

Modular. Flexible. Efficient.

## HELUCHAIN® SYSTEM & COMPONENTS

Ed. 2.0 // EN





## HELUKABEL—Who We Are

Globally, we stand for quality, innovation, and reliability in electrical connection technology. As an internationally leading manufacturer and supplier, we offer a comprehensive portfolio of cables, wire, and accessories, as well as plastic, steel, & hybrid drag chains and custom, preassembled, and ready-to-use system solutions.

Since our founding in 1978, our family-owned business has garnered broad expertise, in-depth knowhow, and a strong market position over the decades through our passion and foresight. Our products and solutions are used in applications in varying industries and key technologies, including mechanical and plant engineering, industrial automation, the oil, gas, & chemical industries, building technology, infrastructure, mobility, and renewable energy.

With 76 locations and around 2,500 employees in 42 countries, we are a reliable partner able to quickly and flexibly react to the needs of our customers who benefit from our extensive assortment of over 33,000 stock parts, a highly modern logistics centre, and our ability to develop custom solutions. We are committed to supplying the highest-quality electrical connection technology globally from a single source.













## Content

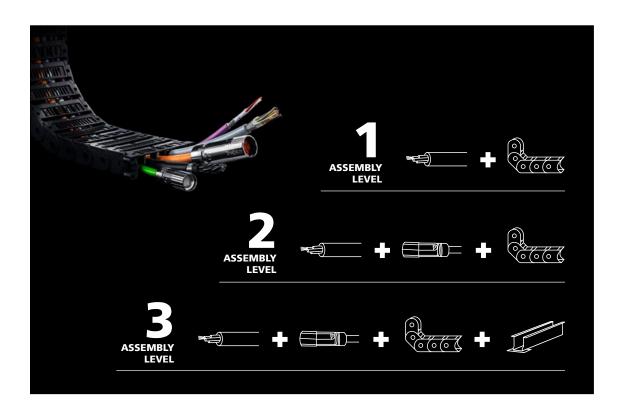
	Page
HELUCHAIN® SYSTEM – Modular system for more flexibility	4
Our components for moving applications	7
Our cables for moving drag chain applications	8
Steering energy in the right direction	12
The right connector for every cable	16

### HELUCHAIN® SYSTEM

#### MODULAR SYSTEM FOR MORE FLEXIBILITY

HELUCHAIN® SYSTEM is a modular system from HELUKABEL for drag chain applications with linear movements. It combines cables, drag chains, standard-compliant & custom assemblies, as well as accessories into optimally coordinated, complete solutions. From the most basic combination of cable and chain, to a completely integrated and assembled drag chain system with accessories, the clearly structured, three-tier configuration (assembly levels 1-3) makes it possible for the HELUCHAIN® SYSTEM to be precisely tailored to each individual application. For maximal efficiency and reliability, we supply everything from a single source—precisely manufactured, rigorously inspected, and ready for immediate installation.

#### An overview of our modular system with 3 different Assembly Levels



#### The advantages of our HELUCHAIN® SYSTEM

- Less work: One part number, one delivery, one invoice—saving you time and overhead.
- No individual parts: Complete systems instead of individual pieces keeps your ERP manageable.
- Better reliability: Coordinated components—tested, documented, & installation ready
- Readily available: Global delivery and expert advise.
- Flexible planning: Adjustable to your speed.
- Efficient purchasing: Consolidate volumes for better conditions and fewer processes.



#### **HELUCHAIN® SYSTEM - Assembly Level 1**

#### **Included components:**

Cables for drag chains—unassembled Drag chains



#### **Suited for:**

- Easy and quick integration in existing machine designs
- · Self-assembly and in-house processing
- Reduced planning requirements for projects

#### **Advantages:**

- Standard solution with high compatibility
- Configurable connections
- No extra material or minimum quantity surcharges for cables
- A single contact person for technology and purchasing

#### **HELUCHAIN® SYSTEM - Assembly Level 2**

#### **Included components:**

Cables for drag chains Cable assemblies or hydraulic hoses Drag chains



#### **Suited for:**

- Low production depth in machine manufacturing
- Use in series and specialty machines
- · Short installation times with documented quality

#### **Advantages:**

- 100% tested and plug-and-play ready for your application
- Reduced installation times
- Individually tailored assembly solutions

#### **HELUCHAIN® SYSTEM - Assembly Level 3**

#### **Included components:**

Cables for drag chains
Cable assemblies or hydraulic hoses
Drag chains
Accessories (e.g., troughs, floating supports, support trestles, transport racks)



#### **Suited for:**

- Reducing the number of inter-trade contact persons
- Use in series or specialty machine construction
- Systems with the highest efficiency and safety requirements

#### Advantages:

- System solution for immediate integration
- Ideal for standardised or recurring applications
- Save time and money with simplified installation



HELUKABEL is your single point of contact for custom connection solutions that unite flexibility, quality, and efficiency. We have more than individual components; we have completely integrated systems that combine cables, drag chains, assemblies, and accessories into the perfect package. Our solutions build upon decades of experience with innovation and precision in order to fulfil the most challenging requirements in any application.

We are the only company in the industry that manufactures its cables, drag chains, and assemblies in its own factories. This means that, from individual components to perfectly coordinated complete systems, we can guarantee the highest quality and reliability.

#### What sets us apart

- All components come from a single source and are perfectly tuned to each other.
   HELUKABEL integrates individual components into complete systems for every need.
   We provide additional options that are both flexible and custom to the customer.
- Our own factories and testing centres. Our products and systems are manufactured in our own factories, tested according to strict standards, and provide durable performance, even under extreme conditions.
- Plug-and-play solutions save you time.
   Pre-assembled, optimally tuned systems simplify
  the installation process and minimise the potential for errors. This speeds up installation and
  reduces operating costs.

- Global availability and local experts. With our modern logistics network, we guarantee short delivery times, and with subsidiaries around the globe, we are always nearby, able to quickly provide personalised support and advice.
- Industry-spanning solutions. Our products and solutions are found in industry, tooling machines, cranes, automation, and the packaging and timber industries.
- Future-oriented, sustainable systems. Our products and manufacturing processes are environmentally friendly and designed to conserve resources. Our long-lasting, durable solutions support our partners in achieving their sustainability goals, as well.

Our goal is to not just supply connection technology, but to also create solutions for challenges, to simplify processes, and to reduce complexity. To achieve this, our experts will guide you from planning to installation, ensuring your projects run quickly and smoothly, and that every connection works as it should.



# Our components for moving applications

#### HELUCHAIN® PRODUCT PORTFOLIO—EVERYTHING FROM A SINGLE SOURCE

## HELUCHAIN® Cables

### \*\*\*

#### HELUCHAIN® Drag chains



#### HELUCHAIN® Assemblies





### Mechanical durability in different kinds of cables

- Control cables
- Motor cables
- Servo and hybrid cables
- Data cables
- Encoder and feedback cables
- Bus cables
- Measuring system cables
- Fibre-optic cables



Solutions for all common types of movement in different environments

- Plastic
- Hybrid
- Steel



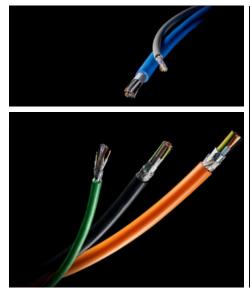
Cables and connectors from a single source; 100% tested for the highest quality

- Assemblies for drive technology
- Assemblies for bus technology
- Custom assemblies

# Our cables for moving drag chain applications

#### **HELUCHAIN®** Cables







In demanding industrial environments, cables must withstand extreme loads while reliably transmitting energy and data at the same time. Our drag chain cables are specially developed to tackle dynamic applications. Whether in fast-moving tooling machines with tight assembly spaces, or in harbours with long travel distances, every application presents its own requirements for materials, construction, and functionality.

Our cables are the results of decades of experience and a track record of quality. They are manufactured in our own factories according to the most modern technical standards and tested in our own test centres. We offer custom solutions without compromising performance, durability, or affordability. Whether with or without a plug, you'll find the right solution at HELUKABEL.



#### What sets our cables apart

- Expansive product portfolio. High-performance and durable solutions for various travel distances and bending radii.
- Broad material diversity. The most costeffective PVC, PUR, and TPE-sheathed cables for every application.
- The highest quality. Specially optimised designs and compounds produced in our own factories and tested in the most modern test centres.
- Technological competence. Decades of experience in manufacturing cables combined with a focus on innovation and a high manufacturing depth.
- International certifications. Fulfil international standards such as UL/CSA or NFPA79 for global use.
- Global reach, local availability. Fast delivery thanks to the most modern logistics systems and global product availability thanks to local warehouse capacities.



# Our drag chain cables an overview

#### PERFECT TRANSMISSION WITH EVERY MOVEMENT

Our drag chain cables from the HELUCHAIN® range are designed specifically for use in demanding drag chain systems. They withstand millions of bending cycles, abrasion, and other loads.

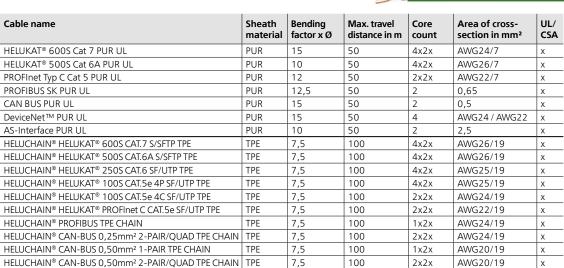
The HELUCHAIN® portfolio includes single-cores, control & motor cables, data & hybrid cables, and fibre-optic cables. You are sure to find the most ideal solution for your connection needs.

#### **HELUCHAIN® CABLES**

#### **Data cables**

Cable name	Sheath material	Bending factor x Ø	Max. travel distance in m	Core count	Area of cross- section in mm <sup>2</sup>	UL/ CSA
SUPERTRONIC®-PVC	PVC	5	5	2 - 25	0,14 - 0,34	
SUPERTRONIC®-C-PVC	PVC	7,5	5	2 - 25	0,14 - 0,34	
SUPERTRONIC®-310-PVC	PVC	5	5	2 - 25	0,14 - 0,34	х
SUPERTRONIC®-310-C-PVC	PVC	7,5	5	2 - 25	0,14 - 0,34	х
HELUCHAIN® TRONIC 320-HF-TP-C-PVC UL/CSA	PVC	7,5	15	2 - 28	0,14 - 1	х
SUPERTRONIC®-PURÖ	PUR	5	5	2 - 25	0,14 - 0,34	
SUPERTRONIC®-C-PURÖ	PUR	7,5	15	2 - 25	0,14 - 0,34	
SUPERTRONIC®-330-PURÖ	PUR	5	15	2 - 25	0,14 - 0,34	х
SUPERTRONIC®-330-C-PURÖ	PUR	7,5	15	2 - 25	0,14 - 0,34	х
SUPER-PAAR-TRONIC 340-C-PUR	PUR	10	30	2 - 28	0,25 - 1	х

#### **Bus cables**





#### **Control cables**

Cable name	Sheath material	Bending factor x Ø	Max. travel distance in m	Core count	Area of cross- section in mm <sup>2</sup>	UL/ CSA
JZ-HF	PVC	7,5	10	2 - 65	0,5 - 16	
JZ-HF-CY	PVC	10	10	2 - 65	0,5 - 16	
HELUCHAIN® JZ(OZ)-602-HF PVC UL/CSA	PVC	7,5	10	3 - 34	0,5 - 35	х
HELUCHAIN® JZ-602-HF-C PVC UL/CSA	PVC	10	10	3 - 34	0,5 - 35	х
MULTISPEED® 520-PVC UL/CSA	PVC	6,8	100	2 - 42	0,5 - 6	х
MULTISPEED® 520-C-PVC UL/CSA	PVC	6,8	100	2 - 42	0,5 - 6	х
PURÖ-JZ-HF	PUR	7,5	15	2 - 65	0,5 - 95	
PURÖ-JZ-HF-YCP/YDP	PUR	10	15	2 - 65	0,5 - 16	
MULTIFLEX 512®-PUR UL/CSA	PUR	5	100	2 - 65	0,5 - 16	х
MULTIFLEX 512®-C-PUR UL/CSA	PUR	7,5	100	2 - 65	0,5 - 16	х
MULTISPEED® 521-PUR UL/CSA	PUR	6,8	450	2 - 42	0,5 - 6	х
MULTISPEED® 521-C-PUR UL/CSA	PUR	6,8	450	2 - 42	0,5 - 6	х
MULTISPEED® 522-TPE UL/CSA	TPE	5	450	2 - 42	0,5 - 6	х
MULTISPEED® 522-C-TPE UL/CSA	TPE	5	450	2 - 42	0,5 - 6	х

HELLIKABEL\* JZ-HF 2506,75 GMM/15030 300:500 V ((

HELUCHARY SINGLE 602-HF-J PVC 1016 QMM / 8 AWS E 170315 %
AWM STYLE 10107 90°C 600V VW-I 781 AWS 18 AW 50°C 600V FF1 C(

HELUKASEL® TOPSERV® 109 PUR 0,611 NV E170316 ULICSA DESINA CC

#### **Motor cables**

Cable name	Sheath material	Bending factor x Ø	Max. travel distance in m	Core count	Area of cross- section in mm <sup>2</sup>	UL/ CSA
MULTISPEED® PWR 520-PVC UL/CSA	PVC	7,5	100	4 - 5	10 - 35	х
MULTISPEED® PWR 520-C-PVC UL/CSA	PVC	7,5	100	4 - 5	10 - 35	х
TOPFLEX® 611-PUR	PUR	7,5	30	4	1,5 - 120	
TOPFLEX® 611-C-PUR	PUR	10	30	4	1,5 - 120	
MULTISPEED® PWR 521-PUR UL/CSA	PUR	7,5	450	4 - 5	10 - 35	х
MULTISPEED® PWR 521-C-PUR UL/CSA	PUR	7,5	450	4 - 5	10 - 35	х
MULTISPEED® PWR 522-TPE UL/CSA	TPE	7,5	450	4 - 5	10 - 35	х
MULTISPEED® PWR 522-C-TPE UL/CSA	TPE	7,5	450	4 - 5	10 - 35	х

#### **Single-core cables**

Cable name	Sheath material	Bending factor x Ø	Max. travel distance in m	Core count	Area of cross- section in mm <sup>2</sup>	UL/ CSA
HELUCHAIN® SINGLE 602-HF-J(O) PVC UL/CSA	PVC	7,5	5	1	10 - 300	х
HELUCHAIN® SINGLE 602-HF-CY-J(O) PVC UL/CSA	PVC	7,5	5	1	10 - 300	х
MULTISPEED® 600-PUR	PUR	5	450	1	6 - 300	х
MULTISPEED® 600-C-PUR	PUR	5	450	1	6 - 300	х
MULTISPEED® 600-TPE	TPE	5	450	1	6 - 185	х
MULTISPEED® 600-C-TPE	TPE	5	450	1	6 - 185	х

#### Servo and hybrid cables

Cable name	Sheath material	Bending factor x Ø	Max. travel distance in m	Core count	Area of cross- section in mm <sup>2</sup>	UL/ CSA
HELUCHAIN® TOPSERV® 201-PVC UL/CSA	PVC	7,5	100	6	1,5 - 6,0	х
TOPSERV® 109 PUR	PUR	7,5	30	4	1,5 - 95	х
TOPSERV® 113 PUR	PUR	7,5	30	6	1,5 - 50	x
TOPSERV® 121 PUR	PUR	7,5	30	8	1 - 50	х
HELUCHAIN® TOPSERV® 211-PUR UL/CSA	PUR	7,5	100	6	1,5 - 6,0	х
TOPSERV® Hybrid PUR	PUR	7,5	30	8	0,5 - 16	Х

#### **Feedback cables**

Cable name	Sheath material	Bending factor x Ø	Max. travel distance in m	Core count	Area of cross- section in mm <sup>2</sup>	UL/ CSA
TOPGEBER® 512 PUR	PUR	10	30	18	0,14 - 1	х

#### Fibre-optic cables

Cable name	Sheath material	Bending factor x Ø	Max. travel distance in m	Core count	Area of cross- section in mm <sup>2</sup>	UL/ CSA
HELUCOM® A-V(ZN)11Y	PUR	15	10	2 - 8	9/50/62,5	
HELUCOM® I-V2Y(ZN)11Y	PUR	12,5	10	2	980	

Further information is available in the data sheet overview at **helukabel.de/heluchain-cables** 



# Steering energy in the right direction

#### **HELUCHAIN®** Drag Chains





For the past 50 years, we have specialised in the production of custom plastic, hybrid, and steel drag chains for a variety of requirements. Our portfolio includes self-supported chains for short travel distances, gliding chains, as well as rolling designs for larger distances and maximum loads. Special gliding shoes reduce wear, while trough systems provide reliable guidance.

**Our mission:** To set connections in motion. Our drag chains are designed for flexibility, abrasion-free operation, to perfectly protect cables, and for maximum efficiency in all applications.



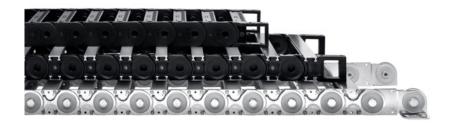




#### What sets our drag chains apart

- The highest quality and reliability. Our drag chains are made of high-quality materials, tested according to strict standards, and are durable and reliable under even the most extreme conditions. Thanks to our higher manufacturing depth and modern production capacities, we are able to supply customers with custom solutions ranging from one-off to large-scale productions, always adhering to the highest standards of quality.
- Custom solutions for demanding applications. Every application is unique. Our extensive portfolio of plastic, hybrid, and steel drag chains means we have custom options for specific industries and needs.
- Applications that span industries. Our drag chains are suited for applications in tooling machines, material handling and hoisting technology, automation and robotics, paper and textile machines, as well as in outdoor crane systems and the offshore industry.
- Quick delivery times and comprehensive service on location. With our global logistics network and modern production capacities, we guarantee quick delivery windows, which are ideal for time-sensitive projects. From selection and planning for the ideal solution to final installation and startup, our systems and reliable service are available globally.

## Our drag chain portfolio



#### Plastic

Light and versatile solution for mechanical engineering. These chains are quick to produce, making them affordable.

#### Hybrid

The combination of robust plastic bars and aluminium stays is particularly suited for large drag chain widths. The chains are available in combination with the Marathon gutter system for long travel distances.

#### Steel

This chain proves its mettle through its mechanical resilience and temperature resistance in harsh environments.

Product name	Material	Application	Advantages
HELUCHAIN® PLASTIC LINK 1-PF	Plastic	Tooling machines     Woodworking machines	Positive interlocking bars for increased stability at high torque     Quick and easy installation and removal of bars     Easily adjustable length     Closed design for increased protection against shavings
HELUCHAIN® PLASTIC LINK 2-KL	Plastic	Handling and conveyer technology     Paper and textile machines	Easy opening mechanism on both sides     Usable without connection element     Variable inner separations     Dividers can be quickly changed     High torsional rigidity



Product name	Material	Application	Advantages
HELUCHAIN®	Plastic	Robotics, handling	Positive interlocking bars for increased stability at high torque
PLASTIC LINK 4-PK		technology	Quick and easy installation and removal of bars
		<ul> <li>Tooling and wood- working machines</li> </ul>	Easily adjustable length
			Optional multi-band solution for increased stability
			Mounting bar for larger media tubing
HELUCHAIN® PLASTIC LINK 4-45	Plastic	General mechanical engineering,	Increased lifespan of the filling thanks to smooth contour of chain and inner separations
		intralogistics, mate- rial handling, indoor	Bars are quick and easy to open for easy installation
		cranes, packaging technology	Undercut on side panels provides high stability for long travel distances
		teermology	Quiet operation thanks to optimised stop system
HELUCHAIN®	Hybrid	• Tooling	Form-fitting locking bars for the highest stability
HYBRID LINK 4-PL		machines	Can be opened on inner and outer radius for quick and easy configuration
		<ul> <li>Indoor and outdoor crane systems</li> </ul>	Quick and easy installation and removal of bars
	Material handling	Up to 1,000 mm bar lengths without gradation	
HELUCHAIN®	Steel	Tooling and special-	Closed steel body with built-in spring-steel strip
STEEL LINK1-SF		ised machines with short travel distances	Large usable cross sections with small external dimensions
		and low stroke rates	Optimal cable protection
			Available with different connection options
			Optimal for hot chips, welding beads, and flying sparks
HELUCHAIN®	Steel	• Tooling machines,	Available in steel, stainless steel, and hardened versions
STEEL LINK 4-SL		handling technol- ogy, conveyor and	Large, self-supported lengths and high fill weights possible
		hoisting technology, steel mills, boring	Many variations of bar separations
		industry	Easily adjustable length
			Hinge mechanism protected by cover
HELUCHAIN®	Steel	Rolling mills	Exceptionally high stability
STEEL LINK 4-GK	Offshore plants		• Large, self-supported lengths up to 18 m with high cable volumes
		Large tooling	Variable arrangement of interior
		machines	Bar lengths up to 1,200 mm possible
			Also available in stainless steel and in custom designs
			I .



## The right connector for every cable

#### **HELUCHAIN® Assemblies**







In modern industry, precise and reliable cable assemblies are indispensable for ensuring smooth and efficient workflows. At HELUKABEL, we offer individual cable assembles and installation modules that are perfectly tuned for your specific needs. From planning to realisation, we are by your side as a key partner to assist in the smooth and efficient execution of your project.

Our HELUCHAIN® assemblies are manufactured at multiple factories around the globe according to the most current standards. This allows us to ensure short delivery times, flexibility in design according to individual needs, and the proven quality of our products.





#### What sets our assemblies apart

- Custom solutions. Thanks to our extensive portfolio of motor, encoder, and data cables, we are able to offer standard and custom solutions, and even customer-specific labels and packaging.
- Efficiency through automation. Highly precise and reproducible designs thanks to the most modern machines, including automatic cutting, stripping and winding.
- Flexibility & availability. Automated warehousing enables quick access times and the highest delivery security, which is ideal for time-sensitive projects.
- High standards for quality. We perform tests on all assemblies: high-voltage tests, crimp & pull tests, and micrography for maximum safety and traceability. Certified according to DIN ISO 9001:2015 & UL.
- **Sustainability.** Our commitment to sustainability is evidenced by our sustainable production methods, environmentally friendly packaging, and consistent, single-origin waste separation.

## Assemblies for drive technology

As a leading international manufacturer and supplier of electrical connection technology, we also specialise in pre-assembled cables for drive technology. Our portfolio includes assemblies for all common drive systems from various OEMs, starting at one metre lengths, with short lead times and in common PVC and PUR qualities.

#### STANDOUTS FROM OUR STANDARD PORTFOLIO



#### Assemblies for drive technology

Product name	Item no.	Properties
TOPSERV® CONNECTING SYSTEMS PVC Siemens 5DN06	17004711	According to Siemens standard 6FX5002, PVC sheathed cable with UL/CSA, 100,000 bending cycles, PVC flame retardant
TOPGEBER® CONNECTING SYSTEMS PVC Siemens 2EQ10	17008068	According to Siemens standard 6FX5002, PVC sheathed cable with UL/CSA, 100,000 bending cycles, PVC flame retardant
TOPSERV® Hybrid CONNECTING SYSTEMS PUR Siemens 8QN04	17005185	Acc. to Siemens standard 6FX8002, drag chain cable with UL/CSA, 5 mil. bending cycles, PUR sheath, halogen free
TOPSERV® CONNECTING SYSTEMS PUR Siemens 5DS01	17008067	Acc. to Siemens standard 6FX8002, drag chain cable with UL/CSA, 5 mil. bending cycles, PUR sheath, halogen free
TOPGEBER® CONNECTING SYSTEMS PUR SIEMENS 2DC10	661156	Acc. to Siemens standard 6FX8002, drag chain cable with UL/CSA, 5 mil. bending cycles, PUR sheath, halogen free





#### Assemblies for bus technology

Product name	Item no.	Properties
Industrial Ethernet HELUKAT® 200 IND SF/UTP	(for further technical data, see part no. 800068)	Cat.5e 4x2xAWG26/7, with PUR sheath for flexible use, with RJ45 plug on both sides
PROFINET C	(for more technical data see part no. 800655)	2x2xAWG22/7, with PUR sheath for drag chains, UL CMX 75°C, with M12, d-coded, straight or angled plug



#### **CUSTOM SOLUTIONS FOR YOUR APPLICATION**

If your application requires cables and connectors that are not in our standard selection, we are happy to create custom cable assembles according to your needs. Our custom solutions include modified cables for high mechanical loads, combinations of components from different manufacturers, or assemblies for extreme temperatures and aggressive environments.

#### Your advantages:

- The same quality of mass production but in custom products
- UL/CSA certified
- CAD-supported construction
- Individual support on site

#### Our services:

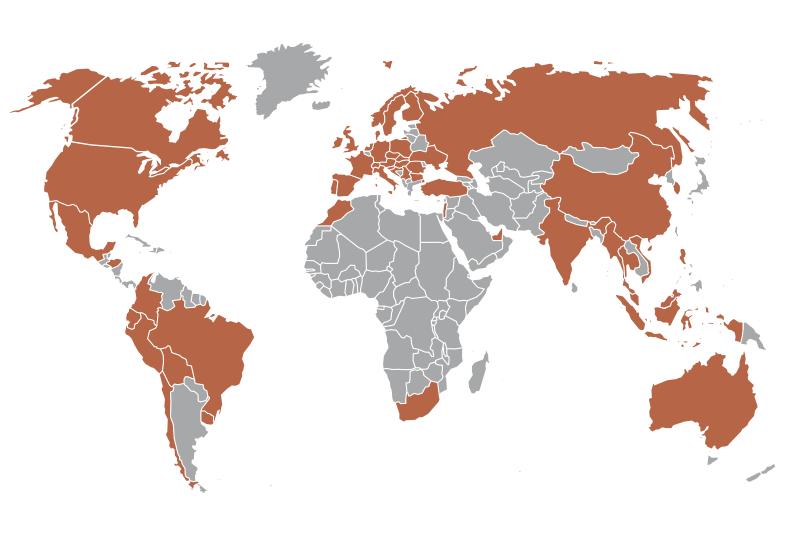
- All kinds of drive, field bus, and control cables
- Delivery via plug or terminal box
- Commissioned as a set or individual cables
- Actuator/sensor plugs, heavy connectors or round plugs
- Pneumatics for expanded systems



Learn more about our comprehensive assemblies for bus technology.



# Global availability





Learn more about our global locations.

### Contact

Our product experts are available to answer your questions and provide customised solutions:

#### Your contact for solutions



**Andreas Muckes**Senior Product Manager System Solutions
Tel.: +49 7150 9209 4509
andreas.muckes@helukabel.de

#### Your contact for cables



**Holger Wennrich**Senior Product Manager Drag Chain Cables
Tel.: +49 7150 9209 4445
holger.wennrich@helukabel.de

#### Your contact for drag chains



Jan Lenkeit
Product Manager Energy Chains
Tel.: +49 157 7744 5122
jan.lenkeit@helu.com



**Jörg Reimann**Product Manager Energy Chains
Tel.: +49 211 24904-22
joerg.reimann@helu.com

#### Your contact for assemblies



**Christian Gladis**Senior Project Manager Solutions
Tel.: +49 521 911 75-68
c.gladis@sangel.com



**Rolf Haldemann**Product Manager Automation Assemblies
Tel.: +49 7150 9209 4462
rolf.haldemann@helukabel.de



# Glossary

#### You can find further informational material in our Download Centre:

www.helukabel.de/download-centre

















