimode G50/125	OM2	12	10,0	2500	150,0	1,50	300	75,0	**80681**
A/I-DQ(ZN)BH	12	Multimode G62.5/125	OM1	12	10,0	2500	150,0	1,50	300	75,0	**80278**
A/I-DQ(ZN)BH	12	Single-mode E9/125	ITU-T G.652d	12	10,0	2500	150,0	1,50	300	75,0	**80279**
A/I-DQ(ZN)BH	16	Multimode G50/125	OM2	16	10,0	2500	150,0	1,50	300	85,0	**80280**
A/I-DQ(ZN)BH	16	Multimode G62.5/125	OM1	16	10,0	2500	150,0	1,50	300	85,0	**80281**
A/I-DQ(ZN)BH	16	Single-mode E9/125	ITU-T G.652d	16	10,0	2500	150,0	1,50	300	85,0	**80851**
A/I-DQ(ZN)BH	24	Multimode G50/125	OM2	24	10,0	2500	150,0	1,50	300	85,0	**80725**
A/I-DQ(ZN)BH	24	Multimode G62.5/125	OM1	24	10,0	2500	150,0	1,50	300	85,0	**82431**

Dimensions and specifications may be changed without prior notice.

Application

These HELUCOM® fibre-optic cables are available either as central bundle core cable or as stranded versions. They are suitable for indoor and outdoor cabling of buildings and facilities. They are used in particular if the installation is to be done in one piece from the inside to the outside without additional use of couplings. With their black UV-resistant outer sheath and the non-metallic rodent protection, they are perfectly suited for outdoor use. The halogen-free outer sheath makes installation inhouse possible without any problems.

Fibre Optic Indoor/Outdoor Cable acc. DIN VDE 0888

HELUCOM® A/I-DQ(ZN)BH, stranded





Designation	No. of fibres	Fibre type	Fibre category	Number of fibres per core	Outer Ø app. mm	Max. tensile force N	Min. stat. bending radius mm	Caloric load app. MJ / m	Max. transverse pressure N / cm	Weight kg / km	**Part no.**
A/I-DQ(ZN)BH	24	Multimode G50/125	OM2	12	11,0	2700	165,0	2,00	600	90,0	**81495**
A/I-DQ(ZN)BH	24	Multimode G62.5/125	OM1	12	11,0	2700	165,0	2,00	600	90,0	**802263**
A/I-DQ(ZN)BH	24	Single-mode E9/125	ITU-T G.657.A1	12	11,0	2700	165,0	2,00	600	90,0	**11021987**
A/I-DQ(ZN)BH	24	Single-mode E9/125	ITU-T G.652d	12	11,0	2700	165,0	2,00	600	90,0	**80846**
A/I-DQ(ZN)BH	24	Multimode G50/125	OM3	12	11,0	2700	165,0	2,00	600	90,0	**801616**
A/I-DQ(ZN)BH	48	Multimode G50/125	OM2	12	11,0	2700	165,0	2,00	600	90,0	**802261**
A/I-DQ(ZN)BH	48	Multimode G50/125	OM3	12	11,0	2700	165,0	2,00	600	90,0	**802280**
A/I-DQ(ZN)BH	48	Multimode G62.5/125	OM1	12	11,0	2700	165,0	2,00	600	90,0	**802264**
A/I-DQ(ZN)BH	48	Single-mode E9/125	ITU-T G.652d	12	11,0	2700	165,0	2,00	600	90,0	**802266**
A/I-DQ(ZN)BH	60	Multimode G50/125	OM2	12	11,0	2700	165,0	2,00	600	90,0	**802262**
A/I-DQ(ZN)BH	60	Multimode G62.5/125	OM1	12	11,0	2700	165,0	2,00	600	90,0	**802265**
A/I-DQ(ZN)BH	60	Single-mode E9/125	ITU-T G.652d	12	11,0	2700	165,0	2,00	600	90,0	**802267**
A/I-DQ(ZN)BH	72	Multimode G50/125	OM2	12	11,5	2700	175,0	2,10	600	100,0	**802268**
A/I-DQ(ZN)BH	72	Multimode G62.5/125	OM1	12	11,5	2700	175,0	2,10	600	100,0	**802271**
A/I-DQ(ZN)BH	72	Single-mode E9/125	ITU-T G.652d	12	11,5	2700	175,0	2,10	600	100,0	**802274**
A/I-DQ(ZN)BH	84	Multimode G50/125	OM2	12	12,5	3000	190,0	2,40	600	130,0	**802269**
A/I-DQ(ZN)BH	84	Multimode G62.5/125	OM1	12	12,5	3000	190,0	2,40	600	130,0	**802272**
A/I-DQ(ZN)BH	84	Single-mode E9/125	ITU-T G.652d	12	12,5	3000	190,0	2,40	600	130,0	**802275**
A/I-DQ(ZN)BH	96	Multimode G50/125	OM2	12	12,5	3000	190,0	2,80	600	130,0	**802270**
A/I-DQ(ZN)BH	96	Multimode G62.5/125	OM1	12	12,5	3000	190,0	2,80	600	130,0	**802273**
A/I-DQ(ZN)BH	96	Single-mode E9/125	ITU-T G.652d	12	12,5	3000	190,0	2,80	600	130,0	**802276**

Dimensions and specifications may be changed without prior notice.

Application

These HELUCOM® fibre-optic cables are available either as central bundle core cable or as stranded versions. They are suitable for indoor and outdoor cabling of buildings and facilities. They are used in particular if the installation is to be done in one piece from the inside to the outside without additional use of couplings. With their black UV-resistant outer sheath and the non-metallic rodent protection, they are perfectly suited for outdoor use. The halogen-free outer sheath makes installation inhouse possible without any problems.

Fibre Optic Cable with steel wire armouring

HELUCOM® A/I-DQ(ZN)H(SWA)H





Designation	No. of fibres	Fibre type	Fibre category	Number of fibres per core	Outer Ø app. mm	Max. tensile force N	Min. stat. bending radius mm	Caloric load app. MJ / m	Max. transverse pressure N / cm	Weight kg / km	**Part no.**
A/I-DQ(ZN)H(SWA)H	4	Multimode G62.5/125	OM1	4	16,0	5000	240,0	3,90	600	445,0	**806034**
A/I-DQ(ZN)H(SWA)H	4	Single-mode E9/125	ITU-T G.652d	4	16,0	5000	240,0	3,90	600	445,0	**11018239**
A/I-DQ(ZN)H(SWA)H	6	Multimode G62.5/125	OM1	6	16,0	5000	240,0	3,90	600	445,0	**11018241**
A/I-DQ(ZN)H(SWA)H	6	Single-mode E9/125	ITU-T G.652d	6	16,0	5000	240,0	3,90	600	445,0	**11018240**
A/I-DQ(ZN)H(SWA)H	8	Multimode G62.5/125	OM1	8	16,0	5000	240,0	3,90	600	445,0	**806081**
A/I-DQ(ZN)H(SWA)H	8	Single-mode E9/125	ITU-T G.652d	8	16,0	5000	240,0	3,90	600	445,0	**806080**
A/I-DQ(ZN)H(SWA)H	12	Multimode G62.5/125	OM1	12	16,0	5000	240,0	3,90	600	445,0	**11007691**
A/I-DQ(ZN)H(SWA)H	12	Single-mode E9/125	ITU-T G.652d	12	16,0	5000	240,0	3,90	600	445,0	**11017307**
A/I-DQ(ZN)H(SWA)H	24	Single-mode E9/125	ITU-T G.652d	24	16,0	5000	240,0	3,90	600	445,0	**11018242**

Dimensions and specifications may be changed without prior notice.

Application

These HELUCOM® fibre optic universal cables are characterised by a compact design with swellable material. The metallic armouring (steel wire) provides above-average protection against rodents. Due to the outer jacket made of halogen-free/flame-retardant compound, this construction can be used where installations are carried out from the outside to the inside without a socket.

Fibre Optic Cable with steel wire armouring

HELUCOM® A/I-DQ(ZN)H(SWA)H





Designation	No. of fibres	Fibre type	Fibre category	Number of fibres per core	Outer Ø app. mm	Max. tensile force N	Min. stat. bending radius mm	Caloric load app. MJ / m	Max. transverse pressure N / cm	Weight kg / km	**Part no.**
A/I-DQ(ZN)H(SWA)H	24	Single-mode E9/125	ITU-T G.652d	12	16,0	5000	240,0	3,90	600	445,0	**11018243**
A/I-DQ(ZN)H(SWA)H	48	Single-mode E9/125	ITU-T G.652d	12	16,0	5000	240,0	3,90	600	445,0	**11018244**
A/I-DQ(ZN)H(SWA)H	60	Single-mode E9/125	ITU-T G.652d	12	16,0	5000	240,0	3,90	600	445,0	**11018245**
A/I-DQ(ZN)H(SWA)H	72	Single-mode E9/125	ITU-T G.652d	12	16,0	5000	240,0	3,90	600	445,0	**11018246**
A/I-DQ(ZN)H(SWA)H	84	Single-mode E9/125	ITU-T G.652d	12	16,0	5000	240,0	3,90	600	445,0	**11018247**
A/I-DQ(ZN)H(SWA)H	96	Single-mode E9/125	ITU-T G.652d	12	16,0	5000	240,0	3,90	600	445,0	**11018248**
A/I-DQ(ZN)H(SWA)H	144	Single-mode E9/125	ITU-T G.652d	12	16,0	5000	240,0	3,90	600	445,0	**11018249**

Dimensions and specifications may be changed without prior notice.

Application

These HELUCOM® fibre optic universal cables are characterised by a compact design with swellable material. The metallic armouring (steel wire) provides above-average protection against rodents. Due to the outer jacket made of halogen-free/flame-retardant compound, this construction can be used where installations are carried out from the outside to the inside without a socket.

Fibre Optic Cable with Functionality FS120 with reference to IEC 60331-25 incl. fire class Cca s1a d1 a1.

HELUCOM® FS120 A/I-DQ(ZN)(SR)H Cca

HELUCOM® FS120





Cable structure

Core type: Loose tube
Strain relief elements: Glass yarns
Type of armouring: steel tape
Outer sheath material: FR/LSOH
Outer sheath colour: Orange similar to RAL 2003

Temperature range

Laying, min.: 0°C
Laying, max.: +50°C
Operating, min.: -40°C
Operating, max.: +70°C

Other data

Halogen-free acc. to 60754-2
Flame-resistance acc. to IEC 60332-1 and -3
Smoke density acc. to IEC 61034
Longitudinally water-tight acc. to IEC 60794-1-2-F5
Cable, laterally water-tight
UV-resistant
Functional integrity: IEC 60794/ IEC 60331-25

Designation	No. of fibres	Fibre type	Fibre category	Number of fibres per core	Outer Ø app. mm	Max. tensile force N	Min. stat. bending radius mm	Caloric load app. MJ / m	Max. transverse pressure N / cm	Weight kg / km	**Part no.**
A/I-DQ(ZN)(SR)H	4	Multimode G50/125	OM2	4	8,5	3000	170,0	1,18	220	100,0	**11017454**
A/I-DQ(ZN)(SR)H	4	Multimode G50/125	OM3	4	8,5	3000	170,0	1,18	220	100,0	**11017458**
A/I-DQ(ZN)(SR)H	4	Multimode G50/125	OM4	4	8,5	3000	170,0	1,18	220	100,0	**11018338**
A/I-DQ(ZN)(SR)H	4	Multimode G62.5/125	OM1	4	8,5	3000	170,0	1,18	220	100,0	**11017462**
A/I-DQ(ZN)(SR)H	4	Single-mode E9/125	ITU-T G.657.A1	4	8,5	3000	170,0	1,18	220	100,0	**11017450**
A/I-DQ(ZN)(SR)H	8	Multimode G50/125	OM2	8	8,5	3000	170,0	1,18	220	100,0	**11017455**
A/I-DQ(ZN)(SR)H	8	Multimode G50/125	OM3	8	8,5	3000	170,0	1,18	220	100,0	**11017459**
A/I-DQ(ZN)(SR)H	8	Multimode G62.5/125	OM1	8	8,5	3000	170,0	1,18	220	100,0	**11017463**
A/I-DQ(ZN)(SR)H	8	Single-mode E9/125	ITU-T G.657.A1	8	8,5	3000	170,0	1,18	220	100,0	**11017451**
A/I-DQ(ZN)(SR)H	12	Multimode G50/125	OM2	12	8,5	3000	170,0	1,18	220	100,0	**11017456**
A/I-DQ(ZN)(SR)H	12	Multimode G50/125	OM3	12	8,5	3000	170,0	1,18	220	100,0	**11017460**
A/I-DQ(ZN)(SR)H	12	Multimode G50/125	OM4	12	8,5	3000	170,0	1,18	220	100,0	**11018339**
A/I-DQ(ZN)(SR)H	12	Multimode G62.5/125	OM1	12	8,5	3000	170,0	1,18	220	100,0	**11017464**
A/I-DQ(ZN)(SR)H	12	Single-mode E9/125	ITU-T G.657.A1	12	8,5	3000	170,0	1,18	220	100,0	**11017452**
A/I-DQ(ZN)(SR)H	24	Multimode G50/125	OM2	24	8,5	3000	170,0	1,18	220	100,0	**11017457**
A/I-DQ(ZN)(SR)H	24	Multimode G50/125	OM3	24	8,5	3000	170,0	1,18	220	100,0	**11017461**
A/I-DQ(ZN)(SR)H	24	Multimode G50/125	OM4	24	8,5	3000	170,0	1,18	220	100,0	**11018340**
A/I-DQ(ZN)(SR)H	24	Multimode G62.5/125	OM1	24	8,5	3000	170,0	1,18	220	100,0	**11017465**
A/I-DQ(ZN)(SR)H	24	Single-mode E9/125	ITU-T G.657.A1	24	8,5	3000	170,0	1,18	220	100,0	**11017453**

Dimensions and specifications may be changed without prior notice.

Application

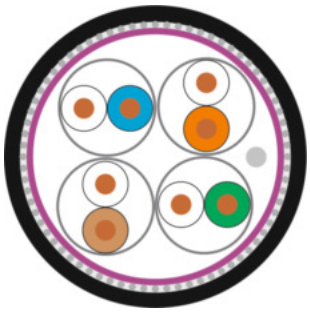
With the HELUCOM® FS120 series, we have succeeded in guaranteeing functional integrity in accordance with IEC 60331-25 for 120 minutes (flame temperature up to 750°C) by using a special design and particularly high-quality materials. In combination with suitable installation systems, important means of communication are available in the event of fire in areas such as road and rail tunnels or in commercial buildings within a defined period of time.

LAN Cable direct burial / armoured

HELUKAT® O&G Cat.6$_A$ F/FTP 4x2xAWG23/1 FRNC/FRNC

HELUKAT® O&G

S/FTP FRNC/FRNC

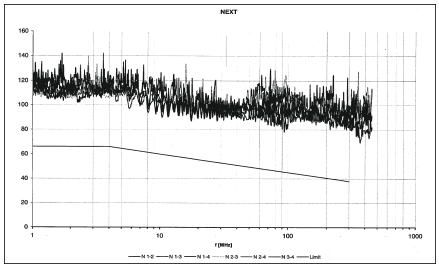




Cable structure

F/FTP 4x2xAWG 23/1 FRNC/FRNC

Inner conductor Ø:	0,57 mm
Conductor material:	Copper, bare
Core insulation:	Foam-skin-PE
Core colours:	wh/bu, wh/og, wh/gn, wh/bn
Separator:	-
Inner sheath material:	FRNC
Screen over stranding element:	Al-Foil
Screen 1 over stranding:	Cu braid
Screen 2 over stranding:	-
:	steel wire
Outer sheath material:	FRNC
Outer diameter:	app. 10,6 mm
Outer sheath colour:	Black



Electrical data

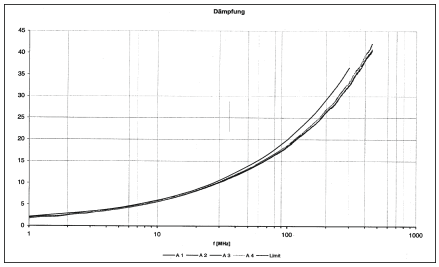
Characteristic impedance:	100 Ohm ± 15 Ohm at 1 to 100 MHz 100 Ohm ± 20 Ohm at 101 to 1000 MHz
Loop resistance:	160 Ohm/km max.
Mutual capacitance:	45 nF/km nom.
Rel. propagation velocity:	80 %

Typical values

Frequency	(MHz)	10	16	62,5	100	200	250	300	500
Attenuation	(db/100m)	5,7	7,2	14,2	18,1	25,8	29,0	31,9	41,8
Next	(db)	100,0	100,0	100,0	97,4	92,9	91,4	90,2	86,9
ACR	(db)	94,3	92,8	85,8	79,3	67,1	62,4	58,3	45,1

Technical data

Weight:	app. 155 kg/km
bending radius, repeated:	106 mm
Operating temperature range min.:	-20°C
Operating temperature range max.:	+60°C
Caloric load, approx. value:	0,84 MJ/m
Copper weight:	26,00 kg/km



Norms

Acc. to ISO/IEC 11801, Acc. to EN 50173, Acc. to EIA/TIA 568-A, Category 6$_A$, Flame-retardant acc. to IEC 60332-3, Smoke density acc. to IEC 61034, Halogen-free acc. to 60754-2, Corrosiveness acc. to EN50267-2-3, Oil-resistant

Application

HELUKAT® O&G data cables are used in the tertiary, but also in the secondary level of a network within Oil & Gas fields. They are characterized by large performance reserves and outstanding performance. They can be used to implement services such as 10Gigabit Ethernet, Gigabit Ethernet, Fast Ethernet, Ethernet, ATM155, FDDI, token ring 4/16 Mbit/s or ISDN absolutely trouble-free. The series of HELUKAT® O&G with a FRNC/FRNC double jacket and the rodent protection is constructed especially for outdoor applications. This cable is flame retardent and is designed for usage and installation in cable trays, ducts and / or armored tubes (reinforced tubes) such as Zone 1 & Zone 2 respective IEC 60079-14 ANNEX E, but only using the correct ATEX accessories.

Part no.

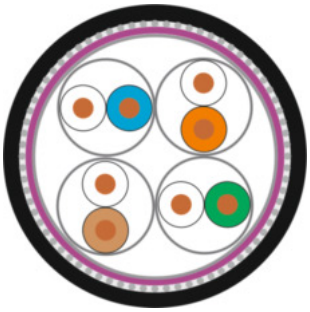
11018072, F/FTP 4x2xAWG 23/1 FRNC/FRNC

Dimensions and specifications may be changed without prior notice.

LAN Cable / armoured

HELUKAT® O&G Cat.7e S/FTP 4x2xAWG23/1 FRNC/FRNC

HELUKAT® O&G
S/FTP FRNC/FRNC

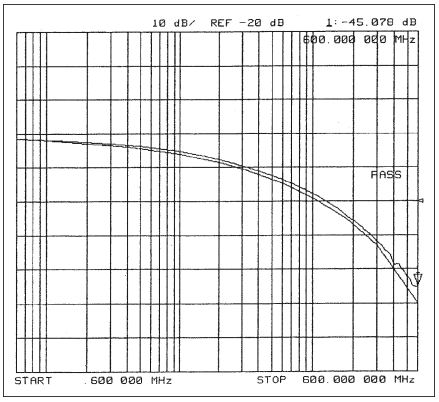




Cable structure

S/FTP 4x2xAWG 23/1 FRNC/FRNC

Inner conductor Ø:	0,57 mm
Conductor material:	Copper, bare
Core insulation:	Foam-skin-PE
Core colours:	wh/bu, wh/og, wh/gn, wh/bn
Separator:	-
Inner sheath material:	FRNC
Screen over stranding element:	Al-Foil
Screen 1 over stranding:	Cu braid
Screen 2 over stranding:	-
:	steel wire
Outer sheath material:	FRNC
Outer diameter:	app. 10,6 mm
Outer sheath colour:	Black



Electrical data

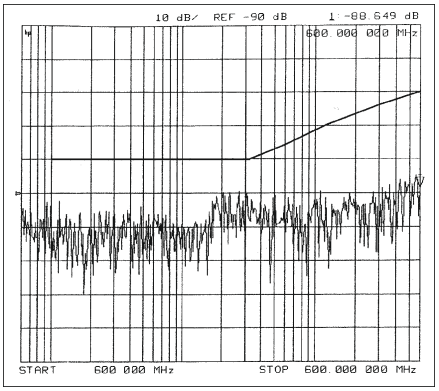
Characteristic impedance:	100 Ohm ± 15 Ohm at 1 to 100 MHz 100 Ohm ± 20 Ohm at 101 to 1000 MHz
Loop resistance:	150 Ohm/km max.
Mutual capacitance:	43 nF/km nom.
Rel. propagation velocity:	79 %

Typical values

Frequency	(MHz)	10	16	62,5	100	200	300	600	900	1000
Attenuation	(dB/100m)	5,6	7,1	13,9	17,5	25,2	32,1	44,9	55,0	58,0
Next	(db)	100,0	100,0	96,0	94,0	88,0	84,0	73,0	71,0	69,0
ACR	(db)	94,4	92,9	82,1	76,5	62,8	51,9	28,1	16,0	9,0

Technical data

Weight:	app. 155 kg/km
bending radius, repeated:	106 mm
Operating temperature range min.:	-20°C
Operating temperature range max.:	+60°C
Caloric load, approx. value:	0,89 MJ/m
Copper weight:	28,00 kg/km



Norms

Acc. to ISO/IEC 11801, Acc. to EN 50173, Acc. to EIA/TIA 568-A, Category 7e, Flame-retardant acc. to IEC 60332-3, Smoke density acc. to IEC 61034, Halogen-free acc. to 60754-2, Corrosiveness acc. to EN50267-2-3, Oil-resistant

Application

HELUKAT® O&G data cables are used in the tertiary, but also in the secondary level of a network within Oil & Gas fields. They are characterized by large performance reserves and outstanding performance. They can be used to implement services such as 10Gigabit Ethernet, Gigabit Ethernet, Fast Ethernet, Ethernet, ATM155, FDDI, token ring 4/16 Mbit/s or ISDN absolutely trouble-free.
The series of HELUKAT® O&G with a FRNC/FRNC double jacket and the rodent protection is constructed especially for outdoor applications.
This cable is flame retardent and is designed for usage and installation in cable trays, ducts and / or armored tubes (reinforced tubes) such as Zone 1 & Zone 2 respective IEC 60079-14 ANNEX E, but only using the correct ATEX accessories.

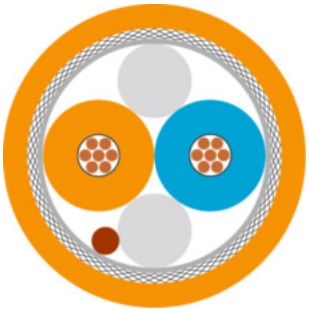
Part no.

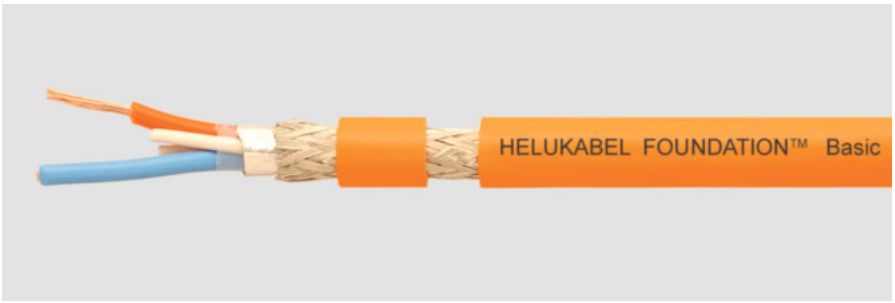
11018073, S/FTP 4x2xAWG 23/1 FRNC/FRNC

Dimensions and specifications may be changed without prior notice.

BUS Cables

HELUKABEL® BUS Cables FOUNDATION™ Fieldbus





Type	**process automation**
Cable structure	**1x2x1.2/2,55-100 LI**
Inner conductor diameter:	Copper, bare (AWG 18/7)
Core insulation:	PO
Core colours:	or, bl
Stranding element:	2 cores + 2 fillers stranded together
Separator:	Polyester foil over stranded bundle
Shielding 1:	Al-Foil
Total shielding:	Cu braid, tinned
Drain wire:	yes
Outer sheath material:	PVC
Cable external diameter:	app. 8,0 mm ± 0,3 mm
Outer sheath colour:	Orange similar to RAL 2003

Electrical data

Characteristic impedance:	100 Ohm ± 20 Ohm
Conductor resistance, max.:	22 Ohm/km
Insulation resistance, min.:	5 GOhm x km
Loop resistance:	44 Ohm/km max.
Mutual capacitance:	60 nF/km nom.
Nominal voltage:	300 V
Test voltage:	1,5 kV
Attenuation:	39 kHz ⩽ 3,4 dB/km

Technical data

Weight:	app. 85 kg/km
bending radius, repeated:	80 mm
Operating temperature range min.:	-40°C
Operating temperature range max.:	+80°C
Caloric load, approx. value:	1,22 MJ/m
Copper weight:	45,00 kg/km

Norms

Applicable standards:	Foundation Fieldbus Spec. FF-816-1.4 Flame-retardant acc. to IEC 60332-3
UL Style:	CMG 75°C or PLTC or AWM 20201 600V
CSA standard:	CSA FT 4

Application

HELUKABEL® FOUNDATION™ Fieldbus Basic for normal requirements in this industrial networks. Thanks to use of stranded conductors, this cable can be moved occasionally and satisfies the usual American requirements for such networks.

Part no.

803354, Foundation™ Fieldbus Basic

Dimensions and specifications may be changed without prior notice.

BUS Cables

HELUKABEL® BUS Cables FOUNDATION™ Fieldbus armoured





Type
process automation

Cable structure
1x2xAWG18/7

Inner conductor diameter:	Copper, bare (AWG 18/7)
Core insulation:	PO
Core colours:	or, bl
Stranding element:	2 cores + 2 fillers stranded together
Separator:	Polyester foil over stranded bundle
Inner sheath material:	PVC
Shielding 1:	Al-Foil
Total shielding:	Cu braid, tinned
Drain wire:	yes
Armouring:	steel wire
Outer sheath material:	PVC
Cable external diameter:	app. 11,2 mm ± 0,3 mm
Outer sheath colour:	Black

Electrical data

Characteristic impedance:	100 Ohm ± 20 Ohm
Conductor resistance, max.:	22 Ohm/km
Insulation resistance, min.:	5 GOhm x km
Loop resistance:	44 Ohm/km max.
Mutual capacitance:	60 nF/km nom.
Nominal voltage:	300 V
Test voltage:	1,5 kV
Attenuation:	39 kHz ⩽ 3,4 dB/km

Technical data

Weight:	app. 174 kg/km
bending radius, repeated:	90 mm
Operating temperature range min.:	-40°C
Operating temperature range max.:	+80°C
Caloric load, approx. value:	2,45 MJ/m
Copper weight:	45,00 kg/km

Norms

Applicable standards:	Foundation Fieldbus Spec. FF-816-1.4 Flame-retardant acc. to IEC 60332-3

Application

HELUKABEL® FOUNDATION™ Fieldbus Basic armored for normal requirements in this industrial networks. Thanks to use of stranded conductors, this cable can be moved occasionally and satisfies the usual American requirements for such networks. The steel wire armouring also realizes an outstanding rodent protection. This cable is flame retardent and is designed for usage and installation in cable trays, ducts and / or armored tubes (reinforced tubes) such as Zone 1 & Zone 2 respective IEC 60079-14 ANNEX E, but only using the correct ATEX accessories.

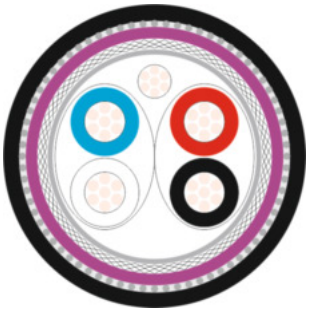
Part no.

11018120, Foundation™ Fieldbus Basic

Dimensions and specifications may be changed without prior notice.

BUS Cables

HELUKABEL® DeviceNet™ FRNC armoured





Type
Cable structure

Industrial Area
1x2xAWG18 + 1x2xAWG15

Inner conductor diameter 1:	Copper, tinned (AWG 18/19)
Inner conductor diameter 2:	Copper, tinned (AWG 15/19)
Core insulation 1:	Cell PE
Core insulation 2:	PE
Core colours 1:	light bu, wh
Core colours 2:	rd, bk
Stranding element 1:	Double core
Separator:	-
Inner sheath material:	FRNC
Shielding 1:	Al-Foil
Total shielding:	Cu braid, tinned
Drain wire:	yes
Armouring:	steel wire
Outer sheath material:	FRNC
Cable external diameter:	app. 15,6 mm ± 0,3 mm
Outer sheath colour:	Black

Electrical data

Characteristic impedance:	120 Ohm ± 10 %
Conductor resistance, max.:	22,6 Ohm/km
Insulation resistance, min.:	0,2 GOhm x km
Loop resistance:	45,2 Ohm/km max.
Mutual capacitance:	39 nF/km nom.
Test voltage:	2 kV
Attenuation:	125 kHz < 4.2 dB/km 500 kHz < 8.1 dB/km

Technical data

Weight:	app. 331 kg/km
bending radius, repeated:	190 mm
Operating temperature range min.:	-25°C
Operating temperature range max.:	+80°C
Caloric load, approx. value:	4,28 MJ/m
Copper weight:	88,00 kg/km

Norms

Applicable standards:	ODVA DeviceNet Halogen-free acc. to 60754-1 Flame-retardant acc. to IEC 60332-1-2

Application

HELUKABEL® DeviceNet™ FRNC for fixed installation in areas where high flame retardance and a halogen-free design are needed. The special aspect of this bus system is that a data pair and a power supply pair are **always** integrated in one cable. The small cross-section is used for short distances or as a point-to-point connection; the large cross-section as main conductor for long distances and frequently in combination with the thin conductor as drain wire. The steel wire armouring also realizes an outstanding rodent protection.

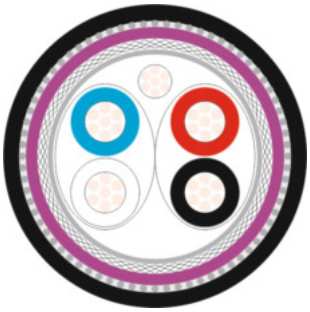
Part no.

11018110, DeviceNet FRNC

Dimensions and specifications may be changed without prior notice.

BUS Cables

HELUKABEL® DeviceNet™ FRNC armoured





Type
Cable structure

Industrial Area
1x2xAWG24 + 1x2xAWG22

Inner conductor diameter 1:	Copper, tinned (AWG 24/19)
Inner conductor diameter 2:	Copper, tinned (AWG 22/19)
Core insulation 1:	Cell PE
Core insulation 2:	PE
Core colours 1:	light bu, wh
Core colours 2:	rd, bk
Stranding element 1:	Double core
Separator:	-
Inner sheath material:	FRNC
Shielding 1:	Al-Foil
Total shielding:	Cu braid, tinned
Drain wire:	yes
Armouring:	steel wire
Outer sheath material:	FRNC
Cable external diameter:	app. 9,7 mm ± 0,3 mm
Outer sheath colour:	Black

Electrical data

Characteristic impedance:	120 Ohm ± 10 %
Conductor resistance, max.:	90 Ohm/km
Insulation resistance, min.:	0,2 GOhm x km
Loop resistance:	180 Ohm/km max.
Mutual capacitance:	39,8 nF/km nom.
Test voltage:	2 kV
Attenuation:	125 kHz < 9.5 dB/km 500 kHz < 16.4 dB/km

Technical data

Weight:	app. 150 kg/km
bending radius, repeated:	110 mm
Operating temperature range min.:	-25°C
Operating temperature range max.:	+80°C
Caloric load, approx. value:	1,62 MJ/m
Copper weight:	34,00 kg/km

Norms

Applicable standards:	ODVA DeviceNet Halogen-free acc. to 60754-1 Flame-retardant acc. to IEC 60332-1-2

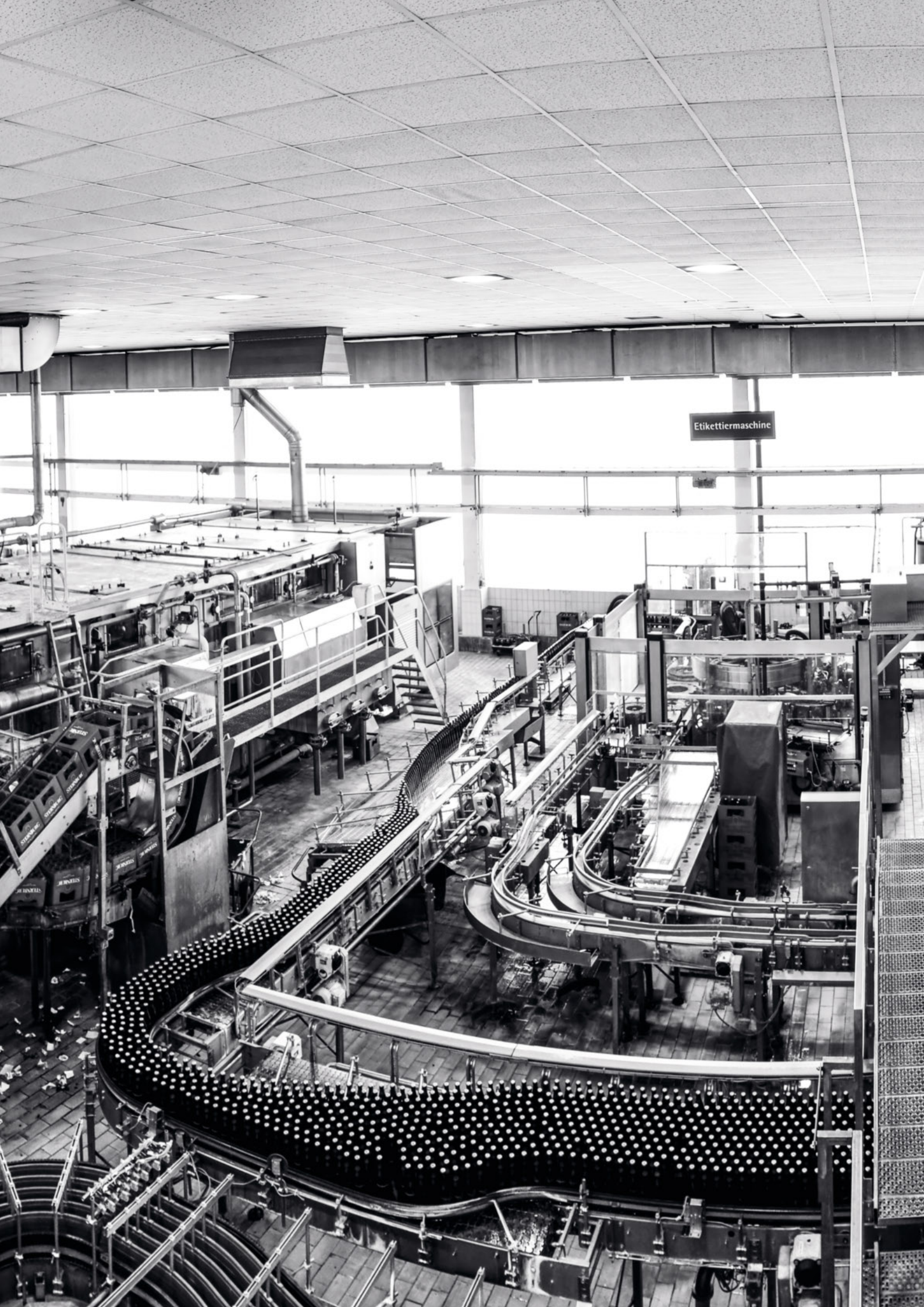
Application

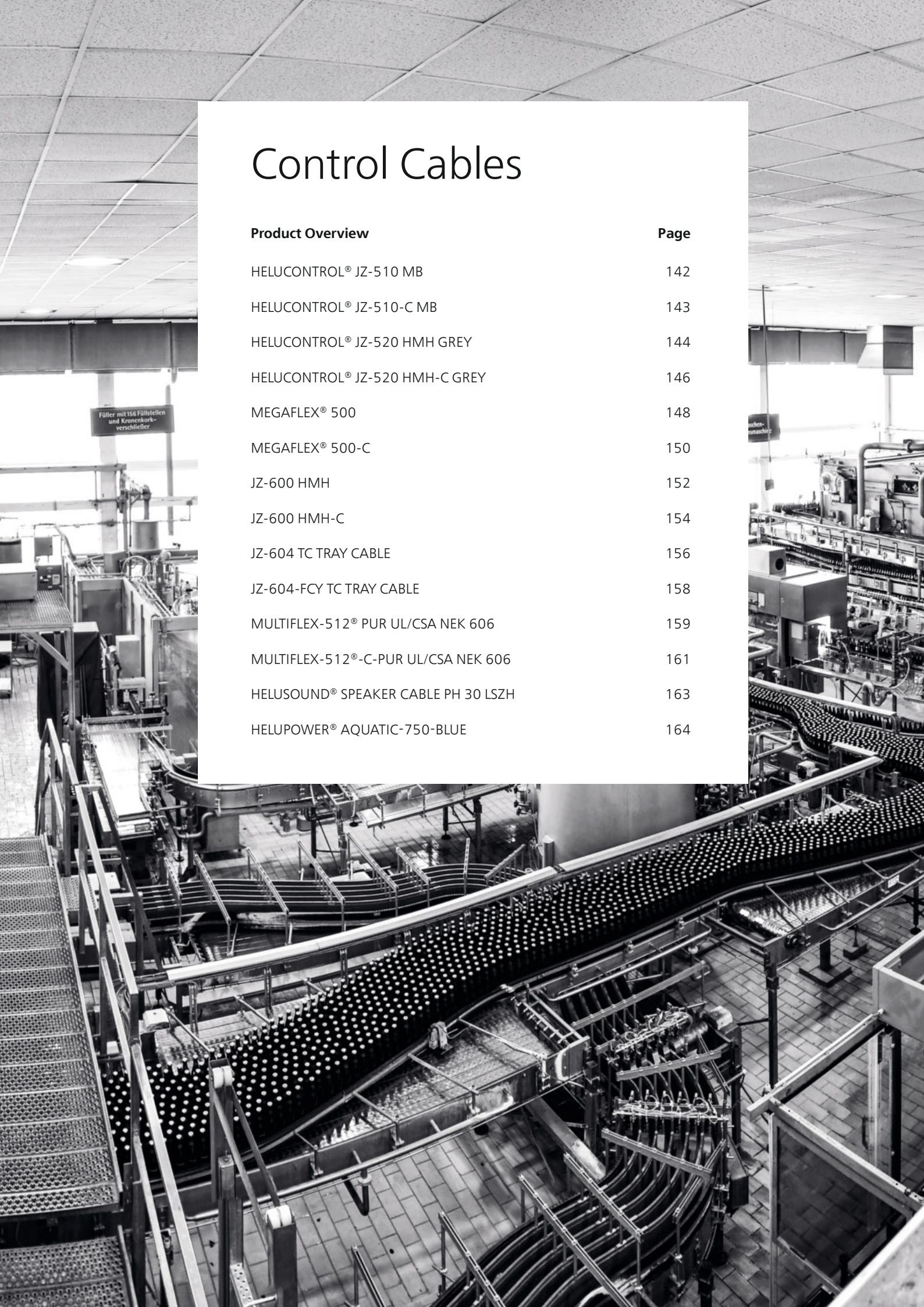
HELUKABEL® DeviceNet™ FRNC for fixed installation in areas where high flame retardance and a halogen-free design are needed. The special aspect of this bus system is that a data pair and a power supply pair are **always** integrated in one cable. The small cross-section is used for short distances or as a point-to-point connection; the large cross-section as main conductor for long distances and frequently in combination with the thin conductor as drain wire. The steel wire armouring also realizes an outstanding rodent protection.

Part no.

11018263, DeviceNet FRNC

Dimensions and specifications may be changed without prior notice.


Etikettiermaschine



Control Cables

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HELUCONTROL® JZ-510 MB

flexible, number coded, meter marking, increased flame retardancy Cca



Technical data

- PVC control cable with reference to DIN VDE 0285-525-2-51 / DIN EN 50525-2-51
- **Temperature range**
  flexing -5°C to +70°C
  fixed installation -40°C to +80°C
- **Nominal voltage**
  U_0/U 300/500 V
- **Test voltage**
  2000 V
- **Breakdown voltage**
  4000 V
- **Minimum bending radius**
  flexible 8 x cable Ø
  fixed 5 x cable Ø
- **CPR**
  Cca s3 d1 a3

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl. 5, IEC 60228 cl. 5
- Core insulation: PVC
- Black cores with continuous white numbering acc. to DIN VDE 0293
- GN-YE conductor, 3 cores and above in the outer layer
- Cores twisted together in layers with optimal lay length
- Outer sheath: PVC
- Outer sheath colour: grey
- Length marking: in metres

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-24 / DIN EN 60332-3-24 / IEC 60332-3-24 (Cat. C)

Note

- G = with green/yellow conductor
  X = without green/yellow conductor (OZ)
- also available with copper screen as JZ-510-C MB

Application

For flexible applications with a medium mechanical stress factor and with free movement but without tensile stress load. Suitable for dry, moist and wet environments. Commonly used in computer systems, machine building, control equipment and office environments. Not intended for outdoor installation or for system wiring in conveyor belt or air-conditioning systems or steel plants. Selected special PVC compounds guarantee a good flexibility as well as an economic and fast installation.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11003966	2 x 0,5	4,8	9,6	35
11003967	3 G 0,5	5,1	14,4	41
11003968	3 x 0,5	5,1	14,4	41
11003969	4 G 0,5	5,5	19,0	49
11003970	4 x 0,5	5,5	19,0	49
11003971	5 G 0,5	6,2	24,0	55
11003972	5 x 0,5	6,2	24,0	55
11003973	7 G 0,5	6,7	33,6	69
11003974	7 x 0,5	6,7	33,6	69
11003975	10 G 0,5	8,6	48,0	104
11003976	10 x 0,5	8,6	48,0	104
11003977	12 G 0,5	9,1	58,0	118
11003978	12 x 0,5	9,1	58,0	118
11019115	18 G 0,5	10,7	86,0	195
11019116	25 G 0,5	12,6	120,0	265
11003995	2 x 0,75	5,3	14,4	43
11003996	3 G 0,75	5,6	21,6	51
11003997	3 x 0,75	5,6	21,6	51
11003998	4 G 0,75	6,3	28,8	63
11003999	4 x 0,75	6,3	28,8	63
11004000	5 G 0,75	6,9	36,0	69
11004001	5 x 0,75	6,9	36,0	69
11004002	7 G 0,75	7,7	50,0	90
11004003	7 x 0,75	7,7	50,0	90
11004004	10 G 0,75	9,8	72,0	129
11004005	10 x 0,75	9,8	72,0	129
11004006	12 G 0,75	10,1	86,0	148
11004007	12 x 0,75	10,1	86,0	148
11019120	18 G 0,75	12,2	130,0	250
11019121	25 G 0,75	14,3	180,0	350
11004024	2 x 1	5,6	19,2	54
11004025	3 G 1	6,1	29,0	62
11004026	3 x 1	6,1	29,0	62
11004027	4 G 1	6,6	37,4	76
11004028	4 x 1	6,6	38,4	76
11004029	5 G 1	7,5	48,0	87
11004030	5 x 1	7,5	48,0	87
11004031	7 G 1	8,1	67,0	113
11004032	7 x 1	8,1	67,0	113
11004033	10 G 1	10,6	96,0	162

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11004034	10 x 1	10,6	96,0	162
11004035	12 G 1	10,9	115,0	186
11004036	12 x 1	10,9	115,0	186
11004053	2 x 1,5	6,4	29,0	71
11004054	3 G 1,5	6,8	43,0	86
11004055	3 x 1,5	6,8	43,0	86
11004056	4 G 1,5	7,6	58,0	106
11004057	4 x 1,5	7,6	58,0	106
11004058	5 G 1,5	8,3	72,0	120
11004059	5 x 1,5	8,3	72,0	120
11004060	7 G 1,5	9,2	101,0	152
11004061	7 x 1,5	9,2	101,0	152
11004062	10 G 1,5	12,0	144,0	217
11004063	10 x 1,5	12,0	144,0	217
11019132	12 G 1,5	12,4	173,0	285
11019133	18 G 1,5	14,8	259,0	420
11019134	25 G 1,5	17,6	360,0	585
11004082	2 x 2,5	7,8	48,0	103
11004083	3 G 2,5	8,3	72,0	127
11004084	3 x 2,5	8,3	72,0	127
11004085	4 G 2,5	9,2	96,0	162
11004086	4 x 2,5	9,2	96,0	162
11004087	5 G 2,5	10,1	120,0	177
11004088	5 x 2,5	10,1	120,0	177
11004089	7 G 2,5	11,2	168,0	228
11004090	7 x 2,5	11,2	168,0	228
11004091	10 G 2,5	14,8	240,0	327
11004092	10 x 2,5	14,8	240,0	327
11019138	12 G 2,5	15,3	288,0	460
11004111	3 G 4	9,7	115,0	233
11004112	4 G 4	10,8	154,0	290
11004113	5 G 4	12,1	192,0	318
11004115	3 G 6	11,9	173,0	302
11004116	4 G 6	13,2	230,0	376
11004117	5 G 6	14,7	288,0	422
11004119	3 G 10	14,8	288,0	448
11004120	4 G 10	16,4	384,0	563
11004123	3 G 16	18,4	461,0	636
11004124	4 G 16	20,4	614,0	806

Dimensions and specifications may be changed without prior notice.

HELUCONTROL® JZ-510-C MB

flexible, number coded, screened, meter marking, increased flame retardancy B2ca



Technical data

- PVC control cable with reference to DIN VDE 0285-525-2-51 / DIN EN 50525-2-51
- **Temperature range**
  flexing -5°C to +70°C
  fixed installation -40°C to +80°C
- **Nominal voltage**
  U_0/U 300/500 V
- **Test voltage**
  2000V
- **Breakdown voltage**
  4000
- **Minimum bending radius**
  flexible 10 x cable Ø
  fixed 5 x cable Ø
- **CPR**
  B2ca s2 d0 a3

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl. 5 / IEC 60228 cl. 5
- Core insulation: PVC
- black cores with continuous white numbering acc.to DIN VDE 0293
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded together in layers with optimal lay length
- Wrapping: polyester foil
- screen: tinned copper braid, coverage approx. 60%
- Outer sheath: PVC
- Outer sheath colour: grey
- Length marking: in metres

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires (Cat. C) acc. to DIN VDE 0482-332-3-24 / DIN EN 60332-3-24 / IEC 60332-3-24

Note

- G = with green/yellow conductor
  X = without green/yellow conductor (OZ)
- EMC = Electromagnetic compatibillity
- also available without foil and screen as JZ-510 MB

Application

For flexible applications with a medium mechanical stress factor and with free movement but without tensile stress load. Suitable for dry, moist and wet environments. Commonly used in computer systems, machine building, control equipment and office environments. Not intended for outdoor installation or for system wiring in conveyor belt or air-conditioning systems or steel plants. The copper screen coverage provides optimal EMC protection and ensures interference-free transfer of analogue or digital signals.
EMC = Electromagnetic compatibility. To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11004127	2 x 0,5	5,7	28,1	50
11004128	3 G 0,5	6,0	32,5	62
11004129	3 x 0,5	6,0	32,5	62
11004130	4 G 0,5	6,5	39,7	72
11004131	4 x 0,5	6,5	39,7	72
11004132	5 G 0,5	6,9	48,3	84
11004133	5 x 0,5	6,9	48,3	84
11004134	7 G 0,5	7,6	59,8	106
11004135	7 x 0,5	7,6	59,8	106
11004136	10 G 0,5	9,5	81,9	137
11004137	10 x 0,5	9,5	81,9	137
11004138	12 G 0,5	9,8	101,6	158
11004139	12 x 0,5	9,8	101,6	158
11004140	18 G 0,5	11,4	130,0	215
11019148	25 G 0,5	13,7	210,0	305
11004156	2 x 0,75	6,2	33,2	66
11004157	3 G 0,75	6,6	42,3	77
11004158	3 x 0,75	6,6	42,3	77
11004159	4 G 0,75	7,1	49,1	90
11004160	4 x 0,75	7,1	49,1	90
11004161	5 G 0,75	7,8	62,4	106
11004162	5 x 0,75	7,8	62,4	106
11004163	7 G 0,75	8,4	78,7	144
11004164	7 x 0,75	8,4	78,7	144
11004165	10 G 0,75	10,7	110,4	207
11004166	10 x 0,75	10,7	110,4	207
11004167	12 G 0,75	11,1	134,9	227
11004168	12 x 0,75	11,1	134,9	227
11019154	18 G 0,75	12,9	191,0	275
11019156	25 G 0,75	15,4	256,0	385
11004185	2 x 1	6,5	39,8	75
11004186	3 G 1	6,9	49,6	85
11004187	3 x 1	6,9	49,6	85
11004188	4 G 1	7,6	60,5	113
11004189	4 x 1	7,6	60,5	113
11004190	5 G 1	8,2	72,1	135
11004191	5 x 1	8,2	72,1	135
11004192	7 G 1	9,0	94,1	174
11004193	7 x 1	9,0	94,1	174
11019138	10 G 1	11,3	130,4	254

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11004195	10 x 1	11,3	130,4	254
11004196	12 G 1	11,9	154,6	276
11004197	12 x 1	11,9	154,6	277
11004214	2 x 1,5	7,1	50,3	100
11004215	3 G 1,5	7,7	66,1	119
11004216	3 x 1,5	7,7	66,1	119
11004217	4 G 1,5	8,3	81,9	138
11004218	4 x 1,5	8,3	81,9	138
11004219	5 G 1,5	9,2	101,3	167
11004220	5 x 1,5	9,2	101,3	167
11004221	7 G 1,5	9,9	127,9	237
11004222	7 x 1,5	9,9	127,9	237
11004223	10 G 1,5	12,7	175,3	330
11004224	10 x 1,5	12,7	175,3	330
11004225	12 G 1,5	13,5	243,0	305
11004227	18 G 1,5	15,7	345,0	450
11004231	25 G 1,5	18,5	485,0	615
11004243	2 x 2,5	8,5	83,0	137
11004244	3 G 2,5	9,2	113,7	169
11004245	3 x 2,5	9,2	113,7	169
11004246	4 G 2,5	10,0	136,1	210
11004247	4 x 2,5	10,0	136,1	210
11004248	5 G 2,5	11,0	173,6	268
11004249	5 x 2,5	11,0	173,6	268
11004250	7 G 2,5	12,1	228,9	326
11004251	7 x 2,5	12,1	228,9	326
11004252	10 G 2,5	15,7	307,8	504
11004253	10 x 2,5	15,7	307,8	504
11004254	12 G 2,5	16,4	403,0	490
11004272	3 G 4	10,7	150,8	276
11004273	4 G 4	11,6	197,8	344
11004274	5 G 4	12,8	241,8	422
11004276	3 G 6	12,6	212,2	357
11004277	4 G 6	14,1	275,7	449
11004278	5 G 6	15,8	366,9	566
11004280	3 G 10	15,6	328,9	571
11004281	4 G 10	17,2	466,1	764
11004284	3 G 16	18,1	458,8	822
11004285	4 G 16	20,0	705,2	1052

Dimensions and specifications may be changed without prior notice.

HELUCONTROL® JZ-520-HMH LS0H GREY

CPR: B2ca, flexible control cable, halogen-free, extremely fire resistant



Technical data

- halogen-free flexible control cable in ref. to DIN VDE 0285-525-3-11 / DIN EN 50525-3-11 and DIN VDE 0285-525-2-51 / DIN EN 50525-2-51
- **Temperature range**
  flexing -15°C to +70°C
  fixed installation -40°C to +70°C
- **Nominal voltage**
  U_0/U 300/500 V
- **Test voltage**
  2000 V
- **Minimum bending radius**
  flexing 12,5x cable Ø
  fixed 4x cable Ø
- **CPR**
  B2ca s1a d0 a1

Cable structure

- bare copper-conductor acc. to DIN VDE 0295 cl.5, fine-wire, BS 6360 cl.5, IEC 60228 cl.5
- core insulation: halogen-free polymer compound type TI7 acc. to DIN VDE 0207-363-7 / DIN EN 50363-7
- core identification: black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- cores stranded in layers with optimal lay-length
- outer sheath: halogen-free polymer compound type M1 acc. to DIN VDE 0207-363-0 / DIN EN 50363-0
- outer sheath colour: grey (RAL 7001)
- with meter marking

Properties

- the materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

Tests

- reaction to fire acc. to DIN EN 50399 / DIN VDE 0482-399
- flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- flame test on bunched wires acc. to DIN VDE 0482-322-3-24 / DIN EN 60332-3-24 / IEC 60332-3-24 & DIN VDE 0482-322-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22
- corrosiveness of combustion gases
- acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2
- halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- oil resistant acc. to DIN VDE 0473-811-404 / DIN EN 60811-404 / IEC 60811-404

Note

- CPR: Cca for 2x0.5, 3G0.5, 2x0.75, 3G0.75
- G = with green-yellow conductor
  x = without green-yellow conductor
- screened analogue type:
  HELUCONTROL® JZ-520 HMH-C LS0H GREY

Application

Used as measuring, monitoring and control cable in: machine tooling, conveyor belt systems, production lines, plant installations, air-conditioning systems, foundries and steel mills. For use in fixed and flexible applications with little to medium mechanical stress, occasional free movement and no tensile load stress. The cable is suitable for use in dry, damp and wet locations and on plaster.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Continuation ▶

HELUCONTROL® JZ-520-HMH LS0H GREY

CPR: B2ca, flexible control cable, halogen-free, extremely fire resistant

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11008617	2 x 0,5	4,8	9,6	43
11008618	3 G 0,5	5,1	14,4	50
11008619	3 x 0,5	5,1	14,4	50
11008620	4 G 0,5	5,5	19,2	55
11008621	4 x 0,5	5,5	19,2	55
11008622	5 G 0,5	6,2	24,0	66
11008623	5 x 0,5	6,2	24,0	66
11008624	7 G 0,5	6,7	33,6	81
11008627	12 G 0,5	8,7	57,6	126
11008629	18 G 0,5	10,7	86,4	194
11008631	25 G 0,5	14,3	180,0	345
11008640	2 x 0,75	5,3	14,4	47
11008641	3 G 0,75	5,6	21,6	56
11008642	3 x 0,75	5,6	21,6	56
11008643	4 G 0,75	6,3	28,8	72
11008644	4 x 0,75	6,3	28,8	72
11008645	5 G 0,75	6,9	36,0	86
11008646	5 x 0,75	6,9	36,0	86
11008647	7 G 0,75	7,5	50,4	107
11008648	7 x 0,75	7,5	50,4	107
11008651	12 G 0,75	9,8	86,4	173
11008653	18 G 0,75	12,2	129,6	266
11008655	25 G 0,75	14,3	180,0	345
11008664	2 x 1	5,6	19,2	55
11008665	3 G 1	5,9	28,8	66
11008666	3 x 1	5,9	28,8	66
11008667	4 G 1	6,6	38,4	83
11008668	4 x 1	6,6	38,4	83
11008669	5 G 1	7,3	48,0	101
11008670	7 G 1	8,1	67,2	130
11008673	12 G 1	10,4	115,0	207
11008675	18 G 1	12,9	172,8	314

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11008677	25 G 1	15,4	240,0	423
11008685	2 x 1,5	6,4	28,8	74
11008686	3 G 1,5	6,8	43,2	90
11008687	3 x 1,5	6,8	43,2	90
11008688	4 G 1,5	7,4	57,6	110
11008689	5 G 1,5	8,3	72,0	136
11008690	7 G 1,5	9,2	100,8	175
11008693	12 G 1,5	11,8	172,8	276
11008695	18 G 1,5	14,6	259,2	421
11008697	25 G 1,5	17,4	360,0	563
11008703	2 x 2,5	7,8	48,0	114
11008704	3 G 2,5	8,3	72,0	139
11008705	4 G 2,5	9,2	96,0	175
11008706	5 G 2,5	10,1	120,0	212
11008707	7 G 2,5	11,2	168,0	273
11008710	12 G 2,5	14,8	288,0	458
11008716	2 x 4	9,3	76,8	167
11008717	3 G 4	9,8	115,2	204
11008718	4 G 4	10,9	153,6	258
11008719	5 G 4	12,1	192,0	317
11008720	7 G 4	13,2	268,8	403
11008726	2 x 6	11,0	115,2	240
11008727	3 G 6	11,9	172,8	304
11008728	4 G 6	13,0	230,4	377
11008729	5 G 6	14,5	288,0	468
11008730	7 G 6	16,2	403,2	611
11008731	2 x 10	13,8	192,0	385
11008732	3 G 10	14,9	288,0	488
11008733	4 G 10	16,5	384,0	615
11008734	5 G 10	18,3	480,0	759
11008735	7 G 10	20,2	672,0	978

Dimensions and specifications may be changed without prior notice.

HELUCONTROL® JZ-520-HMH-C LS0H GREY

CPR: B2ca, flexible control cable, halogen-free, extremely fire resistant, Cu-screened, EMC-preferred type



Technical data

- halogen-free flexible control cable in ref. to DIN VDE 0285-525-3-11 / DIN EN 50525-3-11 and DIN VDE 0285-525-2-51 / DIN EN 50525-2-51
- **Temperature range**
  flexing -15°C to +70°C
  fixed installation -40°C to +70°C
- **Nominal voltage**
  U_0/U 300/500 V
- **Test voltage**
  2000 V
- **Minimum bending radius**
  flexing 12,5x cable Ø
  fixed 4x cable Ø
- **CPR**
  B2ca s1a d0 a1

Cable structure

- bare copper-conductor acc. to DIN VDE 0295 cl.5, fine-wire, BS 6360 cl.5, IEC 60228 cl.5
- core insulation: halogen-free polymer compound type TI7 acc. to DIN VDE 0207-363-7 / DIN EN 50363-7
- core identification: black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- cores stranded in layers with optimal lay-length
- seperating polyester tape
- screen: tinned copper braid, approx. 85% coverage
- outer sheath: halogen-free polymer compound type M1 acc. to DIN VDE 0207-363-0 / DIN EN 50363-0
- outer Sheath colour grey (RAL 7001)
- with meter marking

Properties

- the materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

Tests

- reaction to fire acc. to DIN EN 50399 / DIN VDE 0482-399
- flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- flame test on bunched wires acc. to DIN VDE 0482-322-3-24 / DIN EN 60332-3-24 / IEC 60332-3-24 & DIN VDE 0482-322-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22
- corrosiveness of combustion gases
- acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2
- halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- oil resistant acc. to DIN VDE 0473-811-404 / DIN EN 60811-404 / IEC 60811-404

Note

- G = with green-yellow conductor
  x = without green-yellow conductor
- unscreened analogue type:
  HELUCONTROL® JZ-520 HMH LS0H GREY

Application

Used as measuring, monitoring and control cable in: machine tooling, conveyor belt systems, production lines, plant installations, air-conditioning systems, foundries and steel mills. For use in fixed and flexible applications with little to medium mechanical stress, occasional free movement and no tensile load stress. The cable is suitable for use in dry, damp and wet locations and on plaster.

EMC = electromagnetic compatibillity

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Continuation ▶

HELUCONTROL® JZ-520-HMH-C LS0H GREY

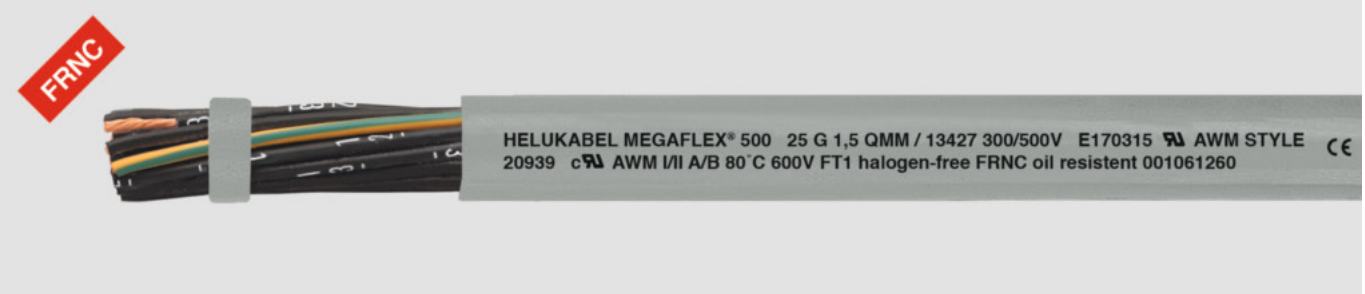
CPR: B2ca, flexible control cable, halogen-free, extremely fire resistant, Cu-screened, EMC-preferred type

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11008758	2 x 0,5	5,7	35,0	50
11008759	3 G 0,5	5,9	42,0	60
11008760	3 x 0,5	5,9	42,0	60
11008761	4 G 0,5	6,4	47,0	70
11008762	4 x 0,5	6,4	47,0	70
11008763	5 G 0,5	6,9	56,0	80
11008764	7 G 0,5	7,6	69,0	100
11008765	12 G 0,5	9,7	108,0	160
11008766	18 G 0,5	11,5	145,0	225
11008767	25 G 0,5	13,7	240,0	320
11008768	2 x 0,75	6,1	40,0	60
11008769	3 G 0,75	6,3	52,0	70
11008770	3 x 0,75	6,3	52,0	70
11008771	4 G 0,75	6,8	60,0	80
11008772	4 x 0,75	6,8	60,0	80
11008773	5 G 0,75	7,4	71,0	100
11008774	5 x 0,75	7,4	71,0	100
11008775	7 G 0,75	8,2	91,0	130
11008776	7 x 0,75	8,2	91,0	130
11008777	12 G 0,75	10,5	142,0	210
11008778	18 G 0,75	12,7	212,0	295
11008779	25 G 0,75	15,0	281,0	420
11008780	2 x 1	6,4	50,0	70
11008781	3 G 1	6,7	60,0	80
11008782	3 x 1	6,7	60,0	80
11008783	4 G 1	7,2	71,0	100
11008784	4 x 1	7,2	71,0	100
11008785	5 G 1	8,0	88,0	135
11008786	7 G 1	8,7	111,0	160
11008787	12 G 1	11,4	184,0	260
11008788	18 G 1	13,6	260,0	380
11008789	25 G 1	16,2	349,0	535
11008790	2 x 1,5	7,0	63,0	90
11008791	3 G 1,5	7,4	80,0	100
11008792	3 x 1,5	7,4	80,0	100
11008793	4 G 1,5	8,1	97,0	125
11008794	5 G 1,5	9,0	119,0	160
11008795	7 G 1,5	9,8	147,0	210
11008796	12 G 1,5	12,8	267,0	340
11008797	18 G 1,5	15,6	374,0	480
11008798	25 G 1,5	18,4	526,0	700
11008799	2 x 2,5	8,4	96,0	135
11008800	3 G 2,5	8,8	144,0	170
11008801	4 G 2,5	9,8	148,0	195
11008802	5 G 2,5	10,8	181,0	230
11008803	7 G 2,5	11,9	255,0	340
11008804	12 G 2,5	15,8	441,0	570
11008805	2 x 4	10,0	120,0	180
11008806	3 G 4	10,6	174,0	240
11008807	4 G 4	11,6	230,0	310
11008808	5 G 4	12,8	273,0	385
11008809	7 G 4	14,2	316,0	510
11008810	2 G 6	11,7	173,0	270
11008811	3 G 6	12,5	240,0	330
11008812	4 G 6	13,8	305,0	420
11008813	5 G 6	15,4	439,0	510
11008814	7 G 6	17,0	505,0	670
11008815	2 x 10	14,4	255,0	420
11008816	3 G 10	15,6	350,0	500
11008817	4 G 10	17,2	535,0	780
11008818	5 G 10	19,1	592,0	860
11008819	7 G 10	21,2	810,0	1300

Dimensions and specifications may be changed without prior notice.

MEGAFLEX® 500

halogen-free, flame retardant, oil resistant, UV resistant, flexible, meter marking



Technical data

- Halogen-free flexible cable in reference to DIN VDE 0285-525-3-11 / DIN EN 50525-3-11, to UL Style 20939, UL Std.758
- **Temperature range**
  flexing -30°C to +80°C
  fixed installation -40°C to +80°C
- **Nominal voltage**
  U_0/U 300/500 V
  UL/CSA 600 V
- **Test voltage**
  3000 V
- **Minimum bending radius**
  flexing 10x outer Ø
  fixed installation 4x outer Ø
- **Flexibility**
  Alternate bending test acc. to DIN VDE 0473-396 / DIN EN 50396

Cable structure

- Bare copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation of halogen-free special polymer
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Outer sheath of halogen-free special polymer
- Sheath colour: grey (RAL 7001)
- With meter marking
- **LS0H** = Low Smoke Zero Halogen

Note

- G = with GN-YE conductor
  x = without GN-YE conductor (OZ)
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- Screened analogue type:
  MEGAFLEX® 500-C

Properties

- Highly flame retardant
- Resistant to oils and greases
- Resistant to UV and weathering
- Hydrolysis resistant
- Flexible, abrasion- and wear-resistant
- Ozone-resistant
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame test acc. to DIN VDE 0482-332-3-24 / DIN EN 60332-3-24 / IEC 60332-3-24
- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2 / CSA FT1
- Toxicity of combustion gases acc. to NF X 70-100
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- Smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2
- Oil resistant acc. to DIN VDE 0473-811-404/DIN EN 60811-404
- Hydrolysis resistant acc. to DIN EN 61234-1
- Ozone resistant acc. to DIN VDE 0473-811-403/DIN EN 60811-403

Application

For fixed installation or flexible applications with non-recurring free movement, without forced movement control and without tensile load. Can withstand severe mechanical stress in dry or damp/ wet rooms and outdoors. Can be used as a connecting and control cable in: machine and plant construction, HVAC technology, warehousing and materials handling technology, shipbuilding, the renewable energy sector such as wind turbine construction, and more.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
13344	2 x 0,5	20	5,0	9,6	43,0
13345	3 G 0,5	20	5,3	14,4	50,0
13346	3 x 0,5	20	5,3	14,4	50,0
13347	4 G 0,5	20	5,7	19,0	60,0
13348	4 x 0,5	20	5,7	19,0	60,0
13349	5 G 0,5	20	6,2	24,0	71,0
13350	5 x 0,5	20	6,2	24,0	71,0
13351	7 G 0,5	20	7,4	33,6	84,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
13352	8 G 0,5	20	8,0	38,0	101,0
13353	10 G 0,5	20	8,8	48,0	121,0
13354	12 G 0,5	20	9,1	58,0	142,0
13355	16 G 0,5	20	10,0	76,0	183,0
13356	18 G 0,5	20	10,7	86,0	204,0
13357	20 G 0,5	20	11,2	96,0	227,0
13359	25 G 0,5	20	12,7	120,0	283,0
13360	30 G 0,5	20	13,5	144,0	324,0

Continuation ▸

MEGAFLEX® 500

halogen-free, flame retardant, oil resistant, UV resistant, flexible, meter marking

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
13361	34 G 0,5	20	14,5	163,0	367,0
13362	37 G 0,5	20	14,5	178,0	381,0
13363	41 G 0,5	20	15,8	197,0	417,0
13364	42 G 0,5	20	15,8	202,0	454,0
13365	50 G 0,5	20	17,3	240,0	519,0
13366	61 G 0,5	20	18,5	293,0	635,0
13367	65 G 0,5	20	19,4	312,0	694,0
13368	2 x 0,75	19	5,4	14,4	47,0
13369	3 G 0,75	19	5,7	21,6	56,0
13370	3 x 0,75	19	5,7	21,6	56,0
13371	4 G 0,75	19	6,2	29,0	69,0
13372	4 x 0,75	19	6,2	29,0	69,0
13373	5 G 0,75	19	6,8	36,0	83,0
13374	5 x 0,75	19	6,8	36,0	83,0
13375	7 G 0,75	19	8,1	50,0	114,0
13376	7 x 0,75	19	8,1	50,0	114,0
13377	8 G 0,75	19	8,9	58,0	136,0
13378	10 G 0,75	19	9,6	72,0	172,0
13379	12 G 0,75	19	9,9	86,0	183,0
13380	16 G 0,75	19	11,2	115,0	241,0
13381	18 G 0,75	19	11,9	130,0	266,0
13382	20 G 0,75	19	12,6	144,0	291,0
13383	25 G 0,75	19	14,1	180,0	374,0
13384	30 G 0,75	19	15,4	216,0	450,0
13385	34 G 0,75	19	16,4	245,0	517,0
13386	37 G 0,75	19	16,4	260,0	541,0
13387	41 G 0,75	19	17,6	296,0	611,0
13388	42 G 0,75	19	17,6	302,0	621,0
13389	50 G 0,75	19	19,8	360,0	742,0
13390	61 G 0,75	19	20,9	439,0	853,0
13392	65 G 0,75	19	21,8	468,0	909,0
13393	2 x 1	18	5,7	19,2	63,0
13394	3 G 1	18	6,0	29,0	74,0
13395	3 x 1	18	6,0	29,0	74,0
13396	4 G 1	18	6,6	38,4	90,0
13397	4 x 1	18	6,6	38,4	90,0
13398	5 G 1	18	7,2	48,0	109,0
13399	7 G 1	18	8,6	67,0	151,0
13400	8 G 1	18	9,4	77,0	184,0
13401	10 G 1	18	10,4	96,0	224,0
13402	12 G 1	18	10,7	115,0	243,0
13403	16 G 1	18	12,0	154,0	314,0
13404	18 G 1	18	12,7	173,0	361,0
13405	20 G 1	18	13,5	192,0	387,0
13406	25 G 1	18	15,2	240,0	496,0
13407	34 G 1	18	17,4	326,0	670,0
13408	37 G 1	18	17,4	355,0	713,0
13409	41 G 1	18	18,9	394,0	784,0
13410	42 G 1	18	18,9	403,0	824,0
13411	50 G 1	18	21,0	480,0	952,0
13412	61 G 1	18	22,2	586,0	1140,0
13413	65 G 1	18	23,2	628,0	1201,0
13414	2 x 1,5	16	6,3	29,0	70,0
13415	3 G 1,5	16	6,6	43,0	94,0
13416	3 x 1,5	16	6,6	43,0	94,0
13417	4 G 1,5	16	7,2	58,0	112,0
13418	5 G 1,5	16	7,9	72,0	141,0
13419	7 G 1,5	16	9,5	101,0	191,0
13420	8 G 1,5	16	10,4	115,0	224,0
13421	10 G 1,5	16	11,3	144,0	282,0
13422	12 G 1,5	16	11,7	173,0	311,0
13423	16 G 1,5	16	13,3	230,0	392,0
13425	18 G 1,5	16	14,0	259,0	450,0
13426	20 G 1,5	16	14,9	288,0	497,0
13427	25 G 1,5	16	16,8	360,0	630,0
13428	34 G 1,5	16	19,4	490,0	842,0
13429	37 G 1,5	16	19,4	533,0	897,0
13430	50 G 1,5	16	23,4	720,0	1277,0
13431	61 G 1,5	16	24,8	878,0	1460,0
13432	65 G 1,5	16	25,8	936,0	1612,0
13433	2 x 2,5	14	7,6	48,0	118,0
13434	3 G 2,5	14	8,3	72,0	151,0
13435	4 G 2,5	14	9,1	96,0	181,0
13436	5 G 2,5	14	10,2	120,0	224,0
13437	7 G 2,5	14	12,1	168,0	316,0
13438	8 G 2,5	14	13,2	192,0	370,0
13439	10 G 2,5	14	14,6	240,0	451,0
13440	12 G 2,5	14	15,2	288,0	499,0
13441	16 G 2,5	14	16,8	384,0	720,0
13442	18 G 2,5	14	18,1	432,0	769,0
13443	20 G 2,5	14	19,0	480,0	911,0
13444	25 G 2,5	14	22,2	600,0	1047,0
13445	30 G 2,5	14	22,9	720,0	1280,0
13446	2 x 4	12	9,2	77,0	199,0
13447	3 G 4	12	9,9	115,0	247,0
13448	4 G 4	12	11,0	154,0	299,0
13449	5 G 4	12	12,1	192,0	369,0
13450	7 G 4	12	13,3	269,0	463,0
13451	8 G 4	12	15,9	307,0	601,0
13452	10 G 4	12	17,3	384,0	698,0
13453	12 G 4	12	18,3	461,0	790,0
13454	16 G 4	12	20,2	614,0	1130,0
13455	18 G 4	12	21,8	691,0	1280,0
13456	2 x 6	10	10,8	115,0	266,0
13457	3 G 6	10	11,7	173,0	360,0
13458	4 G 6	10	13,0	230,0	429,0
13459	5 G 6	10	14,5	288,0	529,0
13460	7 G 6	10	16,0	403,0	631,0
13461	2 x 10	8	14,0	192,0	440,0
13462	3 G 10	8	15,0	288,0	550,0
13463	4 G 10	8	16,8	384,0	708,0
13464	5 G 10	8	18,7	480,0	862,0
13465	7 G 10	8	20,6	672,0	1124,0
13466	2 x 16	6	16,5	307,0	642,0
13467	3 G 16	6	17,6	461,0	830,0
13468	4 G 16	6	19,7	641,0	1060,0
13469	5 G 16	6	21,9	768,0	1270,0
13470	7 G 16	6	24,4	1075,0	1794,0
13471	3 G 25	4	22,5	720,0	1190,0
13472	4 G 25	4	25,2	960,0	1594,0
13473	5 G 25	4	27,9	1200,0	2014,0
13474	3 G 35	2	26,3	1008,0	1590,0
13475	4 G 35	2	28,5	1344,0	2200,0
13476	5 G 35	2	31,2	1680,0	2693,0
13477	3 G 50	1	30,2	1440,0	2571,0
13478	4 G 50	1	34,0	1920,0	3087,0
13479	5 G 50	1	37,8	2400,0	3980,0
13480	3 G 70	2/0	37,0	2016,0	3207,0
13481	4 G 70	2/0	41,5	2688,0	4077,0
13482	5 G 70	2/0	46,2	3360,0	5501,0
13483	3 G 95	3/0	41,4	2736,0	4708,0
13484	4 G 95	3/0	46,2	3648,0	5590,0
13485	5 G 95	3/0	51,5	4560,0	6972,0
13486	3 G 120	4/0	45,7	3456,0	5515,0
13487	4 G 120	4/0	51,2	4608,0	7100,0
13488	3 G 150	300 kcmil	52,8	4320,0	6279,0
13489	4 G 150	300 kcmil	58,3	5760,0	7781,0

Dimensions and specifications may be changed without prior notice. (RA03)

MEGAFLEX® 500-C

halogen-free, flame retardant, oil resistant, UV resistant, flexible, screened, meter marking, EMC-preferred types



Technical data

- Halogen-free flexible cable in reference to DIN VDE 0285-525-3-11 / DIN EN 50525-3-11, to UL Style 20939, UL Std.758
- **Temperature range** flexing -30°C to +80°C fixed installation -40°C to +80°C
- **Nominal voltage** U_0/U 300/500 V UL/CSA 600 V
- **Test voltage** 3000 V
- **Coupling resistance** max. 250 Ohm/km
- **Minimum bending radius** flexing 10x outer Ø fixed installation 4x outer Ø
- **Flexibility** Alternate bending test acc. to DIN VDE 0473-396 / DIN EN 50396

Cable structure

- Bare copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation of halogen-free special polymer
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Foil wrapping
- Tinned copper braided screen, approx. 85% coverage
- Outer sheath of halogen-free special polymer
- Sheath colour: grey (RAL 7001)
- With meter marking
- **LS0H** = Low Smoke Zero Halogen

Note

- G = with GN-YE conductor x = without GN-YE conductor (OZ)
- The conductor is metrically constructed (mm^2). The AWG designation is approximate and purely informative.
- Unscreened analogue type: **MEGAFLEX® 500**

Properties

- Halogen-free
- Highly flame retardant
- Resistant to oils and greases
- Resistant to UV and weathering
- Flexible, abrasion and wear resistant
- Ozone resistant
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame test acc. to DIN VDE 0482-332-3-24 / DIN EN 60332-3-24 / IEC 60332-3-24
- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2 / CSA FT1
- Toxicity of combustion gases acc. to NF X 70-100
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- Smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2
- Oil resistant acc. to DIN VDE 0473-811-404/DIN EN 60811-404
- Hydrolysis resistant acc. to DIN EN 61234-1
- Ozone resistant acc. to DIN VDE 0473-811-403/DIN EN 60811-403

Application

For fixed installation or flexible applications with non-recurring free movement, without forced movement control and without tensile load. Can withstand severe mechanical stress in dry or damp/ wet rooms and outdoors. Can be used as a connecting and control cable in: machine and plant construction, HVAC technology, warehousing and materials handling technology, shipbuilding, the renewable energy sector such as wind turbine construction, and more.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
13500	2 x 0,5	20	5,7	35,0	46,0
13501	3 G 0,5	20	6,0	42,0	56,0
13502	3 x 0,5	20	6,0	42,0	56,0
13503	4 G 0,5	20	6,5	47,0	62,0
13504	4 x 0,5	20	6,5	47,0	62,0
13505	5 G 0,5	20	7,0	56,0	75,0
13506	5 x 0,5	20	7,0	56,0	75,0
13507	7 G 0,5	20	7,9	69,0	98,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
13508	8 G 0,5	20	8,5	80,0	116,0
13509	10 G 0,5	20	9,3	94,0	135,0
13510	12 G 0,5	20	9,6	108,0	158,0
13511	16 G 0,5	20	10,7	129,0	210,0
13512	18 G 0,5	20	11,2	145,0	216,0
13514	20 G 0,5	20	11,9	172,0	240,0
13515	25 G 0,5	20	13,4	240,0	315,0

Continuation ▸

MEGAFLEX® 500-C

halogen-free, flame retardant, oil resistant, UV resistant, flexible, screened, meter marking, EMC-preferred types

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
13516	2 x 0,75	19	6,1	40,0	60,0
13517	3 G 0,75	19	6,4	52,0	68,0
13518	3 x 0,75	19	6,4	52,0	68,0
13519	4 G 0,75	19	6,9	60,0	78,0
13520	4 x 0,75	19	6,9	60,0	78,0
13521	5 G 0,75	19	7,4	71,0	95,0
13522	5 x 0,75	19	7,4	71,0	95,0
13523	7 G 0,75	19	8,6	91,0	130,0
13524	7 x 0,75	19	8,6	91,0	130,0
13525	8 G 0,75	19	9,4	110,0	145,0
13526	10 G 0,75	19	10,2	137,0	180,0
13527	12 G 0,75	19	10,4	142,0	203,0
13528	16 G 0,75	19	11,6	200,0	275,0
13529	18 G 0,75	19	12,4	212,0	290,0
13530	20 G 0,75	19	12,9	238,0	320,0
13531	25 G 0,75	19	14,8	281,0	413,0
13532	2 x 1	18	6,4	50,0	66,0
13533	3 G 1	18	6,7	60,0	80,0
13534	3 x 1	18	6,7	60,0	80,0
13535	4 G 1	18	7,3	71,0	100,0
13536	4 x 1	18	7,3	71,0	100,0
13537	5 G 1	18	7,8	88,0	130,0
13538	7 G 1	18	9,1	111,0	160,0
13539	8 G 1	18	9,9	127,0	197,0
13540	10 G 1	18	10,8	150,0	232,0
13541	12 G 1	18	11,2	184,0	260,0
13542	16 G 1	18	12,3	209,0	346,0
13543	18 G 1	18	13,2	260,0	382,0
13544	20 G 1	18	13,8	317,0	440,0
13545	25 G 1	18	15,8	349,0	540,0
13546	2 x 1,5	16	7,0	63,0	88,0
13547	3 G 1,5	16	7,3	80,0	100,0
13548	3 x 1,5	16	7,3	80,0	100,0
13549	4 G 1,5	16	7,9	97,0	125,0
13550	5 G 1,5	16	8,6	119,0	158,0
13552	7 G 1,5	16	10,2	147,0	210,0
13554	8 G 1,5	16	11,1	170,0	244,0
13556	10 G 1,5	16	12,0	193,0	315,0
13557	12 G 1,5	16	12,5	267,0	340,0
13558	16 G 1,5	16	13,8	315,0	424,0
13559	18 G 1,5	16	15,0	374,0	480,0
13560	20 G 1,5	16	15,7	396,0	545,0
13561	25 G 1,5	16	18,0	526,0	702,0
13562	2 x 2,5	14	8,3	96,0	132,0
13563	3 G 2,5	14	9,0	144,0	168,0
13565	4 G 2,5	14	9,8	148,0	195,0
13566	5 G 2,5	14	10,9	181,0	256,0
13567	7 G 2,5	14	12,9	255,0	345,0
13568	8 G 2,5	17	13,8	285,0	390,0
13569	10 G 2,5	14	15,8	340,0	482,0
13570	12 G 2,5	14	15,9	441,0	572,0
13571	2 x 4	12	9,8	120,0	220,0
13572	3 G 4	12	10,6	174,0	251,0
13573	4 G 4	12	11,5	230,0	305,0
13574	5 G 4	12	12,7	273,0	388,0
13575	7 G 4	12	13,9	316,0	504,0
13576	2 x 6	10	11,5	173,0	270,0
13577	3 G 6	10	12,4	240,0	351,0
13578	4 G 6	10	13,8	305,0	464,0
13579	5 G 6	10	15,7	439,0	546,0
13580	7 G 6	10	16,6	505,0	670,0
13581	2 x 10	8	14,9	255,0	461,0
13582	3 G 10	8	15,9	350,0	574,0
13583	4 G 10	8	17,8	535,0	785,0
13584	5 G 10	8	19,6	592,0	914,0
13585	7 G 10	8	21,6	810,0	1308,0
13586	2 x 16	6	17,3	422,0	670,0
13587	3 G 16	6	18,5	585,0	911,0
13588	4 G 16	6	20,8	740,0	1105,0
13589	5 G 16	6	22,9	895,0	1293,0
13590	7 G 16	6	25,0	1282,0	2149,0
13591	4 G 25	4	26,2	1140,0	1911,0
13592	4 G 35	2	30,4	1576,0	2542,0
13593	4 G 50	1	34,6	2155,0	3550,0
13594	4 G 70	2/0	41,3	3120,0	4939,0
13595	4 G 95	3/0	46,2	4043,0	6690,0
13596	4 G 120	4/0	51,0	5069,0	8453,0
13597	4 G 150	300 kcmil	59,0	5792,0	9104,0

Dimensions and specifications may be changed without prior notice. (RA03)

JZ-600 HMH

flexible, halogen-free, oil resistant[1], 0,6/1 kV, meter marking



Technical data

- Halogen-free, flexible cable, in reference to DIN VDE 0285-525-2-51 / DIN EN 50525-2-51 and DIN VDE 0285-525-3-11 / DIN EN 50525-3-11
- **Temperature range**
  flexing -15°C to +70°C
  fixed installation -40°C to +70°C
- **Nominal voltage**
  U_0/U 0,6/1 kV
- **Test voltage**
  4000 V
- **Minimum bending radius**
  flexing 15x outer Ø
  fixed installation 7,5x outer Ø

Cable structure

- Bare copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation of halogen-free polymer compound type TI6 acc. to DIN VDE 0207-363-7 / DIN EN 50363-7
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Outer sheath of halogen-free polymer compound type TM7 acc. to DIN VDE 0207-363-8 / DIN EN 50363-8
- Sheath colour: black (RAL 9005)
- With meter marking
- **LS0H** = Low Smoke Zero Halogen

Properties

- [1] We recommend you for critical applications a consultation
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame test acc. to DIN VDE 0482-332-3-24 / DIN EN 60332-3-24 / IEC 60332-3-24
- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- Smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2

Note

- G = with GN-YE conductor
  x = without GN-YE conductor (OZ)
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- Screened analogue type: **JZ-600 HMH-C**

Application

Connecting and control cable in machine tools, conveyor belts, production lines as well as in plant installations, in heating and air-conditioning systems and steel production works. For fixed installation or flexible application, directed without forcing by casual, constantly recurring free movements and without tensile stress, for medium mechanical strain. This cable is suitable for the application in dry, damp and wet environments, outdoors (fixed installation) and for laying on plaster.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
12723	2 x 0,5	6,2	9,6	57,0	20
12724	3 G 0,5	6,5	14,4	69,0	20
12725	3 x 0,5	6,5	14,4	69,0	20
12726	4 G 0,5	7,1	19,0	104,0	20
12727	4 x 0,5	7,1	19,0	104,0	20
12728	5 G 0,5	7,9	24,0	121,0	20
12729	5 x 0,5	7,9	24,0	121,0	20
12730	7 G 0,5	8,5	33,6	145,0	20
12731	10 G 0,5	11,0	48,0	186,0	20
12732	12 G 0,5	11,3	58,0	224,0	20
12733	18 G 0,5	13,5	86,0	292,0	20
12734	25 G 0,5	15,8	120,0	357,0	20

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
12735	2 x 0,75	6,7	14,4	68,0	19
12736	3 G 0,75	7,1	21,6	77,0	19
12737	3 x 0,75	7,1	21,6	77,0	19
12738	4 G 0,75	7,7	29,0	136,0	19
12739	4 x 0,75	7,7	29,0	136,0	19
12740	5 G 0,75	8,5	36,0	152,0	19
12741	5 x 0,75	8,5	36,0	152,0	19
12742	7 G 0,75	9,5	50,0	208,0	19
12743	10 G 0,75	12,2	72,0	250,0	19
12744	12 G 0,75	12,6	86,0	271,0	19
12745	18 G 0,75	14,8	130,0	387,0	19
12746	25 G 0,75	17,5	180,0	498,0	19

Continuation ▶

JZ-600 HMH

flexible, halogen-free, oil resistant[1)], 0,6/1 kV, meter marking

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
12747	2 x 1	7,0	19,2	82,0	18
12748	3 G 1	7,4	29,0	99,0	18
12749	3 x 1	7,4	29,0	99,0	18
12750	4 G 1	8,3	38,4	140,0	18
12751	4 x 1	8,3	38,4	140,0	18
12752	5 G 1	9,2	48,0	160,0	18
12753	5 x 1	9,2	48,0	160,0	18
12754	7 G 1	9,9	67,0	217,0	18
12755	10 G 1	12,8	96,0	271,0	18
12756	12 G 1	13,2	115,0	301,0	18
12757	18 G 1	15,7	173,0	417,0	18
12758	25 G 1	18,6	240,0	576,0	18
12759	2 x 1,5	8,2	29,0	97,0	16
12760	3 G 1,5	8,7	43,0	119,0	16
12761	3 x 1,5	8,7	43,0	119,0	16
12762	4 G 1,5	9,7	58,0	148,0	16
12763	4 x 1,5	9,7	58,0	148,0	16
12764	5 G 1,5	10,7	72,0	172,0	16
12765	5 x 1,5	10,7	72,0	172,0	16
12766	7 G 1,5	11,6	101,0	243,0	16
12767	10 G 1,5	15,2	144,0	311,0	16
12768	12 G 1,5	15,7	173,0	392,0	16
12769	18 G 1,5	18,6	259,0	529,0	16
12770	25 G 1,5	22,2	360,0	741,0	16
11007186	34 G 1,5	25,6	490,0	1126,0	16
11007187	37 G 1,5	25,6	533,0	1157,0	16
12771	2 x 2,5	9,6	48,0	160,0	14
12772	3 G 2,5	10,2	72,0	177,0	14
12773	3 x 2,5	10,2	72,0	177,0	14
12774	4 G 2,5	11,3	96,0	209,0	14
12775	4 x 2,5	11,3	96,0	209,0	14
12776	5 G 2,5	12,5	120,0	272,0	14
12777	5 x 2,5	12,5	120,0	272,0	14
12778	7 G 2,5	13,8	168,0	340,0	14
12779	10 G 2,5	17,8	240,0	561,0	14
12780	12 G 2,5	18,6	288,0	799,0	14
12781	18 G 2,5	22,0	432,0	940,0	14
12782	25 G 2,5	26,2	600,0	1121,0	14
12783	3 G 4	11,7	115,0	255,0	12
12784	4 G 4	13,0	154,0	319,0	12
12785	5 G 4	14,3	192,0	423,0	12
12786	3 G 6	13,2	173,0	380,0	10
12787	4 G 6	14,6	230,0	441,0	10
12788	5 G 6	16,2	288,0	657,0	10
12789	3 G 10	16,8	288,0	668,0	8
12790	4 G 10	18,6	384,0	796,0	8
12791	5 G 10	20,5	480,0	972,0	8
12792	3 G 16	20,2	461,0	832,0	6
12793	4 G 16	22,6	614,0	1122,0	6
12794	5 G 16	25,0	768,0	1604,0	6
12795	3 G 25	24,8	720,0	1457,0	4
12796	4 G 25	27,6	960,0	1611,0	4
12797	5 G 25	30,5	1200,0	2070,0	4
12798	3 G 35	27,4	1008,0	1914,0	2
12799	4 G 35	30,4	1344,0	2424,0	2
12800	5 G 35	33,6	1680,0	2970,0	2
12801	4 G 50	35,8	1920,0	3467,0	1
11018081	5 G 50	39,9	2400,0	3550,0	1
12802	4 G 70	40,7	2688,0	4491,0	2/0
12803	4 G 95	46,6	3648,0	6170,0	3/0
12804	4 G 120	51,4	4608,0	7618,0	4/0

Dimensions and specifications may be changed without prior notice. (RA03)

JZ-600 HMH-C

flexible, halogen-free, oil resistant[1)], 0,6/1 kV, screened, meter marking, EMC-preferred type



Technical data

- Halogen-free, flexible cable, in reference to DIN VDE 0285-525-2-51 / DIN EN 50525-2-51 and DIN VDE 0285-525-3-11 / DIN EN 50525-3-11
- **Temperature range**
  flexing -15°C to +70°C
  fixed installation -40°C to +70°C
- **Nominal voltage**
  U_0/U 0.6/1 kV
- **Test voltage**
  4000 V
- **Coupling resistance**
  max. 250 Ohm/km
- **Minimum bending radius**
  flexing 15x outer Ø
  fixed installation 7,5x outer Ø

Cable structure

- Bare copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation of halogen-free polymer compound type TI6 acc. to DIN VDE 0207-363-7 / DIN EN 50363-7
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Inner sheath
- Tinned copper braided screen, approx. 85% coverage
- Outer sheath of halogen-free polymer compound type TM7 acc. to DIN VDE 0207-363-8 / DIN EN 50363-8
- Sheath colour: black (RAL 9005)
- With meter marking
- **LS0H** = Low Smoke Zero Halogen

Properties

- [1)] We recommend you for critical applications a consultation
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame test acc. to DIN VDE 0482-332-3-24 / DIN EN 60332-3-24 / IEC 60332-3-24
- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- Smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2

Note

- G = with GN-YE conductor
- The conductor is metrically constructed (mm^2). The AWG designation is approximate and purely informative.
- Unscreened analogue type: **JZ-600 HMH**

Application

Connecting and control cable in machine tools, conveyor belts, production lines as well as in plant installations, in heating and air-conditioning systems and steel production works. For fixed installation or flexible application, directed without forcing by casual, constantly recurring free movements and without tensile stress, for medium mechanical strain. This cable is suitable for the application in dry, damp and wet environments, outdoors (fixed installation) and for laying on plaster. The dense screening assures interference-free transmission of all signals and impulses.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
12850	3 G 0,5	8,7	45,0	150,0	20
12851	4 G 0,5	9,4	54,0	170,0	20
12852	5 G 0,5	10,0	66,0	199,0	20
12853	7 G 0,5	10,8	79,0	235,0	20
12854	12 G 0,5	14,1	137,0	320,0	20
12855	18 G 0,5	16,0	156,0	428,0	20
12856	25 G 0,5	18,7	250,0	503,0	20

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
12857	3 G 0,75	9,4	57,0	155,0	19
12858	4 G 0,75	10,0	63,0	190,0	19
12859	5 G 0,75	10,9	76,0	228,0	19
12860	7 G 0,75	11,6	100,0	323,0	19
12861	12 G 0,75	15,3	175,0	410,0	19
12862	18 G 0,75	17,5	240,0	560,0	19
12863	25 G 0,75	20,6	306,0	730,0	19

Continuation ▶

JZ-600 HMH-C

flexible, halogen-free, oil resistant[1)], 0,6/1 kV, screened, meter marking, EMC-preferred type

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
12864	3 G 1	9,7	64,0	163,0	18
12865	4 G 1	10,6	76,0	200,0	18
12866	5 G 1	11,3	89,0	239,0	18
12867	7 G 1	12,4	114,0	289,0	18
12868	12 G 1	15,9	186,0	464,0	18
12869	18 G 1	18,4	284,0	628,0	18
12870	25 G 1	21,7	387,0	855,0	18
12871	3 G 1,5	11,0	82,0	187,0	16
12872	4 G 1,5	11,8	99,0	240,0	16
12873	5 G 1,5	13,0	123,0	289,0	16
12874	7 G 1,5	14,3	148,0	383,0	16
12875	12 G 1,5	18,6	274,0	592,0	16
12876	18 G 1,5	21,7	386,0	806,0	16
12877	25 G 1,5	25,3	531,0	1241,0	16
11007188	30 G 1,5	26,8	561,0	1174,0	16
11007189	36 G 1,5	29,3	659,0	1383,0	16
12878	3 G 2,5	12,7	148,0	298,0	14
12879	4 G 2,5	14,0	169,0	345,0	14
12880	5 G 2,5	15,2	220,0	427,0	14
12881	7 G 2,5	16,5	284,0	561,0	14
12882	12 G 2,5	21,7	470,0	857,0	14
12883	18 G 2,5	25,5	572,0	1355,0	14
12884	25 G 2,5	29,9	740,0	1995,0	14

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
12885	3 G 4	14,4	178,0	391,0	12
12886	4 G 4	15,7	234,0	527,0	12
12887	5 G 4	17,1	284,0	700,0	12
12888	3 G 6	16,1	245,0	629,0	10
12889	4 G 6	17,5	316,0	731,0	10
12890	5 G 6	19,1	442,0	1105,0	10
12891	3 G 10	19,9	367,0	1125,0	8
12892	4 G 10	21,7	549,0	1345,0	8
12893	5 G 10	23,9	604,0	1635,0	8
12894	4 G 16	26,5	807,0	1395,0	6
12895	5 G 16	29,4	940,0	1870,0	6
12896	7 G 16	32,1	1345,0	2720,0	6
12897	3 G 25	29,2	920,0	2465,0	4
12898	4 G 25	32,3	1169,0	2750,0	4
12899	5 G 25	35,4	1420,0	3490,0	4
12900	3 G 35	31,9	1250,0	3230,0	2
12901	4 G 35	35,3	1680,0	4100,0	2
12902	5 G 35	38,7	2020,0	4950,0	2
12903	4 G 50	41,1	2370,0	5780,0	1
12904	4 G 70	46,0	3257,0	7480,0	2/0
12905	4 G 95	51,7	4060,0	10220,0	3/0
12906	4 G 120	56,3	5231,0	13750,0	4/0
12907	4 G 150	62,2	6794,0	15900,0	4/0

Dimensions and specifications may be changed without prior notice. (RA03)

JZ-604 TC TRAY CABLE

PVC power cable, open installation TC-ER, NFPA 79,= 90°C, 600 V, meter marking



Technical data

- PVC power cable acc. to UL 2277 Wind Turbine TRAY CABLE
- **Multinorm**
  also conforms to the following standards: AWM-Style 2587 to UL Std.758 and CSA-Std. C22.2 No.210 I/II A/B
- **Temperature range**
  dry environment
  flexing -15°C to +90°C
  fixed installation -40°C to +90°C
  wet environment
  flexing -15°C to +75°C
  fixed installation -40°C to +75°C
- **Nominal voltage**
  WTTC 1 kV
- **Test voltage**
  3000 V
- **Breakdown voltage**
  min. 6000 V
- **Minimum bending radius**
  flexing 8x outer Ø
  fixed installation 4x outer Ø

Cable structure

- Bare copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation of PVC class 12 B acc. to tab. 50.155 UL Std.1581, type TFF to UL Std.62 (AWG 20-AWG 16) type THHW to UL Std.83 (⩾ AWG 14)
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Outer sheath of PVC acc. to UL Std.1277 tab.11.2
- Sheath colour: black (RAL 9005)
- With meter marking

Properties

- UV resistant
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Self-extinguishing and flame retardant acc. to CSA FT4
- UL OIL RES I OIL RES II
- Class 1 Div. 2 per NEC Art. 336, 392, 501

Note

- G = with GN-YE conductor
  x = without GN-YE conductor (OZ)
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- Screened analogue type:
  JZ-604-FCY TC TRAY CABLE
  JZ-604-YCY TC TRAY CABLE

Application

USA NFPA 79 conformant flexible power cables up to 600 V, for all machinery in tool and plant constuction, suitable for installation in dry, humid and damp environments, in the open and in pipes. For underground installation and for open, unprotected installation from the cable rack to machines and industrial plants.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
69661	2 x 1	18	8,0	19,2	91,0
69662	3 G 1	18	8,4	29,0	105,0
69663	4 G 1	18	9,2	39,0	126,0
69664	5 G 1	18	10,0	48,0	149,0
69665	7 G 1	18	11,7	67,0	198,0
69666	9 G 1	18	12,6	84,0	245,0
69667	10 G 1	18	13,9	96,0	255,0
69668	12 G 1	18	14,7	115,0	309,0
69669	18 G 1	18	17,1	173,0	433,0
69670	25 G 1	18	20,3	240,0	576,0
69671	34 G 1	18	23,7	326,0	794,0
69672	50 G 1	18	27,8	480,0	1081,0
69673	2 x 1,5	16	8,4	29,0	106,0
69674	3 G 1,5	16	8,8	43,0	123,0
69675	4 G 1,5	16	9,6	58,0	148,0
69676	5 G 1,5	16	10,5	72,0	178,0
69677	7 G 1,5	16	12,3	101,0	236,0
69678	8 G 1,5	16	13,3	115,0	248,0
69679	9 G 1,5	16	13,3	130,0	300,0
69680	10 G 1,5	16	14,9	144,0	313,0
69681	12 G 1,5	16	15,6	173,0	377,0
69682	16 G 1,5	16	17,2	230,0	478,0
69683	18 G 1,5	16	18,2	259,0	534,0
69684	25 G 1,5	16	22,7	360,0	772,0
69685	34 G 1,5	16	25,3	489,0	988,0
69686	41 G 1,5	16	27,0	590,0	1158,0
69687	50 G 1,5	16	29,4	720,0	1352,0
69688	61 G 1,5	16	33,2	878,0	1728,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
69689	2 x 2,5	14	9,4	48,0	140,0
69690	3 G 2,5	14	9,9	72,0	165,0
69691	4 G 2,5	14	10,8	96,0	203,0
69692	5 G 2,5	14	11,8	120,0	241,0
69693	7 G 2,5	14	14,7	168,0	350,0
69694	8 G 2,5	14	16,2	192,0	421,0
69695	9 G 2,5	14	16,8	216,0	455,0
69696	10 G 2,5	14	17,1	240,0	451,0
69697	12 G 2,5	14	17,7	288,0	531,0
69698	18 G 2,5	14	20,8	432,0	751,0
69699	25 G 2,5	14	25,8	600,0	1076,0
69700	3 G 4	12	11,0	115,0	220,0
69701	4 G 4	12	12,0	154,0	272,0
69702	5 G 4	12	13,2	192,0	328,0
69703	7 G 4	12	16,5	269,0	495,0
69704	9 G 4	12	19,1	346,0	636,0
69705	12 G 4	12	19,9	461,0	726,0
69706	18 G 4	12	24,1	691,0	1086,0
69707	3 G 6	10	12,5	173,0	290,0
69708	4 G 6	10	14,5	230,0	382,0
69709	5 G 6	10	15,8	288,0	470,0
69710	7 G 6	10	17,3	403,0	609,0
69711	3 G 10	8	17,2	288,0	544,0
69712	4 G 10	8	18,9	384,0	678,0
69713	5 G 10	8	20,8	480,0	817,0
69714	7 G 10	8	23,7	672,0	1110,0

Continuation ▸

JZ-604 TC TRAY CABLE

PVC power cable, open installation TC-ER, NFPA 79,= 90°C, 600 V, meter marking

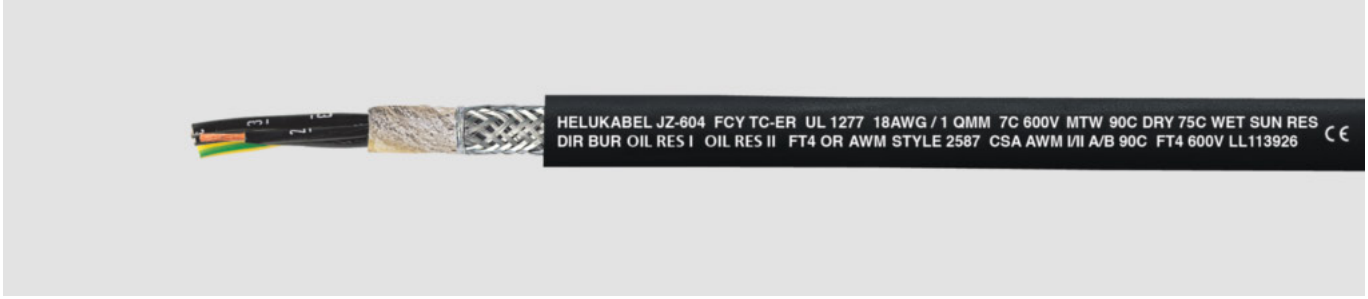
Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
69715	3 G 16	6	21,0	461,0	823,0
69716	4 G 16	6	23,9	614,0	1041,0
69717	5 G 16	6	26,3	768,0	1317,0
69718	7 G 16	6	28,8	1075,0	1676,0
69719	3 G 25	4	24,9	720,0	1192,0
69720	4 G 25	4	27,4	960,0	1499,0
69721	5 G 25	4	30,3	1200,0	1846,0
69722	7 G 25	4	38,2	1680,0	2580,0
69723	3 G 35	2	27,1	1008,0	1536,0
69724	4 G 35	2	29,8	1344,0	1932,0
69725	5 G 35	2	33,0	1680,0	2386,0
69726	3 G 50	1	33,2	1440,0	2238,0
69727	4 G 50	1	36,7	1920,0	2844,0
69728	5 G 50	1	41,5	2400,0	3579,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
69729	3 G 70	2/0	37,6	2016,0	2969,0
69730	4 G 70	2/0	42,0	2688,0	3837,0
69731	5 G 70	2/0	48,4	3360,0	4882,0
69732	3 G 95	3/0	41,8	2736,0	3811,0
69733	4 G 95	3/0	47,0	3648,0	4921,0
69734	5 G 95	3/0	52,5	4560,0	6140,0
69735	3 G 120	4/0	46,0	3456,0	4821,0
69736	4 G 120	4/0	51,5	4608,0	6243,0
69737	5 G 120	4/0	56,5	5760,0	7599,0
59378	4 G 150	250 kcmil	59,1	5760,0	8050,0
59379	4 G 185	350 kcmil	67,1	7104,0	9250,0

Dimensions and specifications may be changed without prior notice. (RN01)

JZ-604-FCY TC TRAY CABLE

PVC power cable, screened, open installation TC-ER, NFPA 79, 90°C, 600 V, meter marking, EMC-preferred type



Technical data

- PVC power cable, screened acc. to UL 2277 Wind Turbine TRAY CABLE
- **Multinorm**
  also conform to the following standards:
  AWM-Style 2587 to UL Std.758 and CSA-Std. C22.2 No.210 I/II A/B
- **Temperature range**
  dry environment
  flexing -15°C to +90°C
  fixed installation -40°C to +90°C
  wet environment
  flexing -15°C to +75°C
  fixed installation -40°C to +75°C
- **Nominal voltage**
  WTTC 1 kV
- **Test voltage**
  3000 V
- **Breakdown voltage**
  min. 6000 V
- **Coupling resistance**
  max. 250 Ohm/km
- **Minimum bending radius**
  flexing 8x outer Ø
  fixed installation 4x outer Ø

Cable structure

- Bare copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation of PVC class 12 B acc. to tab. 50.155 UL Std.1581, type TFF to UL Std.62 (AWG 20-AWG 16) type THHW to UL Std.83 (⩾ AWG 14)
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Separation foil
- Tinned copper braided screen, approx. coverage 85%
- Outer sheath of PVC acc. to UL Std.1277 tab.11.2
- Sheath colour: black (RAL 9005)
- With meter marking

Properties

- UV-resistant
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Self-extinguishing and flame retardant acc. to CSA FT4
- UL OIL RES I OIL RES II
- Class 1 Div. 2 per NEC Art. 336, 392, 501

Note

- G = with GN-YE conductor
  x = without GN-YE conductor (OZ)
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- Unscreened analogue type:
  JZ-604 TC TRAY CABLE

Application

USA NFPA 79 conformant flexible power cables up to 600 V, for all machinery in tool and plant constuction, suitable for installation in dry, humid and damp environments, in the open and in pipes. For underground installation and for open, unprotected installation from the cable rack to machines and industrial plants.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
69750	2 x 1	18	8,6	50,0	103,0
69751	3 G 1	18	9,0	60,0	119,0
69752	4 G 1	18	9,7	71,0	139,0
69753	5 G 1	18	10,5	88,0	165,0
69754	7 G 1	18	12,2	111,0	216,0
69755	9 G 1	18	14,2	139,0	285,0
69756	10 G 1	18	15,0	150,0	311,0
69757	12 G 1	18	15,4	184,0	349,0
69758	18 G 1	18	17,8	260,0	472,0
69759	25 G 1	18	21,9	349,0	665,0
69760	34 G 1	18	24,3	486,0	886,0
69761	50 G 1	18	28,4	625,0	1164,0
69762	2 x 1,5	16	9,0	63,0	115,0
69763	3 G 1,5	16	9,4	80,0	140,0
69764	4 G 1,5	16	10,2	97,0	164,0
69765	5 G 1,5	16	11,1	119,0	195,0
69766	7 G 1,5	16	12,9	147,0	260,0
69767	8 G 1,5	16	14,0	170,0	297,0
69768	9 G 1,5	16	15,2	182,0	351,0
69769	10 G 1,5	16	15,5	193,0	360,0
69770	12 G 1,5	16	16,2	267,0	408,0
69771	16 G 1,5	16	18,1	315,0	526,0
69772	18 G 1,5	16	18,9	374,0	571,0
69773	25 G 1,5	16	23,8	526,0	862,0
69774	34 G 1,5	16	25,9	629,0	1050,0
69775	41 G 1,5	16	27,6	801,0	1215,0
69776	50 G 1,5	16	30,2	885,0	1418,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
69777	61 G 1,5	16	34,0	1100,0	1815,0
69778	2 x 2,5	14	10,0	96,0	148,0
69779	3 G 2,5	14	10,5	144,0	180,0
69780	4 G 2,5	14	11,4	148,0	220,0
69781	5 G 2,5	14	12,4	181,0	259,0
69782	7 G 2,5	14	15,3	255,0	379,0
69783	8 G 2,5	14	16,3	285,0	432,0
69784	9 G 2,5	14	17,6	309,0	493,0
69785	10 G 2,5	14	17,9	340,0	503,0
69786	12 G 2,5	14	18,4	441,0	560,0
69787	18 G 2,5	14	22,0	570,0	839,0
69788	25 G 2,5	14	26,6	738,0	1157,0
69789	3 G 4	12	11,6	174,0	233,0
69790	4 G 4	12	12,6	230,0	290,0
69791	5 G 4	12	14,5	273,0	362,0
69792	7 G 4	12	17,1	316,0	501,0
69793	9 G 4	12	18,4	402,0	625,0
69794	12 G 4	12	20,5	507,0	753,0
69795	18 G 4	12	24,9	751,0	1161,0
69796	3 G 6	10	13,8	240,0	327,0
69797	4 G 6	10	15,1	305,0	414,0
69798	5 G 6	10	16,4	439,0	482,0
69799	7 G 6	10	19,6	505,0	684,0
69800	3 G 10	8	17,9	350,0	549,0
69801	4 G 10	8	19,6	535,0	693,0
69802	5 G 10	8	22,5	592,0	872,0
69803	7 G 10	8	24,4	810,0	1116,0

Dimensions and specifications may be changed without prior notice. (RN01)

MULTIFLEX 512®-PUR UL/CSA

for extreme mechanical stress



TECHNICAL DATA

PUR drag chain cable acc. to UL-Std. 758 (AWM) Style 21209, CSA-Std. C22.2 No. 210 - AWM I/II A/B

Temperature range	flexible -30°C to +90°C fixed -40°C to +90°C
Permissible operating temperature of the conductor	+90°C
Nominal voltage	UL (AWM) AC 1000 V
Test voltage core/core	3000 V
Minimum bending radius	flexible 5x Outer-Ø fixed 3x Outer-Ø

CABLE STRUCTURE

- Copper wire bare, extra finely stranded acc. to DIN VDE 0295 Class 6 / IEC 60228 Class 6
- Core insulation: Special-PP
- Core identification acc. to DIN VDE 0293-334, black cores with consecutive labeling in white digits
- Protective conductor: starting with 3 cores, G = with protective conductor GN-YE, in the outer layer, x = without protective conductor
- Cores stranded in layers with optimally matched lay lengths
- Fleece wrapping over each stranding layer, from 4 mm² without fleece wrapping
- Outer sheath: Special grade of full polyurethane acc. to DIN VDE 0207-363-10-2 / DIN EN 50363-10-2 (compound type TMPU), UL-Std. 758 (AWM) Style 21209
- Sheath colour: grey (RAL 7001)
- Length marking: in metres

PROPERTIES

- resistant to: oil, UV radiation, ozone, oxygen, weathering effects, hydrolysis, microbes, coolants, hydraulic fluids, acids, alkalis, greases, seawater and wastewater, drilling fluids, drilling mud
- highly abrasion-resistant, notch-resistant, tear-resistant, cut-resistant, wear-resistant, low adhesion
- for outdoor use
- suitable for use in drag chains
- halogen-free
- the materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

TESTS

- flame-retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2, UL VW-1, CSA FT1
- oil-resistant acc. to DIN VDE 0473-811-404 / DIN EN 60811-404 / IEC 60811-404
- drilling mud resistant acc. to NEK TS 606
- UV-resistant acc. to DIN EN ISO 4892-2
- weather-resistant acc. to DIN EN ISO 4892-2
- Alternate bending test: tested on approx. 10 million cycles
- Certifications: DNV GL

APPLICATION

Industrial application: UL/CSA approved drag chain cable for use in machine and tool manufacturing, in robotics and in other constantly moving machine parts; for permanently flexible applications moving freely without tensile stress and without movement control in dry, damp and wet rooms as well as outdoors. A slippery PP core insulation, cut-resistance and a low-adhesion PUR outer sheath guarantee an optimum durability and excellent cost-efficiency.
Oil and gas sector: for use as control and instrumentation cables on drilling platforms and ships, in land drilling as well as in chemical and petrochemical plants; resistant to drilling mud according to NEK TS 606 and thus ideal for high-performance applications such as pumping stations, compressors, generators and emergency power supply systems.

NOTES

- the conductor is metrically (mm²) constructed, AWG numbers are approximated, and are for reference only
- for use in energy supply systems:
  1) the assembly instructions must be observed
  2) for further application parameters, please refer to the selection tables
  3) for special applications, we recommend contacting us and using our data entry form for energy supply systems

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
21559	2 x 0.5	20	5.9	10.8	38.0
21560	3 G 0.5	20	6.2	16.1	46.0
21561	4 G 0.5	20	6.7	21.5	59.0
21562	5 G 0.5	20	7.2	27.0	68.0
21563	7 G 0.5	20	8.3	37.6	88.0
21564	12 G 0.5	20	9.7	64.5	131.0
21565	18 G 0.5	20	11.2	97.0	197.0
21566	20 G 0.5	20	11.8	107.5	260.0
21567	25 G 0.5	20	13.6	134.5	282.0
21568	30 G 0.5	20	13.9	161.3	315.0
21569	36 G 0.5	20	15.1	193.5	374.0
21570	2 x 0.75	19	6.6	14.4	47.0

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
21571	3 G 0.75	19	7.0	21.6	58.0
21572	4 G 0.75	19	7.5	29.0	69.0
21573	5 G 0.75	19	8.1	36.0	85.0
21574	7 G 0.75	19	9.4	50.0	118.0
21575	12 G 0.75	19	11.2	86.0	183.0
21576	18 G 0.75	19	13.0	130.0	270.0
21577	20 G 0.75	19	13.8	144.0	290.0
21523	21 G 0.75	19	14.7	151.0	302.0
21578	25 G 0.75	19	16.3	180.0	374.0
21579	30 G 0.75	19	16.5	216.0	420.0
21580	36 G 0.75	19	18.0	259.0	498.0
21581	2 x 1	18	6.9	19.2	55.0

Continued on next page

MULTIFLEX 512®-PUR UL/CSA

for extreme mechanical stress



Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
21582	3 G 1	18	7.3	29.0	70.0
21583	4 G 1	18	7.9	38.0	86.0
21584	5 G 1	18	8.5	48.0	102.0
21585	7 G 1	18	10.0	67.0	143.0
21586	12 G 1	18	11.8	115.0	225.0
21587	18 G 1	18	13.9	173.0	334.0
21588	20 G 1	18	14.9	192.0	370.0
21589	25 G 1	18	17.2	240.0	460.0
21590	30 G 1	18	17.7	288.0	530.0
21591	36 G 1	18	19.2	346.0	625.0
21592	41 G 1	18	20.9	410.0	779.0
21593	50 G 1	18	22.8	498.0	953.0
21594	65 G 1	18	26.0	650.0	1205.0
21595	2 x 1.5	16	7.7	29.0	70.0
21596	3 G 1.5	16	8.2	43.0	90.0
21597	4 G 1.5	16	8.9	58.0	106.0
21598	5 G 1.5	16	9.6	72.0	145.0
21599	7 G 1.5	16	11.3	101.0	205.0
21600	12 G 1.5	16	13.7	173.0	320.0
21601	18 G 1.5	16	16.4	259.0	465.0
21602	20 G 1.5	16	17.2	288.0	510.0
21603	25 G 1.5	16	20.2	360.0	650.0
21604	30 G 1.5	16	20.7	432.0	750.0
21605	36 G 1.5	16	22.5	518.0	880.0
21606	42 G 1.5	16	24.4	628.0	1209.0

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
21607	50 G 1.5	16	26.8	749.0	1449.0
21608	61 G 1.5	16	29.6	912.0	1712.0
21609	2 x 2.5	14	8.5	48.0	115.0
21610	3 G 2.5	14	9.0	72.0	162.0
21611	4 G 2.5	14	9.8	96.0	196.0
21612	5 G 2.5	14	10.7	120.0	230.0
21613	7 G 2.5	14	12.7	168.0	312.0
21614	12 G 2.5	14	15.5	288.0	532.0
21615	18 G 2.5	14	18.6	432.0	762.0
21616	20 G 2.5	14	19.8	480.0	858.0
21617	25 G 2.5	14	23.1	600.0	998.0
21618	4 G 4	12	11.2	154.0	283.0
21619	5 G 4	12	12.3	192.0	349.0
21620	7 G 4	12	15.0	269.0	498.0
11017371	3 G 6	10	11.6	173.0	350.0
21621	4 G 6	10	12.7	230.0	432.0
21622	5 G 6	10	14.1	288.0	529.0
21623	7 G 6	10	17.2	403.0	782.0
21624	4 G 10	8	16.7	384.0	685.0
21625	5 G 10	8	18.6	480.0	817.0
21626	7 G 10	8	22.8	672.0	1023.0
11017372	3 G 16	6	17.6	461.0	792.0
21627	4 G 16	6	19.6	614.0	1042.0
21628	5 G 16	6	21.9	768.0	1292.0
21629	7 G 16	6	26.8	1075.0	1709.0

MULTIFLEX 512®-C-PUR UL/CSA

EMC-preferred type, for extreme mechanical stress



TECHNICAL DATA

PUR drag chain cable acc. to UL-Std. 758 (AWM) Style 21209, CSA-Std. C22.2 No. 210 - AWM I/II A/B

Temperature range	flexible -30°C to +90°C fixed -40°C to +90°C
Permissible operating temperature of the conductor	+90°C
Nominal voltage	UL (AWM) AC 1000 V
Test voltage core/core	3000 V
Coupling resistance	at 30 MHz, approx. 250 Ohm/km
Minimum bending radius	flexible 7.5x Outer-Ø fixed 4x Outer-Ø

CABLE STRUCTURE

- Copper wire bare, extra finely stranded acc. to DIN VDE 0295 Class 6 / IEC 60228 Class 6
- Core insulation: Special-PP
- Core identification acc. to DIN VDE 0293-334, black cores with consecutive labeling in white digits
- Protective conductor: starting with 3 cores, G = with protective conductor GN-YE, in the outer layer, x = without protective conductor
- Cores stranded in layers with optimally matched lay lengths
- Fleece wrapping over each stranding layer, from 4 mm² without fleece wrapping
- Inner sheath: TPE
- Fleece wrapping
- Screen: braided screen of tinned copper wires, approx. coverage 85%
- Fleece wrapping
- Outer sheath: Special grade of full polyurethane acc. to DIN VDE 0207-363-10-2 / DIN EN 50363-10-2 (compound type TMPU), UL-Std. 758 (AWM) Style 21209
- Sheath colour: grey (RAL 7001)
- Length marking: in metres

PROPERTIES

- resistant to: oil, UV radiation, ozone, oxygen, weathering effects, hydrolysis, microbes, coolants, hydraulic fluids, acids, alkalis, greases, seawater and wastewater, drilling fluids, drilling mud
- highly abrasion-resistant, notch-resistant, tear-resistant, cut-resistant, wear-resistant, low adhesion
- for outdoor use
- suitable for use in drag chains
- halogen-free
- the materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

TESTS

- flame-retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2, UL VW-1, CSA FT1
- oil-resistant acc. to DIN VDE 0473-811-404 / DIN EN 60811-404 / IEC 60811-404
- drilling mud resistant acc. to NEK TS 606
- UV-resistant acc. to DIN EN ISO 4892-2
- weather-resistant acc. to DIN EN ISO 4892-2
- Alternate bending test: tested on approx. 10 million cycles
- Certifications: DNV GL

APPLICATION

Industrial application: UL/CSA approved drag chain cable for use in machine and tool manufacturing, in robotics and in other constantly moving machine parts; for permanently flexible applications moving freely without tensile stress and without movement control in dry, damp and wet rooms as well as outdoors. A slippery PP core insulation, cut-resistance and a low-adhesion PUR outer sheath guarantee an optimum durability and excellent cost-efficiency. Oil and gas sector: for use as control and instrumentation cables on drilling platforms and ships, in land drilling as well as in chemical and petrochemical plants; resistant to drilling mud according to NEK TS 606 and thus ideal for high-performance applications such as pumping stations, compressors, generators and emergency power supply systems. EMC= Electromagnetic Compatibility; in order to optimise EMC properties, we recommend a double-sided and all-round large contact area of the copper braiding.

NOTES

- the conductor is metrically (mm²) constructed, AWG numbers are approximated, and are for reference only
- for use in energy supply systems:
  1) the assembly instructions must be observed
  2) for further application parameters, please refer to the selection tables
  3) for special applications, we recommend contacting us and using our data entry form for energy supply systems

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
21630	2 x 0.5	20	7.8	30.0	90.0
21631	3 G 0.5	20	8.1	38.0	105.0
21632	4 G 0.5	20	8.6	50.0	124.0
21633	5 G 0.5	20	9.1	65.0	132.0
21634	7 G 0.5	20	10.2	70.0	175.0
21635	12 G 0.5	20	11.8	100.0	250.0
21636	18 G 0.5	20	13.9	157.0	325.0
21637	20 G 0.5	20	14.7	167.0	350.0
21638	25 G 0.5	20	16.6	240.0	450.0
21639	30 G 0.5	20	17.0	273.0	510.0
21640	36 G 0.5	20	18.2	306.0	580.0
21641	2 x 0.75	19	8.5	39.0	110.0
21642	3 G 0.75	19	8.9	49.0	120.0
21643	4 G 0.75	19	9.4	60.0	148.0
21644	5 G 0.75	19	10.1	70.0	160.0
21645	7 G 0.75	19	11.6	95.0	205.0

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MULTIFLEX 512®-C-PUR UL/CSA



EMC-preferred type, for extreme mechanical stress

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
21646	12 G 0.75	19	13.9	140.0	308.0
21647	18 G 0.75	19	15.9	220.0	420.0
21648	20 G 0.75	19	16.8	249.0	450.0
21649	25 G 0.75	19	19.6	313.0	579.0
21650	30 G 0.75	19	19.8	470.0	630.0
21651	36 G 0.75	19	21.5	500.0	745.0
21652	2 x 1	18	8.8	50.0	120.0
21653	3 G 1	18	9.2	60.0	135.0
21654	4 G 1	18	9.8	73.0	173.0
21655	5 G 1	18	10.5	81.0	187.0
21656	7 G 1	18	12.1	114.0	240.0
21657	12 G 1	18	14.7	186.0	360.0
21658	18 G 1	18	17.1	254.0	498.0
21659	20 G 1	18	18.0	322.0	568.0
21660	25 G 1	18	20.9	377.0	670.0
21661	30 G 1	18	21.2	429.0	774.0
21662	36 G 1	18	22.8	516.0	895.0
21663	41 G 1	18	24.6	610.0	1032.0
21664	50 G 1	18	27.1	690.0	1160.0
21665	65 G 1	18	30.7	852.0	1660.0
21666	2 x 1.5	16	9.7	64.0	145.0
21667	3 G 1.5	16	10.1	84.0	168.0
21668	4 G 1.5	16	11.0	99.0	217.0
21669	5 G 1.5	16	11.8	129.0	235.0
21670	7 G 1.5	16	14.0	148.0	325.0
21671	12 G 1.5	16	16.6	279.0	481.0
21672	18 G 1.5	16	19.7	393.0	675.0

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
21673	25 G 1.5	16	24.1	584.0	927.0
21674	30 G 1.5	16	24.4	607.0	1025.0
21675	36 G 1.5	16	26.6	702.0	1210.0
21676	42 G 1.5	16	28.7	829.0	1441.0
21677	50 G 1.5	16	31.3	1025.0	1709.0
21678	61 G 1.5	16	34.3	1190.0	2025.0
21679	2 x 2.5	14	10.5	104.0	198.0
21680	3 G 2.5	14	11.1	140.0	284.0
21681	4 G 2.5	14	12.0	164.0	378.0
21682	5 G 2.5	14	12.9	190.0	423.0
21683	7 G 2.5	14	15.6	236.0	486.0
21684	12 G 2.5	14	18.6	390.0	756.0
21685	18 G 2.5	14	22.3	607.0	1127.0
21686	20 G 2.5	14	23.7	661.0	1210.0
21687	25 G 2.5	14	27.4	796.0	1530.0
21688	4 G 4	12	13.9	222.0	448.0
21689	5 G 4	12	15.2	328.0	533.0
21690	7 G 4	12	18.1	360.0	678.0
21691	4 G 6	10	15.6	305.0	636.0
21692	5 G 6	10	17.3	441.0	772.0
21693	7 G 6	10	20.9	505.0	1028.0
21694	4 G 10	8	20.0	485.0	1052.0
21695	5 G 10	8	22.3	610.0	1096.0
21696	7 G 10	8	27.1	820.0	1530.0
21697	4 G 16	6	23.1	840.0	1386.0
21698	5 G 16	6	25.9	1050.0	1759.0
21699	7 G 16	6	31.3	1510.0	2087.0

HELUSOUND® Speaker Cable PH 30 LSZH

speaker cable, halogen-free, high-flexible, circuit integrity 30 min



Technical data

- **Temperature range**
  flexible -20°C to +90°C
  fixed installation -30°C to +90°C
- **Nominal voltage**
  U_0/U 100/100 V
- **Test voltage**
  2500 V
- **Minimum bending radius**
  fixed 15 x cable Ø
- **Insulation resistance**
  > 500 GΩxkm
- **Conductor resistance**
  4x2,5mm²: 8,0 Ω/km
  4x4mm²: 4,9 Ω/km
- **Mutual capacitance**
  4x2,5mm²: 140 pF/km
  4x4mm²: 120 pF/km
- **Inductance**
  0,65 mH/km

Cable structure

- Bare copper, extra fine wire conductors acc. to DIN VDE 0295 cl.6 / IEC 60228 cl.6
- Core insulation: silicone
- Core identification colour code: red, black, blue, white
- Outer sheath: LS0H
- Outer sheath colour: black

Properties

- Circuit integrity in the case of fire min. 30 min (PH30)

Tests

- Fire resistant acc. to EN 50200 PH30 with circuit integrity for 15 min. at fire and mechanical shock at 830°C, further 15 min. at fire, mechanical shock and water
- Flame retardant acc. to DIN VDE 482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-25 / DIN EN 60332-3-25 / IEC 60332-3-25 (Cat. D, 20 min.)
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2
- Cable construction acc. to CEI UNEL 36762

Note

- Galvanized steel wire armouring (SWA) upon request
- Other core identification upon request

Application

Very flexible and fire resistant speaker cable with circit integrity in the case of fire for 30 min. Therefore, the function of speaker systems e.g. for the security announcements can be maintained and safety in the building is enhanced.

CE = Product complies to the Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
11008297	4 x 2,5	10,2	114,0	150
11008298	4 x 4	12,2	182,0	200

Dimensions and specifications may be changed without prior notice.

HELUPOWER® AQUATIC-750-BLUE

Drinking and salt water cable



Technical data

- Special cable in reference to DIN VDE 0250 / DIN VDE 0285-525-1 / DIN EN 50525-1
- **Temperature range**
  flexing -25°C to +50°C
  fixed installation -40°C to +80°C
- Permissible **operating temperature** at conductor +90°C
- **Nominal voltage**
  U_0/U 450/750 V
- **Test voltage**
  2,5 kV
- **Minimum bending radius**
  fixed installation 5x outer Ø

Cable structure

- Bare copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation of PVC
- Core identification acc. to DIN VDE 0293-308
  1 core: black
  ⩽ 5 cores: coloured
- GN-YE conductor, 3 cores and above
- Cores standed with optimal lay length
- Outer sheath of cross-linked special compound
- Sheath colour: blue (RAL 5015)

Properties

- Specially developed and tested for the absence of microbial growth and the emission of toxic substances.
- Resistant to chlorine up to 0,6 mg/l
- Resistant to salt water up to 3,5 %

Approval:

- DVGW Standard W 270

Note

- G = with GN-YE conductor
  x = without GN-YE conductor
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.

Application

Useful for average mechanical stresses in continuously submerging pump lines for drinking and utility water, with a maximum immersion depth of 600 m. Useful as a connection cable in processing plants in the food and beverage industry, as well as fishponds and aquariums.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
11018127	1 x 1	4,1	9,6	22,0	18
11018128	1 x 1,5	4,3	14,4	27,0	16
11018129	1 x 2,5	5,4	24,0	44,0	14
11018130	1 x 4	5,8	38,0	59,0	12
11018131	1 x 6	6,8	58,0	83,0	10
11018132	1 x 10	7,8	96,0	127,0	8
11018133	1 x 16	8,7	154,0	185,0	6
11018134	1 x 25	10,3	240,0	277,0	4
11018135	2 x 1	6,8	19,0	55,0	18
11018136	2 x 1,5	7,3	29,0	68,0	16
11018137	2 x 2,5	8,7	48,0	103,0	14
11018138	2 x 4	10,1	77,0	148,0	12
11018139	2 x 6	11,4	115,0	203,0	10
11018140	2 x 10	14,0	192,0	317,0	8
11018141	2 x 16	15,7	307,0	451,0	6
11018142	2 x 25	19,0	480,0	681,0	4
11018143	3 G 1	7,2	29,0	68,0	18
11018144	3 G 1,5	7,7	43,0	84,0	16

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
11018145	3 G 2,5	9,2	72,0	129,0	14
11018146	3 G 4	10,8	115,0	191,0	12
11018147	3 G 6	12,2	173,0	265,0	10
11018148	3 G 10	15,0	288,0	417,0	8
11018149	3 G 16	16,8	461,0	603,0	6
11018150	3 G 25	20,4	720,0	915,0	4
11018151	4 G 1	7,8	38,0	83,0	18
11018152	4 G 1,5	8,4	58,0	104,0	16
11018153	4 G 2,5	10,1	96,0	161,0	14
11018154	4 G 4	11,9	154,0	241,0	12
11018155	4 G 6	13,4	230,0	335,0	10
11018156	4 G 10	16,6	384,0	530,0	8
11018157	4 G 16	18,6	614,0	771,0	6
11018158	4 G 25	22,8	960,0	1179,0	4
11020233	4 G 35	28,3	1344,0	1710,0	2
11020231	5 G 1	8,5	48,0	102,0	18
11020234	5 G 1,5	10,2	72,0	140,0	16
11020232	5 G 2,5	11,2	120,0	200,0	14

Dimensions and specifications may be changed without prior notice. (RI01)


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CONTROL TERMINALS
CONTROL TERMINALS



Power Cables

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HELUPOWER® 1000 HY-CARBO

hydrocarbon resistant power & control cable 0.6/1 kV in acc. to IEC 60502



Technical data

- LSLH Power & Control cable acc. to IEC 60502
- **Temperature range**
  fixed installation -20°C to +90°C
  short circuit temperature max. 250°C
- **Nominal voltage**
  U_0/U 0,6/1 kV
- **Test voltage**
  3500 V AC for 5 min.
  8400 V DC for 5 min.
- **Minimum bending radius**
  fixed 12 x cable Ø
- **Insulation resistance**
  > 100 MΩxkm

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl. 2 / IEC 60228 cl. 2
- Core insulation: XLPE acc. to IEC 60502-1, BS 50290-2-29 and EN 50363-0
- Core identification acc. to HD 308 S2
- Inner sheath: PVC
- Outer sheath: hydrocarbon resistant PVC
- Outer sheath colour: black

Properties

- Hydrocarbon resistant
- Oil resistant
- Flame retardant
- Low Smoke Low Halogen (LSLH)
- Suitable for direct burial
- UV resistant

Tests

- Flame retardant acc. to DIN VDE 482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-24 / DIN EN 60332-3-24 / IEC 60332-3-24 (Cat. C, 20 min.)
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A, 40 min.)
- Low amount of halogen acid gas acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- UV and sunlight resistant acc. to UL 1581 sect. 1200

Note

- Similar denomination RVFV RH or BS 6346
- Other core identification upon request

Application

The HELUPOWER® 1000 HY-CARBO is a power and control cable with a reduced flame propagation and reduced emission of toxic/corrosive gases and opaque fumes in case of fire. The HELUPOWER® 1000 HY-CARBO is suitable for use in civil/industrial environment, in fixed lay also directly buried in ground without protection.

CE = Product complies to the Low-Voltage Directive 2014/35/EU.

Continuation ▶

HELUPOWER® 1000 HY-CARBO

hydrocarbon resistant power & control cable 0.6/1 kV in acc. to IEC 60502

Part no.	No.cores x cross-sec. mm²	Conductor resistance at 20°C	Current rating (A) in air at 30°C	Current rating (A) directly buried at 20°C	Diameter under armour approx. mm	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
17001900	2 x 1,5	12,100	26,0	26,0	0,0	11,6	26,0	191
17001901	2 x 2,5	7,410	36,0	35,0	0,0	12,4	43,0	228
17001902	2 x 4	4,610	49,0	45,0	0,0	13,6	69,0	289
17001903	2 x 6	3,100	63,0	56,0	0,0	14,6	104,0	352
17001904	2 x 10	1,830	86,0	76,0	0,0	16,6	175,0	488
17001905	2 x 16	1,150	115,0	99,0	0,0	18,6	278,0	661
17001906	2 x 25	0,727	149,0	128,0	0,0	22,0	440,0	963
17001907	2 x 35	0,524	185,0	156,0	0,0	24,2	610,0	1229
17001908	2 x 50	0,387	225,0	193,0	0,0	27,2	826,0	1593
17001909	2 x 70	0,268	0,0	0,0	0,0	31,2	1193,0	2168
17001910	3 x 1,5	12,100	10,0	22,0	0,0	12,1	40,0	212
17001911	3 x 2,5	7,410	23,0	29,0	0,0	12,9	65,0	256
17001912	3 x 4	4,610	42,0	37,0	0,0	14,2	104,0	330
17001913	3 x 6	3,100	54,0	47,0	0,0	15,3	156,0	411
17001914	3 x 10	1,830	75,0	63,0	0,0	17,5	262,0	584
17001915	3 x 16	1,150	100,0	83,0	0,0	19,6	417,0	803
17001916	3 x 25	0,727	127,0	107,0	0,0	23,3	659,0	1187
17001917	3 x 35	0,524	158,0	131,0	0,0	25,7	915,0	1536
17001918	3 x 50	0,387	192,0	162,0	0,0	28,9	1238,0	1999
17001919	3 x 70	0,268	246,0	200,0	0,0	33,8	1790,0	2814
17001920	3 x 95	0,193	298,0	237,0	0,0	38,2	2483,0	3754
17001921	3 x 120	0,153	346,0	274,0	0,0	42,0	3114,0	4619
17001922	3 x 150	0,124	399,0	313,0	0,0	47,4	3871,0	5806
17001923	3 x 185	0,0991	456,0	352,0	0,0	52,3	4835,0	7154
17001924	3 x 240	0,0754	538,0	414,0	0,0	59,2	6383,0	9326
17001925	3 x 300	0,0601	621,0	0,0	0,0	65,2	7971,0	11488
17001926	3 x 400	0,047	0,0	0,0	0,0	67,8	10210,0	11190
17001930	4 x 1,5	12,100	23,0	22,0	0,0	12,9	53,0	244
17001931	4 x 2,5	7,410	32,0	29,0	0,0	13,8	86,0	298
17001932	4 x 4	4,610	42,0	37,0	0,0	15,3	139,0	392
17001933	4 x 6	3,080	54,0	47,0	0,0	16,5	208,0	493
17001934	4 x 10	1,830	75,0	63,0	0,0	18,9	349,0	706
17001935	4 x 16	1,150	100,0	83,0	0,0	21,3	556,0	986
17001936	4 x 25	0,727	127,0	107,0	0,0	25,4	879,0	1465
17001937	4 x 35	0,524	158,0	131,0	0,0	28,1	1220,0	1897
17001938	4 x 50	0,387	192,0	162,0	0,0	31,9	1651,0	2497
17001939	4 x 70	0,268	246,0	200,0	0,0	37,4	2387,0	3535
17001940	4 x 95	0,193	298,0	237,0	0,0	42,2	3310,0	4719
17001941	4 x 120	0,153	346,0	274,0	0,0	47,1	4152,0	5903
17001942	4 x 150	0,124	399,0	313,0	0,0	52,4	5162,0	7306
17001943	4 x 185	0,0991	456,0	352,0	0,0	58,1	6446,0	9047
17001944	4 x 240	0,0754	538,0	414,0	0,0	65,7	8510,0	11796
17001945	4 x 300	0,0601	621,0	0,0	0,0	72,4	10627,0	14551
17001946	4 x 400	0,047	0,0	0,0	0,0	78,6	13609,0	18514
17001997	5 x 1,5	12,100	23,0	22,0	0,0	13,7	66,0	277
17001998	5 x 2,5	7,410	32,0	29,0	0,0	14,8	108,0	347
17001999	5 x 4	4,610	42,0	37,0	0,0	16,4	173,0	457
17002056	5 x 6	3,080	54,0	47,0	0,0	17,8	259,0	584
17002057	5 x 10	1,830	75,0	63,0	0,0	20,5	437,0	846
17002058	5 x 16	1,150	100,0	83,0	0,0	23,2	694,0	1191
17002059	5 x 25	0,727	127,0	107,0	0,0	27,7	1099,0	1771
17001977	5 x 35	0,524	158,0	131,0	0,0	30,7	1524,0	2318
17001978	5 x 50	0,387	192,0	162,0	0,0	35,6	2064,0	3125
17001979	5 x 70	0,268	0,0	0,0	0,0	41,2	2983,0	4332
17002196	5 x 95	0,193	0,0	0,0	0,0	47,1	4138,0	5865
17002197	5 x 120	0,153	0,0	0,0	0,0	51,9	5190,0	7242
17002198	5 x 150	0,124	0,0	0,0	0,0	58,0	6452,0	8999
17001927	7 x 1,5	12,100	13,0	16,0	0,0	14,6	93,0	310
17001928	10 x 1,5	12,100	13,0	16,0	0,0	17,6	132,0	412
17001929	12 x 1,5	12,100	11,0	13,0	0,0	18,1	159,0	456
17001947	16 x 1,5	12,100	11,0	13,0	0,0	19,7	212,0	560
17001948	19 x 1,5	12,100	9,0	12,0	0,0	20,6	251,0	622
17001949	24 x 1,5	12,100	9,0	12,0	0,0	23,6	317,0	761
17001950	27 x 1,5	12,100	0,0	0,0	0,0	24,1	357,0	813
17001951	37 x 1,5	12,100	0,0	0,0	0,0	26,6	489,0	1032
17001952	7 x 2,5	7,410	18,0	21,0	0,0	15,8	151,0	394
17001953	10 x 2,5	7,410	18,0	21,0	0,0	19,2	216,0	531
17001954	12 x 2,5	7,410	14,0	18,0	0,0	19,7	259,0	593
17001955	16 x 2,5	7,410	14,0	18,0	0,0	21,6	345,0	742
17001956	19 x 2,5	7,410	12,0	14,0	0,0	22,6	410,0	831
17001957	24 x 2,5	7,410	12,0	14,0	0,0	26,0	518,0	1022
17001958	27 x 2,5	7,410	0,0	0,0	0,0	26,5	583,0	1100
17001959	37 x 2,5	7,410	0,0	0,0	0,0	29,4	798,0	1417

Dimensions and specifications may be changed without prior notice.

HELUPOWER® 1000 HY-CARBO SWA

steel wire armoured, hydrocarbon resistant power & control cable 0.6/1 kV in acc. to IEC 60502





Technical data

- LSLH Power & Control cable acc. to IEC 60502
- **Temperature range**
  fixed installation -20°C to +90°C
  short circuit temperature max. 250°C
- **Nominal voltage**
  U_0/U 0,6/1 kV
- **Test voltage**
  3500 V AC for 5 min.
  8400 V DC for 5 min.
- **Minimum bending radius**
  fixed 12 x cable Ø
- **Insulation resistance**
  > 100 MΩxkm

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl. 2 / IEC 60228 cl. 2
- Core insulation: XLPE acc. to IEC 60502-1, BS 50290-2-29 and EN 50363-0
- Core identification acc. to HD 308 S2
- Inner sheath: PVC
- Armour: galvanized steel wire armour with galvanized steel conterspiral tape (if necessary) acc. to IEC 60502-1 TAB. 9
- Outer sheath: hydrocarbon resistant PVC
- Outer sheath colour: black

Properties

- Hydrocarbon resistant
- Oil resistant
- Flame retardant
- Low Smoke Low Halogen (LSLH)
- Suitable for direct burial
- UV resistant

Tests

- Flame retardant acc. to DIN VDE 482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-24 / DIN EN 60332-3-24 / IEC 60332-3-24 (Cat. C, 20 min.)
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A, 40 min.)
- Low amount of halogen acid gas acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- UV and sunlight resistant acc. to UL 1581 sect. 1200

Note

- Denomination RVFV RH or BS 5467
- Double / galvanized steel tape armouring (DSTA / GSTA) upon request
- Other core identification upon request

Application

The HELUPOWER® 1000 HY-CARBO SWA is an armoured power and control cable with a reduced flame propagation and reduced emission of toxic/corrosive gases and opaque fumes in case of fire. The HELUPOWER® 1000 HY-CARBO SWA is suitable for use in civil/industrial environment, in fixed lay also directly buried in ground without protection. The armour provides a good mechanical protection also in heavy applications.
CE = Product complies to the Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Conductor resistance at 20°C	Current rating (A) in air at 30°C	Current rating (A) directly buried at 20°C	Diameter under armour approx. mm	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
17002000	2 x 1,5	12,100	26,0	26,0	8,0	13,4	26,0	356
17002001	2 x 2,5	7,410	36,0	35,0	8,8	14,2	43,0	403
17002002	2 x 4	4,610	49,0	45,0	10,0	15,4	69,0	487
17002003	2 x 6	3,100	63,0	56,0	11,0	16,4	104,0	566
17002004	2 x 10	1,830	86,0	76,0	13,0	19,7	175,0	863
17002005	2 x 16	1,150	115,0	99,0	15,0	21,7	278,0	1085
17002006	2 x 25	0,727	149,0	128,0	18,4	25,8	440,0	1627
17002007	2 x 35	0,524	185,0	156,0	20,6	28,0	610,0	1958
17002008	2 x 50	0,387	225,0	193,0	23,6	31,0	826,0	2418

Continuation ▸

HELUPOWER® 1000 HY-CARBO SWA

steel wire armoured, hydrocarbon resistant power & control cable 0.6/1 kV in acc. to IEC 60502

Part no.	No.cores x cross-sec. mm²	Conductor resistance at 20°C	Current rating (A) in air at 30°C	Current rating (A) directly buried at 20°C	Diameter under armour approx. mm	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
17002009	2 x 70	0,268	0,0	0,0	27,6	35,6	1193,0	3179
17002010	3 x 1,5	12,100	10,0	9,0	8,5	13,9	40,0	381
17002011	3 x 2,5	7,410	23,0	22,0	9,3	14,7	65,0	440
17002012	3 x 4	4,610	42,0	37,0	10,6	16,0	104,0	545
17002013	3 x 6	3,100	54,0	47,0	11,7	17,1	156,0	641
17002014	3 x 10	1,830	75,0	63,0	13,9	20,6	262,0	997
17002015	3 x 16	1,150	100,0	83,0	16,0	22,7	417,0	1267
17002016	3 x 25	0,727	127,0	107,0	19,7	27,1	659,0	1895
17002017	3 x 35	0,524	158,0	131,0	22,1	29,5	915,0	2325
17002018	3 x 50	0,387	192,0	162,0	25,3	32,9	1238,0	2902
17002019	3 x 70	0,268	246,0	200,0	30,0	38,8	1790,0	4160
17002020	3 x 95	0,193	298,0	237,0	34,2	43,4	2483,0	5280
17002021	3 x 120	0,153	346,0	274,0	37,8	47,2	3114,0	6304
17002022	3 x 150	0,124	399,0	313,0	42,8	53,6	3871,0	8150
17002023	3 x 185	0,0991	456,0	352,0	47,5	58,5	4835,0	9743
17002024	3 x 240	0,0754	538,0	414,0	54,0	65,4	6383,0	12246
17002025	3 x 300	0,0601	621,0	0,0	59,6	71,4	7971,0	14735
17002026	3 x 400	0,047	0,0	0,0	66,7	78,9	10210,0	18080
17002030	4 x 1,5	12,100	23,0	22,0	9,3	14,7	53,0	428
17002031	4 x 2,5	7,410	32,0	29,0	10,2	15,6	86,0	497
17002032	4 x 4	4,610	42,0	37,0	11,7	17,1	139,0	615
17002033	4 x 6	3,080	54,0	47,0	12,9	19,6	208,0	867
17002034	4 x 10	1,830	75,0	63,0	15,3	22,0	349,0	1140
17002035	4 x 16	1,150	100,0	83,0	17,7	25,1	556,0	1617
17002036	4 x 25	0,727	127,0	107,0	21,8	29,2	879,0	2225
17002037	4 x 35	0,524	158,0	131,0	24,5	32,1	1220,0	2781
17002038	4 x 50	0,387	192,0	162,0	28,1	36,1	1651,0	3511
17002039	4 x 70	0,268	246,0	200,0	33,4	42,6	2387,0	5029
17002040	4 x 95	0,193	298,0	237,0	38,0	47,4	3310,0	6399
17002041	4 x 120	0,153	346,0	274,0	42,5	53,3	4152,0	8240
17002042	4 x 150	0,124	399,0	313,0	47,6	58,6	5162,0	9890
17002043	4 x 185	0,0991	456,0	352,0	52,9	64,3	6446,0	11919
17002044	4 x 240	0,0754	538,0	414,0	60,1	71,9	8510,0	15036
17002045	4 x 300	0,0601	621,0	0,0	66,4	78,6	10627,0	18120
17002046	4 x 400	0,047	0,0	0,0	74,7	88,8	13610,0	23600
17001980	5 x 1,5	12,100	23,0	22,0	10,1	15,5	66,0	476
17001981	5 x 2,5	7,410	32,0	29,0	11,2	16,6	108,0	566
17001982	5 x 4	4,610	42,0	37,0	12,8	19,5	173,0	832
17001983	5 x 6	3,080	54,0	47,0	14,2	20,9	259,0	988
17001984	5 x 10	1,830	75,0	63,0	16,9	23,6	437,0	1320
17001985	5 x 16	1,150	100,0	83,0	19,6	27,0	694,0	1887
17001986	5 x 25	0,727	127,0	107,0	24,1	31,5	1099,0	2613
17001987	5 x 35	0,524	158,0	131,0	27,1	34,9	1524,0	3283
17001988	5 x 50	0,387	192,0	162,0	31,6	40,6	2064,0	4506
17001989	5 x 70	0,268	0,0	0,0	37,0	46,4	2983,0	5985
17001990	5 x 95	0,193	0,0	0,0	42,5	53,1	4138,0	8178
17001991	5 x 120	0,153	0,0	0,0	47,1	58,1	5190,0	9824
17001992	5 x 150	0,124	0,0	0,0	52,8	64,2	6452,0	11870
17001993	5 x 185	0,0991	0,0	0,0	59,1	70,9	8058,0	14419
17001994	5 x 240	0,0754	0,0	0,0	66,7	78,9	10638,0	18101
17001995	5 x 300	0,0601	0,0	0,0	74,1	88,0	13284,0	23029
17001996	5 x 400	0,047	0,0	0,0	83,0	97,1	17011,0	28270
17002027	7 x 1,5	12,100	13,0	16,0	11,0	16,4	93,0	523
17002028	10 x 1,5	12,100	13,0	16,0	14,0	20,7	132,0	816
17002029	12 x 1,5	12,100	11,0	13,0	14,5	21,2	159,0	870
17002324	14 x 1,5	12,100	11,0	13,0	15,3	22,0	185,0	950
17002325	16 x 1,5	12,100	11,0	13,0	16,1	22,8	212,0	1023
17002047	19 x 1,5	12,100	9,0	12,0	17,0	23,7	251,0	1096
17002326	24 x 1,5	12,100	11,0	13,0	20,0	27,4	317,0	1483
17002048	27 x 1,5	12,100	0,0	0,0	20,5	27,9	357,0	1551
17002049	37 x 1,5	12,100	0,0	0,0	23,0	30,4	489,0	1852
17002050	7 x 2,5	7,410	18,0	21,0	12,2	18,3	151,0	726
17002051	10 x 2,5	7,410	18,0	21,0	15,6	22,3	216,0	975
17002052	12 x 2,5	7,410	14,0	18,0	16,1	22,8	259,0	1048
1702052	12 x 2,5	7,410	14,0	18,0	16,1	22,8	259,0	1048
17002053	19 x 2,5	7,410	12,0	14,0	19,0	26,4	410,0	1510
17002054	27 x 2,5	7,410	0,0	0,0	22,9	30,3	583,0	1920
17002055	37 x 2,5	7,410	0,0	0,0	25,8	33,4	798,0	2335
17002249	7 x 4	7,410	0,0	0,0	14,0	20,7	242,0	941

Dimensions and specifications may be changed without prior notice.

HELUPOWER® 1000 HY-CARBO SWA EMC

shielded & steel wire armoured, hydrocarbon resistant power & control cable 0.6/1 kV in acc. to IEC 60502





Technical data

- LSLH Power & Control cable acc. to IEC 60502
- **Temperature range**
  fixed installation -20°C to +90°C
  short circuit temperature max. 250°C
- **Nominal voltage**
  U_0/U 0,6/1 kV
- **Test voltage**
  3500 V AC for 5 min.
  8400 V DC for 5 min.
- **Minimum bending radius**
  fixed 12 x cable Ø
- **Insulation resistance**
  > 100 MΩxkm

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl. 2 / IEC 60228 cl. 2
- Core insulation: XLPE acc. to IEC 60502-1, BS 50290-2-29 and EN 50363-0
- Core identification acc. to HD 308 S2
- Inner covering: PVC
- Screen: bare copper overlapping tape (coverage 150 %)
- Inner sheath: PVC
- Armour: galvanized steel wire armour with galvanized steel conterspiral tape (if necessary)
  acc. to IEC 60502-1 TAB. 9
- Outer sheath: hydrocarbon resistant PVC
- Outer sheath colour: black

Properties

- Hydrocarbon resistant
- Oil resistant
- Flame retardant
- Low Smoke Low Halogen (LSLH)
- Suitable for direct burial
- UV resistant

Tests

- Flame retardant acc. to DIN VDE 482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-24 / DIN EN 60332-3-24 / IEC 60332-3-24 (Cat. C, 20 min.)
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A, 40 min.)
- Low amount of halogen acid gas acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- UV and sunlight resistant acc. to UL 1581 sect. 1200

Note

- Denomination RVFV RH or BS 5467
- Double / galvanized steel tape armouring (DSTA / GSTA) upon request
- Other core identification upon request

Application

The HELUPOWER® 1000 HY-CARBO SWA EMC is a shielded & armoured power and control cable with a reduced flame propagation and reduced emission of toxic/corrosive gases and opaque fumes in case of fire. The HELUPOWER® 1000 HY-CARBO SWA EMC is suitable for use in civil/industrial environment, in fixed lay also directly buried in ground without protection. The armour provides a good mechanical protection also in heavy applications.
CE = Product complies to the Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Conductor resistance at 20°C	Current rating (A) in air at 30°C	Current rating (A) directly buried at 20°C	Diameter under armour approx. mm	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
17002250	2 x 1,5	12,100	26,0	26,0	10,8	16,2	56,0	531
17002251	2 x 2,5	7,410	36,0	35,0	11,6	17,7	76,0	693
17002252	2 x 4	4,610	49,0	45,0	12,8	19,5	107,0	819
17002253	2 x 6	3,100	63,0	56,0	13,8	20,5	145,0	915
17002254	2 x 10	1,830	86,0	76,0	15,8	22,5	223,0	1123
17002255	2 x 16	1,150	115,0	99,0	17,8	25,2	334,0	1522
17002256	2 x 25	0,727	149,0	128,0	21,2	28,6	509,0	1962
17002257	2 x 35	0,524	185,0	156,0	23,4	30,8	687,0	2334
17002258	2 x 50	0,387	225,0	193,0	26,4	34,4	914,0	2858

Continuation ▸

HELUPOWER® 1000 HY-CARBO SWA EMC

shielded & steel wire armoured, hydrocarbon resistant power & control cable 0.6/1 kV in acc. to IEC 60502

Part no.	No.cores x cross-sec. mm²	Conductor resistance at 20°C	Current rating (A) in air at 30°C	Current rating (A) directly buried at 20°C	Diameter under armour approx. mm	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
17002259	2 x 70	0,268	0,0	0,0	30,4	39,4	1297,0	3909
17002300	3 x 1,5	12,100	23,0	22,0	11,3	16,7	72,0	568
17002301	3 x 2,5	7,410	32,0	29,0	12,1	18,2	100,0	735
17002302	3 x 4	4,610	42,0	37,0	13,4	20,1	144,0	878
17002303	3 x 6	3,100	54,0	47,0	14,5	21,2	200,0	1002
17002304	3 x 10	1,830	75,0	63,0	16,7	23,4	314,0	1260
17002305	3 x 16	1,150	100,0	83,0	18,8	26,2	477,0	1709
17002306	3 x 25	0,727	127,0	107,0	22,5	29,9	733,0	2249
17002307	3 x 35	0,524	158,0	131,0	24,9	32,5	998,0	2722
17002308	3 x 50	0,387	192,0	162,0	28,1	36,9	1333,0	3602
17002309	3 x 70	0,268	246,0	200,0	32,8	42,0	1902,0	4678
17002310	3 x 95	0,193	298,0	237,0	37,0	46,4	2611,0	5854
17002311	3 x 120	0,153	346,0	274,0	40,8	51,6	3256,0	7416
17002312	3 x 150	0,124	399,0	313,0	46,0	57,0	4032,0	8923
17002313	3 x 185	0,0991	456,0	352,0	50,7	61,9	5013,0	10579
17002314	3 x 240	0,0754	538,0	414,0	57,6	69,2	6585,0	13283
17002315	3 x 300	0,0601	621,0	0,0	63,4	75,4	8194,0	15859
17002316	3 x 400	0,047	0,0	0,0	70,7	84,8	10457,0	20468
17002280	4 x 1,5	12,100	23,0	22,0	12,1	18,2	88,0	723
17002281	4 x 2,5	7,410	32,0	29,0	13,0	19,7	125,0	831
17002282	4 x 4	4,610	42,0	37,0	14,5	21,2	182,0	982
17002283	4 x 6	3,080	54,0	47,0	15,7	22,4	256,0	1127
17002284	4 x 10	1,830	75,0	63,0	18,1	25,5	407,0	1571
17002285	4 x 16	1,150	100,0	83,0	20,5	27,9	622,0	1960
17002286	4 x 25	0,727	127,0	107,0	24,6	32,2	961,0	2631
17002287	4 x 35	0,524	158,0	131,0	27,3	35,3	1311,0	3217
17002288	4 x 50	0,387	192,0	162,0	30,9	39,9	1757,0	4255
17002289	4 x 70	0,268	246,0	200,0	36,2	45,6	2512,0	5617
17002290	4 x 95	0,193	298,0	237,0	41,0	51,6	3453,0	7514
17002291	4 x 120	0,153	346,0	274,0	45,7	56,7	4311,0	9040
17002292	4 x 150	0,124	399,0	313,0	51,0	62,4	5340,0	10865
17002324	14 x 1,5	12,100	11,0	13,0	15,3	22,0	185,0	950
17002293	4 x 185	0,0991	456,0	352,0	56,3	67,9	6645,0	12908
17002294	4 x 240	0,0754	538,0	414,0	63,9	76,1	8736,0	16296
17002295	4 x 300	0,0601	621,0	0,0	70,4	84,3	10876,0	20517
17002296	4 x 400	0,047	0,0	0,0	78,9	93,0	13889,0	25113
17002260	5 x 1,5	12,100	23,0	22,0	12,9	19,6	104,0	809
17002261	5 x 2,5	7,410	32,0	29,0	14,0	20,7	150,0	922
17002262	5 x 4	4,610	42,0	37,0	15,6	22,3	221,0	1090
17002263	5 x 6	3,080	54,0	47,0	17,0	24,4	313,0	1404
17002264	5 x 10	1,830	75,0	63,0	19,7	27,1	500,0	1778
17002265	5 x 16	1,150	100,0	86,0	22,4	29,8	768,0	2252
17002266	5 x 25	0,727	127,0	107,0	26,9	34,9	1189,0	3058
17002267	5 x 35	0,524	158,0	131,0	29,9	38,9	1626,0	4038
17002268	5 x 50	0,387	192,0	162,0	34,4	43,6	2182,0	5069
17002269	5 x 70	0,268	0,0	0,0	40,0	50,6	3122,0	7074
17002270	5 x 95	0,193	0,0	0,0	45,7	56,7	4297,0	9002
17002271	5 x 120	0,153	0,0	0,0	50,3	61,5	5367,0	10690
17002272	5 x 150	0,124	0,0	0,0	56,2	67,8	6650,0	12858
17002273	7 x 1,5	12,100	13,0	16,0	13,8	20,5	134,0	872
17002274	10 x 1,5	12,100	13,0	16,0	16,8	23,5	185,0	1088
17002275	12 x 1,5	12,100	11,0	13,0	17,3	24,7	213,0	1296
17002276	16 x 1,5	12,100	11,0	13,0	18,9	26,3	272,0	1467
17002277	19 x 1,5	12,100	9,0	12,0	19,8	27,2	315,0	1572
17002278	20 x 1,5	12,100	9,0	12,0	20,7	28,1	332,0	1630
17002279	24 x 1,5	12,100	9,0	12,0	22,8	30,2	392,0	1826
17002297	27 x 1,5	12,100	0,0	0,0	23,3	30,9	434,0	1925
17002298	37 x 1,5	12,100	0,0	0,0	25,8	33,4	576,0	2257
17002317	7 x 2,5	7,410	18,0	21,0	15,0	21,7	197,0	1000
17002318	10 x 2,5	7,410	18,0	21,0	18,4	25,8	274,0	1416
17002319	12 x 2,5	7,410	14,0	18,0	18,9	26,3	319,0	1500
17002320	16 x 2,5	7,410	14,0	18,0	20,8	28,2	413,0	1719
17002321	19 x 2,5	7,410	12,0	14,0	21,8	29,2	481,0	1852
17002322	24 x 2,5	7,410	12,0	14,0	25,2	32,8	602,0	2212
17002323	27 x 2,5	7,410	0,0	0,0	25,7	33,3	669,0	2323
17002299	37 x 2,5	7,410	0,0	0,0	28,6	37,6	895,0	3082

Dimensions and specifications may be changed without prior notice.

HELUPOWER® 1000 HY-CARBO SWA FIRE RES

steel wire armoured, hydrocarbon resistant & fire resistant power & control cable 0.6/1 kV in acc. to IEC 60502





Technical data

- LSLH Power & Control cable acc. to IEC 60502
- **Temperature range**
  fixed installation -20°C to +90°C
  short circuit temperature max. 250°C
- **Nominal voltage**
  U_0/U 0,6/1 kV
- **Test voltage**
  3500 V AC for 5 min.
  8400 V DC for 5 min.
- **Minimum bending radius**
  fixed 12 x cable Ø
- **Insulation resistance**
  > 100 MΩxkm

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl. 2 / IEC 60228 cl. 2
- MICA tape wrapping (fire barrier)
- Core insulation: XLPE acc. to IEC 60502-1, BS 50290-2-29 and EN 50363-0
- Core identification acc. to HD 308 S2
- Inner sheath: PVC
- Armour:
  for single core cables: amagnetic aluminium wires
  for multi core cables: galvanized steel wire armour with galvanized steel conterspiral tape (if necessary) acc. to IEC 60502-1 TAB. 9
- Outer sheath: hydrocarbon resistant PVC
- Outer sheath colour: black

Properties

- Hydrocarbon resistant
- Oil resistant
- Flame retardant
- Low Smoke Low Halogen (LSLH)
- Suitable for direct burial
- UV resistant

Tests

- Fire resistant acc. to IEC 60331-21 with cirucit integrity for 90 min. at 750°C
- Flame retardant acc. to DIN VDE 482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-24 / DIN EN 60332-3-24 / IEC 60332-3-24 (Cat. C, 20 min.)
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A, 40 min.)
- Low amount of halogen acid gas acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- UV and sunlight resistant acc. to UL 1581 sect. 1200

Note

- Double / galvanized steel tape armouring (DSTA / GSTA) upon request
- Other core identification upon request

Application

The HELUPOWER® 1000 HY-CARBO SWA FIRE RES is an armoured power and control cable. Fire resistant, suitable for systems where it is necessary to ensure their functionality also in the case of fire. The cable construction protects against flame propagation and offers reduced emission of toxic/corrosive gase and opaque fumes in case of fire. The HELUPOWER® 1000 HY-CARBO SWA FIRE RES is suitable for use in civil/industrial environment, in fixed lay also directly buried in ground without protection. The armour provides a good mechanical protection also in heavy applications.
CE = Product complies to the Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Conductor resistance at 20°C	Current rating (A) in air at 30°C	Current rating (A) directly buried at 20°C	Diameter under armour approx. mm	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
17001960	1 x 1,5	12,100	24,0	24,0	5,4	10,8	13,0	161
17001961	1 x 2,5	7,410	33,0	31,0	5,9	11,3	22,0	181
17001962	1 x 4	4,610	45,0	40,0	6,4	11,8	35,0	206
17001963	1 x 6	3,080	58,0	51,0	7,0	12,4	52,0	238
17001964	1 x 10	1,830	80,0	68,0	7,9	13,3	87,0	294
17001965	1 x 16	1,150	107,0	98,0	8,9	14,3	139,0	370
17001966	1 x 25	0,727	141,0	115,0	10,6	16,0	220,0	495
17001967	1 x 35	0,524	176,0	139,0	11,8	17,2	305,0	608
17001968	1 x 50	0,387	216,0	173,0	13,3	20,0	413,0	821

Continuation ▶

HELUPOWER® 1000 HY-CARBO SWA FIRE RES

steel wire armoured, hydrocarbon resistant & fire resistant power & control cable 0.6/1 kV in acc. to IEC 60502

Part no.	No.cores x cross-sec. mm²	Conductor resistance at 20°C	Current rating (A) in air at 30°C	Current rating (A) directly buried at 20°C	Diameter under armour approx. mm	Outer Ø app. mm	Copper weight kg / km	Weight app. kg / km
17001969	1 x 70	0,268	279,0	212,0	15,3	22,0	597,0	1063
17001970	1 x 95	0,193	342,0	250,0	17,1	23,8	828,0	1347
17001971	1 x 120	0,153	400,0	289,0	18,9	26,3	1038,0	1669
17001972	1 x 150	0,124	464,0	330,0	20,9	28,3	1290,0	1993
17001973	1 x 185	0,0991	533,0	371,0	23,1	30,5	1612,0	2392
17001974	1 x 240	0,0754	490,0	409,0	26,0	33,6	2127,0	3024
17001975	1 x 300	0,0601	0,0	463,0	28,5	36,3	2656,0	3654
17001976	1 x 400	0,047	0,0	0,0	32,3	41,3	3402,0	4713
17002170	2 x 1,5	12,100	26,0	26,0	8,8	14,2	26,0	388
17002171	2 x 2,5	7,410	36,0	35,0	9,8	15,6	43,0	453
17002172	2 x 4	4,610	49,0	45,0	10,8	16,2	69,0	523
17002173	2 x 6	3,080	63,0	56,0	12,0	17,4	104,0	620
17002174	2 x 10	1,830	86,0	76,0	13,8	20,5	175,0	914
17002175	2 x 16	1,150	115,0	95,0	15,8	22,5	278,0	1140
17002176	2 x 25	0,727	149,0	128,0	19,2	26,6	440,0	1684
17002177	2 x 35	0,524	185,0	156,0	21,6	29,0	610,0	2045
17002178	2 x 50	0,387	225,0	193,0	24,6	32,0	826,0	2513
17002179	2 x 70	0,268	0,0	0,0	28,6	36,6	1193,0	3283
17002100	3 x 1,5	12,100	10,0	9,0	9,3	14,7	40,0	418
17002101	3 x 2,5	7,410	23,0	22,0	10,4	15,8	65,0	492
17002102	3 x 4	4,610	42,0	37,0	11,5	16,9	104,0	582
17002103	3 x 6	3,080	54,0	47,0	12,8	18,2	156,0	691
17002104	3 x 10	1,830	75,0	63,0	14,7	21,4	262,0	1038
17002105	3 x 16	1,150	100,0	83,0	16,9	23,6	417,0	1316
17002106	3 x 25	0,727	127,0	107,0	20,6	28,0	659,0	1961
17002107	3 x 35	0,524	158,0	131,0	23,2	30,6	915,0	2404
17002108	3 x 50	0,387	192,0	162,0	26,4	34,2	1238,0	2997
17002109	3 x 70	0,268	246,0	200,0	31,1	39,9	1790,0	4245
17002110	3 x 95	0,193	298,0	237,0	35,0	44,2	2483,0	5370
17002111	3 x 120	0,153	346,0	274,0	38,9	48,3	3114,0	6425
17002112	3 x 150	0,124	399,0	313,0	43,6	54,4	3871,0	8232
17002113	3 x 185	0,0991	456,0	352,0	48,4	59,4	4835,0	9846
17002114	3 x 240	0,0754	538,0	414,0	55,0	66,4	6383,0	12393
17002115	3 x 300	0,0601	621,0	0,0	60,4	72,2	7971,0	14825
17002116	3 x 400	0,047	0,0	0,0	67,8	80,0	10207,0	18264
17002120	4 x 1,5	12,100	23,0	22,0	10,2	15,6	53,0	467
17002121	4 x 2,5	7,410	32,0	29,0	11,4	16,8	86,0	552
17002122	4 x 4	4,610	42,0	37,0	12,6	18,0	139,0	663
17002123	4 x 6	3,080	54,0	47,0	14,1	20,8	208,0	939
17002124	4 x 10	1,830	75,0	63,0	16,3	23,0	349,0	1209
17002125	4 x 16	1,150	100,0	83,0	18,7	26,1	556,0	1695
17002126	4 x 25	0,727	127,0	107,0	22,8	30,2	879,0	2311
17002127	4 x 35	0,524	158,0	131,0	25,7	33,3	1220,0	2880
17002128	4 x 50	0,387	192,0	162,0	29,3	37,3	1651,0	3619
17002129	4 x 70	0,268	246,0	200,0	34,6	43,8	2387,0	5167
17002130	4 x 95	0,193	298,0	237,0	38,9	48,3	3310,0	6523
17002131	4 x 120	0,153	346,0	274,0	43,7	54,5	4152,0	8428
17002132	4 x 150	0,124	399,0	313,0	48,5	59,5	5162,0	10053
17002133	4 x 185	0,0991	456,0	352,0	53,9	65,3	6446,0	12076
17002134	4 x 240	0,0754	538,0	414,0	61,3	73,1	8510,0	15262
17002135	4 x 300	0,0601	621,0	0,0	67,3	79,5	10627,0	182783
17002136	4 x 400	0,047	0,0	0,0	76,0	90,1	13609,0	23803
17002140	5 x 1,5	12,100	23,0	22,0	11,2	16,6	66,0	529
17002141	5 x 2,5	7,410	32,0	29,0	12,5	17,9	108,0	625
17002142	5 x 4	4,610	42,0	37,0	13,9	20,6	173,0	900
17002143	5 x 6	3,080	54,0	47,0	15,5	22,2	259,0	1074
17002144	5 x 10	1,830	75,0	63,0	17,9	24,6	437,0	1388
17002145	5 x 16	1,150	100,0	86,0	20,6	28,0	694,0	1964
17002146	5 x 25	0,727	127,0	107,0	25,2	32,6	1099,0	2707
17002147	5 x 35	0,524	158,0	131,0	28,5	36,3	1524,0	3417
17002148	5 x 50	0,387	192,0	162,0	32,9	41,9	2064,0	4644
17002149	5 x 70	0,268	0,0	0,0	38,3	47,7	2983,0	6134
17002150	5 x 95	0,193	0,0	0,0	43,6	54,2	4138,0	8322
17002151	5 x 120	0,153	0,0	0,0	48,4	59,4	5190,0	9988
17002152	5 x 150	0,124	0,0	0,0	53,8	65,2	6452,0	12011
17002153	5 x 185	0,0991	0,0	0,0	60,2	72,0	8058,0	14599
17002154	5 x 240	0,0754	0,0	0,0	68,0	80,2	10638,0	18346
17002155	5 x 300	0,0601	0,0	0,0	75,2	89,1	13284,0	23263
17002156	5 x 400	0,047	0,0	0,0	84,3	98,4	17011,0	28599
17002180	7 x 1,5	12,100	13,0	16,0	12,2	17,6	93,0	575
17002157	10 x 1,5	12,100	13,0	16,0	15,6	22,3	132,0	901
17002158	12 x 1,5	12,100	11,0	13,0	16,1	22,8	159,0	959
17002159	19 x 1,5	12,100	9,0	12,0	19,0	25,7	251,0	1214
17002160	27 x 1,5	12,100	0,0	0,0	22,9	30,3	357,0	1720
17002161	37 x 1,5	12,100	0,0	0,0	25,8	33,2	489,0	2046
17002162	7 x 2,5	7,410	18,0	21,0	13,7	20,4	151,0	832
17002163	10 x 2,5	7,410	18,0	21,0	17,6	24,3	216,0	1083
17002164	12 x 2,5	7,410	14,0	18,0	18,2	24,9	259,0	1162
17002165	19 x 2,5	7,410	12,0	14,0	21,5	28,9	410,0	1679
17002166	27 x 2,5	7,410	0,0	0,0	26,0	33,4	583,0	2133
17002167	37 x 2,5	7,410	0,0	0,0	29,3	37,1	798,0	2607

Dimensions and specifications may be changed without prior notice.

HELUPOWER® 1000 HY-CARBO LEAD GSTA

hydrocarbon resistant, lead sheathed, double steel tape armoured power & control cable 0.6/1 kV in acc. to IEC 60502





Technical data

- LSLH Power & Control cable acc. to IEC 60502
- **Temperature range**
  fixed installation -20°C to +70°C
  (90°C at the conductor)
  short circuit temperature max. 250°C
- **Nominal voltage**
  U_0/U 0,6/1 kV
- **Test voltage**
  3500 V AC for 5 min.
  8400 V DC for 5 min.
- **Minimum bending radius**
  fixed 20 x cable Ø
- **Insulation resistance**
  > 100 MΩxkm

Cable structure

- Bare copper conductor, multiple wired acc. to DIN VDE 0295 cl. 2 / IEC 60228 cl. 2
- Core insulation: XLPE acc. to IEC 60502-1, BS 50290-2-29 and EN 50363-0
- Core identification acc. to HD 308 S2
- Inner covering: PVC
- Tightness sheath of lead cover
- Inner sheath: PVC
- Armour: double galvanized steel tape armour acc. to IEC 60502-1
- Outer sheath: hydrocarbon resistant PVC
- Outer sheath colour: black

Properties

- Hydrocarbon resistant
- Oil resistant
- Rodent and termite resistant
- Flame retardant
- Low Smoke Low Halogen (LSLH)
- Suitable for direct burial
- UV resistant

Tests

- Flame retardant acc. to DIN VDE 482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2
- Flame test on bunched wires acc. to DIN VDE 0482-332-3-24 / DIN EN 60332-3-24 / IEC 60332-3-24 (Cat. C, 20 min.)
- Low amount of halogen acid gas acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- UV and sunlight resistant acc. to UL 1581 sect. 1200

Note

- Galvanized steel wire armouring (SWA) upon request
- Other core identification upon request

Application

The HELUPOWER® 1000 HY-CARBO LEAD GSTA is an armoured and lead sheathed power and control cable with a reduced flame propagation and reduced emission of toxic/corrosive gases and opaque fumes in case of fire. The HELUPOWER® 1000 HY-CARBO LEAD GSTA is suitable for use in civil/industrial environment, in fixed lay also directly buried in ground without protection. The armour provides a good mechanical protection also in heavy-duty applications and hazardous environments and offers anti-termite and anti-rodent protection.

CE = Product complies to the Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Diameter under lead sheath app. mm	Lead sheath thickness in mm	Outer Ø app. mm	Lead weight app. kg / km	Copper weight kg / km	Weight app. kg / km
17002500	2 x 1,5	8,0	1,2	17,6	432,0	33,0	779
17002501	3 x 1,5	8,5	1,2	18,0	456,0	51,0	826
17002502	4 x 1,5	9,3	1,2	19,0	494,0	62,0	904
17002503	5 x 1,5	10,1	1,2	19,8	531,0	78,0	977
17002504	7 x 1,5	11,0	1,2	20,8	574,0	108,0	1078
17002505	12 x 1,5	14,5	1,2	24,0	738,0	186,0	1419
17002506	19 x 1,5	17,0	1,3	27,2	933,0	292,0	1810
17002507	27 x 1,5	20,5	1,4	30,9	1201,0	416,0	2329
17002508	37 x 1,5	23,0	1,4	33,6	1339,0	565,0	2716

Continuation ▶

HELUPOWER® 1000 HY-CARBO LEAD GSTA

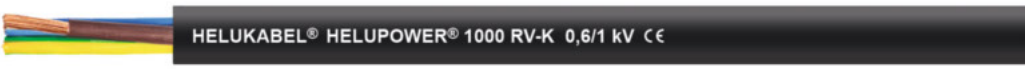
hydrocarbon resistant, lead sheathed, double steel tape armoured power & control cable 0.6/1 kV in acc. to IEC 60502

Part no.	No.cores x cross-sec. mm²	Diameter under lead sheath app. mm	Lead sheath thickness in mm	Outer Ø app. mm	Lead weight app. kg / km	Copper weight kg / km	Weight app. kg / km
17002491	2 x 2,5	9,0	1,2	18,1	480,0	52,0	875
17002492	3 x 2,5	9,6	1,2	19,2	508,0	77,0	940
17002493	4 x 2,5	10,5	1,2	20,0	550,0	102,0	1028
17002494	5 x 2,5	11,5	1,2	21,2	597,0	127,0	1130
17002495	7 x 2,5	12,5	1,2	22,1	645,0	179,0	1253
17002496	12 x 2,5	16,6	1,2	26,1	837,0	305,0	1700
17002497	19 x 2,5	19,5	1,3	29,5	1059,0	482,0	2192
17002498	27 x 2,5	23,6	1,5	34,6	1475,0	685,0	2979
17002499	37 x 2,5	26,5	1,5	38,8	1646,0	937,0	3895
17002510	2 x 4	10,0	1,2	19,6	527,0	84,0	981
17002511	3 x 4	10,7	1,2	20,3	560,0	125,0	1067
17002512	4 x 4	11,7	1,2	21,3	606,0	165,0	1178
17002513	5 x 4	12,8	1,2	22,4	659,0	208,0	1296
17002489	2 x 6	11,2	1,2	20,8	583,0	125,0	1116
17002490	3 x 6	12,0	1,2	21,6	620,0	187,0	1209
17002509	4 x 6	13,1	1,2	22,7	672,0	248,0	1362
17002575	5 x 6	14,5	1,2	24,0	738,0	311,0	1523
17002514	2 x 10	13,0	1,2	22,6	668,0	208,0	1334
17002515	3 x 10	13,9	1,2	23,5	711,0	311,0	1486
17002516	4 x 10	15,3	1,2	25,0	776,0	411,0	1684
17002517	5 x 10	16,1	1,3	26,9	927,0	513,0	1981
17002518	2 x 16	15,4	1,2	25,0	781,0	333,0	1648
17002519	3 x 16	16,5	1,2	26,0	833,0	496,0	1865
17002520	4 x 16	18,2	1,3	28,2	993,0	659,0	2232
17002521	5 x 16	20,1	1,4	30,5	1179,0	825,0	2631
17002522	2 x 25	18,6	1,3	28,6	1014,0	518,0	2193
17002523	3 x 25	20,0	1,3	30,2	1085,0	778,0	2534
17002524	4 x 25	22,1	1,4	32,6	1289,0	1033,0	3029
17002525	5 x 25	24,5	1,5	36,5	1528,0	1295,0	3948
17002526	2 x 35	20,8	1,4	31,2	1218,0	719,0	2681
17002527	3 x 35	22,3	1,4	32,7	1300,0	1078,0	3103
17002528	4 x 35	24,8	1,5	37,0	1546,0	1440,0	4139
17002529	5 x 35	28,0	1,6	41,1	1856,0	1795,0	4561

Dimensions and specifications may be changed without prior notice.

HELUPOWER® 1000 RV-K

direct burial, XLPE core insulation / 90°C



TECHNICAL DATA

PVC connection cable, acc. to UNE 21123-2; articles with 3+1/2 conductors: in alignment with UNE 21123-2

Temperature range	fixed -15°C to +90°C
Permissible operating temperature of the conductor	+90°C
Short circuit temperature at the conductor	+250°C (Short circuit temperature max. 5 s)
Nominal voltage	AC U_0/U 600/1000 V
Max. permissible operating voltage	alternating current (AC) conductor/earth 700 V three-phase alternating current (AC) conductor/conductor 1200 V direct current (DC) conductor/earth 900 V direct current (DC) conductor/conductor 1800 V
Test voltage core/core	3500 V
Minimum bending radius	<25 mm: 4x Outer-ø 25-50 mm: 5x Outer-ø >50 mm: 6x Outer-ø

CABLE STRUCTURE

- Copper wire bare, finely stranded acc. to DIN VDE 0295 Class 5 / IEC 60228 Class 5
- Core insulation: XLPE acc. to UNE-HD 603-1 (compound type DIX 3)
- Core identification: see table
- G = with protective conductor GN-YE, in the outer layer, x = without protective conductor
- Cores stranded in layers with optimal lay lengths
- Outer sheath: PVC acc. to UNE HD 603-1 (compound type DMV 18)
- Sheath colour: black
- Length marking: in metres

PROPERTIES

- resistant to: UV radiation
- for outdoor use
- direct burial
- the materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

TESTS

- flame-retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- UV-resistant acc. to DIN VDE 0276-605 / HD 605 S2

APPLICATION

Suitable for use in dry, moist and wet rooms as well as outdoors. Also suitable for direct burial, laying in tubes and underground installation areas. Typical application areas range from general production machinery, to machine tool applications, conveyor belt systems, air-conditioning units, steel plants installations and factory automation. Ideal as power or control cable especially if increased temperature and/or voltage is required. UV resistant due to it's special PVC outer sheath compound and therefore also ideal as power connection cable for outdoor devices and machinery. Alternatively also for use as power connection cable in the stage and lighting industry or renewable energy sector.

NOTES

- the conductor is metrically (mm²) constructed, AWG numbers are approximated, and are for reference only

Core identification acc. to DIN VDE 0293-308, black

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer-Ø min - max mm	Cu-weight kg/km	Weight kg/km, approx.
11003798	1 x 1.5	16	4.6 - 5.5	14.4	50.0
11003822	1 x 2.5	14	5.1 - 6.0	24.0	65.0
11003846	1 x 4	12	5.7 - 6.5	38.4	80.0
11003854	1 x 6	10	6.2 - 7.1	57.6	105.0
11003862	1 x 10	8	7.2 - 8.0	96.0	155.0
11003870	1 x 16	6	8.1 - 8.9	153.6	220.0
11003878	1 x 25	4	10.0 - 10.6	240.0	320.0
11003886	1 x 35	2	11.1 - 11.8	336.0	420.0
11003894	1 x 50	1	12.9 - 13.7	480.0	560.0
11003902	1 x 70	2/0	14.3 - 15.7	672.0	785.0

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer-Ø min - max mm	Cu-weight kg/km	Weight kg/km, approx.
11003910	1 x 95	3/0	16.2 - 17.3	912.0	1050.0
11003918	1 x 120	4/0	18.1 - 19.2	1152.0	1305.0
11003924	1 x 150	300 kcmil	19.9 - 21.4	1440.0	1610.0
11003930	1 x 185	350 kcmil	22.3 - 23.4	1776.0	1985.0
11003936	1 x 240	500 kcmil	25.2 - 26.8	2304.0	2610.0
11003942	1 x 300	600 kcmil	27.6 - 30.4	2880.0	3225.0
11003948	1 x 400	750 kcmil	32.0 - 34.0	3840.0	3500.0
11003949	1 x 500	1000 kcmil	38.4 - 40.0	4800.0	5060.0
11003950	1 x 630	1250 kcmil	43.6 - 45.2	6048.0	6760.0

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HELUPOWER® 1000 RV-K

direct burial, XLPE core insulation / 90°C

Core identification acc. to DIN VDE 0293-308, colour coded

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer-Ø min - max mm	Cu-weight kg/km	Weight kg/km, approx.
11003799	2 x 1.5	16	8.3 - 8.9	28.8	145.0
11003823	2 x 2.5	14	9.3 - 9.9	48.0	195.0
11003847	2 x 4	12	10.4 - 11.0	76.8	235.0
11003855	2 x 6	10	11.4 - 12.2	115.2	300.0
11003863	2 x 10	8	13.7 - 14.8	192.0	460.0
11003871	2 x 16	6	15.9 - 17.1	307.2	635.0
11003879	2 x 25	4	19.1 - 20.9	480.0	930.0
11003887	2 x 35	2	21.4 - 23.1	672.0	1220.0
11003895	2 x 50	1	25.2 - 27.4	960.0	1665.0
11003903	2 x 70	2/0	29.0 - 30.4	1344.0	2320.0
11003911	2 x 95	3/0	32.0 - 34.3	1824.0	3025.0
11003919	2 x 120	4/0	36.5 - 38.6	2304.0	3845.0
11003925	2 x 150	300 kcmil	40.5 - 42.5	2880.0	4720.0
11003931	2 x 185	350 kcmil	45.2 - 47.8	3552.0	5910.0
11003937	2 x 240	500 kcmil	49.9 - 55.4	4608.0	7665.0
11003800	3 G 1.5	16	8.8 - 9.3	43.2	165.0
11003824	3 G 2.5	14	9.8 - 10.5	72.0	210.0
11003848	3 G 4	12	11.0 - 11.6	115.2	275.0
11003856	3 G 6	10	12.1 - 12.9	172.8	355.0
11003864	3 G 10	8	14.5 - 15.7	288.0	560.0
11003872	3 G 16	6	16.8 - 18.1	460.8	780.0
11003880	3 G 25	4	20.2 - 22.2	720.0	1160.0
11003888	3 G 35	2	22.8 - 24.8	1008.0	1535.0
11003896	3 G 50	1	26.8 - 29.2	1440.0	2090.0
11003904	3 G 70	2/0	31.0 - 33.0	2016.0	2945.0
11003912	3 G 95	3/0	34.6 - 36.8	2736.0	3925.0
11003920	3 G 120	4/0	39.0 - 41.3	3456.0	4905.0
11003926	3 G 150	300 kcmil	43.3 - 45.8	4320.0	6055.0
11003932	3 G 185	350 kcmil	47.3 - 51.4	5328.0	7570.0
11003938	3 G 240	500 kcmil	53.5 - 59.3	6912.0	9865.0
11003944	3 G 300	600 kcmil	58.5 - 67.5	8640.0	12120.0
11003801	3 x 1.5	16	8.8 - 9.3	43.2	165.0
11003825	3 x 2.5	14	9.8 - 10.5	72.0	210.0
11003849	3 x 4	12	11.0 - 11.6	115.2	275.0
11003857	3 x 6	10	12.1 - 12.9	172.8	355.0
11003865	3 x 10	8	14.5 - 15.7	288.0	560.0
11003873	3 x 16	6	16.8 - 18.1	460.8	780.0
11003881	3 x 25	4	20.2 - 22.2	720.0	1160.0
11003889	3 x 35	2	22.8 - 24.8	1008.0	1535.0
11003897	3 x 50	1	26.8 - 29.2	1440.0	2090.0
11003905	3 x 70	2/0	31.0 - 33.0	2016.0	2945.0
11003913	3 x 95	3/0	34.6 - 36.8	2736.0	3925.0
11003921	3 x 120	4/0	39.0 - 41.3	3456.0	4905.0
11003927	3 x 150	300 kcmil	43.3 - 45.8	4320.0	6055.0
11003933	3 x 185	350 kcmil	47.3 - 51.4	5328.0	7570.0
11003939	3 x 240	500 kcmil	53.5 - 59.3	6912.0	9865.0
11003945	3 x 300	600 kcmil	58.5 - 67.5	8640.0	12120.0
11003802	4 G 1.5	16	9.5 - 10.2	57.6	190.0
11003826	4 G 2.5	14	10.7 - 11.3	96.0	250.0
11003850	4 G 4	12	12.0 - 12.7	153.6	325.0
11003858	4 G 6	10	13.2 - 14.0	230.4	445.0

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer-Ø min - max mm	Cu-weight kg/km	Weight kg/km, approx.
11003866	4 G 10	8	15.9 - 17.1	384.0	685.0
11003874	4 G 16	6	18.5 - 20.0	614.4	970.0
11003882	4 G 25	4	22.2 - 24.3	960.0	1450.0
11003890	4 G 35	2	25.5 - 27.2	1344.0	1960.0
11003898	4 G 50	1	29.3 - 32.7	1920.0	2640.0
11003906	4 G 70	2/0	34.5 - 36.5	2688.0	3790.0
11003914	4 G 95	3/0	38.6 - 40.7	3648.0	4985.0
11003922	4 G 120	4/0	43.4 - 46.3	4608.0	6255.0
11003928	4 G 150	300 kcmil	48.1 - 51.0	5760.0	7775.0
11003934	4 G 185	350 kcmil	53.0 - 57.8	7104.0	9640.0
11003940	4 G 240	500 kcmil	59.7 - 66.3	9216.0	12585.0
11003946	4 G 300	600 kcmil	65.4 - 69.4	11520.0	15475.0
11003803	4 x 1.5	16	9.5 - 10.2	57.6	190.0
11003827	4 x 2.5	14	10.7 - 11.3	96.0	250.0
11003851	4 x 4	12	12.0 - 12.7	153.6	325.0
11003859	4 x 6	10	13.2 - 14.0	230.4	445.0
11003867	4 x 10	8	15.9 - 17.1	384.0	685.0
11003875	4 x 16	6	18.5 - 20.0	614.4	970.0
11003883	4 x 25	4	22.2 - 24.3	960.0	1450.0
11003891	4 x 35	2	25.5 - 27.2	1344.0	1960.0
11003899	4 x 50	1	29.3 - 32.7	1920.0	2640.0
11003907	4 x 70	2/0	34.5 - 36.5	2688.0	3790.0
11003915	4 x 95	3/0	38.6 - 40.7	3648.0	4985.0
11003923	4 x 120	4/0	43.4 - 46.3	4608.0	6255.0
11003929	4 x 150	300 kcmil	48.1 - 51.0	5760.0	7775.0
11003935	4 x 185	350 kcmil	53.0 - 57.8	7104.0	9640.0
11003941	4 x 240	500 kcmil	59.7 - 66.3	9216.0	12585.0
11003947	4 x 300	600 kcmil	65.4 - 69.4	11520.0	15475.0
11003804	5 G 1.5	16	10.3 - 11.0	72.0	215.0
11003828	5 G 2.5	14	11.6 - 12.3	120.0	285.0
11003852	5 G 4	12	13.1 - 13.8	192.0	390.0
11003860	5 G 6	10	14.6 - 15.4	288.0	515.0
11003868	5 G 10	8	17.4 - 18.7	480.0	810.0
11003876	5 G 16	6	20.2 - 22.0	768.0	1150.0
11003884	5 G 25	4	19.9 - 26.9	1200.0	1760.0
11003892	5 G 35	2	28.2 - 30.1	1680.0	2345.0
11003900	5 G 50	1	32.6 - 36.2	2400.0	3175.0
11003908	5 G 70	2/0	39.0 - 41.0	3360.0	4560.0
11003916	5 G 95	3/0	43.1 - 45.1	4560.0	6035.0
11003805	5 x 1.5	16	10.3 - 11.0	72.0	215.0
11003829	5 x 2.5	14	11.6 - 12.3	120.0	285.0
11003853	5 x 4	12	13.1 - 13.8	192.0	390.0
11003861	5 x 6	10	14.6 - 15.4	288.0	515.0
11003869	5 x 10	8	17.4 - 18.7	480.0	810.0
11003877	5 x 16	6	20.2 - 22.0	768.0	1150.0
11003885	5 x 25	4	19.9 - 26.9	1200.0	1760.0
11003893	5 x 35	2	28.2 - 30.1	1680.0	2345.0
11003901	5 x 50	1	32.6 - 36.2	2400.0	3175.0
11003909	5 x 70	2/0	39.0 - 41.0	3360.0	4560.0
11003917	5 x 95	3/0	43.1 - 45.1	4560.0	6035.0

Core identification acc. to DIN VDE 0293-334, black cores with consecutive labeling in white digits

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer-Ø min - max mm	Cu-weight kg/km	Weight kg/km, approx.
11003806	7 G 1.5	16	11.9 - 12.5	100.8	300.0
11003830	7 G 2.5	14	13.2 - 13.8	168.0	390.0
11003807	7 x 1.5	16	11.9 - 12.5	100.8	300.0
11003831	7 x 2.5	14	13.2 - 13.8	168.0	390.0
11003808	10 G 1.5	16	13.7 - 14.3	144.0	390.0
11003832	10 G 2.5	14	15.2 - 16.0	240.0	520.0
11003809	10 x 1.5	16	13.7 - 14.3	144.0	390.0

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer-Ø min - max mm	Cu-weight kg/km	Weight kg/km, approx.
11003833	10 x 2.5	14	15.2 - 16.0	240.0	520.0
11003810	12 G 1.5	16	14.6 - 15.4	172.8	440.0
11003834	12 G 2.5	14	16.3 - 17.1	288.0	290.0
11003811	12 x 1.5	16	14.6 - 15.4	172.8	440.0
11003835	12 x 2.5	14	16.3 - 17.1	288.0	290.0
11003812	16 G 1.5	16	16.4 - 17.2	230.4	550.0
11003836	16 G 2.5	14	18.4 - 19.2	384.0	750.0

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HELUPOWER® 1000 RV-K

direct burial, XLPE core insulation / 90°C

Core identification acc. to DIN VDE 0293-334, black cores with consecutive labeling in white digits

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer-Ø min - max mm	Cu-weight kg/km	Weight kg/km, approx.
11003813	16 x 1.5	16	16.4 - 17.2	230.4	550.0
11003837	16 x 2.5	14	18.4 - 19.2	384.0	750.0
11003816	19 G 1.5	16	17.3 - 18.1	273.6	620.0
11003840	19 G 2.5	14	19.5 - 20.3	456.0	850.0
11003817	19 x 1.5	16	17.3 - 18.1	273.6	620.0
11003841	19 x 2.5	14	19.5 - 20.3	456.0	850.0
11003818	24 G 1.5	16	19.2 - 20.0	345.6	760.0
11003842	24 G 2.5	14	21.5 - 22.5	576.0	1040.0
11003819	24 x 1.5	16	19.2 - 20.0	345.6	760.0
11003843	24 x 2.5	14	21.5 - 22.5	576.0	1040.0

Core identification: green-yellow (1/2), brown, black, grey

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer-Ø min - max mm	Cu-weight kg/km	Weight kg/km, approx.
11007951		2	24.0 - 25.0	1162.0	1425.0
11007952		1	28.0 - 29.0	1680.0	2045.0
11007953		2/0	32.3 - 34.3	2352.0	2832.0
11007954		3/0	36.6 - 38.6	3216.0	3628.0
11007955		4/0	41.6 - 43.6	4128.0	4706.0
11007956		300 kcmil	45.8 - 47.8	4992.0	5747.0
11007957		350 kcmil	49.5 - 53.5	6240.0	7174.0
11007958		500 kcmil	55.8 - 59.8	8064.0	9300.0
11007959		600 kcmil	61.4 - 65.4	10080.0	11945.0

HELUPOWER® 1100-RZ1-K LS0H GREEN

flexible, direct burial, low smoke development, flame-retardant



TECHNICAL DATA

Connection cable acc. to UNE 21123-4

Temperature range	flexible 0°C to +90°C fixed -15°C to +90°C
Permissible operating temperature of the conductor	+90°C
Short circuit temperature at the conductor	+250°C (Short circuit temperature max. 5 s)
Nominal voltage	AC U_0/U 600/1000 V
Max. permissible operating voltage	alternating current (AC) conductor/earth 700 V three-phase alternating current (AC) conductor/conductor 1200 V direct current (DC) conductor/earth 900 V direct current (DC) conductor/conductor 1800 V
Test voltage core/core	3500 V
Minimum bending radius	<25 mm: 4x Outer-ø 25-50 mm: 5x Outer-ø >50 mm: 6x Outer-ø

CABLE STRUCTURE

- Copper wire bare, finely stranded acc. to DIN VDE 0295 Class 5 / IEC 60228 Class 5
- Core insulation: XLPE acc. to UNE-HD 603-1 (compound type DIX 3)
- Core identification acc. to DIN VDE 0293-308,
  1 core(s): black
  2 - 5 core(s): colour coded
- Protective conductor: starting with 3 cores,
  G = with protective conductor GN-YE,
  x = without protective conductor
- Cores stranded with optimal lay lengths
- Outer sheath: Polyolefin acc. to UNE 21123-4 (compound type DMZ-E)
- Sheath colour: green
- Length marking: in metres

PROPERTIES

- resistant to: oil, UV radiation
- for outdoor use
- direct burial
- halogen-free
- the materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- reduced fire propagation, reduced release of corrosive and toxic gases

TESTS

- halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- flame-retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- bundle fire test acc. to DIN VDE 0482-332-3-24 / DIN EN 60332-3-24 / IEC 60332-3-24 (Cat. C)
- smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2
- oil-resistant acc. to DIN VDE 0473-811-404 / DIN EN 60811-404 / IEC 60811-404
- UV-resistant acc. to UNE 211605
- CPR-class: C_{ca} s1b d1 a1

APPLICATION

Suitable for fixed power supply installations in public and commercial buildings or in power distribution networks where a high degree of safety is required. Suitable for indoor and outdoor use, for laying in tubes and pipes and suitable for direct burial.

NOTES

- the conductor is metrically (mm²) constructed, AWG numbers are approximated, and are for reference only

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer-Ø min - max mm	Cu-weight kg/km	Weight kg/km, approx.
11008092	2 x 1.5	16	9.0 - 10.4	28.8	105.0
11008093	3 G 1.5	16	9.5 - 10.8	43.2	120.0
11008094	3 x 1.5	16	9.5 - 10.8	43.2	120.0
11008095	4 G 1.5	16	10.2 - 11.6	57.6	142.0
11008096	4 x 1.5	16	10.2 - 11.6	57.6	142.0
11008097	5 G 1.5	16	11.0 - 12.4	72.0	165.0
11008098	5 x 1.5	16	11.0 - 12.4	72.0	165.0
11008118	2 x 2.5	14	9.8 - 11.3	48.0	137.0
11008119	3 G 2.5	14	10.3 - 11.8	72.0	161.0
11008120	3 x 2.5	14	10.3 - 11.8	72.0	161.0
11008121	4 G 2.5	14	11.1 - 12.7	96.0	195.0

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer-Ø min - max mm	Cu-weight kg/km	Weight kg/km, approx.
11008122	4 x 2.5	14	11.1 - 12.7	96.0	195.0
11008123	5 G 2.5	14	12.1 - 13.6	120.0	225.0
11008124	5 x 2.5	14	12.1 - 13.6	120.0	225.0
11008144	2 x 4	12	11.0 - 12.4	76.8	180.0
11008145	3 G 4	12	11.6 - 13.0	115.2	215.0
11008146	3 x 4	12	11.6 - 13.0	115.2	215.0
11008147	4 G 4	12	12.6 - 14.0	153.6	260.0
11008148	4 x 4	12	12.6 - 14.0	153.6	260.0
11008149	5 G 4	12	13.7 - 15.1	192.0	315.0
11008150	5 x 4	12	13.7 - 15.1	192.0	315.0
11008152	2 x 6	10	12.0 - 13.6	115.2	230.0

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HELUPOWER® 1100-RZ1-K LS0H GREEN

flexible, direct burial, low smoke development, flame-retardant



Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer-Ø min - max mm	Cu-weight kg/km	Weight kg/km, approx.
11008153	3 G 6	10	12.6 - 14.3	172.8	280.0
11008154	3 x 6	10	12.6 - 14.3	172.8	280.0
11008155	4 G 6	10	13.8 - 15.5	230.4	350.0
11008156	4 x 6	10	13.8 - 15.5	230.4	350.0
11008157	5 G 6	10	15.1 - 16.8	288.0	420.0
11008158	5 x 6	10	15.1 - 16.8	288.0	420.0
11008159	1 x 10	8	8.1 - 9.4	96.0	140.0
11008160	2 x 10	8	14.2 - 15.7	192.0	350.0
11008161	3 G 10	8	14.9 - 16.5	288.0	435.0
11008162	3 x 10	8	14.9 - 16.5	288.0	435.0
11008163	4 G 10	8	16.3 - 17.9	384.0	615.0
11008164	4 x 10	8	16.3 - 17.9	384.0	615.0
11008165	5 G 10	8	17.8 - 19.5	480.0	725.0
11008166	5 x 10	8	17.8 - 19.5	480.0	725.0
11008167	1 x 16	6	9.1 - 10.4	153.6	195.0
11008168	2 x 16	6	16.2 - 17.5	307.2	575.0
11008169	3 G 16	6	17.2 - 18.4	460.8	700.0
11008170	3 x 16	6	17.2 - 18.4	460.8	700.0
11008171	4 G 16	6	19.0 - 20.1	614.4	880.0
11008172	4 x 16	6	19.0 - 20.1	614.4	880.0
11008173	5 G 16	6	20.8 - 22.0	768.0	1060.0
11008174	5 x 16	6	20.8 - 22.0	768.0	1060.0
11008175	1 x 25	4	10.9 - 12.0	240.0	285.0
11008176	2 x 25	4	19.7 - 20.8	480.0	880.0
11008177	3 G 25	4	20.9 - 22.0	720.0	1075.0
11008178	3 x 25	4	20.9 - 22.0	720.0	1075.0
11008179	4 G 25	4	23.0 - 24.0	960.0	1315.0
11008180	4 x 25	4	23.0 - 24.0	960.0	1315.0
11008181	5 G 25	4	25.3 - 26.6	1200.0	1590.0
11008182	5 x 25	4	25.3 - 26.6	1200.0	1590.0
11008183	1 x 35	2	12.3 - 13.2	336.0	380.0
11008184	2 x 35	2	22.2 - 23.5	672.0	1130.0
11008185	3 G 35	2	23.6 - 25.2	1008.0	1405.0
11008186	3 x 35	2	23.6 - 25.2	1008.0	1405.0
11008187	4 G 35	2	25.9 - 27.7	1344.0	1745.0

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer-Ø min - max mm	Cu-weight kg/km	Weight kg/km, approx.
11008188	4 x 35	2	25.9 - 27.7	1344.0	1745.0
11008189	5 G 35	2	28.6 - 30.6	1680.0	2100.0
11008190	5 x 35	2	28.6 - 30.6	1680.0	2100.0
11008191	1 x 50	1	13.8 - 14.9	480.0	520.0
11008192	2 x 50	1	25.6 - 26.8	960.0	1565.0
11008193	3 G 50	1	27.2 - 28.5	1440.0	1950.0
11008194	3 x 50	1	27.2 - 28.5	1440.0	1950.0
11008195	4 G 50	1	29.7 - 31.9	1920.0	2455.0
11008196	4 x 50	1	29.7 - 31.9	1920.0	2455.0
11008197	5 G 50	1	33.0 - 35.4	2400.0	2970.0
11008198	5 x 50	1	33.0 - 35.4	2400.0	2970.0
11008199	1 x 70	2/0	15.5 - 17.1	672.0	715.0
11008201	3 G 70	2/0	31.4 - 33.4	2016.0	2675.0
11008202	3 x 70	2/0	31.4 - 33.4	2016.0	2675.0
11008203	4 G 70	2/0	35.2 - 37.5	2688.0	3340.0
11008204	4 x 70	2/0	35.2 - 37.5	2688.0	3340.0
11008207	1 x 95	3/0	17.1 - 18.7	912.0	925.0
11008209	3 G 95	3/0	35.0 - 37.1	2736.0	3390.0
11008210	3 x 95	3/0	35.0 - 37.1	2736.0	3390.0
11008211	4 G 95	3/0	38.8 - 41.1	3648.0	4315.0
11008212	4 x 95	3/0	38.8 - 41.1	3648.0	4315.0
11008215	1 x 120	4/0	19.3 - 20.7	1152.0	1160.0
11008219	4 G 120	4/0	43.6 - 46.5	4608.0	5465.0
11008220	4 x 120	4/0	43.6 - 46.5	4608.0	5465.0
11008221	1 x 150	300 kcmil	21.1 - 22.8	1440.0	1460.0
11008225	4 G 150	300 kcmil	48.1 - 51.0	5760.0	6830.0
11008226	4 x 150	300 kcmil	48.1 - 51.0	5760.0	6830.0
11008227	1 x 185	350 kcmil	23.0 - 24.8	1776.0	1780.0
11008231	4 G 185	350 kcmil	53.0 - 57.0	7104.0	8575.0
11008232	4 x 185	350 kcmil	53.0 - 57.0	7104.0	8575.0
11008233	1 x 240	500 kcmil	26.3 - 27.6	2304.0	2300.0
11008237	4 G 240	500 kcmil	59.7 - 65.1	9216.0	11085.0
11008238	4 x 240	500 kcmil	59.7 - 65.1	9216.0	11085.0
11008239	1 x 300	600 kcmil	29.0 - 31.0	2880.0	2910.0

HELUPOWER® H07RN-F LS0H

oil-resistant, implementable up to a water depth of 100 m



TECHNICAL DATA

Rubber connection cable acc. to DIN VDE 0285-525-2-21 / DIN EN 50525-2-21

Temperature range	flexible -40°C to +90°C fixed -50°C to +90°C
Permissible operating temperature of the conductor	+90°C
Short circuit temperature at the conductor	+250°C
Nominal voltage	AC U_0/U 450/750 V
Max. permissible operating voltage	alternating current (AC) conductor/earth 476 V three-phase alternating current (AC) conductor/conductor 825 V direct current (DC) conductor/earth 619 V direct current (DC) conductor/conductor 1238 V
Test voltage core/core	2500 V
Minimum bending radius	flexible 6x Outer-Ø fixed 4x Outer-Ø

CABLE STRUCTURE

- Copper wire bare, finely stranded acc. to DIN VDE 0295 Class 5 / IEC 60228 Class 5
- Core insulation: Special rubber
- Core identification acc. to DIN VDE 0293-308,
  1 core(s): black
  2 - 5 core(s): colour coded
  7 - 12 core(s): black cores with consecutive labeling in white digits
- Protective conductor: starting with 3 cores,
  G = with protective conductor GN-YE, in the outer layer,
  x = without protective conductor
- Cores stranded in layers with optimal lay lengths
- Outer sheath: Special rubber
- Sheath colour: black

PROPERTIES

- resistant to: oil, UV radiation, ozone, weathering effects, lubricating oils, greases
- for outdoor use
- halogen-free

TESTS

- halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- flame-retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2
- oil-resistant acc. to DIN VDE 0473-811-404 / DIN EN 60811-404 / IEC 60811-404
- ozone-resistant acc. to DIN VDE 0473-811-403 / DIN EN 60811-403

APPLICATION

Halogen-free rubber sheathed cables for use with medium mechanical stress in dry, damp, wet rooms and outdoors. Can only be used in stagnant waters (also in salt water) up to a water depth of 100 m (AD8) and a water temperature of min. +5°C. When installed in pipes or similar closed systems, the use of the cable is permitted up to and including 1000 V AC voltage or up to 750 V DC voltage against earth.

NOTES

- the conductor is metrically (mm²) constructed, AWG numbers are approximated, and are for reference only

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer-Ø min - max mm	Cu-weight kg/km	Weight kg/km, approx.
30737	1 x 1.5	16	5.7 - 6.5	14.4	51.0
30738	1 x 2.5	14	6.3 - 7.2	24.0	67.0
30739	1 x 4	12	7.2 - 8.1	38.0	92.0
30740	1 x 6	10	7.9 - 8.8	58.0	121.0
30741	1 x 10	8	9.5 - 11.5	96.0	186.0
30742	1 x 16	6	10.8 - 13.0	154.0	256.0
30743	1 x 25	4	12.7 - 15.0	240.0	368.0
30744	1 x 35	2	14.3 - 16.5	336.0	485.0
30745	1 x 50	1	16.5 - 19.5	480.0	668.0
30746	1 x 70	2/0	18.6 - 22.5	672.0	905.0
30747	1 x 95	3/0	20.8 - 25.4	912.0	1180.0
30748	1 x 120	4/0	22.8 - 27.6	1152.0	1460.0
30749	1 x 150	300 kcmil	25.2 - 30.3	1440.0	1810.0
30750	1 x 185	350 kcmil	27.6 - 33.0	1776.0	2165.0

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer-Ø min - max mm	Cu-weight kg/km	Weight kg/km, approx.
30751	1 x 240	500 kcmil	30.6 - 36.3	2304.0	2750.0
30752	1 x 300	600 kcmil	33.5 - 39.0	2880.0	3271.0
30753	1 x 400	750 kcmil	37.4 - 41.5	3840.0	4286.0
30754	1 x 500	1000 kcmil	41.3 - 46.0	4800.0	5301.0
30755	1 x 630	1250 kcmil	45.5 - 50.0	6048.0	6959.0
30756	2 x 1	18	7.7 - 9.0	19.0	93.0
30757	2 x 1.5	16	8.5 - 9.9	29.0	115.0
30758	2 x 2.5	14	10.2 - 11.7	48.0	165.0
30759	2 x 4	12	11.8 - 13.4	77.0	225.0
30760	2 x 6	10	13.1 - 14.9	115.0	300.0
30761	2 x 10	8	17.7 - 20.0	192.0	550.0
30762	2 x 16	6	20.2 - 22.6	307.0	745.0
30763	2 x 25	4	24.3 - 27.0	480.0	1060.0
30764	3 G 1	18	8.3 - 9.7	29.0	120.0

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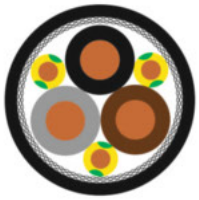
HELUPOWER® H07RN-F LS0H

oil-resistant, implementable up to a water depth of 100 m

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer-Ø min - max mm	Cu-weight kg/km	Weight kg/km, approx.
30765	3 G 1.5	16	9.2 - 10.7	43.0	150.0
30766	3 G 2.5	14	10.9 - 12.5	72.0	200.0
30767	3 G 4	12	12.7 - 14.4	115.0	295.0
30768	3 G 6	10	14.1 - 16.0	173.0	380.0
30769	3 G 10	8	19.1 - 21.5	288.0	675.0
30770	3 G 16	6	21.8 - 24.3	461.0	950.0
30771	3 G 25	4	26.1 - 28.8	720.0	1355.0
30772	3 G 35	2	29.3 - 32.5	1008.0	1765.0
30773	3 G 50	1	34.1 - 37.0	1440.0	2415.0
30774	3 G 70	2/0	38.4 - 40.9	2016.0	3230.0
30775	3 G 95	3/0	43.3 - 47.4	2736.0	4225.0
30776	3 G 120	4/0	47.4 - 53.2	3456.0	5190.0
30777	3 G 150	300 kcmil	52.0 - 57.5	4320.0	6415.0
30778	3 G 185	350 kcmil	57.0 - 62.7	5328.0	7700.0
30779	3 G 240	500 kcmil	65.0 - 71.4	6912.0	9458.0
30780	3 G 300	600 kcmil	72.0 - 78.3	8640.0	11635.0
30781	4 G 1	18	9.2 - 10.7	38.0	145.0
30782	4 G 1.5	16	10.2 - 11.7	58.0	175.0
30783	4 G 2.5	14	12.1 - 13.8	96.0	255.0
30784	4 G 4	12	14.0 - 15.9	154.0	355.0
30785	4 G 6	10	15.7 - 17.7	230.0	485.0
30786	4 G 10	8	20.9 - 23.6	384.0	845.0
30787	4 G 16	6	23.8 - 26.4	614.0	1185.0
30788	4 G 25	4	28.9 - 32.1	960.0	1730.0
30789	4 G 35	2	32.5 - 36.0	1344.0	2250.0
30790	4 G 50	1	37.7 - 41.5	1920.0	3085.0
30791	4 G 70	2/0	42.7 - 47.1	2688.0	4145.0
30792	4 G 95	3/0	48.4 - 54.9	3648.0	5465.0
30793	4 G 120	4/0	53.0 - 57.5	4608.0	6670.0
30794	4 G 150	300 kcmil	58.0 - 63.6	5760.0	8290.0
30795	4 G 185	350 kcmil	64.0 - 69.7	7104.0	9385.0
30796	5 G 1	18	10.2 - 11.7	48.0	180.0
30797	5 G 1.5	16	11.2 - 12.8	72.0	220.0
30798	5 G 2.5	14	13.3 - 15.1	120.0	310.0
30799	5 G 4	12	15.6 - 17.9	192.0	445.0
30800	5 G 6	10	17.5 - 20.0	288.0	605.0
30801	5 G 10	8	22.9 - 25.7	480.0	1035.0
30802	5 G 16	6	26.4 - 30.0	768.0	1465.0
30803	5 G 25	4	32.0 - 35.4	1200.0	2145.0
30804	5 G 35	2	35.7 - 39.5	1680.0	2579.0
30805	5 G 50	1	41.8 - 47.0	2400.0	3594.0
30806	5 G 70	2/0	47.5 - 52.5	3360.0	4837.0
30807	5 G 95	3/0	54.0 - 58.0	4560.0	6269.0
30808	7 G 1.5	16	14.7 - 17.5	101.0	355.0
30809	7 G 2.5	14	17.1 - 20.0	168.0	498.0
30810	12 G 1.5	16	17.6 - 21.0	173.0	505.0
30811	12 G 2.5	14	20.6 - 24.5	288.0	710.0

TOPFLEX®-EMV-UV-3-PLUS-2XSLCH-J

EMC-preferred type, double screened, enhanced current carrying capacity





TECHNICAL DATA

Motor connection cable for frequency converters in alignment with DIN VDE 0250

Temperature range	flexible -15°C to +90°C fixed -40°C to +90°C
Permissible operating temperature of the conductor	+90°C
Nominal voltage	AC U_0/U 600/1000 V
Max. permissible operating voltage	alternating current (AC) conductor/earth 700 V three-phase alternating current (AC) conductor/conductor 1200 V direct current (DC) conductor/earth 900 V direct current (DC) conductor/conductor 1800 V
Test voltage core/core	4000 V
Coupling resistance	see table
Minimum bending radius	flexible <12 mm: 10x Outer-ø 12-20 mm: 15x Outer-ø >20 mm: 20x Outer-ø fixed <12 mm: 5x Outer-ø 12-20 mm: 7,5x Outer-ø >20 mm: 10x Outer-ø

CABLE STRUCTURE

- Copper wire bare, finely stranded acc. to DIN VDE 0295 Class 5 / IEC 60228 Class 5
- Core insulation: XLPE
- Core identification: brown, black, grey, green-yellow (divided into thirds)
- Protective conductor: GN-YE divided into thirds (3+3-core structure)
- Cores stranded with optimal lay lengths
- 1. Screen: plastic-coated aluminium foil (St)
  2. Screen: braided screen of tinned copper wires, approx. coverage 85%
- Outer sheath: Special-Polyolefin
- Sheath colour: black (RAL 9005)
- Length marking: in metres

PROPERTIES

- resistant to: UV radiation, weathering effects
- for outdoor use
- halogen-free
- the materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- symmetrical 3-PLUS-composition (protective conductor divided into thirds and stranded uniformly in the interstices) with improved EMC properties in comparison to 4-core-composition
- optimal screening enables interference-free operation of frequency converters
- low coupling resistance ensures good electromagnetic compatibility
- low mutual capacitance of the individual cores due to XLPE core insulation and low screen capacity, enable low-loss power transmission

TESTS

- corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- flame-retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- bundle fire test acc. to DIN VDE 0482-332-3-24 / DIN EN 60332-3-24 / IEC 60332-3-24
- smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2
- weather-resistant acc. to DIN EN ISO 4892-2
- electromagnetic compatibility acc. to DIN VDE 0875-11 / DIN EN 55011
- minimum cross-section of 0.75 mm² meets requirements acc. to DIN EN 60204-1

APPLICATION

Used as a connecting cable for medium mechanical stress with fixed installation and occasional free movement in dry, damp or wet rooms, as well as outdoors. As a result of the permissible operating temperature of +90°C at the conductor, an enhanced current carrying capacity compared to PE insulated motor connection cables is permissible. Used in the automotive industry, food industry, environmental technology sector, packaging industry and in machine tools. Utilised as handling equipment for SIMOVERT drives in the industrial sector for pumps, fans, conveyor belts and air conditioning systems etc. EMC= Electromagnetic Compatibility; in order to optimise EMC properties, we recommend a double-sided and all-round large contact area of the copper braiding.

NOTES

- the conductor is metrically (mm²) constructed, AWG numbers are approximated, and are for reference only

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer Ø mm, approx.	Coupling resistance at 30 MHz in Ohm/km	Current carrying capacity*	Cu-weight kg/km	Weight kg/km, approx.
24536	3 x 1.5 + 3 G 0.25	16	9.2		23	86.0	141.0
24537	3 x 2.5 + 3 G 0.5	14	10.8	210	32	144.0	213.0
24538	3 x 4 + 3 G 0.75	12	12.3	210	42	224.0	278.0
24539	3 x 6 + 3 G 1	10	14.0	150	54	298.0	377.0

Continued on next page

TOPFLEX®-EMV-UV-3-PLUS-2XSLCH-J

EMC-preferred type, double screened, enhanced current carrying capacity

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer Ø mm, approx.	Coupling resistance at 30 MHz in Ohm/km	Current carrying capacity*	Cu-weight kg/km	Weight kg/km, approx.
24540	3 x 10 + 3 G 1.5	8	17.6	180	75	491.0	637.0
24541	3 x 16 + 3 G 2.5	6	20.4	190	100	723.0	932.0
24542	3 x 25 + 3 G 4	4	23.2	95	127	1138.0	1330.0
24543	3 x 35 + 3 G 6	2	26.1	85	158	1535.0	1730.0
24544	3 x 50 + 3 G 10	1	30.8	40	192	2208.0	2503.0
24545	3 x 70 + 3 G 10	2/0	34.2	45	246	2871.0	3164.0
24546	3 x 95 + 3 G 16	3/0	37.8	50	298	3953.0	4097.0
24583	3 x 120 + 3 G 16	4/0	42.6		346	4836.0	5062.0
24584	3 x 150 + 3 G 25	300 kcmil	47.5		399	5412.0	6128.0
24585	3 x 185 + 3 G 35	350 kcmil	53.4		456	6969.0	7847.0
24586	3 x 240 + 3 G 42.5	500 kcmil	58.7		538	8540.0	10065.0

*) Current carrying capacity with 3 loaded cores in amperes for permanent operation up to 30°C ambient temperature. For deviating ambient temperatures, the conversion factors and specifications from DIN VDE 0298-4 apply.

HELUWIND® WK DLO, WK DLO-Torsion

2 kV, FT4, VW-1, RHH/RHW-2, UL44



Technical data

- **Temperature range**
  flexing -40°C to +90°C
- **Nominal voltage**
  2000 V
- **Torsion application**
  only for WK DLO-Torsion
  +/- 150° per 1m
- **Torsion rating**
  Torsion tested in accordance with HELUKABEL test requirements
- **Approvals**
  RHH/RHW-2, PRI PRII, CSA RW90, CSA 22.2 No. 38, VW-1, cold impact test, cold bend test, wet or dry per UL44, for CT use
- **Flame test**
  CSA FT1, FT4, IEEE 1202

Cable structure

- Special stranded bare copper wire, fine stranded acc. to ASTM-B3
- Insulation: EP
- Seperarting foil wrap
- Sheath: TPE/CPE
- Sheath colour: black

Properties

- UV resistant

Note

For more information, especially on custom cables, please contact us: wind@helukabel.de

Application

The cable HELUWIND® WK DLO was specifically designed for use in wind turbines up to a nominal voltage of 2 kV.
It has been specially developed for torsion applications in wind turbines. We supply the leading wind turbine manufacturers.

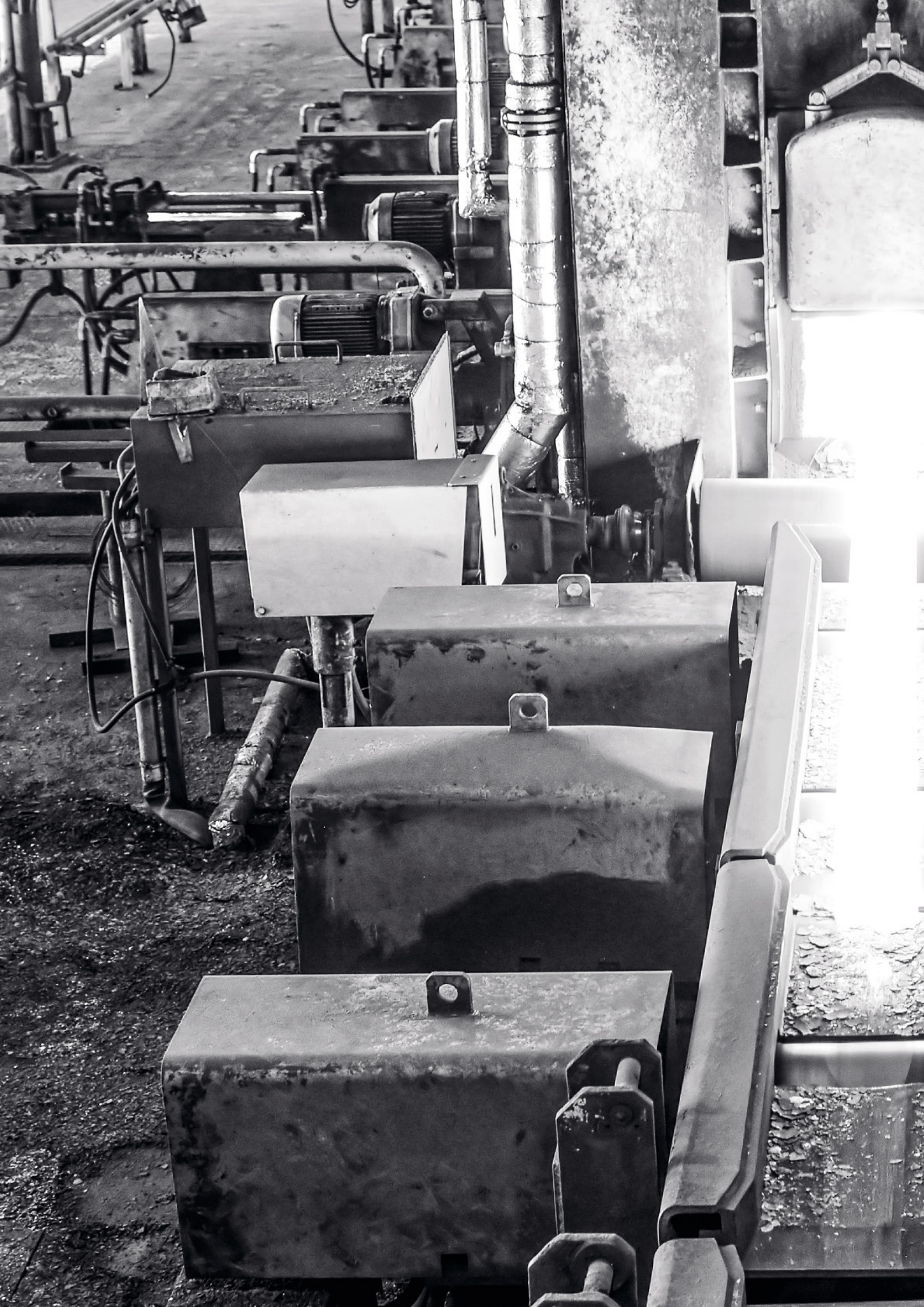
WK DLO 2 kV

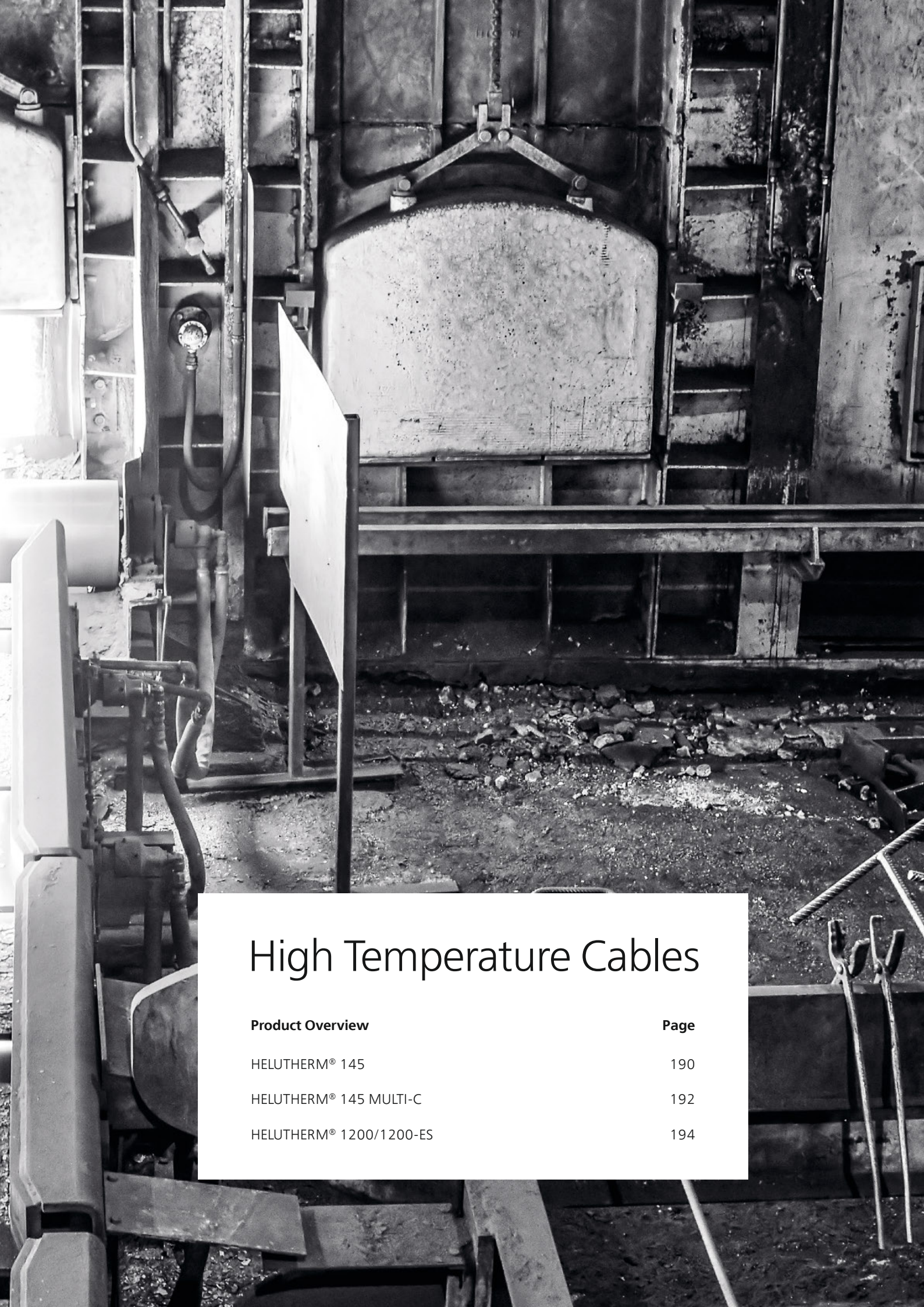
Part no.	Cross-section AWG / kcmil	Outer Ø app. mm	Weight app. kg / km	Outer Ø app. inch	Weight app. lb / kft
703156	14	5,9	37,0	0,23	0,0
703157	12	6,3	69,0	0,25	0,0
703158	10	7,2	100,0	0,28	0,0
702513	8	8,4	142,0	0,33	0,0
703159	6	9,4	200,0	0,37	0,0
703160	4	11,2	286,0	0,44	0,0
703161	2	12,7	370,0	0,50	0,0
703162	1	16,4	637,0	0,65	0,0
703163	1/0	16,7	715,0	0,66	0,0
703862	2/0	17,6	830,0	0,69	0,0
703164	3/0	19,6	1104,0	0,77	0,0
702863	4/0	21,0	1298,0	0,83	0,0
702514	262 kcmil	23,7	1590,0	0,93	0,0
703165	313 kcmil	25,4	1872,0	1,00	0,0
703166	373 kcmil	27,1	2176,0	1,07	0,0
708857	373 kcmil	27,1	2176,0	1,07	0,0
703167	444 kcmil	28,8	2570,0	1,13	0,0
702515	535 kcmil	31,4	3046,0	1,24	0,0
703168	646 kcmil	33,6	3600,0	1,32	0,0
703169	777 kcmil	36,0	4290,0	1,42	0,0
703170	929 kcmil	38,4	5144,0	1,51	0,0
703171	1111 kcmil	42,5	6070,0	1,67	0,0

WK DLO-Torsion 2 kV

Part no.	Cross-section AWG / kcmil	Outer Ø app. mm	Weight app. kg / km	Outer Ø app. inch	Weight app. lb / kft
709729	8	8,4	142,0	0,33	0,0
709730	6	9,4	200,0	0,37	0,0
709731	4	11,2	286,0	0,44	0,0
709732	2	12,7	370,0	0,50	0,0
709733	1	16,4	637,0	0,65	0,0
709734	1/0	16,7	715,0	0,66	0,0
709735	2/0	17,6	830,0	0,69	0,0
709288	3/0	19,6	1104,0	0,77	0,0
709289	4/0	21,0	1298,0	0,83	0,0
709290	262 kcmil	23,7	1590,0	0,93	0,0
709291	313 kcmil	25,4	1872,0	1,00	0,0
709292	373 kcmil	27,1	2176,0	1,07	0,0
709293	444 kcmil	28,8	2570,0	1,13	0,0
709294	535 kcmil	31,4	3046,0	1,24	0,0
709295	646 kcmil	33,6	3600,0	1,32	0,0
709296	777 kcmil	36,0	4290,0	1,42	0,0
709297	929 kcmil	38,4	5144,0	1,51	0,0
709298	1111 kcmil	42,5	6070,0	1,67	0,0

Dimensions and specifications may be changed without prior notice.





High Temperature Cables

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HELUTHERM® 145

temperature-resistant, crosslinked, improved behaviour in case of fire



TECHNICAL DATA

Single core

Temperature range	flexible -35°C to +120°C fixed -55°C to +145°C
Nominal voltage	0.25 - 1 mm²: AC U_0/U 300/500 V 1.5 - 240 mm²: AC U_0/U 450/750 V 1.5 - 240 mm²: fixed and protected installation AC U_0/U 600/1000 V
Test voltage	3500 V
Minimum bending radius	flexible 8x Outer-Ø fixed 4x Outer-Ø

CABLE STRUCTURE

- Copper wire tinned, finely stranded acc. to DIN VDE 0295 Class 5 / IEC 60228 Class 5
- Core insulation: cross-linked polyolefin
- Core identification: see table

PROPERTIES

- resistant to: oil, UV radiation, ozone, weathering effects
- abrasion-resistant, notch-resistant
- for outdoor use
- halogen-free
- the materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- no fire propagation

TESTS

- halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- flame-retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- bundle fire test acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22
- smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2
- protection against fire acc. to DIN EN 45545-2
- oil-resistant acc. to DIN VDE 0473-811-404 / DIN EN 60811-404 / IEC 60811-404, IRM 902 4h at +70°C
- Certifications:
  0.5 - 240 mm²: DNV GL

APPLICATION

Temperature resistant single core for the internal wiring of lighting fixtures, heaters, electrical machinery, switching systems and distributors in industrial equipment as well as plant and machinery construction; suitable for laying in tubes on and under plaster, in closed installation ducts, as well as for traffic systems and outdoor applications. Not suitable for direct laying in cable ladders and cable trays, except as a potential equalization cable.

NOTES

- the conductor is metrically (mm²) constructed, AWG numbers are approximated, and are for reference only

Cross-sec. mm²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.	black (RAL 9005) Part no.	green-yellow Part no.	blue (RAL 5015) Part no.	brown (RAL 8003) Part no.	red (RAL 3000) Part no.	white (RAL 9010) Part no.	grey (RAL 7001) Part no.	violet (RAL 4005) Part no.
0.25	24	1.6	2.4	4.0	**50999**	**50998**	**51070**	**51071**	**51072**	**51073**	**51074**	**51075**
0.34	22	1.7	3.2	5.0	**51167**	**51166**	**51168**	**51169**	**51170**	**51171**	**51172**	**51173**
0.5	20	1.9	4.8	7.0	**51281**	**51280**	**51282**	**51283**	**51284**	**51285**	**51286**	**51287**
0.75	19	2.2	7.2	11.0	**51295**	**51294**	**51296**	**51297**	**51298**	**51299**	**51300**	**51301**
1	18	2.5	9.6	14.0	**51309**	**51308**	**51310**	**51311**	**51312**	**51313**	**51314**	**51315**
1.5	16	2.9	14.4	20.0	**51323**	**51322**	**51324**	**51325**	**51326**	**51327**	**51328**	**51329**
2.5	14	3.5	24.0	30.0	**51337**	**51336**	**51338**	**51339**	**51340**	**51341**	**51342**	**51343**
4	12	4.3	38.0	47.0	**51351**	**51350**	**51352**	**51353**	**51354**	**51355**	**51356**	**51357**
6	10	5.0	58.0	72.0	**51365**	**51364**	**51366**	**51367**	**51368**	**51369**	**51370**	**51371**
10	8	6.3	96.0	120.0	**51379**	**51378**	**51380**	**51381**	**51382**	**51383**	**51384**	**51385**
16	6	7.3	154.0	182.0	**51420**	**51419**	**51421**	**51422**	**51423**	**51424**	**51425**	**51426**
25	4	9.6	240.0	272.0	**51434**	**51433**	**51435**	**51436**	**51437**	**51438**	**51439**	**51440**
35	2	10.8	336.0	371.0	**51448**	**51447**	**51449**	**51450**	**51451**	**51452**	**51453**	**51454**
50	1	12.6	480.0	530.0	**51462**	**51461**	**51463**	**51464**	**51465**	**51466**	**51467**	**51468**
70	2/0	14.6	672.0	730.0	**51476**	**51475**	**51477**	**51478**	**51479**	**51480**	**51481**	**51482**
95	3/0	16.5	912.0	964.0	**51490**	**51489**	**51491**	**51492**	**51493**	**51494**	**51495**	**51496**

Continued on next page

HELUTHERM® 145

temperature-resistant, crosslinked, improved behaviour in case of fire

Cross-sec. mm²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.	black (RAL 9005) Part no.	green-yellow Part no.	blue (RAL 5015) Part no.	brown (RAL 8003) Part no.	red (RAL 3000) Part no.	white (RAL 9010) Part no.	grey (RAL 7001) Part no.	violet (RAL 4005) Part no.
120	4/0	18.0	1152.0	1235.0	**51504**	**51503**	**51505**	**51506**	**51507**	**51508**	**51509**	**51510**
150	300 kcmil	20.0	1440.0	1523.0	**51518**	**51517**	**51519**	**51520**	**51521**	**51522**	**51523**	**51524**

Cross-sec. mm²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.	yellow (RAL 1021) Part no.	orange (RAL 2003) Part no.	green (RAL 6018) Part no.	dark blue (RAL 5010) Part no.	beige (RAL 1001) Part no.
0.25	24	1.6	2.4	4.0	**51076**	**51077**	**51078**	**51079**	**51164**
0.34	22	1.7	3.2	5.0	**51174**	**51175**	**51176**	**51177**	**51178**
0.5	20	1.9	4.8	7.0	**51288**	**51289**	**51290**	**51291**	**51292**
0.75	19	2.2	7.2	11.0	**51302**	**51303**	**51304**	**51305**	**51306**
1	18	2.5	9.6	14.0	**51316**	**51317**	**51318**	**51319**	**51320**
1.5	16	2.9	14.4	20.0	**51330**	**51331**	**51332**	**51333**	**51334**
2.5	14	3.5	24.0	30.0	**51344**	**51345**	**51346**	**51347**	**51348**
4	12	4.3	38.0	47.0	**51358**	**51359**	**51360**	**51361**	**51362**
6	10	5.0	58.0	72.0	**51372**	**51373**	**51374**	**51375**	**51376**
10	8	6.3	96.0	120.0	**51386**	**51387**	**51388**	**51389**	**51390**
16	6	7.3	154.0	182.0	**51427**	**51428**	**51429**	**51430**	**51431**
25	4	9.6	240.0	272.0	**51441**	**51442**	**51443**	**51444**	**51445**
35	2	10.8	336.0	371.0	**51455**	**51456**	**51457**	**51458**	**51459**
50	1	12.6	480.0	530.0	**51469**	**51470**	**51471**	**51472**	**51473**
70	2/0	14.6	672.0	730.0	**51483**	**51484**	**51485**	**51486**	**51487**
95	3/0	16.5	912.0	964.0	**51497**	**51498**	**51499**	**51500**	**51501**
120	4/0	18.0	1152.0	1235.0	**51511**	**51512**	**51513**	**51514**	**51515**
150	300 kcmil	20.0	1440.0	1523.0	**51525**	**51526**	**51527**	**51528**	**51529**
185	350 kcmil	22.2	1776.0	1850.0	**51539**	**51540**	**51541**	**51542**	**51543**

HELUTHERM® 145 MULTI-C

flexible, cross-linked, halogen-free, screened, EMC-preferred type



Technical data

- Temperature-resistant and halogen-free connection and control cable
- **Temperature range**
  flexing -35°C to +120°C
  fixed installation -55°C to +145°C
  in short-circuit +200°C
- **Nominal voltage**
  up to 1 mm² U_0/U 300/500 V
  from 1,5 mm² U_0/U 450/750 V
  with protected fixed installation
  from 1,5 mm² U_0/U 600/1000 V
- **Test voltage**
  3000 V
- **Minimum bending radius**
  flexing 8x cable Ø
  fixed installation 4x cable Ø
- **Coupling resistance**
  max. 250 Ohm/km
- **Caloric load values**
  see "Technical Information"
- **Current rating**
  see "Technical Information"
- **Approval**
  DNV GL

Cable structure

- Tinned copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation: cross-linked polyolefin-copolymer
- Core identification black cores with continuous white numbering
- Cores stranded in layers with optimal lay length
- Foil wrapping
- Tinned copper braided screen, approx. 85% coverage
- Outer sheath: cross-linked polyolefin-copolymer
- Sheath colour: black
- With meter marking

Note

- AWG sizes are approximate equivalent values. The actual cross section is in mm².
- Unscreened analogue type: **HELUTHERM® 145 MULTI**

Properties

- No flame propagation
- Good abrasion and notch resistance
- Good resistance to weathering
- Resistant to ozone
- Resistant to melting, even when in contact with a soldering iron with temperatures from 300°C to 380°C
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame test acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22
- Flame test acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2
- Fire protection on railway vehicles acc. to EN 45545-2
- UV-resistant acc. to DIN EN ISO 4892-2

Application

These cross-linked and temperature resistant wiring and control cables with enhanced fire-behaviour properties are used for wiring up the lighting fixtures, heaters, electric machines, switching systems and distribution switchboards. A very long service life is also given on account of their excellent high-temperature stability. These cables exhibit good resistance to weathering as well as being very stable to temperature, moisture, ozone and UV radiation. These cables are therfore mainly used for traffic control systems and diverse outdoor applications. The development of smoke is low and no corrosive gases are liberated during combustion of these halogen-free cables in case of fire. The risk of toxic fumes is considerably less in the event of fire because the coloric load values is lower. Precious time can thus be won for a disciplined evacuation, and unnecessary loss of life can be prevented. The extent of the damage to costly control and monitoring systems and the concrete and steel structures of buildings and plant due to fire is reduced by this. Injuries to persons and damage to materials can be prevented. A lower conductor cross section is possible in certain circumstances because of the high thermal load and thus savings in the space and weight required can be made.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
52194	2 x 0,25	5,0	16,0	36,0	24
52195	3 x 0,25	5,5	21,0	44,0	24
52196	5 x 0,25	6,4	29,0	68,0	24
52197	7 x 0,25	7,5	37,0	95,0	24

Continuation ▸

HELUTHERM® 145 MULTI-C

flexible, cross-linked, halogen-free, screened, EMC-preferred type

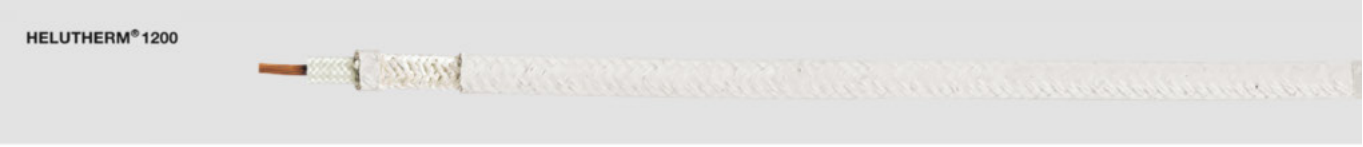
Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app.kg / km	AWG-No.
52198	1 x 0,5	3,7	15,0	24,0	20
52199	2 x 0,5	6,0	29,0	55,0	20
52200	3 x 0,5	6,3	38,0	64,0	20
52201	4 x 0,5	6,9	45,0	78,0	20
52202	5 x 0,5	7,7	51,0	95,0	20
52203	6 x 0,5	8,1	66,0	106,0	20
52204	7 x 0,5	8,4	68,0	122,0	20
52205	8 x 0,5	9,0	80,0	138,0	20
52206	10 x 0,5	10,4	93,0	161,0	20
52207	12 x 0,5	10,4	107,0	170,0	20
52208	14 x 0,5	11,0	122,0	193,0	20
52209	16 x 0,5	11,7	129,0	216,0	20
52210	19 x 0,5	12,8	158,0	253,0	20
52211	21 x 0,5	13,5	167,0	281,0	20
52212	1 x 0,75	4,0	18,0	29,0	19
52213	2 x 0,75	6,7	38,0	71,0	19
52214	3 x 0,75	7,1	50,0	82,0	19
52215	4 x 0,75	7,7	58,0	100,0	19
52216	5 x 0,75	8,5	70,0	117,0	19
52217	6 x 0,75	9,1	85,0	135,0	18
52218	7 x 0,75	9,9	90,0	158,0	19
52219	8 x 0,75	10,8	110,0	178,0	19
52220	10 x 0,75	11,5	140,0	207,0	19
52221	12 x 0,75	11,7	148,0	220,0	19
52222	14 x 0,75	12,2	167,0	250,0	19
52223	16 x 0,75	13,2	183,0	282,0	19
52224	19 x 0,75	14,5	212,0	335,0	19
52225	21 x 0,75	15,3	230,0	370,0	19
52226	1 x 1	4,2	20,0	33,0	18
52227	2 x 1	7,2	46,0	78,0	18
52228	3 x 1	7,7	56,0	92,0	18
52229	4 x 1	8,3	66,0	112,0	18
52230	5 x 1	9,0	95,0	134,0	18
52231	6 x 1	9,5	105,0	164,0	18
52232	7 x 1	10,8	109,0	192,0	18
52233	8 x 1	11,4	130,0	219,0	18
52234	10 x 1	12,8	138,0	254,0	18
52235	12 x 1	12,8	164,0	270,0	18
52236	14 x 1	13,5	198,0	308,0	18
52237	16 x 1	14,3	203,0	350,0	18
52238	19 x 1	16,2	235,0	447,0	18
52239	21 x 1	17,0	257,0	492,0	18
52240	1 x 1,5	4,8	22,0	42,0	16
52241	2 x 1,5	8,4	58,0	105,0	16
52242	3 x 1,5	8,9	71,0	121,0	16
52243	4 x 1,5	9,9	86,0	156,0	16
52244	5 x 1,5	10,7	104,0	188,0	16
52245	6 x 1,5	11,5	118,0	225,0	16

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app.kg / km	AWG-No.
52246	7 x 1,5	12,7	136,0	264,0	16
52247	8 x 1,5	13,7	172,0	308,0	16
52248	10 x 1,5	15,4	193,0	361,0	16
52249	12 x 1,5	15,4	222,0	383,0	16
52250	14 x 1,5	16,0	272,0	458,0	16
52251	16 x 1,5	17,0	285,0	515,0	16
52252	19 x 1,5	19,3	331,0	639,0	16
52253	21 x 1,5	20,3	367,0	705,0	16
51000	25 x 1,5	21,7	526,0	841,0	16
52254	1 x 2,5	5,6	28,0	59,0	14
52255	2 x 2,5	9,9	96,0	148,0	14
52256	3 x 2,5	10,5	146,0	183,0	14
52257	4 x 2,5	11,5	150,0	221,0	14
52258	5 x 2,5	12,8	200,0	273,0	14
52259	6 x 2,5	13,8	227,0	326,0	14
52260	7 x 2,5	14,3	235,0	397,0	14
52261	8 x 2,5	16,8	265,0	475,0	14
52262	10 x 2,5	18,3	326,0	542,0	14
52263	12 x 2,5	18,4	376,0	582,0	14
52264	14 x 2,5	19,6	428,0	681,0	14
52265	16 x 2,5	20,7	480,0	778,0	14
52266	19 x 2,5	23,5	557,0	948,0	14
52267	21 x 2,5	24,4	606,0	1042,0	14
52268	1 x 4	6,3	56,0	86,0	12
52269	2 x 4	10,9	135,0	196,0	12
52270	3 x 4	11,5	178,0	248,0	12
52271	4 x 4	13,2	220,0	316,0	12
52272	5 x 4	14,5	259,0	376,0	12
52273	6 x 4	15,6	302,0	452,0	12
52274	7 x 4	16,1	355,0	555,0	12
52275	8 x 4	18,3	392,0	655,0	12
52276	10 x 4	20,7	480,0	767,0	12
52277	12 x 4	20,7	557,0	829,0	12
52278	14 x 4	22,1	636,0	948,0	12
52279	1 x 6	6,9	81,0	108,0	10
52280	2 x 6	12,4	175,0	255,0	10
52281	3 x 6	12,8	240,0	330,0	10
52282	4 x 6	14,9	305,0	429,0	10
52283	5 x 6	16,0	441,0	536,0	10
52284	6 x 6	17,4	473,0	624,0	10
52285	7 x 6	19,3	505,0	751,0	10
52286	1 x 10	8,6	124,0	170,0	8
52287	2 x 10	15,1	265,0	409,0	8
52288	3 x 10	17,0	370,0	550,0	8
52289	4 x 10	18,1	485,0	715,0	8
52290	5 x 10	20,2	610,0	882,0	8
52291	6 x 10	23,3	715,0	1026,0	8
52292	7 x 10	24,3	820,0	1195,0	8

Dimensions and specifications may be changed without prior notice. (RE01)

HELUTHERM® 1200 / 1200-ES

halogen-free / high-grade steel braiding





Technical data

- Special core insulation for high temperatures
- **Temperature range**
  -170°C to +1000°C
- **Permissible temperature**
  +800°C to +1100°C
  (up to +1400°C for short time)
- **Nominal voltage**
  500 V
- **Test voltage**
  2000 V
- **Minimum bending radius**
  15x outer Ø

Cable structure

HELUTHERM® 1200

- Stranded nickel conductor
- Double-insulated glass-fibre braiding, impregnated with silicone
- Braiding of special mineral fibres and additional impregnation with silicone

HELUTHERM® 1200-ES

- As per above
- Additional braided high-grade steel, coverage approx. 80%

Properties

- Asbestos and cadmium-free

Note

- AWG sizes are approximate equivalent values. The actual cross section is in mm².
- At temperatures above 200°C during the first commissioning, the impregnating varnish may degrade and leave only pure glass fibers remaining as insulation. This can be observed as evaporation.

Application

HELUTHERM® 1200

Cables are used in applications, where extremely high connecting and ambient temperatures occur, e. g. in iron and steel works, rolling mills, foundries, glass and ceramic plants, in furnace and power plant construction as well for wiring resistances in electrical heating equipment, furnaces and in thermoplastic forming. Good characteristics in the presence of moisture and chemical effects.

HELUTHERM® 1200-ES

The robust braiding of high-grade steel protects the cable from aggressive atmospheres and mechanical stresses. The high-grade braiding also gives this cable an attractive appearance. The braided screen can also be used for earthing purposes.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

HELUTHERM® 1200

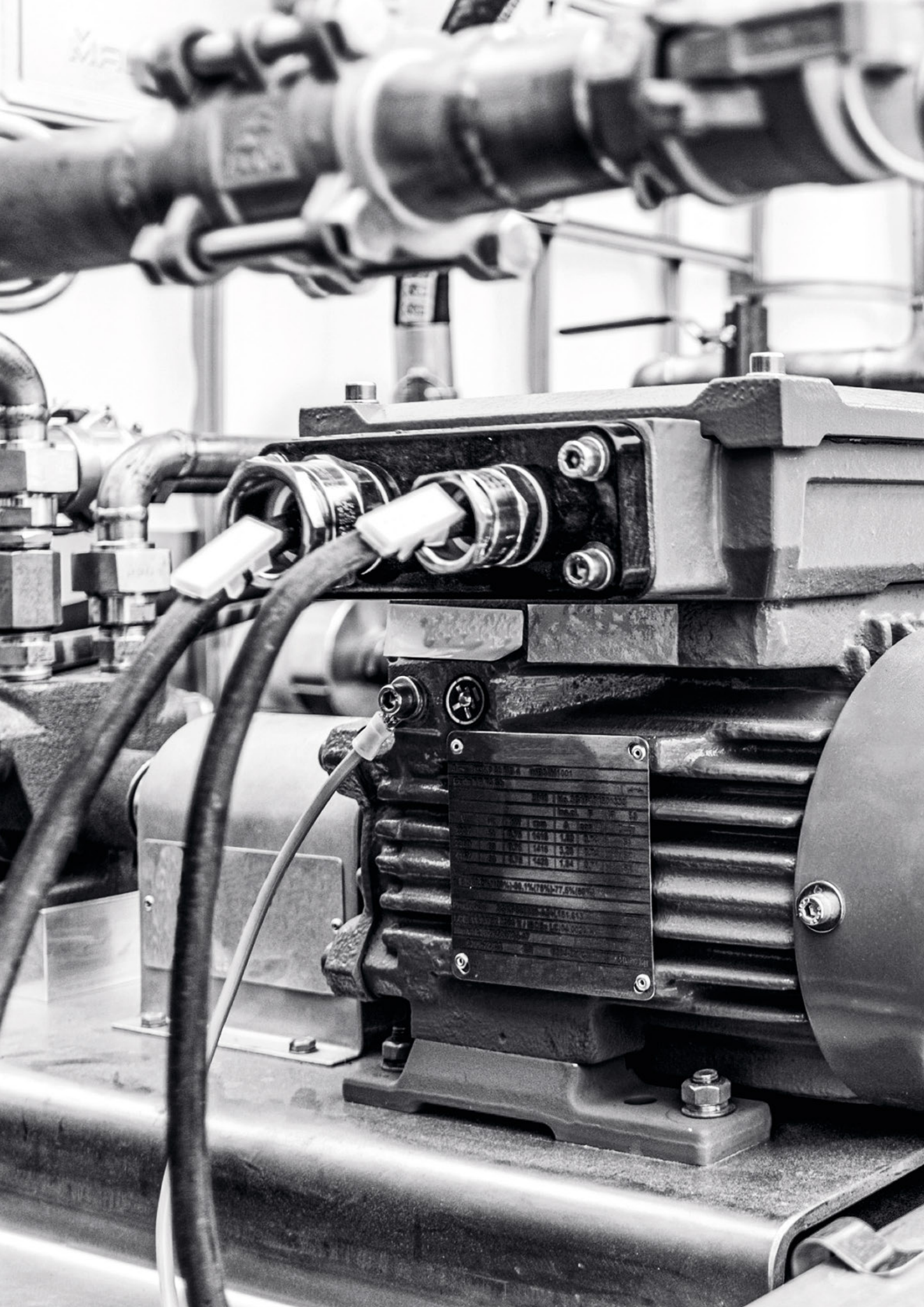
Part no.	No.cores x cross-sec. mm²	Conductor construction	Outer Ø app. mm	Conductor resistance at 20°C Ohm / km	Max. permiss. current carrying capacity at +700°C (A)	Nickel weight kg / km	Weight app. kg / km	AWG-No.
51729	1 x 0,5	7 x 0,3	2,3	175	2	4,8	12,3	20
51730	1 x 0,75	11 x 0,3	2,6	115	3	7,2	16,1	18
51731	1 x 1	14 x 0,3	2,8	88	4	9,6	19,8	17
51732	1 x 1,5	21 x 0,3	3,2	59	5	14,4	27,5	16
51733	1 x 2,5	35 x 0,3	3,7	35	7	24,0	39,8	14
51734	1 x 4	56 x 0,3	4,5	22	9	38,0	58,0	12
51735	1 x 6	84 x 0,3	5,9	14,6	12	58,0	83,0	10
51736	1 x 10	140 x 0,3	8,0	8,8	14	96,0	160,0	8
51737	1 x 16	228 x 0,3	9,0	5,5	20	154,0	244,0	6
51738	1 x 25	354 x 0,3	10,6	3,5	24	240,0	376,0	4
51739	1 x 35	495 x 0,3	13,6	2,5	40	336,0	495,0	2
51740	1 x 50	707 x 0,3	14,5	1,5	48	480,0	654,0	1

HELUTHERM® 1200-ES

Part no.	No.cores x cross-sec. mm²	Conductor construction	Outer Ø app. mm	Conductor resistance at 20°C Ohm / km	Max. permiss. current carrying capacity at +700°C (A)	Nickel weight kg / km	Weight app. kg / km	AWG-No.
50635	1 x 0,5	7 x 0,3	3,6	175	2	4,8	26,0	20
50636	1 x 0,75	11 x 0,3	3,8	115	3	7,2	34,0	18
50637	1 x 1	14 x 0,3	4,2	88	4	9,6	42,0	17
50638	1 x 1,5	21 x 0,3	4,7	59	5	14,4	53,0	16
50639	1 x 2,5	35 x 0,3	5,0	35	7	24,0	64,0	14
50640	1 x 4	56 x 0,3	6,0	22	9	38,0	87,0	12
50641	1 x 6	84 x 0,3	7,5	14,6	12	58,0	120,0	10
50642	1 x 10	140 x 0,3	9,7	8,8	14	96,0	218,0	8
50643	1 x 16	228 x 0,3	10,9	5,5	20	154,0	314,0	6
50644	1 x 25	354 x 0,3	12,9	3,5	24	240,0	453,0	4
50645	1 x 35	495 x 0,3	15,7	2,5	40	336,0	593,0	2
50646	1 x 50	707 x 0,3	16,7	1,5	48	480,0	760,0	1

Dimensions and specifications may be changed without prior notice. (RK01)


200
250
150
300
100
200
TON
100
A-50
50
50
art.no.100.582.505
316 S.S. TUBE
0
Ref No 11067FIL
200
250
150
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TON
100
A-50
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art.no.100.582.505
316 S.S. TUBE
0





Accessories

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HELUTOP® HT-MS-EX-d Cable gland

Brass, explosive area, pressure resistant



HELUTOP® HT-MS-EX-d

For use in explosive areas

Application

- Zone 1, Zone 2, Zone 21, Zone 22, IIA, IIB, IIC

Material

Brass, nickel plated
Clamp: Polyamide PA 6
Seal: Chloroprene-rubber (CR)
O-ring: Chloroprene-rubber (CR)

Note

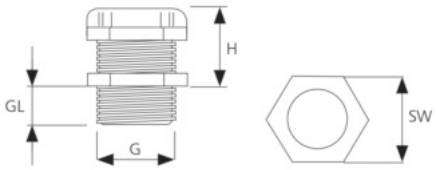
Certificate of Conformity:
IMQ 13 ATEX 018X
Marking: Ex-d, Ex-e, EX II 2GD, Exd IIC Gb, Exe IIC Gb, Ex t IIIC DB
Stainless steel 1.4404 and other temperature ranges available on request.
Unit: 1 pcs

Technical data

Protection class: IP 66 / IP 68 (EN 60529)

Temperature range: -40°C up to +80°C

Test standard: EN 60079-0:2012 / EN 60079-1:2007 / EN 60079-7:2007 / EN 60079-11:2012 / EN 60079-31:2014 / IEC 60079-0:2012 / IEC 60079-1:2014 / IEC 60079-7:2006 / IEC 60079-11:2011 / IEC 60079-31:2013



Dimensions

GL	Thread length
G	Thread size
H	Hight without thread
SW	Spanner size

Metric thread

Part no.	Size Metr.	Cable Ø from / to mm	Thread length mm	Spanner size mm	Height mm
906941	M16 x 1,5	4,0 - 12,0	16,0	22	31
906942	M20 x 1,5	4,0 - 12,0	16,0	22	27
906943	M20 x 1,5	10,0 - 16,0	16,0	28	30
906944	M25 x 1,5	10,0 - 18,0	16,0	28	30,5
906945	M25 x 1,5	14,0 - 20,0	16,0	35	34
906946	M32 x 1,5	14,0 - 24,0	16,0	35	33
906947	M32 x 1,5	22,0 - 28,0	16,0	45	41
906948	M40 x 1,5	22,0 - 32,0	18,0	45	41
906949	M40 x 1,5	26,0 - 34,0	18,0	50	44
906950	M50 x 1,5	26,0 - 35,0	18,0	55 / 50	44
906951	M50 x 1,5	35,0 - 44,0	18,0	64	43
906952	M63 x 1,5	35,0 - 45,0	18,0	68 / 64	43
906953	M63 x 1,5	46,0 - 56,0	20,0	75 / 80	52,5
906954	M75 x 1,5	46,0 - 62,0	20,0	80	52
906955	M75 x 1,5	60,0 - 69,0	20,0	95	55
906956	M90 x 1,5	60,0 - 75,0	20,0	95	55
906957	M90 x 1,5	75,0 - 82,0	20,0	105	55
906958	M100 x 1,5	75,0 - 85,0	20,0	105	55
906982	M110 x 1,5	85,0 - 95,0	20,0	115	57

Dimensions and specifications may be changed without prior notice.

HELUTOP® HT-MS-EX-d 1 EMV

Brass, explosive area, pressure resistant



HELUTOP® HT-MS-EX-d 1 EMV

For use in explosive areas. For cables with braided hose, copper tinned (EMC)

Application

- Zone 1, Zone 2, Zone 21, Zone 22, IIA, IIB, IIC

Material

Brass, nickel plated
Contact system: Copper-Beryllium
Clamp: Polyamide PA 6
Seal: Chloroprene-rubber (CR)
O-ring: Chloroprene-rubber (CR)

Note

Also available in stainless steel 1.4404, further sizes or for other temperature ranges on request.

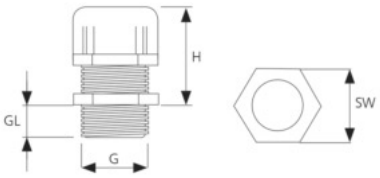
Certificate of Conformity: IMQ 13 ATEX 018X
Marking: Ex-d, Ex-e EX II 2GD Ex d IIC Gb, Ex e IIC Gb, Ex tb III CDb
Unit: 1 pcs

Technical data

Protection class: IP 66 / IP 68 (EN 60529)

Temperature range: -40°C up to +80°C

Test standard: EN 60079-0:2012 / EN 60079-1:2007 / EN 60079-7:2007 / EN 60079-11:2012 / EN 60079-31:2014 / IEC 60079-0:2012 / IEC 60079-1:2014 / IEC 60079-7:2016 / IEC 60079-11:2011 / IEC 60079-31:2013



Dimensions

GL	Thread length
G	Thread size
H	Hight without thread
SW	Spanner size

Metric thread

Part no.	Size Metr.	Cable Ø from / to mm	Thread length mm	Spanner size mm	Height mm
906959	M16 x 1,5	4,0 - 8,0	16,0	22	28,5
906960	M20 x 1,5	4,0 - 12,0	18,0	22	27
906961	M25 x 1,5	10,0 - 18,0	16,0	28	30,5
906962	M32 x 1,5	14,0 - 24,0	19,0	35	33
906963	M40 x 1,5	22,0 - 32,0	20,0	45	40,5
906964	M50 x 1,5	26,0 - 35,0	20,0	55 / 50	43,5

Dimensions and specifications may be changed without prior notice.

HELUTOP® HT-MS-EX-d / e 4

Brass, explosive areas, for armoured cables



HELUTOP® HT-MS-EX-d / e 4

For use in explosive areas. For armoured cables (copper or steel).

Application

- Zone 1, Zone 2, Zone 21, Zone 22, IIA, IIB, IIC

Material

Brass, nickel plated
Clamp: Polyamide PA 6
Seal: NBR
O-ring: NBR

Properties

- Sealing
- Strain relief
- EMC
- Explosive protection

Note

Stainless steel 1.4404 and other temperature ranges on request.
PVC shrouds and earth tags on request.
Certificate of Conformity: CESI 13 ATEX 033X
Marking: Ex II 2 GD, Exd IIC Gb / Exe IIC Gb, Extb IIIC Db
Unit: 1 pcs

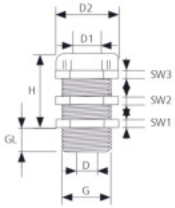
Technical data

Protection class: IP 66 / IP 68

Temperature range: -40°C up to +100°C

Test standard: EN 60079-0:2012 / EN 60079-1:2007 / EN 60079-7:2007 / EN 60079-31:2009 / IEC 60079-0:2011 Edition:6.0 / IEC 60079-1:2007-04 Edition: 6.0 / IEC 60079-31:2008 Edition:1 / IEC 60079-7:2006-07 Edition:4





Dimensions:

1 Lower body
2 Lower sealing ring
3 O-Ring
4 Grounding cone
5 Swivel braid retainer
6 Middle body
7 Upper sealing ring
8 Pressure cap

Metric thread

Part no.	Size Metr.	Cable Ø Inner sheath from / to mm	Cable Ø Outer sheath from / to mm	Thread length mm	Spanner size mm	Angle size D2 mm	Height mm
906965	M16 x 1,5	3,0 - 8,5	6,0 - 12,0	16,0	22 / 26	29,0	47
906966	M16 x 1,5	6,0 - 12,0	8,5 - 16,0	16,0	25 / 29	31,5	48
906967	M20 x 1,5	3,0 - 8,5	6,0 - 12,0	16,0	24 / 26	29,0	47
906968	M20 x 1,5	6,0 - 12,0	8,5 - 16,0	16,0	25 / 29	31,5	47
906970	M25 x 1,5	6,0 - 12,0	8,5 - 16,0	18,0	29 / 29	31,5	48
906972	M25 x 1,5	12,0 - 20,0	16,0 - 26,0	18,0	36 / 40	44,0	60
906973	M32 x 1,5	12,0 - 20,0	16,0 - 26,0	18,0	40 / 40	44,0	62
906974	M32 x 1,5	15,0 - 26,0	20,0 - 33,0	18,0	48 / 52	57,0	78
906975	M40 x 1,5	15,0 - 26,0	20,0 - 33,0	18,0	48 / 52	57,0	78
906976	M40 x 1,5	20,0 - 32,0	29,0 - 41,0	18,0	55 / 60	66,0	89
906977	M50 x 1,5	22,0 - 35,0	33,0 - 48,0	18,0	60 / 70	82,0	97
906978	M50 x 1,5	27,0 - 41,0	36,0 - 52,0	18,0	70 / 70	83,0	100
906979	M63 x 1,5	35,0 - 45,0	43,0 - 57,0	20,0	75 / 80	89,5	106
906980	M63 x 1,5	40,0 - 52,0	47,0 - 60,0	20,0	85 / 85	94,0	107
906981	M75 x 1,5	40,0 - 52,0	47,0 - 60,0	20,0	85 / 85	94,0	107

Dimensions and specifications may be changed without prior notice.

PEPPERS EC-C Double Compression Barrier Cable Gland 4X

Brass, explosive areas, for armoured cables with Peppers T1000 / T2000 compound



Eclipse Style Barrier Gland

Brass, explosive areas, for armoured cables of all types
Steel Wire (SWA) / Steel Tape (STA)
& Steel Wire Braid Armour (SWB)

Applicable areas

Group I Mining
Zone 1 & 2 Gas Groups: IIA, IIB & IIC
Zone 20, 21 & 22 for Dust Groups: IIIA, IIIB y IIIC

Application

The PEPPERS EC-C type glands are certified flameproof Ex db, increased safety Ex eb, restricted breathing Ex nR & dust protected Ex ta. PEPPERS EC-C-type glands provide a compound barrier Ex db & IP seal on the cable inner cores and an enviromental seal on theouter sheath. The unique Peppers T1000 or T2000 compound enables a quick and easy installation and is designed for braid (SWB), wires (SWA) and tape armoured (STA) cables metric thread

Material

Brass
Barrier inner seal & Elastomerica outer seal
Locknut, earth tag & nylon (K),
Fibre (V) or (PTFE) IP washer
Including serrated washer
Shroud: PVC, PCP or Silicon LSOH

Compliance standards

EN 60079-0, EN 60079-1, EN 60079-7, EN 60079-15, EN 60079-31, IEC 60079-0, IEC 60079-1, IEC 60079-7, IEC 60079-15, IEC 60079-31 & IEC 60529

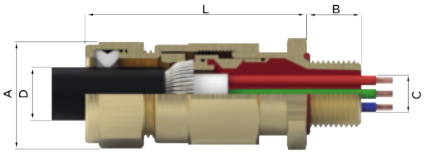
Note

Stainless Steel version or T2000 (120°C) auf upon request

Technical Data

Protection class: IP66 / IP68 (100m) & IP 69

Temperatur range:
-60°C up to 135°C (T1000)
-60°C up to 120°C (T2000)



Dimensions see table

Certified aprovals

ATEX
I M2 II 1D 2G Ex db I Mb / Ex db IIC Gb / Ex eb I Mb / Ex eb IIC Gb /
Ex ta IIIC Da II 3G / Ex nr IIC Gc

IEC Ex
Ex db I Mb / Ex db IIC Gb / Ex eb I Mb / Ex eb IIC Gb / Ex ta IIIC Da / Ex nR IIC Gc

Metric thread

Part no.	Size Metr.	Cable inner diameter (C) mm	Cable outer diameter (D) mm	Thread length (B) mm	Hight (L) mm	Spanner size (A) mm
11021149	M16 x 1.5	10.0	8.4 - 13.5	16	65.88	25.4
11021150	M20 x 1.5	11.7	8.4 - 13.5	16	65.88	25.4
11021151	M20 x 1.5	11.7	11.5 - 16.0	16	65.88	25.4
11021152	M20 x 1.5	14.0	15.5 - 21.1	16	68.03	30.0
11021153	M25 x 1.5	18.5	20.3 - 27.4	16	73.43	37.6
11021154	M32 x 1.5	26.3	26.7 - 34.0	16	86.18	46.0
11021155	M40 x 1.5	32.2	33.0 - 40.6	16	89.82	55.0
11021156	M50 x 1.5	38.2	39.4 - 46.7	16	96.92	65.0
11021157	M50 x 1.5	44.1	45.7 - 53.2	16	97.6	65.0
11021158	M63 x 1.5	50.1	52.1 - 59.5	19	96.65	80.0
11021159	M63 x 1.5	56.0	58.4 - 65.8	19	96.7	80.0
11021160	M75 x 1.5	62.0	64.8 - 72.2	19	101.45	90.0
11021161	M75 x 1.5	68.0	71.1 - 78.0	19	101.45	90.0
11021162	M80 x 2.0	72.0	77.0 - 84.0	25	127.18	104.7
11021163	M85 x 2.0	78.0	79.6 - 90.0	25	127.18	104.7
11021164	M90 x 2.0	84.0	88.0 - 96.0	25	126.15	114.3
11021165	M100 x 2.0	90.0	92.0 - 102.0	25	128.20	114.3

Dimensions and specifications may be changed without prior notice

PEPPERS EC-C Double Compression Barrier Cable Gland 4X

Brass, explosive areas, for armoured cables with Peppers T1000 / T2000 compound

NPT thread

Part no.	Size NPT	Cable inner diameter (C) mm	Cable outer diameter (D) mm	Thread length (B) mm	Hight (L) mm	Spanner size (A) mm
11021166	⅜ "	10.0	8.4 - 13.5	16	65.88	25.4
11021167	½ "	11.7	8.4 - 13.5	16	65.88	25.4
11021169	½"	11.7	11.5 - 16.0	16	65.88	25.4
11021170	¾"	11.7	11.5 - 16.0	16	65.88	25.4
11021171	½"	14.0	15.5 - 21.1	16	68.03	30.0
11021172	¾"	14.0	15.5 - 21.1	16	68.03	30.0
11021173	¾"	18.5	20.3 - 27.4	16	73.43	37.6
11021174	1"	18.5	20.3 - 27.4	16	73.43	37.6
11021175	1"	26.3	26.7 - 34.0	16	86.18	46.0
11021176	1¼"	26.3	26.7 - 34.0	16	86.18	46.0
11021177	1¼"	32.2	33.0 - 40.6	16	89.82	55.0
11021178	1½"	32.2	33.0 - 40.6	16	89.82	55.0
11021179	1½"	38.2	39.4 - 46.7	16	96.92	65.0
11021180	2"	38.2	39.4 - 46.7	16	96.92	65.0
11021181	2"	44.1	45.7 - 53.2	16	97.6	65.0
11021182	2"	50.1	52.1 - 59.5	19	96.65	80.0
11021183	2½"	50.1	52.1 - 59.5	19	96.65	80.0
11021184	2½"	56.0	58.4 - 65.8	19	96.7	80.0
11021185	2½"	62.0	64.8 - 72.2	19	101.15	90.0
11021186	3"	62.0	64.8 - 72.2	19	101.15	90.0
11021187	3"	68.0	71.1 - 78.0	19	101.45	90.0
11021188	3"	72.0	77.0 - 84.0	25	127.18	104.7
11021189	3½"	72.0	77.0 - 84.0	25	127.18	104.7
11021190	3"	78.0	79.6 - 90.0	25	127.18	104.7
11021191	3½"	78.0	79.6 - 90.0	25	127.18	104.7
11021192	3½"	84.0	88.0 - 96.0	25	126.15	114.3
11021193	4"	84.0	88.0 - 96.0	25	126.15	114.3
11021194	3½"	90.0	92.0 - 102.0	25	128.20	114.3
11021195	4"	90.0	92.0 - 102.0	25	128.20	114.3

Dimensions and specifications may be changed without prior notice

PEPPERS UL-C Double Seal Barrier Cable Gland

Brass, explosive areas, for armoured cables, featuring Peppers CROCLOCK® & T1000 compound



Double Seal Barrier Gland

Brass, explosive areas, for armoured cables of all types, Steel Wire Armour (SWA)
Steel Tape Armour (STA)
Steel Wire Braid Armour (SWB)

Applicable areas

Zona 1+2, Zona 20, 21 & 22, Mining Group I
Gas Groups IIA, IIB y IIC
Dust Groups: IIIA, IIIB y IIIC

Application

The PEPPERS UL-C type glands are certified for installation in explosive areas such as Class 1 Division 1 Gas Groups ABCD, flameproof Ex db, increased safety Ex eb, restricted breathing Ex nR & dust protected Ex ta.
PEPPERS UL-C-type glands provide a compound barrier Ex db & IP seal on the cable inner cores and an enviromental seal on the outer sheath.
The gland is suitable for use with all certified Marine Shipboard & tray cables, whilst being UL listed.
The non reversible multi-clamping system is for braided (SWB), wire (SWA) and tape armoured cables (STA).

Material

Brass
Locknut, earth tag & nylon (K), Fibre (V) or (PTFE) IP washer
serrated waher: stainless steel,
shroud: PVC, PCP or silicon LSOH

Compliance standards

UL514B, UL14203, UL2225, UL50E, ANSI/UL 60079-1/1/7, ISA 60079-31, CSA 22.2 No. 0/25/30/94.1/ 94.2/174 & CAN/CSA C22.2 60079-0/1/7/31, EN 60079-0, EN 60079-1, EN 60079-7, EN 60079-15, EN 60079-31, IEC 60079-0, IEC 60079-1, IEC 60079-7, IEC 60079-15, IEC 60079-31 & IEC 60529

Certified aprovals

UL
Cl. I Div. 1 / Div. 2, Gas Gr. ABCD Type 4X
CEC – Canada
Cl. I Div. 1, Gr. A, B, C & D
Cl. I Div. 2, Gr. A, B, C & D
Cl. II Div. 1, Gr. E, F & G
Cl. I Zone 1 Ex d IIC Gb / Ex e IIC Gb / Ex ta IIIC Da
Cl. II Zone 21 Ex ta IIIC Da
Cl. III, Enclosure Type 4X
NEC – USA
Cl. I Div. 1, Groups A, B, C & D
Cl. I Div. 2, Gr. A, B, C & D
Cl. II Div. 1, Gr. E, F & G
Cl. I Zone 1 AEx d IIC Gb / AEx e IIC Gb
Cl. II Zone 21 AEx ta IIIC Da
Cl. III, Enclosure Type 4X
ATEX
I M2 II 1D 2G Ex db I Mb / Ex db IIC Gb / Ex eb I Mb / Ex eb IIC Gb / Ex ta IIIC Da / II 3G Ex nR IIC Gc
IECEx
Ex db I Mb / Ex db IIC Gb / Ex eb I Mb / Ex eb IIC Gb / Ex nR IIC Gc / Ex ta IIIC Da

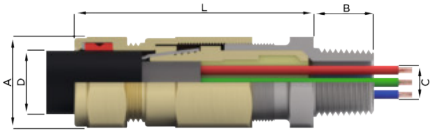
Technical Data

Protection Class: IP66 / IP68 (100m)
Typ 4X, Oil Resistant II & DTS01:1991

Temperatur range:
-60°C up to 135°C
-25°C up to 85°C (UL applications)

Note

Stainless Steel version upon request



Dimensions see table

EAC
PB Ex d I Mb / 1Ex d IIC Gb X / 1Ex e IIC Gb X / 2Ex nR IIC Gc X / Ex ta IIIC Da X
INMETRO – Brazil
Ex db I Mb / Ex db IIC Gb / Ex eb I Mb / Ex eb IIC Gb / Ex nR IIC Gc / Ex ta IIIC Da
CCC – China
Ex d I Mb / Ex d IIC Gb / Ex e I Mb / Ex e IIC Gb / Ex nR IIC Gc / Ex tD A20
UKRAINE
I M2 Ex db I Mb / II 2G Ex db IIC Gb / II 2G Ex eb I Mb / II 2G Ex eb IIC Gb / II 3G Ex nR IIC Gc / II 1D Ex ta IIIC Da
CCoE – India
Ex db I Mb / Ex db IIC Gb / Ex eb I Mb / Ex eb IIC Gb / Ex nR IIC Gc
ABS
Specified ABS Rules
LLOYD'S
Ex db I Mb / Ex db IIC Gb / Ex eb I Mb / Ex eb IIC Gb / Ex nR IIC Gc / Ex ta IIIC Da
RMRS
Ex d IC / Ex d IIC / Ex e IC / Ex e IIC / Ex ta IIIC

PEPPERS UL-C Double Seal Barrier Cable Gland

Brass, explosive areas, for armoured cables, featuring Peppers CROCLOCK® & T1000 compound

Metric thread

Part no.	Size Metr.	Cable inner diameter (C) mm	Cable outer diameter (D) mm	Thread length (B) mm	Hight (L) mm	Spanner size (A) mm
11021196	M20 x 1.5	11.7	9.2 - 13.5	16	82.0	25.4
11021197	M20 x 1.5	11.7	11.5 - 16.0	16	82.0	25.4
11021198	M20 x 1.5	14.0	15.5 - 21.1	16	83.0	30.0
11021199	M25 x 1.5	20.0	20.3 - 27.4	16	93.0	37.6
11021200	M32 x 1.5	26.3	26.7 - 34.0	16	110.0	46.0
11021201	M40 x 1.5	32.2	33.0 - 40.6	16	115.0	55.1
11021202	M50 x 1.5	44.1	39.4 - 46.7	16	125.0	65.0
11021203	M50 x 1.5	44.1	45.7 - 53.2	16	125.0	65.0
11021204	M63 x 1.5	56.0	52.1 - 59.5	19	125.0	80.0
11021205	M63 x 1.5	56.0	58.4 - 65.8	19	125.0	80.0
11021206	M75 x 1.5	68.0	64.8 - 72.2	19	135.0	98.8
11021207	M75 x 1.5	68.0	71.1 - 78.0	19	135.0	98.8

Dimensions and specifications may be changed without prior notice

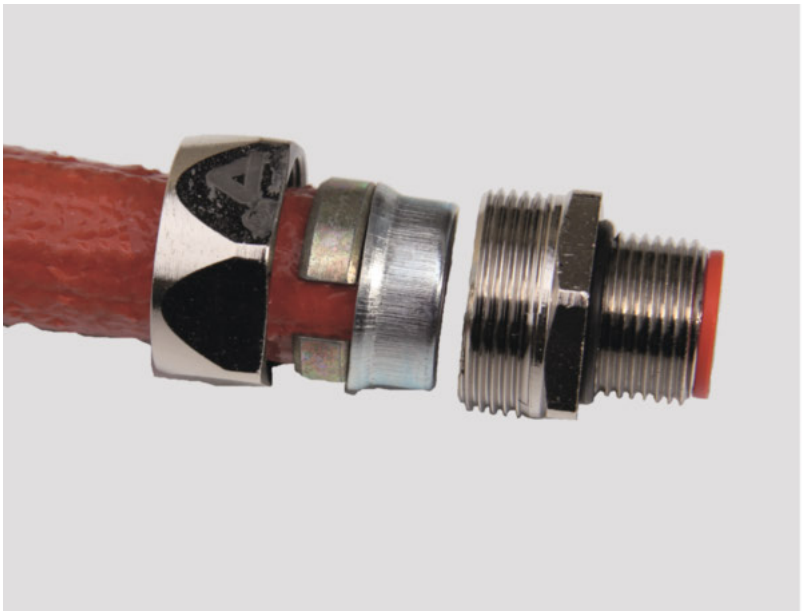
NPT thread

Part no.	Size NPT	Cable inner diameter (C) mm	Cable outer diameter (D) mm	Thread length (B) mm	Hight (L) mm	Spanner size (A) mm
11021209	½"	11.7	9.2 - 13.5	19.9 / 20.2	82.0	25.4
11021208	¾"	11.7	9.2 - 13.5	19.9 / 20.2	82.0	25.4
11021211	½"	11.7	11.5 - 16.0	19.9 / 20.2	82.0	25.4
11021210	¾"	11.7	11.5 - 16.0	19.9 / 20.2	82.0	25.4
11021213	½"	14.0	15.5 - 21.1	19.9 / 20.2	83.0	30.0
11021212	¾"	14.0	15.5 - 21.1	19.9 / 20.2	83.0	30.0
11021214	¾"	20.0	20.3 - 27.4	20.2 / 25	93.0	37.6
11021215	1"	20.0	20.3 - 27.4	20.2 / 25	93.0	37.6
11021216	1"	26.3	26.7 - 34.0	25 / 25.6	110.0	46.0
11021217	1¼"	26.3	26.7 - 34.0	25 / 25.6	110.0	46.0
11021218	1¼"	32.2	33.0 - 40.6	25.6 / 26	115.0	55.1
11021219	1½"	32.2	33.0 - 40.6	25.6 / 26	115.0	55.1
11021220	2"	44.1	39.4 - 46.7	26.9	125.0	65.0
11021221	2"	44.1	45.7 - 53.2	26.9	125.0	65.0
11021222	2½"	56.0	52.1 - 59.5	39.9	125.0	80.0
11021223	2½"	56.0	58.4 - 65.8	39.9	125.0	80.0
11021224	3"	68.0	64.8 - 72.2	41.5	135.0	98.8
11011225	3"	68.0	71.1 - 78.0	41.5	135.0	98.8

Dimensions and specifications may be changed without prior notice

HTP Clamping ring

High temperature protection





Clamping rings for braided sleeve HTP

To assemble the tube connectors LT to the high temperature protection tube HTP.
The plastic clamping ring is replaced by the brass clamping ring.

Material

Brass, nickel plated

Note

In conjunction with the tube connectors LT:
Protection classification IP 54

Technical data

Temperature range: -45°C up to +105°C

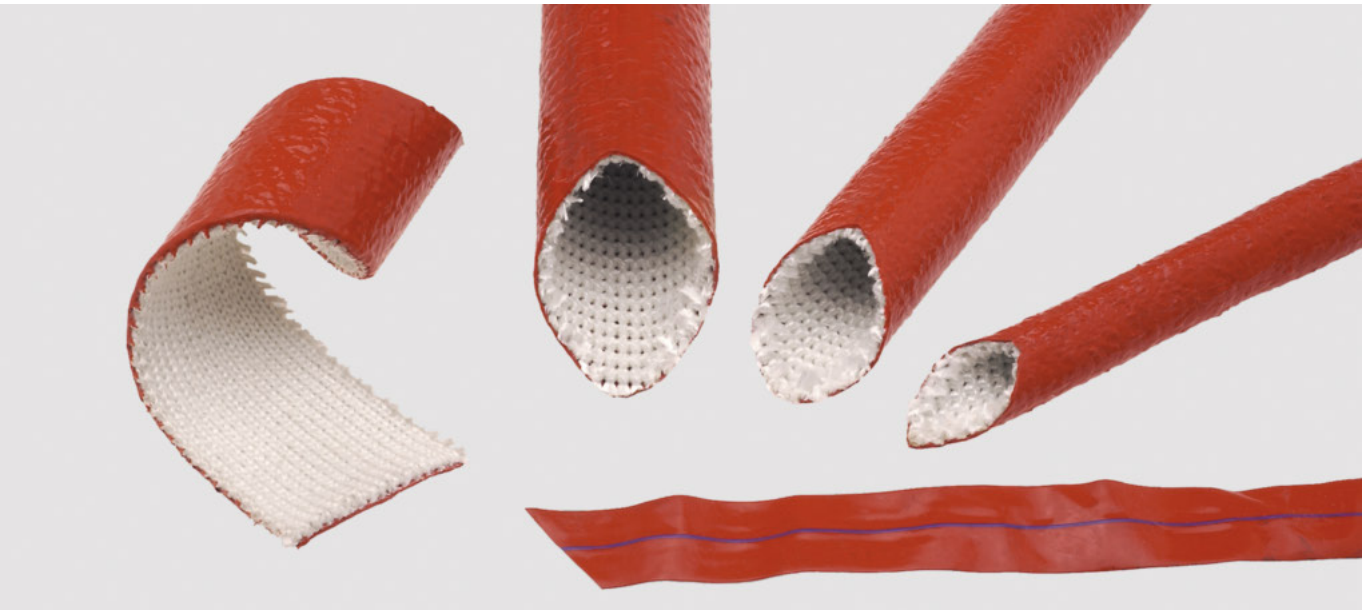
Clamping ring

Part no.	Size	Nominal size mm	Unit	
905439	M16 x 1,5	13	50	-
905555	M20 x 1,5	16	50	-
905440	M25 x 1,5	22	25	-
905557	M32 x 1,5	25	10	-
905558	M40 x 1,5	35	5	-
905559	M50 x 1,5	38	5	-
905441	M63 x 1,5	51	4	-

Dimensions and specifications may be changed without prior notice.

HTP Protection tube

High temperature protection



HTP

This product is extremely heat resistant.
HTP has a high insulation factor and, due to the iron oxide containing silicone sheath, is resistant to small quantities of liquid steel.
HTP also protects against burn injuries from steam tubes, hot air or hot water wires.

Material

Interior sheath of knitted glass-fibre braid

Silicone sheath (contains iron oxide)

Colour: orange

Technical data

Permanent load: +260°C
Short-time load: +1090°C
(up to approx. 20 minutes)
Loading moment: +1640°C
(approx. 15-30 seconds)

Protection tube

Part no. Tube version	Inner Ø mm	Width mm	PU per metre	
93630	6,0	-	15,0	-
93632	10,0	-	15,0	-
904924	13,0	-	15,0	-
93634	19,0	-	15,0	-
93635	22,0	-	15,0	-
93636	25,0	-	15,0	-
93637	32,0	-	15,0	-
93638	38,0	-	15,0	-
93639	44,0	-	15,0	-
93640	57,0	-	15,0	-
93641	64,0	-	15,0	-
93642	76,0	-	15,0	-
93643	89,0	-	15,0	-
93644	102,0	-	15,0	-

Dimensions and specifications may be changed without prior notice.

E Cable tie

Stainless steel



Cable tie

Cable tie made of stainless steel with ball lock for use in extreme conditions, such as high temperatures, aggressive environment, high tensile load.

Material

Stainless steel 1.4401 / AISI 316

Properties

Corrosion and radiation resistant, anti-magnetic, resistant to high temperatures and aggressive chemicals

Note

Approvals: GL, DNV, Lloyd´s, UL

Technical data

Temperature range: -80°C up to +538°C

Part no.	Length mm	Width mm	Bundle Ø mm	Capacity N	Unit	
90900	150,0	4,6	44,0	445,0	100	-
90901	200,0	4,6	50,0	445,0	100	-
90902	290,0	4,6	75,0	445,0	100	-
90903	360,0	4,6	102,0	445,0	100	-
90904	200,0	7,9	50,0	1112,0	100	-
90905	290,0	7,9	75,0	1112,0	100	-
90906	360,0	7,9	102,0	1112,0	100	-
90907	520,0	7,9	152,0	1112,0	25	-

Dimensions and specifications may be changed without prior notice.

CT5 Circlip pliers for cable ties made of stainless steel



Assembly tool CT5 for stainless steel cable ties

- Ergonomic and stable clamping tool by steel for clamping of ball valves and shaped head and steel girders with and without coating, with tape cutter
- Length 210mm

Circlip pliers for cable ties made of stainless steel

Part no.	Type	Tie width mm	Unit
904787	CT5	up to 12,0	1

Dimensions and specifications may be changed without prior notice.

KME Cable marker + KTE Carrier strip



KME/KTE

Cable marker for extreme conditions
Easy mounting with stainless steelcable ties
Symbol combinations can be created by assemble the individual components
Pressure: stamped (embossed)

Material

Stainless steel

Note

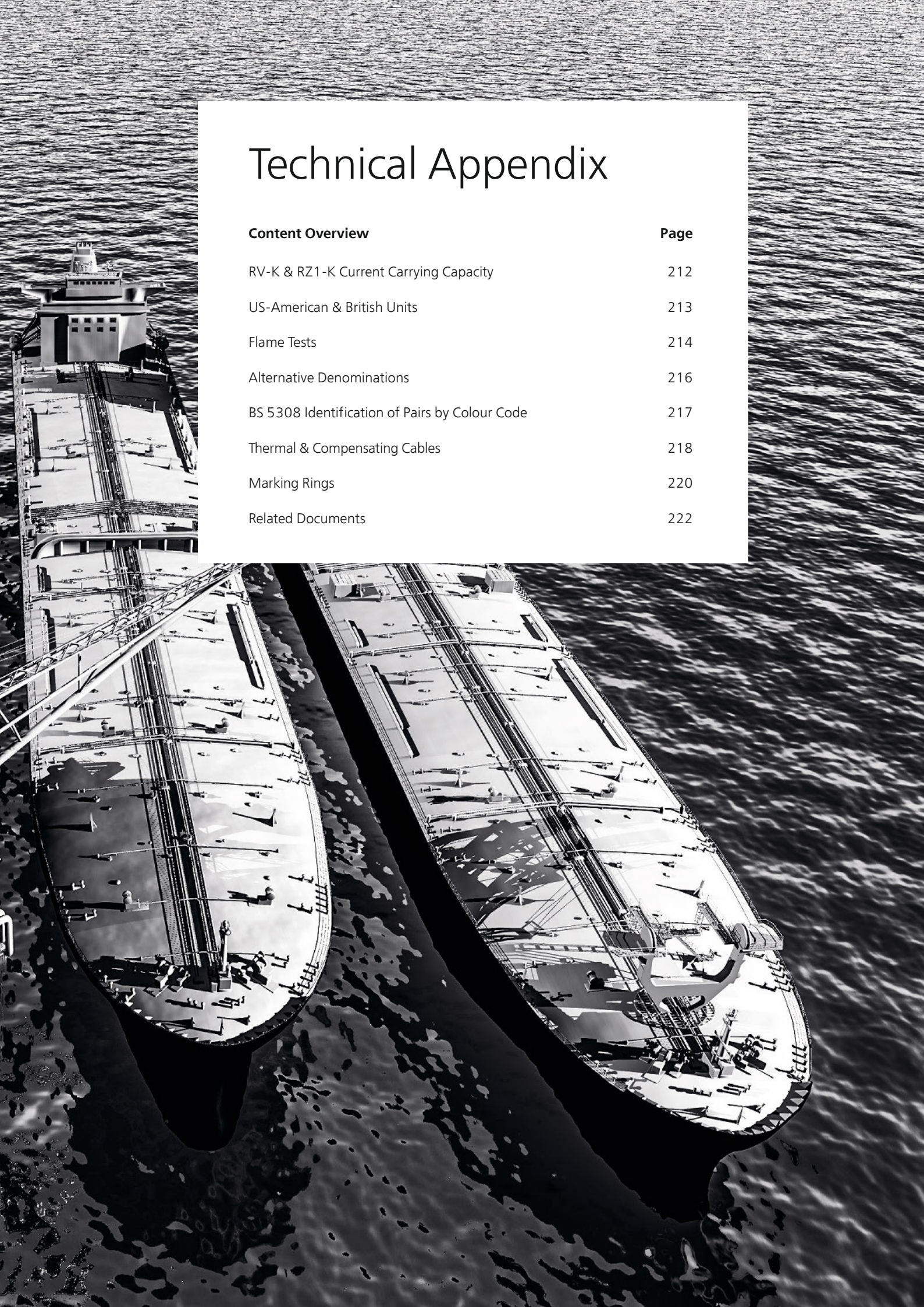
Replace XX with the number of your required letter, figure or symbol. please see marking rings page 371.
Suitable product: Cable tie series E item no. 90900 to 90907.

Part no.	Type	Length in mm	Hight in mm	Unit
9097xx	KME 55	5,5	10,9	50

Part no.	Type	Length in mm	Hight in mm	Unit
909801	KTE 47	47	6	50
909802	KTE 65	65	9	50
909803	KTE 87	87	13	50
909804	KTE 107	107	17	50
909967	KTE 128	128	20	50

Dimensions and specifications may be changed without prior notice.





Technical Appendix

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RV-K/RZ1-K Current Carrying Capacity

Nominal cross-section mm²	In open air at 40˚C A	In open air at 30˚C A	In buried duct at 25˚C (**) A
1x1,5	21	23	21
1x2,5	29	32	27,5
1x4	38	42	35
1x6	49	54	44
1x10	68	74	58
1x16	91	100	75
1x25	116	127	96
1x35	144	158	117
1x50	175	192	138
1x70	224	245	170
1x95	271	297	202
1x120	314	344	230
1x150	363	398	260
1x185	415	455	291
1x240	490	537	336
1x300	630	690	380
1x400	749	820	591
1x500	860	942	670
1x630	990	1084	740
2x1,5	24	26	24
2x2,5	33	36	32
2x4	45	49	42
2x6	57	62	53
2x10	76	83	70
2x16	105	115	91
2x25	123	135	116
2x35	154	169	140
2x50	188	206	166
2x70	244	267	204
2x95	296	324	241
2x120	348	381	275
2x150	404	443	311
2x185	464	508	348
2x240	552	605	402
3x1,5	24	26	21
3x2,5	33	36	27,5
3x4	45	49	35
3x6	57	62	44
3x10	76	83	58
3x16	105	115	75
3x25	110	120	96
3x35	137	150	117
3x50	167	183	138
3x70	214	234	170
3X95	259	284	202
3x120	301	330	230
3x150	343	376	260
3x185	391	428	291
3x240	468	513	336
3x300	547	599	380

Nominal cross-section mm²	In open air at 40˚C A	In open air at 30˚C A	In buried duct at 25˚C (**) A
4x1,5	20	22	21
4x2,5	26,5	29	27,5
4x4	36	39	35
4x6	46	50	44
4x10	65	71	58
4x16	87	95	75
4x25	110	120	96
4x35	137	150	117
4x50	167	183	138
4x70	214	234	170
4x95	259	284	202
4x120	301	330	230
4x150	343	376	260
4x185	391	428	291
4x240	468	513	336
4x300	547	599	380
3x35+1x16	137	150	117
3x50+1x25	167	183	138
3x70+1x35	214	234	170
3x95+1x50	259	284	202
3x120+1x70	301	330	230
3x150+1x70	343	376	260
3x185+1x95	391	428	291
3x240+1x120	468	513	336
3x300+1x150	547	599	380
5x1,5	20	22	21
5x2,5	26,5	29	27,5
5x4	36	39	35
5x6	46	50	44
5x10	65	71	58
5x16	87	95	75
5x25	110	120	96
5x35	137	150	117
5x50	167	183	138
5x70	214	234	170
5x95	259	284	202

Notes:

- (**) Buried installation, direct or in tube, with standard thermal ground resistance of 2.5 K x m/W.
- Current carrying capacities for single core cables are calculated assuming three loaded cables.
- Current carrying capacities for 3-/4-/5-core cables are calculated assuming three loaded conductors.
- Standards: UNE 20460; CENELEC HD 384 ; IEC 364.

US-American & British Units

CONVERSION OF COMMON MEASURING UNITS

Units for Cables and Wires

In the US, dimensions are predominantly given in AWG numbers (AWG = American Wire Gauge). These AWG numbers correspond to the British B&S numbers (BS = Brown & Sharp).

AWG No.	Cross-section mm²	Diameter mm	Conductor resistance Ohm/km
1000 MCM*	507	25,4	0,035
750	380	22,0	0,047
600	304	19,7	0,059
500	254	20,7	0,07
400	203	18,9	0,09
350	178	17,3	0,10
300	152	16,0	0,12
250	127	14,6	0,14
4/0	107,20	11,68	0,18
3/0	85,00	10,40	0,23
2/0	67,50	9,27	0,29
0	53,40	8,25	0,37
1	42,40	7,35	0,47
2	33,60	6,54	0,57
3	26,70	5,83	0,71
4	21,20	5,19	0,91
5	16,80	4,62	1,12
6	13,30	4,11	1,44
7	10,60	3,67	1,78
8	8,366	3,26	2,36
9	6,63	2,91	2,77
10	5,26	2,59	3,64
11	4,15	2,30	4,44
12	3,30	2,05	5,41
13	2,62	1,83	7,02
14	2,08	1,63	8,79

AWG No.	Cross-section mm²	Diameter mm	Conductor resistance Ohm/km
15	1,65	1,45	11,20
16	1,31	1,29	14,70
17	1,04	1,15	17,80
18	0,8230	1,0240	23,0
19	0,6530	0,9120	28,3
20	0,5190	0,8120	34,5
21	0,4120	0,7230	44,0
22	0,3250	0,6440	54,8
23	0,2590	0,5730	70,1
24	0,2050	0,5110	89,2
25	0,1630	0,4550	111,0
26	0,1280	0,4050	146,0
27	0,1020	0,3610	176,0
28	0,0804	0,3210	232,0
29	0,0646	0,2860	282,0
30	0,0503	0,2550	350,0
31	0,0400	0,2270	446,0
32	0,0320	0,2020	578,0
33	0,0252	0,1800	710,0
34	0,0200	0,1600	899,0
35	0,0161	0,1430	1125,0
36	0,0123	0,1270	1426,0
37	0,0100	0,1130	1800,0
38	0,00795	0,1010	2255,0
39	0,00632	0,0897	2860,0

4/0 is also stated: 0000; 1 mil = 0,001 inch = 0,0254 mm

* for bigger cross-section the sizes in MCM (circular mils)

1 CM = 1 Circ. mil. = 0,0005067 mm^2

1 MCM = 1000 Circ. mils = 0,5067 mm^2

Fire Tests

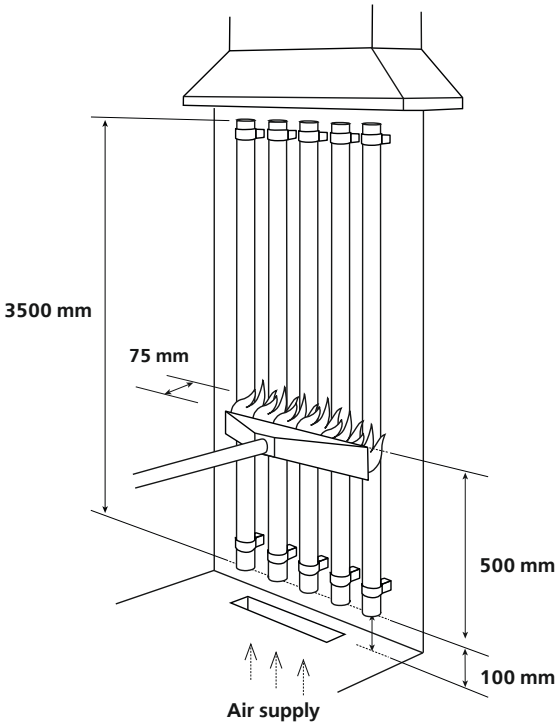
FIRE BEHAVIOUR TESTS ON CABLES & WIRES

Tests to determine the behaviour of fire on cables and conductors follow IEC and EN standards, among others. The flammability of the non-metallic elements contained in the cable and the propagation of fire along the cable are examined in the corresponding tests. The following test criteria are relevant:

Bundle fire test acc. to IEC 60332-3 / EN 50266-2

to guarantee that flame spread on the vertical cable bundle is prevented in the event of a fire.

Test setup:
Vertical mounting of the cables on a test ladder. Depending on the cross-section of the cable, they are mounted on the test ladder with (>35 mm²) or without gaps (<35 mm²). Fastening in several layers is possible. During the fire test, the test ladder with the cable bundles is placed vertically against the wall in the combustion chamber. The burner is placed in front of the test assembly at a distance of 75 mm from the cable bundles.



Test duration:
The IEC 60332-3-21, -22, -23, -24 and -25 standards describe different variations of fire testing on cables. The methods differ in the amount of non-metallic volume tested (l/m), in the arrangement of the test objects (how the cables are attached to the test ladder) and in the duration of exposure to the burner.

Flame temperature:
Results from the prescribed amount of propane gas and air.

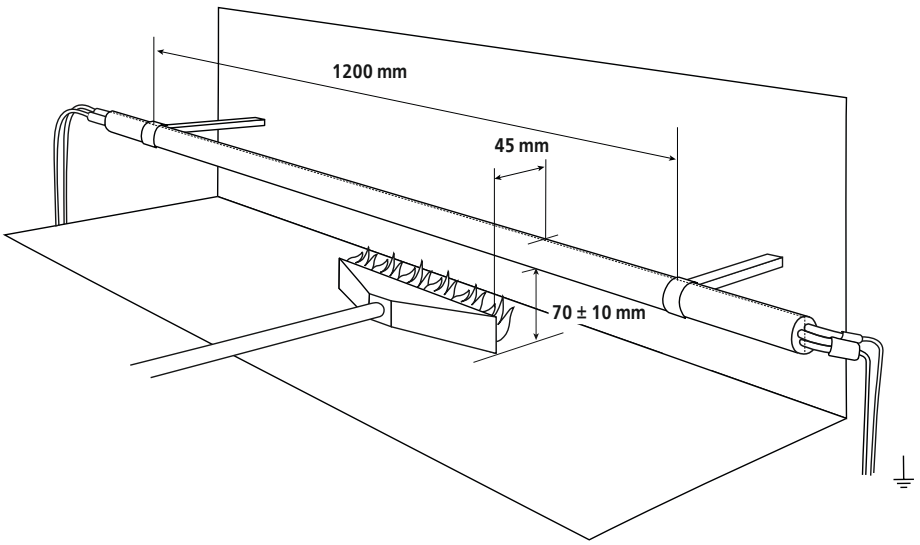
Compliance criteria:
Cable may show fire damage up to a maximum of 2.5 m above the lower end of the burner.

Standards	Category	Duration
IEC 60332-3-21 / EN 50266-2-1	Category A F/R Special applications only	n.a.
IEC 60332-3-22 / EN 50266-2-2	**Category A (7 l flammable material/m)***	**40 min.**
IEC 60332-3-23 / EN 50266-2-3	Category B (3,5 l flammable material/m)	40 min.
IEC 60332-3-24 / EN 50266-2-4	**Category C (1,5 l flammable material/m)***	**20 min.**
IEC 60332-3-25 / EN 50266-2-5	Category D (0,5 l flammable material/m)	20 min.

*common fire tests

Fire test for functional integrity acc. to IEC 60331-21 / IEC 60331-23

to ensure the functioning of the cable in case of fire for a defined period of time. Insulation integrity (max. 180 min): **IEC 60331-21 / IEC 60331-23**
Functional integrity: E30, E90, E120 for further 30 min., 90 min. and 120 min. in case of fire



Test setup:
The cable is clamped horizontally onto the test apparatus. Cores and shield must be connected electrically. The following voltage is applied:
Power cable 0.6/1 kV: U0/U min 100 V
Data cable: 110 V
The cable is flamed from below over a width of 1200 mm.

Test duration:
90 min. recommended

Flame temperature:
min. 750 °C (apparatus according to IEC 60331-11)

Compliance criteria:
During the flame application and a subsequent cooling time of 15 minutes, the energy or signal transmission must be guaranteed via all conductors. No short circuit between the conductors or to the shield and no conductor breakage can occur.

Alternative Denominations

Instrumentation cables PAS 5308 part 1 / PE insulated

With PVC outer sheath:	• RE-2Y(St)Y	overall screen
	• RE-2Y(St)Y PiMF	individual screen plus overall screen
	• RE-2Y(St)YRY	overall screen plus steel wire armour
	• RE-2Y(St)YRY PiMF	individual screen plus overall screen plus steel wire amour

Instrumentation cables PAS 5308 part 1 / EN 50288-7 / XLPE insulated

With PVC outer sheath:	• RE-2X(St)Y	overall screen
	• RE-2X(St)Y PiMF	individual screen plus overall screen
	• RE-2X(St)YRY	overall screen plus steel wire armour
	• RE-2X(St)YRY PiMF	individual screen plus overall screen plus steel wire amour
With LSOH outer sheath:	• RE-2X(St)H	overall screen
	• RE-2XY(St)H PiMF	individual screen plus overall screen
	• RE-2X(St)HRH	overall screen plus steel wire armour
	• RE-2X(St)HRH PiMF	individual screen plus overall screen plus steel wire amour

Instrumentation cables PAS 5308 part 2 / EN 50288-7 / PVC insulated

With PVC outer sheath:	• RE-Y(St)Y	overall screen
	• RE-Y(St)Y PiMF	individual screen plus overall screen
	• RE-Y(St)YRY	overall screen plus steel wire armour
	• RE-Y(St)YRY PiMF	individual screen plus overall screen plus steel wire amour

Technical glossary of terms:

PE	=>	Polyethylene is a good electrical insulator. It offers good tracking resistance.
XLPE	=>	Is a cross-linked polyethylene compound (XLPE). XLPE insulated cables have a rated maximum conductor temperature of 90 °C and an emergency rating up to 140 °C, depending on the standard used. They have a conductor short-circuit rating of 250 °C. XLPE has excellent dielectric properties.
PVC	=>	PVC is a polymer with good insulation properties but because of its higher polar nature the electrical insulating property is inferior to non-polar polymers such as polyethylene and polypropylene.
CAM	=>	Collectively screened
IAM	=>	Pairs individually screened
IAM/CAM	=>	Pairs individually screened plus collectively screened
Type 1	=>	Without armouring
Type 2	=>	With armouring (e.g. with SWA – steel wire armour)

BS 5308 Identification of Pairs by Colour Code

Appendix A:
Identification of pair to BS 5308 part 1

Colour Code

Pair	'A' Wire	'B' Wire
1	Black	Blue
2	Black	Green
3	Blue	Green
4	Black	Brown
5	Blue	Brown
6	Green	Brown
7	Black	White
8	Blue	White
9	Green	White
10	Brown	White
11	Black	Red
12	Blue	Red
13	Green	Red
14	Brown	Red
15	White	Red
16	Black	Orange
17	Blue	Orange
18	Green	Orange
19	Brown	Orange
20	White	Orange
21	Red	Orange
22	Black	Yellow
23	Blue	Yellow
24	Green	Yellow
25	Brown	Yellow
26	White	Yellow
27	Red	Yellow
28	Orange	Yellow
29	Black	Grey
30	Blue	Grey
31	Green	Grey
32	Brown	Grey
33	White	Grey
34	Red	Grey
35	Orange	Grey
36	Yellow	Grey
37	Black	Violet
38	Blue	Violet
39	Green	Violet
40	Brown	Violet
41	White	Violet
42	Red	Violet
43	Orange	Violet
44	Yellow	Violet
45	Grey	Violet
46	Black	Turquoise
47	Blue	Turquoise
48	Green	Turquoise
49	Brown	Turquoise
50	White	Turquoise

Appendix B:
Identification of pair to BS 5308 part 2

Multipair Colour Code

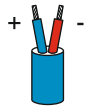
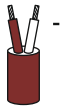
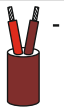
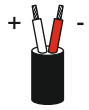
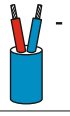
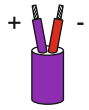
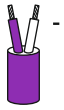
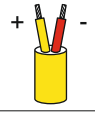
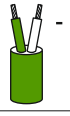
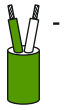
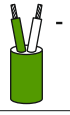
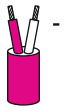
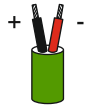
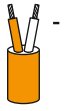
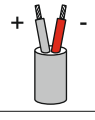
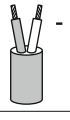
Pair	'A' Wire	'B' Wire
1	White	Blue
2	White	Orange
3	White	Green
4	White	Brown
5	White	Grey
6	Red	Blue
7	Red	Orange
8	Red	Green
9	Red	Brown
10	Red	Grey
11	Black	Blue
12	Black	Orange
13	Black	Green
14	Black	Brown
15	Black	Grey
16	Yellow	Blue
17	Yellow	Orange
18	Yellow	Green
19	Yellow	Brown
20	Yellow	Grey
21	White - Blue	Blue
22	White - Blue	Orange
23	White - Blue	Green
24	White - Blue	Brown
25	White - Blue	Grey
26	Red – Blue	Blue
27	Red – Blue	Orange
28	Red – Blue	Green
29	Red – Blue	Brown
30	Red – Blue	Grey
31	Blue - Black	Blue
32	Blue - Black	Orange
33	Blue - Black	Green
34	Blue - Black	Brown
35	Blue - Black	Grey
36	Yellow - Blue	Blue
37	Yellow - Blue	Orange
38	Yellow - Blue	Green
39	Yellow - Blue	Brown
40	Yellow - Blue	Grey
41	White - Orange	Blue
42	White - Orange	Orange
43	White - Orange	Green
44	White - Orange	Brown
45	White - Orange	Grey
46	Orange – Red	Blue
47	Orange – Red	Orange
48	Orange – Red	Green
49	Orange – Red	Brown
50	Orange – Red	Grey

Thermal & Compensating Cables

COLOUR CODING & TEMPERATURE RANGES

Code letter of the thermo-couple	Material combination + (plus)	Material combination - (minus)	NF C 42-324 Identification THL	NF C 42-324 Identification	NF C 42-324 Identification AGL	BS 4937 Identification THL	BS 4937 Identification	BS 4937 Identification AGL
T	**Cu**	**Cu Ni**	**TX** -25°C to +100°C	+ -	**TC** -25°C to +100°C	**TX** 0°C to +100°C	+ -	
U	**Cu**	**Cu Ni**						
J	**Fe**	**Cu Ni**	**JX** -25°C to +200°C	+ -	**JC** -25°C to +250°C	**JX** 0°C to +200°C	+ -	
L	**Fe**	**Cu Ni**						
F	**Ni Cr**	**Cu Ni**	**EX** -25°C to +200°C	+ -	**EC** -25°C to +250°C	**EX** 0°C to +200°C	+ -	
K	**Ni Cr**	**Ni**	**KX** -25°C to +200°C	+ -	**KC** -25°C to +200°C	**KX** 0°C to +200°C	+ -	
	Ni Cr	**Ni**		+ -	**WC** 0°C to +100°C			
	Ni Cr	**Ni**		+ -	**VC** 0°C to +100°C		+ -	**VX** 0°C to +100°C
N	**Ni Cr Si**	**Ni Si**						
R **S**	**PtRh 13** **PtRh 10**	**Pt** **Pt**		+ -	**SC** 0°C to +200°C		+ -	**SX** 0°C to +200°C
B	**PtRh 30**	**PtRh 6**		+ -	**BC** 0°C to +100°C			

The highest application temperature of the insulating materials or the application temperature range of the conductor material limits the application temperature range of the cable. The corresponding lower value is valid. Intrinsically safe cables usually have a blue sheath colour and an identification strip assigned to the element.

	ANSI MC 96.1 Identification		DIN IEC 584 Identification		DIN 43710* Identification	
	THL	AGL	THL	AGL	THL	AGL
	TX 0°C to +100°C 		**TX** -25°C to +100°C 			
					UX** 0°C to +200°C 	
	JX 0°C to +200°C 		**JX**** -25°C to +200°C 			
					LX** 0°C to +200°C 	
	EX 0°C to +200°C 		**EX** -25°C to +200°C 			
	KX 0°C to +200°C 		**KX** -25°C to +200°C 			
				**KCA**** 0°C to +150°C		
				**KCB** 0°C to +100°C		
			NX -25°C to +200°C 	**NC** 0°C to +150°C		
		**SX** 0°C to +200°C		**RCA/SCA** 0°C to +100°C **RCB/SCB**** 0°C to +200°C		
		**BX** 0°C to +100°C	(according to DIN 43710/85) 	**BC** 0°C to +100°C		

THL = Thermocouple wire Example: KCA compensating cable KCA (plus) ≙ positive core for AGL KC
AGL = Compensating cable KCA (minus) ≙ negative core for AGL KC

*) DIN 43710 was withdrawn in April 1994. Thus the element types „U“ and „L“ are no longer standardized. ** standard type

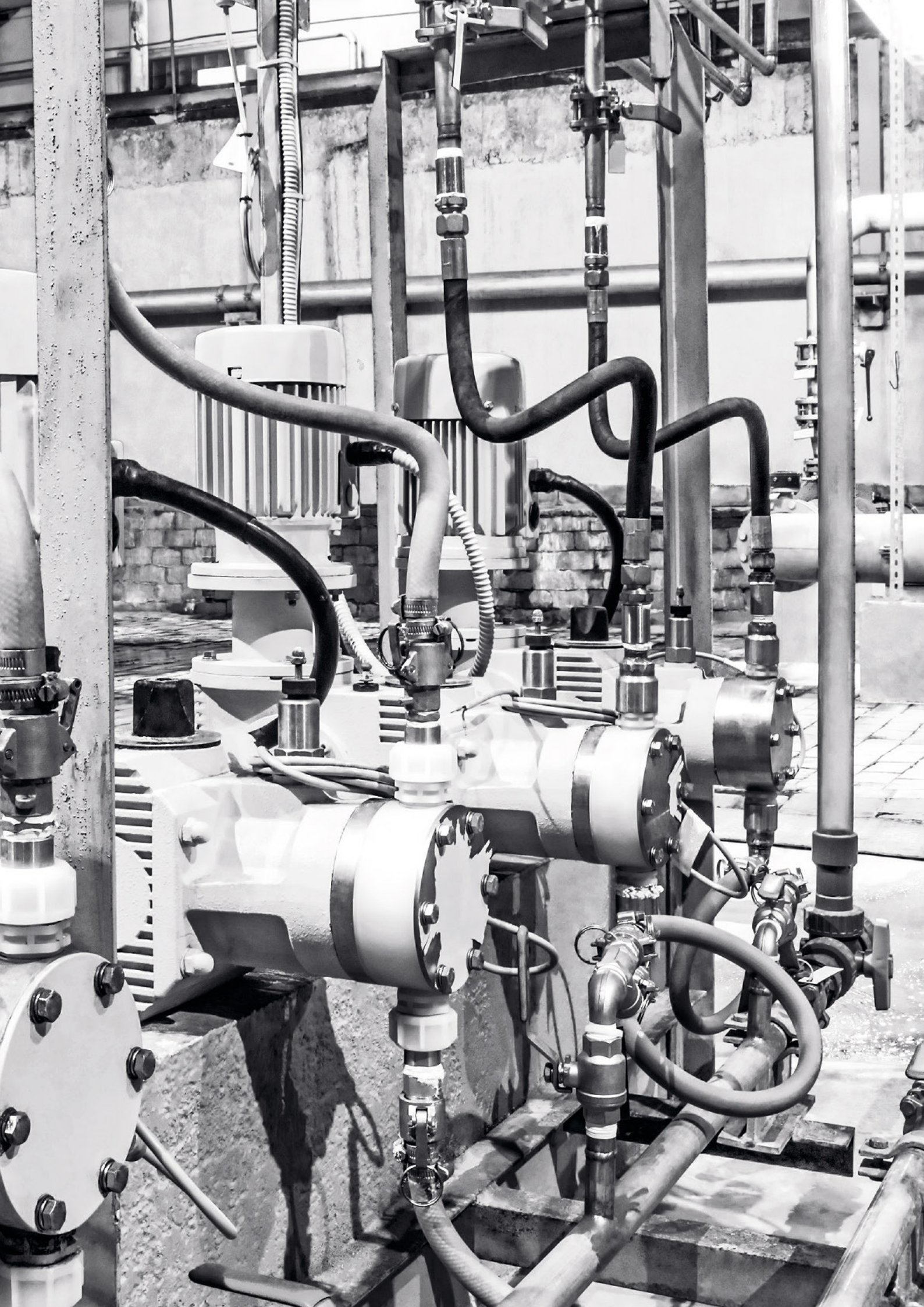
Marking Rings

HOW TO FIND THE CORRECT PRODUCT CODE

Replace XX with the number of your required letter, figure or symbol.

	Basic colour: white	**Basic colour: yellow**	**KME stainless steel marker**
for example	A = ... 00	A = ... 30	A = ... 00
	B = ... 01	B = ... 31	B = ... 01
	C = ... 02	C = ... 32	C = ... 02
	D = ... 03	D = ... 33	D = ... 03
	E = ... 04	E = ... 34	E = ... 04
	F = ... 05	F = ... 35	F = ... 05
	G = ... 06	G = ... 36	G = ... 06
	H = ... 07	H = ... 37	H = ... 07
	I = ... 08	I = ... 38	I = ... 08
	J = ... 09	J = ... 39	J = ... 09
	K = ... 10	K = ... 40	K = ... 10
	L = ... 11	L = ... 41	L = ... 11
	M = ... 12	M = ... 42	M = ... 12
	N = ... 13	N = ... 43	N = ... 13
	O = ... 14	O = ... 44	O = ... 14
	P = ... 15	P = ... 45	P = ... 15
	Q = ... 16	Q = ... 46	Q = ... 16
	R = ... 17	R = ... 47	R = ... 17
	S = ... 18	S = ... 48	S = ... 18
	T = ... 19	T = ... 49	T = ... 19
	U = ... 20	U = ... 50	U = ... 20
	V = ... 21	V = ... 51	V = ... 21
	W = ... 22	W = ... 52	W = ... 22
	X = ... 23	X = ... 53	X = ... 23
	Y = ... 24	Y = ... 54	Y = ... 24
	Z = ... 25	Z = ... 55	Z = ... 25
	0 = ... 60	0 = ... 70	0 = ... 60
	1 = ... 61	1 = ... 71	1 = ... 61
	2 = ... 62	2 = ... 72	2 = ... 62
	3 = ... 63	3 = ... 73	3 = ... 63
	4 = ... 64	4 = ... 74	4 = ... 64
	5 = ... 65	5 = ... 75	5 = ... 65
	6 = ... 66	6 = ... 76	6 = ... 66
	7 = ... 67	7 = ... 77	7 = ... 67
	8 = ... 68	8 = ... 78	8 = ... 68
	9 = ... 69	9 = ... 79	9 = ... 69
+ (plus)	= ... 80	= ... 90	= ... 80
– (minus)	= ... 81	= ... 91	= ... 81
• (spot)	= ... 82	= ... 92	= ... 82
/ (diagonal slash)	= ... 83	= ... 93	= ... 83
~ (alternating current)	= ... 84	= ... 94	= ... 84
⏚ (Earthing)	= ... 85	= ... 95	= ... 85
neutral	= ... 86	= ... 96	= ... 86

Example: Item number 95435 indicates ring type SR 09, letter „F" in yellow.



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