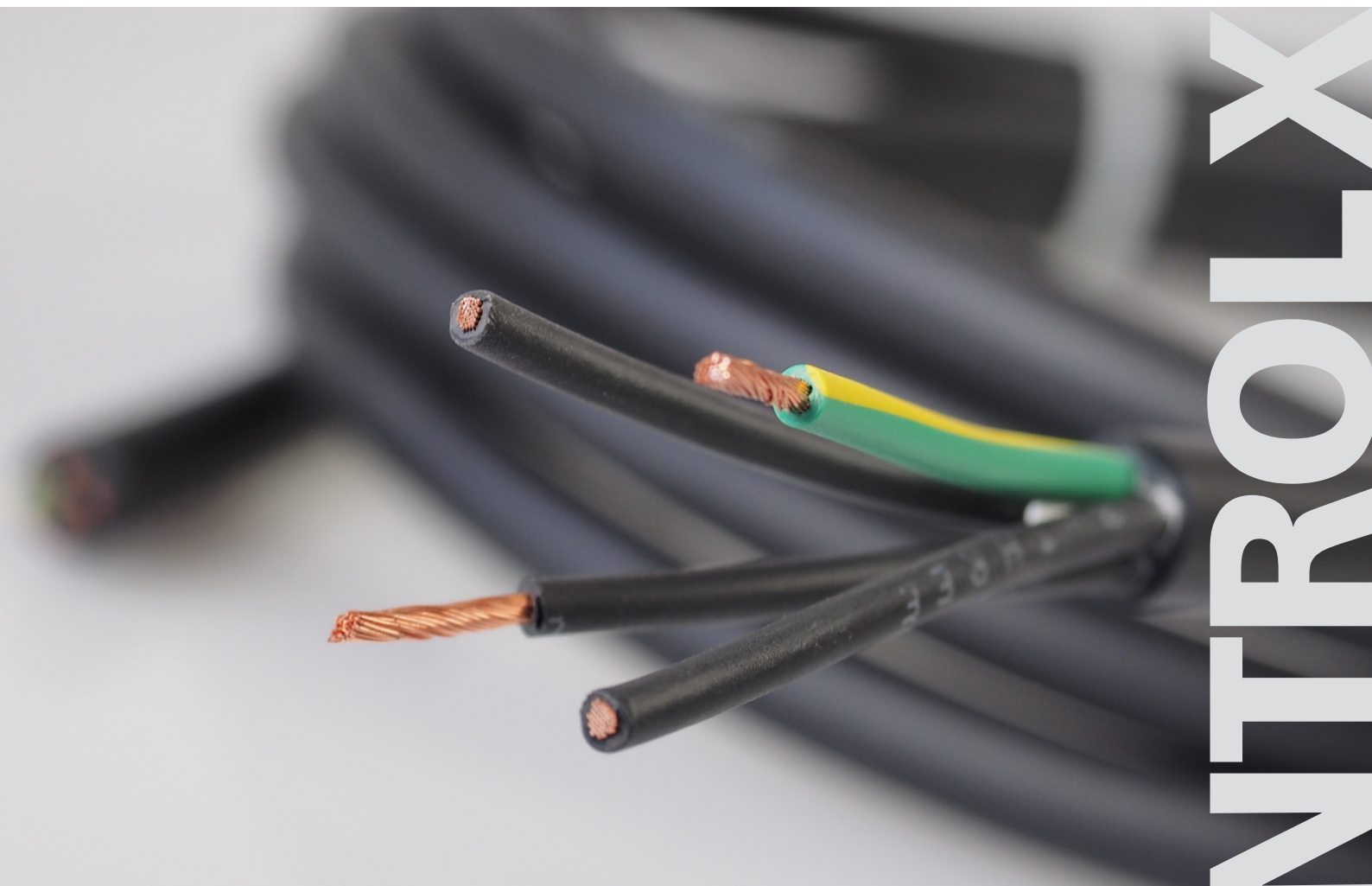




HELUKABEL®



TRAYCONTROL X

 New UL-Standards for Wind Turbines

TRAYCONTROL X

With TC-ER and WTTC – Ready for UL 6141/UL 6142

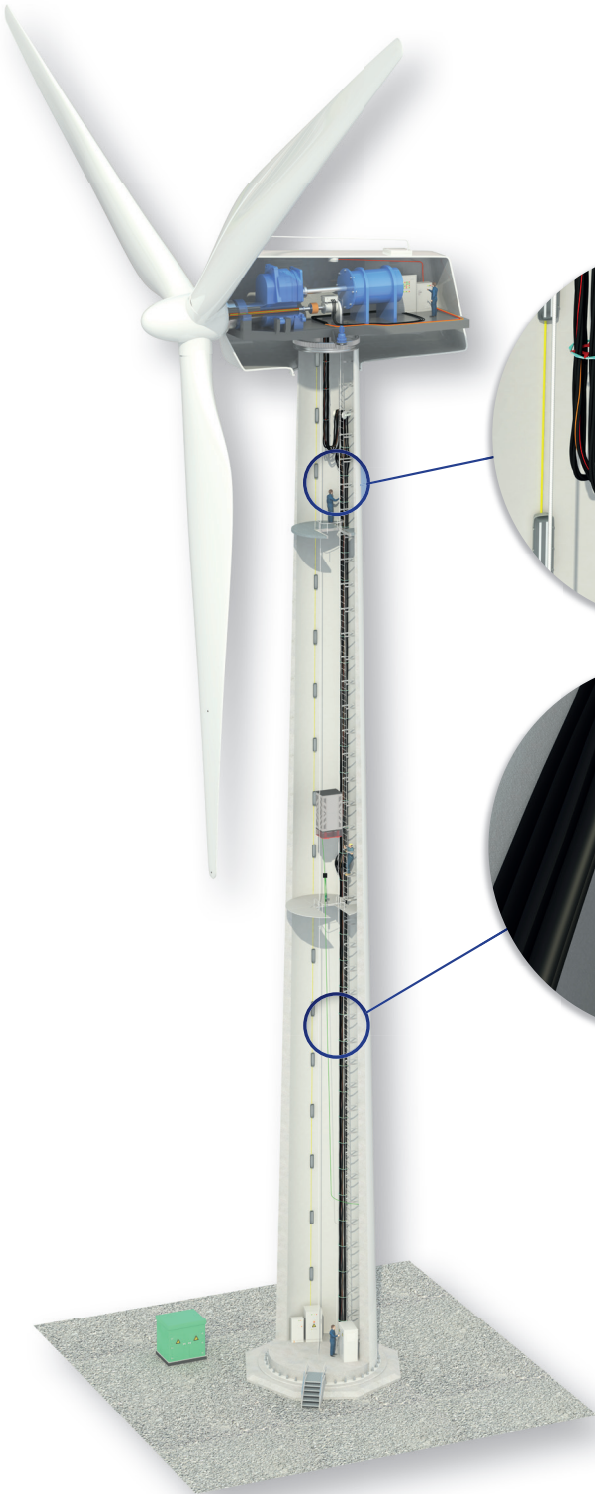
HELUWIND WK-SERIE 



HELUKABEL®

■ UL 6141/UL 6142: NEW STANDARDS FAVOUR UL-LISTED CABLES

Our TRAYCONTROL cable series and extensive portfolio of UL Listed products ensure that your systems comply with safety standards regulating the North American market.



UL 6141 and **UL 6142** are the first American safety standards developed specifically for wind turbines.

They supplement IEC 61400, which is the international standard for wind turbines issued by the International Electrical Commission (IEC).

The new Underwriters Laboratories (UL) standards aim to simplify the process of receiving final approval for wind turbines through local Authorities Having Jurisdiction (AHJ) inspectors. UL 6141, issued in May 2016, applies to large wind turbines that can or may be entered

by operators or service technicians for operation or maintenance (Standard for Wind Turbines Permitting Entry of Personnel).

UL 6141 stipulates that all accessible cables need to be installed in cable ducts or have to be approved for exposed run. **Tray cables** that are oil and flame resistant and designed to be used as **exposed run cables** (TC-ER, tray cable exposed run), are especially relevant for applications where installations in cable ducts are impractical or impossible, e.g. in the cable loop.



HELUKABEL®

TRAYCONTROL X

XLPE insulated, flexible, oil resistant, open installation, WTTC, TC-ER, PLTC-ER, ITC-ER, NFPA 79 Edition 2012, 105°C, torsion application designed



Technical data

- XLPE-insulated, tray-rated control cable acc. to UL Std. 1277 and UL Std. 2277
- **Temperature range**
UL/CSA TC -40°C to **+105°C**
- **Nominal voltage**
TC 600 V
WTTC 1000 V
AWG 20 300V
- **Test voltage** 3000 V
- **Minimum bending radius**
10x cable Ø
- **Insulation resistance**
min. 20 MOhm x km

Cable structure

- Bare copper conductor, fine wire with AWG dimensions
- Specially blended XLPE core insulation
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE core, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Separator
- Outer sheath of special PVC
- Sheath colour - black (RAL 9005)
- With length marking in feet

Properties

- Self-extinguishing and flame retardant according to CSA FT4
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- UV-resistant
- Direct burial rated

Tests

- **UL:**
TC-ER (AWG 18 & larger), ITC-ER, PLTC-ER (AWG 12 and smaller), Type WTTC (AWG 18 & larger), Type XHHW-2 (AWG 14 & larger) 13, 44, 1202, 1277, 1581, 2277, 2250, AWM 2586 - 105°C 600V, NFPA 79 2012, Oil Res I/II, 90° C dry / wet, Class 1 Div. 2 per NEC Art. 336, 392, 501
- **CSA:**
c(UL) CIC-TC FT4 (AWG 18 & larger) CSA AWM I/II A/B FT4

Application

USA NFPA 79 edition 2012 conformant flexible control power cable with cross-linked (thermoset) polyethylene (XLPE) insulation. XLPE insulation is ideal for applications that require long cable runs due to its low capacitance. A higher current load rating is possible due to the conductor temperature resistance of 90°C. Rated for up to 600 V (WTTC 1000 V), these tray cables are suitable for all machinery in tool and plant construction, and can be installed 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. They are approved for use in 1kV wind turbine cable tray applications and designed for torsion applications.

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



Part no.

Part no.	Cross section mm²	No. cores x AWG No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
713207	0,507	2 x 20	7,8	9,2	71,0
713208	0,507	3 x 20	8,3	13,9	73,0
713209	0,507	4 x 20	8,9	18,5	85,0
713210	0,507	5 x 20	9,7	23,2	98,0
713211	0,507	7 x 20	10,5	32,5	121,0
713212	0,507	9 x 20	12,1	41,9	153,0
713213	0,507	12 x 20	13,4	56,0	185,0
713214	0,507	18 x 20	16,4	83,8	286,0
713215	0,507	25 x 20	19,0	116,8	379,0
713216	0,963	2 x 18	8,4	17,4	86,0
713217	0,963	3 x 18	8,9	26,1	92,0
713218	0,963	4 x 18	9,6	34,8	109,0
713219	0,963	5 x 18	10,4	43,7	129,0
713220	0,963	7 x 18	11,3	61,2	161,0
713221	0,963	9 x 18	13,1	78,8	204,0
713222	0,963	10 x 18	15,0	87,7	249,0
713223	0,963	12 x 18	15,4	105,1	277,0
713224	0,963	15 x 18	17,0	131,6	333,0
713225	0,963	16 x 18	17,0	140,4	348,0
713226	0,963	18 x 18	17,9	157,9	382,0
713227	0,963	19 x 18	17,9	166,7	396,0
713228	0,963	25 x 18	20,7	219,8	506,0
713229	0,963	27 x 18	21,1	237,2	539,0
713230	0,963	34 x 18	24,6	299,3	714,0
713231	0,963	37 x 18	24,6	325,7	747,0
713232	0,963	41 x 18	26,3	360,9	829,0
713233	0,963	50 x 18	28,6	440,1	973,0
713234	0,963	61 x 18	30,3	539,0	1143,0
713235	1,31	2 x 16	8,9	24,0	92,0
713236	1,31	3 x 16	9,5	36,1	112,0
713267	2,08	12 x 14	18,6	229,2	452,0
713268	2,08	16 x 14	20,5	306,0	576,0
713269	2,08	18 x 14	22,7	344,2	689,0
713270	2,08	19 x 14	22,7	363,3	713,0
713271	2,08	25 x 14	26,3	478,5	917,0
713272	3,31	2 x 12	10,9	60,5	153,0
713273	3,31	3 x 12	11,5	90,8	189,0
713274	3,31	4 x 12	12,6	121,0	231,0
713275	3,31	5 x 12	14,6	151,7	301,0
713276	3,31	6 x 12	15,8	182,3	368,0
713277	3,31	7 x 12	15,8	212,7	388,0
713278	3,31	9 x 12	18,4	274,1	516,0
713279	3,31	12 x 12	20,5	365,0	621,0
713280	3,31	16 x 12	23,8	488,2	847,0
713281	3,31	19 x 12	25,0	610,8	978,0
713282	3,31	20 x 12	26,3	764,3	1058,0
713283	3,31	25 x 12	29,1	967,6	1265,0
713284	5,26	2 x 10	12,4	100,3	214,0
713285	5,26	3 x 10	13,1	150,5	269,0
713286	5,26	4 x 10	15,2	201,3	360,0
713287	5,26	5 x 10	16,6	251,8	430,0
713288	5,26	7 x 10	18,1	352,8	563,0

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

Part no.	Cross section mm²	No. cores x AWG No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
713237	1,31	4 x 16	8,8	48,1	129,0
713238	1,31	5 x 16	9,6	60,3	153,0
713239	1,31	6 x 16	10,2	72,5	179,0
713240	1,31	7 x 16	10,5	84,6	193,0
713241	1,31	8 x 16	11,1	96,7	222,0
713242	1,31	9 x 16	12,0	108,9	274,0
713243	1,31	10 x 16	12,4	121,1	298,0
713244	1,31	12 x 16	13,6	145,4	333,0
713245	1,31	14 x 16	14,5	169,6	378,0
713246	1,31	15 x 16	15,2	181,9	411,0
713247	1,31	16 x 16	16,0	194,1	421,0
713248	1,31	18 x 16	16,4	218,3	470,0
713249	1,31	19 x 16	16,6	230,5	485,0
713250	1,31	20 x 16	17,2	242,8	516,0
713251	1,31	25 x 16	18,9	303,8	673,0
713252	1,31	27 x 16	19,3	328,1	713,0
713253	1,31	30 x 16	20,0	364,6	777,0
713254	1,31	34 x 16	22,5	413,2	875,0
713255	1,31	40 x 16	23,5	486,6	982,0
713256	1,31	41 x 16	24,0	498,8	1012,0
713257	1,31	50 x 16	26,1	608,3	1204,0
713258	1,31	61 x 16	27,5	742,8	1414,0
713259	2,08	2 x 14	10,0	37,9	119,0
713260	2,08	3 x 14	10,5	56,9	143,0
713261	2,08	4 x 14	11,4	75,9	173,0
713262	2,08	5 x 14	12,5	95,0	204,0
713263	2,08	6 x 14	14,5	114,3	265,0
713264	2,08	7 x 14	14,5	133,1	227,0
713265	2,08	9 x 14	16,7	171,8	368,0
713266	2,08	10 x 14	18,0	191,0	402,0
713289	5,26	9 x 10	21,0	454,5	728,0
713290	5,26	12 x 10	24,6	606,0	963,0
713291	5,26	19 x 10	28,7	961,4	1438,0
713292	8,37	4 x 8	19,6	311,7	568,0
713293	8,37	5 x 8	22,6	390,8	729,0
713294	13,3	3 x 6	19,3	368,2	622,0
713295	13,3	4 x 6	21,2	491,5	771,0
713296	13,3	5 x 6	24,3	615,2	985,0
713297	21,2	3 x 4	23,0	585,4	945,0
713298	21,2	4 x 4	25,2	785,3	1176,0
713299	21,2	5 x 4	27,7	984,5	1429,0
713300	33,6	3 x 2	26,6	925,2	1369,0
713301	33,6	4 x 2	29,2	1234,8	1726,0
713302	33,6	5 x 2	32,2	1548,1	2106,0
713303	42,3	4 x 1	33,1	1552,5	2158,0
713304	52,9	4 x 1/0	35,9	1948,2	2626,0
713305	67,3	4 x 2/0	38,7	2487,6	3222,0
713306	84,4	4 x 3/0	41,0	3106,9	3914,0
713307	106,7	4 x 4/0	46,5	3926,3	4978,0
713308	128,4	4 x 250 kcmil	52,1	4555,7	5848,0
713309	181,9	4 x 350 kcmil	58,5	6397,1	7918,0
713310	257,6	4 x 500 kcmil	69,2	9171,3	11097,0

Other TRAYCONTROL Cables

FLEXIBLE CONTROL CABLES

TRAYCONTROL 500 & TRAYCONTROL 500-C

Flexible, extremely oil-resistant control cables for open installation (ER),
UL: TC-ER, PLTC-ER, ITC-ER, MTW, DP-1, WTTC 1000V, OIL RES I & II,
CSA: CIC-TC FT4, AWM I/II A/B FT4

TRAYCONTROL 600 & TRAYCONTROL 600-C

Flexible, oil-resistant TRAY CABLE for open installation (ER)
UL: TC-ER, PLTC-ER, ITC-ER, MTW, DP-1, WTTC 1000V, OIL RES I & II,
CSA: CIC-TC FT4, AWM I/II A/B FT4

TRAYCONTROL 610 OIL RES II, WTTC (2277), FT4

Highly-flexible, extremely oil-resistant control cables for open installation (ER)
UL: TC-ER, PLTC-ER, ITC-ER, MTW, WTTC 1000V, OIL RES I & II,
CSA: CIC-TC FT4, AWM I/II A/B FT4

DATA CABLES

TRAYCONTROL 300 & TRAYCONTROL 300-C

Flexible, extremely oil-resistant data and control cables for open installation (ER)*
UL: PLTC-ER, ITC-ER, CM, OIL RES I & II; CSA: CIC-TC FT4, CMG

TRAYCONTROL 300 TP & TRAYCONTROL 300-C TP

Flexible, extremely oil-resistant data and control cables for open installation (ER)*
UL: PLTC-ER, ITC-ER, CM, OIL RES I & II; CSA: CIC-TC FT4, CMG