



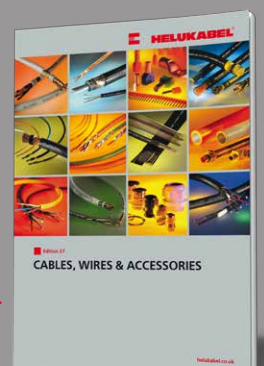
HELUKABEL®



Cable Selection Guide for Industrial Automation

Motor, servo, and feedback cables
Single core • Control cables
Data cables • Bus cables
Industrial Ethernet cables

Includes page references
for Version 27 of the
Cables, Wires & Accessories
catalogue



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5 CABLE QUALIFYING QUESTIONS

1. Are you looking for a flexible cable for fixed installation or occasional movements (page 4) or a highly flexible cable for continuous movements (page 14) such as a drag chain?
2. What kind of cable do I need (control cable, data cable, servo cable, BUS cable, ...)?
3. What kind of sheath material?
4. Screened or unshielded?
5. Without UL/CSA, with UL/CSA or according to NFPA 79?

Drag chain class

	DC1	DC2	DC3
Movement distance (max.)	5 m	15 m	50 m
Bending radius (min.)	10 x Ø	7,5 x Ø	7,5 x Ø Screened 5 x Ø Unshielded
Speed (max.)	2 m/s	3 m/s	5 m/s
Acceleration (max.)	10 m/s ²	10 m/s ²	50 m/s ²
Cycles (min.)	1 Mio	5 Mio	5 Mio

This classification is intended as an initial pre-selection. The exact drag chain values can be found in Version 27 of the Cables, Wires and Accessories catalogue.

Notes

- red** Halogen-free cables
- green** Bio-oil & microbe-resistant cables
- blue** Intrinsically safe cables

* Oil resistance

Please contact us first for special applications.

Dimensions and specifications may change without prior notice. Errors excepted.

RESEARCH & DEVELOPMENT

We develop optimal, customized cable solutions for our customers.

Research and development are the foundation of our work and are an important engine for growth. In interdisciplinary teams we continuously develop our products and seek to enhance them for multiple applications. Moreover, we rely on customer feedback as well as cooperation with regional colleges and research institutes.

The materials that will be used are an important starting point of our work. In this regard, we place as much emphasis on searching for and utilizing new materials as we do on manufacturing our plastic mixtures (granulates) ourselves, in order to enhance mechanical properties, such as oil resistance, temperature range or chemical compatibility. Furthermore, we are capable of pulling a majority of our copper ourselves, and thus ensure a uniform, high quality relative to properties and workmanship.



By continuously optimizing our manufacturing processes and procedures, we have become more efficient and economical, and yet we are still able to take the complex requirements of a wide variety of applications (such as cables for industrial robots or for applications under cleanroom conditions) into account.

A crucial stage in the development process of our products is the work done in our Test Centre. For example, cables suitable for drag chain implementation can be tested with acceleration up to 10 G. Temperature ranges from -50°C to +250°C are simulated in a special climate device so that drag chain cables can be tested for series production readiness before they are installed in applications like refrigerated warehouses or steel mills.

Our test facilities:

- Test systems for bending and torsion requirements
- Drag chain test systems with movement distances from 1 m, 3 m, 5 m, 6 m, 18 m, and 40 m
- Fire testing systems
- Abrasion testing systems
- Torsion test tower for wind turbines
- Aging ovens in accordance with UL, VDE, CSA, HAR, TÜV, CCC

PRODUCTION

We specialize in the production of high-quality cables and wires.

In our two German plants, using the latest production methods, we manufacture approximately one million conductor kilometers (= 77 times around the world) each year. More than 300 qualified employees are specialized in the production of high-quality standard and specialty cables. Through use of the latest materials and collaboration with international test institutes, we drive innovation in the areas of automation, data technology, building system technology, and renewable energy.

Since 2014, in a 7,000 m² facility in the Chinese city of Taicang (approx. 50 km northwest of Shanghai) HELUKABEL® has been producing cable and wires, primarily for the Asian region. As in the German plants, the focus here is also on high-quality, flexible and highly flexible cables and wires that are manufactured in accordance with Chinese and international standards. The use of flexible manufacturing cells enable short delivery times.



Continue: PRODUCTION



Our production in numbers:

- 40,000 m² production area
- 23 extruder systems
- 19 stranding machines
- 50 braiding machines
- Cables & wires from 0.05 to 1,000 mm²
- Manufacturing in accordance with: VDE, EAC (GOST-R), UL, CSA, HAR, CCC, Germanischer Lloyd, TÜV or customer specification

■ LOGISTICS

Cable industry logistics redefined.

At its corporate headquarters in the Swabian town of Hemmingen, HELUKABEL® operates Europe's largest distribution centre for cables and wires. This is where a majority of the more than 33,000 products are housed in a 160,000 m² storage area. Through the use of state-of-the-art conveyor and control technology, more than 1,000 orders can be picked and shipped daily to destinations around the world.

Neuenhagen/Berlin is the central warehouse location for underground cable, medium-voltage cable, and other infrastructure cables. Storage capacities of

more than 5,000 m² in the warehouse and 50,000 m² outdoors enable fast deliveries of cable, configured from 1 – 30 kV, to construction sites and major projects.

The patented heavy load length-cutting machines with more than 10 tons of load capacity are the largest of their type in Germany.

The new logistics centre at the Taicang (China) production facility serves as a product distribution hub for the Asian region, and offers incredible advantages, particularly for servicing time-critical and volume-critical major projects.



Industrial cables

Our logistics center – Hemmingen/Stuttgart

- 40,500 Euro-pallet racks 16 aisles with 16 storage and retrieval devices
- 35,900 bin locations in the automatic small parts warehouse capacity: 1,000 bins per hour
- 670 storage spaces in the heavy load warehouse: Reels to max. 4,000 kg and 2.20 m diameter
- 2 km conveyor line for pallets
- Conveyor connection directly to the length-cutting machines
- Manual processes reduced to merely packing

Infrastructure cables

Our logistics centre – Neuenhagen/Berlin

- 11,000 cable reels in stock
- Automatic processing of reels to 2.80 m Ø and 10 t
- 10 rewinding machines
- Cut to length with state-of-the-art 1,200 mm² cutting tools
- 24 h delivery is possible

CONTROL CABLE | Flexible cables for fixed installation or occasional movements

Control cables	Sheath material	Screening	Voltage class	without UL Standard	UV-resistant	Colour	Core number	Temperature range	Cat. page
					Laying outside	Increased oil resistance*	Cross section	flexing	
								Fixed installation	
Halogen-free cables are marked in red / Bio-oil & microbe-resistant cables are marked in green / Intrinsically safe cables marked in blue	PVC	without screen	300/ 500V	JZ-500 flexible, numbered, VDE Reg.	no	grey	2 - 100	-15°C to +80°C	30
			300/ 500V	JZ-500 black flexible, numbered	no	no	0.5 - 185	-40°C to +80°C	
			300/ 500V	JZ-500 black flexible, numbered	yes	black	2 - 25	-15°C to +80°C	32
			300/ 500V	JB-500 flexible, colour coded	yes	no	0.5 - 35	-40°C to +80°C	
			300/ 500V	JB-500 flexible, colour coded	no	grey	2 - 25	-15°C to +80°C	42
			300/ 500V	JB-500 flexible, colour coded	no	no	0.5 - 2.5	-40°C to +80°C	
			300/ 500V	H05VV5-F (NYSLY6-JZ) flexible, numbered, extremely oil resistant	no	grey	2 - 65	-5°C to +70°C	35
			300/ 500V	H05VV5-F (NYSLY6-JZ) flexible, numbered, extremely oil resistant	no	yes	0.5 - 2.5	-40°C to +70°C	
			300/ 500V	JZ-500 orange flexible, VDE-Reg., for interlocking purposes	no	orange	2 - 5	-15°C to +80°C	33
			300/ 500V	JZ-500 orange flexible, VDE-Reg., for interlocking purposes	no	no	1 - 2.5	-40°C to +80°C	
		300/ 500V	H05VV-F PVC sheathed cable	no	bw o. w	2 - 100	-5°C to +70°C	46	
		300/ 500V	H05VV-F PVC sheathed cable	no	no	0.5 - 185	-40°C to +70°C		
		300/ 500V	OZ-BL intrinsically safe, flexible, numbered	no	blue	2 - 41	-15°C to +80°C	105	
		300/ 500V	OZ-BL intrinsically safe, flexible, numbered	no	no	0.75 - 2.5	-40°C to +80°C		
		450/ 750V	JB-750 flexible, colour coded	no	grey	2 - 11	-15°C to +80°C	43	
		450/ 750V	JB-750 flexible, colour coded	no	no	2.5 - 185	-40°C to +80°C		
		450/ 750V	JB-750 yellow flexible, for warning indication	no	yellow	3 - 5	-15°C to +80°C	44	
		450/ 750V	JB-750 yellow flexible, for warning indication	no	no	1.5 - 2.5	-40°C to +80°C		
		0,6/ 1kV	JZ-600 flexible, numbered	yes	black	2 - 100	-15°C to +80°C	40	
		0,6/ 1kV	JZ-600 flexible, numbered	yes	no	0.5 - 185	-40°C to +80°C		
		300/ 500V	F-CY-JZ flexible, numbered, Cu-screened, VDE Reg.	no	grey	2 - 100	-10°C to +80°C	50	
		300/ 500V	F-CY-JZ flexible, numbered, Cu-screened, VDE Reg.	no	no	0.5 - 50	-40°C to +80°C		
		300/ 500V	JZ-500 C black flexible, numbered	yes	grey	2 - 100	-10°C to +80°C	52	
		300/ 500V	JZ-500 C black flexible, numbered	yes	no	0.5 - 50	-40°C to +80°C		
		300/ 500V	H05VVC4V5-K (NYSLYCYÖ-JZ) flexible, numbered, oil-resistant, Cu-screened	no	grey	2 - 65	-5°C to +70°C	57	
		300/ 500V	H05VVC4V5-K (NYSLYCYÖ-JZ) flexible, numbered, oil-resistant, Cu-screened	no	yes	0.5 - 2.5	-40°C to +70°C		
		300/ 500V	Y-CY-JZ flexible, numbered, transparent, Cu-screened	no	transp.	2 - 100	-15°C to +80°C	53	
		300/ 500V	Y-CY-JZ flexible, numbered, transparent, Cu-screened	no	no	0.5 - 150	-40°C to +80°C		
300/ 500V	Y-CY-JB flexible, colour coded, transparent, Cu-screened	no	transp.	2 - 5	-15°C to +80°C	62			
300/ 500V	Y-CY-JB flexible, colour coded, transparent, Cu-screened	no	no	0.5 - 185	-40°C to +80°C				
300/ 500V	SY-JZ flexible, numbered, with steel wire braiding	no	transp.	2 - 100	-15°C to +80°C	55			
300/ 500V	SY-JZ flexible, numbered, with steel wire braiding	no	no	0.5 - 150	-40°C to +80°C				
300/ 500V	SY-JB flexible, colour coded with steel wire braiding	no	transp.	2 - 12	-15°C to +80°C	64			
300/ 500V	SY-JB flexible, colour coded with steel wire braiding	no	no	0.5 - 150	-40°C to +80°C				
300/ 500V	OZ-BL-CY intrinsically safe, flexible, numbered, Cu-screened	no	blue	2 - 41	-10°C to +80°C	106			
300/ 500V	OZ-BL-CY intrinsically safe, flexible, numbered, Cu-screened	no	no	0.5 - 1.5	-40°C to +80°C				
300/ 500V	OB-BL-PAAR-CY intrinsically safe, flexible, numbered, Cu-screened	no	blue	2 - 25	-10°C to +80°C	107			
300/ 500V	OB-BL-PAAR-CY intrinsically safe, flexible, numbered, Cu-screened	no	no	0.5 - 0.75	-30°C to +80°C				
0,6/ 1kV	JZ-600-Y-CY flexible, numbered, Cu-screened	yes	black	2 - 25	-15°C to +80°C	60			
0,6/ 1kV	JZ-600-Y-CY flexible, numbered, Cu-screened	yes	no	0.5 - 185	-40°C to +80°C				
0,6/ 1kV	TOPFLEX® 600-C-PVC Motor power supply, Cu-screened	no	grey	4	-15°C to +80°C	198			
0,6/ 1kV	TOPFLEX® 600-C-PVC Motor power supply, Cu-screened	no	no	1.5 - 120	-40°C to +80°C				
Oil-resistant PUR	without screen	300/ 500V	JZ-500 PUR Wear resistant, numbered	yes	grey	2 - 42	-15°C to +80°C	67	
		300/ 500V	JZ-500 PUR Wear resistant, numbered	yes	no	0.5 - 16	-40°C to +80°C		
		300/ 500V	PURö-JZ Wear resistant, coolant-resistant, extremely oil resistant	yes	grey	2 - 50	-20°C to +80°C	68	
		300/ 500V	PURö-JZ Wear resistant, coolant-resistant, extremely oil resistant	yes	no	0.5 - 95	-40°C to +80°C		
		300/ 500V	PUR-ORANGE (also available as PUR-yellow, see page 71) abrasion resistant, coolant-resistant	yes	orange	2 - 7	-15°C to +80°C	70	
		300/ 500V	PUR-ORANGE (also available as PUR-yellow, see page 71) abrasion resistant, coolant-resistant	yes	yes	0.75 - 35	-40°C to +80°C		
		300/ 500V	H05BQ-F / H07BQ-F abrasion resistant, wear resistant, tear and cut-resistant	yes	orange	2 - 12	-40°C to +80°C	72	
		300/ 500V	H05BQ-F / H07BQ-F abrasion resistant, wear resistant, tear and cut-resistant	yes	no	0.75 - 240	-50°C to +90°C		
		300/ 500V	UNIPUR flexible at low temperature, wear resistant, robust, colour coded	yes	n. Kw.	2 - 41	-40°C to +90°C	73	
		300/ 500V	UNIPUR flexible at low temperature, wear resistant, robust, colour coded	yes	yes	0.5 - 16	-		
	450/ 750V	PUR-750 flexible at low temperature, colour coded, halogen-free	yes	orange	2 - 25	-40°C to +80°C	75		
	450/ 750V	PUR-750 flexible at low temperature, colour coded, halogen-free	yes	yes	0.75 - 120	(short +100°C)			
	300/ 500V	F-C-PURö-JZ Notch resistant, numbered, coolant-resistant	yes	grey	2 - 50	-20°C to +80°C	78		
	300/ 500V	F-C-PURö-JZ Notch resistant, numbered, coolant-resistant	yes	no	0.5 - 6	-40°C to +80°C			
300/ 500V	YÖ-C-PURö-JZ Notch resistant, numbered, coolant-resistant	yes	grey	2 - 50	-20°C to +80°C	80			
300/ 500V	YÖ-C-PURö-JZ Notch resistant, numbered, coolant-resistant	yes	yes	0.5 - 120	-40°C to +80°C				
300/ 500V	UNIPUR-CP flexible at low temperature, wear resistant, robust, colour coded, Cu-screended	yes	n. Kw.	2 - 41	-40°C to +90°C	82			
300/ 500V	UNIPUR-CP flexible at low temperature, wear resistant, robust, colour coded, Cu-screended	yes	yes	0.5 - 16	-				
FRNC Halogen-free	without screen	300/ 500V	JZ-500 HMH flexible, numbered, extremely fire resistant, oil-resistant, halogen-free	no	grey	2 - 65	-15°C to +70°C	86	
		300/ 500V	JZ-500 HMH flexible, numbered, extremely fire resistant, oil-resistant, halogen-free	no	yes	0.5 - 120	-40°C to +70°C		
		300/ 500V	MEGAFLEX® 500 flexible, halogen-free, flame retardant, oil-resistant	yes	grey	2 - 65	-30°C to +80°C	88	
		300/ 500V	MEGAFLEX® 500 flexible, halogen-free, flame retardant, oil-resistant	yes	no	0.5 - 150	-40°C to +80°C		
		450/ 750V	H07 ZZ-F Halogen-free, cross-linked sheathed cable	no	black	1 - 36	-5°C to +70°C	90	
	450/ 750V	H07 ZZ-F Halogen-free, cross-linked sheathed cable	no	no	1.5 - 300	-20°C to +70°C			
	450/ 750V	JB-750 HMH flexible, colour-coded, halogen-free, extremely fire resistant, oil-resistant	no	grey	3 - 5	-15°C to +70°C	93		
	450/ 750V	JB-750 HMH flexible, colour-coded, halogen-free, extremely fire resistant, oil-resistant	no	yes	1.5 - 120	-40°C to +70°C			
	0,6/ 1kV	JZ-600 HMH flexible, numbered, extremely fire resistant, oil-resistant, halogen-free	yes	black	2 - 25	-15°C to +70°C	91		
	0,6/ 1kV	JZ-600 HMH flexible, numbered, extremely fire resistant, oil-resistant, halogen-free	yes	yes	0.5 - 120	-40°C to +70°C			
300/ 500V	JZ-500 HMH-C flexible, numbered, oil-resistant, halogen-free, Cu-screened, extremely fire resistant	no	grey	2 - 25	-15°C to +70°C	96			
300/ 500V	JZ-500 HMH-C flexible, numbered, oil-resistant, halogen-free, Cu-screened, extremely fire resistant	no	yes	0.5 - 120	-40°C to +70°C				
300/ 500V	MEGAFLEX® 500-C flexible, halogen-free, flame retardant, oil-resistant, Cu-screened	yes	grey	2 - 25	-30°C to +80°C	98			
300/ 500V	MEGAFLEX® 500-C flexible, halogen-free, flame retardant, oil-resistant, Cu-screened	yes	no	0.5 - 150	-40°C to +80°C				
450/ 750V	JB-750 HMH-C flexible, colour-coded, oil-resistant, halogen-free, Cu-screened, extremely fire resistant	no	grey	3 - 5	-15°C to +70°C	102			
450/ 750V	JB-750 HMH-C flexible, colour-coded, oil-resistant, halogen-free, Cu-screened, extremely fire resistant	no	yes	1.5 - 120	-40°C to +70°C				
0,6/ 1kV	JZ-600 HMH-C flexible, numbered, oil-resistant, halogen-free, Cu-screened, extremely fire resistant	yes	black	3 - 25	-15°C to +70°C	100			
0,6/ 1kV	JZ-600 HMH-C flexible, numbered, oil-resistant, halogen-free, Cu-screened, extremely fire resistant	yes	yes	0.5 - 150	-40°C to +70°C				
TPE-O Oil-resistant	without screen	300/ 500V	KOMPOFLEX JZ-500 halogen-free, numbered, microbe-resistant	yes	black	2 - 61	-30°C to +90°C	112	
	300/ 500V	KOMPOFLEX JZ-500 halogen-free, numbered, microbe-resistant	yes	yes	0.5 - 50	-40°C to +100°C			
with screen	300/ 500V	KOMPOFLEX JZ-500-C halogen-free, numbered, Cu-screen	yes	black	2 - 61	-30°C to +90°C	113		
300/ 500V	KOMPOFLEX JZ-500-C halogen-free, numbered, Cu-screen	yes	yes	0.5 - 50	-40°C to +100°C				

* Extremely oil resistant: Please contact us first for special applications.

Voltage class	According to UL/CSA	NFPA	UV-resistant	Colour	Core number	Temperature range	Cat. page
			Laying outside	Increased oil resistance*	Cross section	flexing	
						Fixed installation	
600V	JZ-602 flexible, numbered, two approval, oil-resistant	no	no	grey	2 - 41	-5°C to +90°C	356
			no	yes	0.5 - 120	-40°C to +90°C	
600V	JZ-603 flexible, numbered, MULTI approval, oil-resistant	no	no	grey	2 - 61	-5°C to +90°C	358
			no	yes	0.5 - 2.5	-40°C to +90°C	
0,6/ 1kV	JZ-600 UL/CSA flexible, numbered, two approval	no	yes (bw)	bw / gr	2 - 25	-5°C to +80°C	362
			yes (bw)	no	0.5 - 25	-40°C to +80°C	
0,6/ 1kV	HELUWIND WK 103w-T UV-resistant, Single-/Multicore	no	yes	black	1 - 50	-35°C to +90°C	808
			yes	no	0.34 - 400	-40°C to +90°C	
0,6/ 1kV	HELUWIND WK 103k-T UV-resistant, Single-/Multicore	no	yes	black	1 - 50	-40°C to +80°C	809
			yes	no	0.34 - 400	-40°C to +80°C	
600V	TRAYCONTROL 500 flexible, numbered, oil-resistant TC-ER, PLTC-ER, ITC-ER	yes	no	grey	2 - 61	-5°C to +90°C	359
			no	yes	AWG20 - 4/0	-40°C to +90°C	
600V	JZ 604 TC TRAY CABLE flexible, numbered, exposed run	yes	yes	black	2 - 25	-5°C to +90°C	364
			yes	yes	AWG18 - 4/0	-25°C to +90°C	
600V	TRAYCONTROL 600 flexible, numbered, oil-resistant, exposed run	yes	yes	black	2 - 61	-	366
			yes	yes	AWG18 - 500KCMIL	-40°C to +90°C	
300V	H05VV-F/SIT flexible, colour coded	no	no	bw, gr, wh	2 - 5	-5°C to +90°C	368
			no	no	AWG17 - 11	-40°C to +60°C	
600V	JZ-602-CY flexible, numbered, screened, two approval, oil-resistant, inner sheath	no	no	grey	2 - 41	-5°C to +90°C	373
			no	yes	0.5 - 120	-40°C to +90°C	
600V	JZ-603-CY flexible, numbered, screened, MULTI approval, inner sheath	no	no	grey	2 - 61	-5°C to +90°C	375
			no	yes	0.5 - 2.5	-40°C to +90°C	
0,6/ 1kV	JZ-600-Y-CY UL/CSA flexible, numbered, screened, two approval, oil-resistant, inner sheath	no	yes (bw)	bw o. gr	2 - 25	-5°C to +80°C	378
			yes (bw)	no	0.5 - 25	-40°C to +80°C	
0,6/ 1kV	HELUWIND WK 103w EMV D-T UV-resistant, Single-/Multicore	no	yes	black	1 - 50	-35°C to +90°C	808
			yes	yes	0.34 - 300	-40°C to +90°C	
0,6/ 1kV	HELUWIND WK 103k EMV D-T UV-resistant, Single-/Multicore	no	yes	black	1 - 50	-40°C to +80°C	809
			yes	yes	0.34 - 300	-40°C to +80°C	
600V	TRAYCONTROL 500-C flexible, numbered, oil-resistant, Cu-screened, exposed run TC-ER, PLTC-ER, ITC-ER	yes	no	grey	2 - 735	-5°C to +90°C	376
			no	yes	AWG20 - 2	-40°C to +90°C	
600V	JZ 604-FCY TC TRAY CABLE flexible, numbered, exposed run	yes	yes	black	2 - 61	-5°C to +90°C	380
			yes	yes	AWG18 - 8	-25°C to +90°C	
600V	JZ 604-YCY TC TRAY CABLE flexible, numbered, exposed run, inner sheath	yes	yes	black	3 - 7	-5°C to +90°C	381
			yes	yes	AWG6 - 4/0	-25°C to +90°C	
600V	TRAYCONTROL 600-C flexible, numbered, oil-resistant, exposed run	yes	yes	black	3 - 25	-	382
			yes	yes	AWG18 - 2	-40°C to +90°C	
600V	JZ-602-PUR flexible, numbered, two approval, oil-resistant	no	yes	grey	2 - 41	-5°C to +80°C	384
			yes	yes	0.5 - 25	-40°C to +80°C	
0,6/ 1kV	JZ-600 PUR flexible, numbered, wear resistant, coolant-resistant, oil-resistant	no	yes	bw o. gr	2 - 25	-5°C to +80°C	387
			yes	yes	0.5 - 25	-40°C to +80°C	
0,6/ 1kV	HELUWIND WK 135-T UV-resistant, Single-/Multicore 90°C	no	yes	black	1 - 32	-40°C to +90°C	810
			yes	yes	0.34 - 400	-40°C to +90°C	
0,6/ 1kV	HELUWIND WK 137-T FT4 UV-resistant, Single-/Multicore 90°C	no	yes	black	3 - 18	-40°C to +90°C	811
			yes	yes	0.75 - 35	-40°C to +90°C	
600V	JZ-602-C-PUR flexible, numbered, Cu-screened, two approval, oil-resistant, inner sheath	no	yes	grey	2 - 41	-5°C to +80°C	389
			yes	yes	0.5 - 120	-40°C to +80°C	
0,6/ 1kV	JZ-600-YC-PUR flexible, numbered, notch resistant, coolant-resistant, oil-resistant, Cu-screened	no	yes	bw o. gr	2 - 25	-5°C to +80°C	390
			yes	yes	0.5 - 16	-40°C to +80°C	
0,6/ 1kV	HELUWIND WK 135 D-EMV T UV-resistant, Single-/Multicore 90°C	no	yes	black	1 - 32	-40°C to +90°C	810
			yes	yes	0.34 - 300	-40°C to +90°C	
600V	MEGAFLEX® 500 Halogen-free, flame-retardant, oil resistant, UV resistant, numbered	no	yes	grey	2 - 65	-30°C to +80°C	394
			yes	yes	0.5 - 150	-40°C to +80°C	
0,6/ 1kV	MEGAFLEX® 600 flexible, numbered, flame retardant, oil-resistant, UV-resistant	no	yes	black	2 - 65	-30°C to +80°C	396
			yes	yes	0.5 - 150	-40°C to +80°C	
0,6/ 1kV	HELUWIND WK 137-T FT4 UV-resistant, Single-/Multicore 90°C	no	yes	black	3 - 18	-40°C to +90°C	811
			yes	yes	0.75 - 35	-40°C to +90°C	
600V	MEGAFLEX® 500-C Halogen-free, flame-retardant, oil resistant, UV resistant, numbered	no	yes	grey	2 - 25	-30°C to +80°C	398
			yes	yes	0.5 - 150	-40°C to +80°C	
0,6/ 1kV	MEGAFLEX® 600-C flexible, numbered, flame retardant, oil-resistant, UV-resistant, Cu-screened	no	yes	black	2 - 25	-30°C to +80°C	400
			yes	yes	0.5 - 10	-40°C to +80°C	
0,6/ 1kV	HELUWIND WK 137 D-EMV T UV-resistant, Single-/Multicore 90°C	no	yes	black	3 - 18	-40°C to +90°C	811
			yes	yes	0.75 - 35	-40°C to +90°C	
600V	TRAYCONTROL 670 HDP oil-resistant, exposed run (TC-ER)	yes	no	orange	4	-	392
			no	yes	1 - 35	-40°C to +105°C	
600V	TRAYCONTROL 670-C HDP oil-resistant, exposed run (TC-ER)	yes	no	orange	4	-	392
			no	yes	1 - 35	-40°C to +105°C	

* Extremely oil resistant: Please contact us first for special applications.

DATA CABLES | Flexible cables for fixed installation or occasional movements

Data cables	Sheath material	Screening	Voltage class (Peak operating voltage)	without UL Standard	UV-resistant	Colour	Core number / Number of pairs	Temperature range	Cat. page
					Laying outside	Increased oil resistance*	Cross section	flexing	
								Fixed installation	
Halogen-free cables are marked in red	PVC	without screen	300/ 500V	TRONIC (LiYY) flexible, colour code according to DIN 47100	no	grey	2 - 100	-5°C to +80°C	124
					no	no	0.14 - 1.5	-40°C to +80°C	
			300/ 500V	PAAR-TRONIC twisted pairs, flexible, colour code according to DIN 47100	no	grey	1 - 55	-5°C to +80°C	126
					no	no	0.14 - 0.75	-30°C to +80°C	
		350V	SENSORFLEX Sensor actuator cable, colour coded	no	gb/or	3 - 5	-5°C to +80°C	128	
				no	no	0.25 - 0.34	-30°C to +80°C		
		300/500V	VERTEILERFLEX for sensor actuator cable, colour coded	no	grey/bw	3 - 5	-5°C to +80°C	129	
				no	no	0.25 - 0.34	-30°C to +80°C		
	with screen	250V	PAAR-TRONIC-Li-2YCYV PE-insulated, low capacitance, Termi-Point®, colour-coded	no	black	2 - 10	-5°C to +70°C	138	
				yes	no	0.22 - 1	-30°C to +80°C		
		250V	PAAR-TRONIC-Li-2YCY PE-insulated, low capacitance, Termi-Point®, colour-coded	no	grey	2 - 10	-5°C to +70°C	139	
				no	no	0.2	-30°C to +80°C		
		350V	LiFYCY Highly flexible, in pairs, fully screened	no	grey	2 - 32	-5°C to +70°C	140	
				no	no	0.22 - 0.5	-40°C to +70°C		
		300/ 500V	TRONIC-CY (LiY-CY) flexible, colour code according to DIN 47100, Cu-screened	no	grey	1 - 100	-5°C to +80°C	131	
				no	no	0.14 - 1.5	-40°C to +80°C		
300/ 500V	PAAR-TRONIC-CY twisted pairs, flexible, colour code according to DIN 47100, Cu-screened	no	grey	1 - 61	-5°C to +80°C	133			
		no	no	0.14 - 1.5	-30°C to +80°C				
300/ 500V	PAAR-CY-OZ twisted pairs, flexible, numbered, Cu-screened	no	grey	2 - 25	-5°C to +80°C	135			
		no	no	1 - 1.5	-40°C to +80°C				
300/ 500V	PAAR-TRONIC-CY (LiYCY-CY) twisted pairs, flexible, numbered, Cu-screened, PVC sheath overall CY pairs	no	grey	2 - 48	-5°C to +80°C	136			
		no	no	0.14 - 0.5	-40°C to +80°C				
Oil-resistant PUR	without screen								
	with screen	350V	DATAPUR-C flexible, colour code according to DIN 47100, Cu-screened	yes	grey	2 - 25	-5°C to +80°C	144	
				yes	yes	0.14 - 0.5	-40°C to +80°C		
FRNC Halogen-free	without screen	300/ 500V	DATAFLAMM Halogen-free	no	grey	2 - 50	+5°C to +70°C	130	
				no	no	0.14 - 0.75	-40°C to +70°C		
	with screen	350V	DATAFLAMM-C Halogen-free, Cu-screened	no	grey	2 - 40	+5°C to +70°C	145	
				no	no	0.14 - 0.75	-40°C to +70°C		
	with screen	350V	DATAFLAMM-C PAAR Halogen-free, Cu-screened	no	grey	2 - 18	+5°C to +70°C	146	
				no	no	0.14 - 0.75	-40°C to +70°C		

SINGLE CORES | Flexible cables for fixed installation or occasional movements

Single cores	Sheath material	Screening	Voltage class	without UL Standard	UV-resistant	Colour	Core number	Temperature range	Cat. page
					Laying outside	Increased oil resistance*	Cross section	flexing	
								Fixed installation	
Halogen-free cables are marked in red	PVC	without screen	300/ 500V	H05V-K PVC core, fine stranded	no	different	1	-5°C to +70°C	289
					no	no	0.5 - 1	-30°C to +80°C	
			450/ 750V	H07V-K/ (H)07V-K PVC core, fine stranded	no	different	1	-5°C to +70°C	291
					no	no	1.5 - 240	-30°C to +80°C	
				H05V-K 300/ 500V (H)07V-K 2-coloured 450/750V	no	different	1	-5°C to +70°C	293
					no	no	0.5 - 240	-30°C to +80°C	
				H05V-K Fassware 300/500V H07V-K Fassware 450/750V	no	different	1	-5°C to +70°C	296
					no	no	0.5 - 6	-30°C to +80°C	
				H05V-U / (H)05V-U / (H)07V-U 05= 300/ 500V, 07= 450/750V	no	different	1	-5°C to +70°C	294
					no	no	0.5 - 10	-30°C to +80°C	
	450/ 750V	H07V-R PVC single-cores multi-wire	no	different	1	-5°C to +70°C	295		
			no	no	16 - 240	-30°C to +80°C			
	300/ 500V	H05V2-K/LiYW PVC single-cores, 90°C, heat-resistant	no	different	0.5 - 1	+5°C to +90°C	303		
			no	different	0.14 - 0.5	-10°C to +105°C			
	450/ 750V	H07V2-K PVC single-cores, 90°C, heat-resistant	no	bw	1	+5°C to +90°C	304		
			no	no	1.5 - 240	-			
Oil-resistant PUR	without screen	1kV	PUR-SINGLE CORES Cold resistant, halogen-free	yes	different	1	-40°C to +80°C	299	
	with screen			yes	no	0.5 - 1.5	-		
FRNC	without screen	300/ 500V 450/ 750V	HELUTERM 145 flexible, cross-linked, halogen-free,	yes yes	different no	1 0.25 - 240	- -55°C to +145°C	305	
	with screen								

* Extremely oil resistant: Please contact us first for special applications.

Voltage class	According to UL/CSA	NPPA	UV-resistant	Colour	Core number/ Number of pairs	Temperature range	Cat. page
			Laying outside	Increased oil resistance*	Cross section	flexing	
						Fixed installation	
300V	Control cable UL (LiYY) Style 2464/300V (80°C)	no	no	bw o. gr	2 - 30	-10°C to +80°C	403
			no	no	0.14 - 1.3	-20°C to +80°C	
600V	Control cable UL (LiYY) Style 2516/600V (105°C)	no	no	bw o. gr	2 - 36	-10°C to +105°C	404
			no	no	2.08 - 3.2	-20°C to +105°C	
300V	Control cable UL (LiYY-TP) twisted pairs, Style 2464/300V (80°C)	no	no	bw o. gr	1 - 25	-10°C to +80°C	407
			no	no	0.14 - 0.56	-20°C to +80°C	
300V	TRAYCONTROL 300 flexible, oil-resistant, NPFA79	yes	no	grey	2 - 50	-25°C to +105°C	405
			no	yes	0.08 - 1.5	-	
300V	TRAYCONTROL 300 TP twisted pairs, flexible, oil-resistant, NPFA79	yes	no	grey	1 - 250	-25°C to +105°C	409
			no	yes	0.14 - 1.0	-	
300V	Control cable UL (LiYCY) Style 2464/300V (80°C), Cu-screened	no	no	bw o. gr	2 - 30	-10°C to +80°C	413
			no	no	0.14 - 1.3	-20°C to +80°C	
300V	Control cable UL (LiYCY) twisted pairs, Cu-screened, Style 2464/300V (80°C)	no	no	bw o. gr	1 - 25	-10°C to +80°C	418
			no	no	0.14 - 0.56	-20°C to +80°C	
300V	TRAYCONTROL 300-C flexible, Cu-screened, oil-resistant, NPFA79	yes	no	grey	2 - 50	-	416
			no	yes	0.08 - 1.5	-25°C to +105°C	
300V	TRAYCONTROL 300-C TP twisted pairs, flexible, Cu-screened, oil-resistant, NPFA79	yes	no	grey	1 - 25	-	420
			no	yes	0.14 - 1.0	-25°C to +105°C	
600V	Control cable UL (LiYCY) Style 2516/600V (105°C), Cu-screened	no	no	bw o. gr	2 - 30	-10°C to +105°C	415
			no	no	2.08 - 3.2	-20°C to +105°C	
0,6/ 1kV	HELUWIND WK 135-T UV-resistant, Single-/Multicore 90°C	no	yes	black	1 - 32	-40°C to +90°C	810
			yes	yes	0.34 - 400	-40°C to +90°C	
0,6/ 1kV	HELUWIND WK 135 D-EMV T UV-resistant, Single-/Multicore 90°C	no	yes	black	1 - 32	-40°C to +90°C	810
			yes	yes	0.34 - 300	-40°C to +90°C	
0,6/ 1kV	HELUWIND WK 137 D-EMV T UV-resistant, Single-/Multicore 90°C	no	yes	black	3 - 18	-40°C to +90°C	811
			yes	yes	0.75 - 35	-40°C to +90°C	
0,6/ 1kV	HELUWIND WK 137-T FT4 UV-resistant, Single-/Multicore 90°C	no	yes	black	3 - 18	-40°C to +90°C	811
			yes	yes	0.75 - 35	-40°C to +90°C	
0,6/ 1kV	HELUWIND WK 137 D-EMV T UV-resistant, Single-/Multicore 90°C	no	yes	black	3 - 18	-40°C to +90°C	811
			yes	yes	0.75 - 35	-40°C to +90°C	

Voltage class	According to UL/CSA	NPPA	UV-resistant	Colour	Core number	Temperature range	Cat. page
			Laying outside	Increased oil resistance*	Cross section	flexing	
						Fixed installation	
300V	UL Style 1007, CSA TR 64 PVC single-cores, 80°C, tinned conductor	no	no	different	1	-5°C to +80°C	485
			no	no	0.13 - 5.26	-30°C to +90°C	
300V	UL Style 1569, CSA TR 64 PVC single-cores, 105°C	no	no	different	1	-5°C to +105°C	486
			no	no	0.13 - 5.26	-30°C to +105°C	
600V	UL Style 1015 PVC single-cores	no	no	different	1	-5°C to +105°C	487
			no	no	0.21 - 254	-30°C to +105°C	
600V	THREENORM PVC single core, UL Style 1013 and CSA 600V	no	no	different	1	+5°C to 70°C	488
			no	no	0.5 - 150	-10°C to +70°C	
600V	SINGLE 600 -J/-O Special single-core cables, double insulated	no	yes	bw	1	-5°C to +90°C	498
			yes	no	6 - 240	-40°C to +90°C	
0,6/ 1kV	HELUWIND WK 103w-T UV-resistant, Single-/Multicore	no	yes	black	1	-35°C to +90°C	808
			yes	no	0.34 - 400	-40°C to +90°C	
0,6/ 1kV	HELUWIND WK 103k-T UV-resistant, Single-/Multicore	no	yes	black	1	-40°C to +80°C	809
			yes	no	0.34 - 400	-40°C to +80°C	
600V	FIVENORM HAR-UL-CSA-AWM-MTW PVC-single core 600V, 105°C	yes	no	different	1	+5°C to +90°C	490
			no	no	0.5 - 1	-40°C to +105°C	
600V	THHN 90°C, PVC + Nylon single core	yes	no	different	1	+90°C dry NEC	493
			no	no	2.08 - 507	-	
600V	SINGLE 600-CY -J/-O Special single-core cables, screened, double insulated	no	yes	bw	1	-5°C to +90°C	499
			yes	no	6 - 240	-40°C to +90°C	
0,6/ 1kV	HELUWIND WK 135-T UV-resistant, Single-/Multicore 90°C	no	yes	black	1	-40°C to +90°C	810
			yes	yes	0.34 - 400	-40°C to +90°C	
300V	HELUTERM® 145 Core insulation, flexible, cross-linked, halogen-free,	no	yes	different	1	-35°C to +120°C	495
			yes	no	AWG 24 - 10	-55°C to +125°C	
600 V	HELUTERM® 145 Core insulation, flexible, cross-linked, halogen-free,	no	yes	different	1	-35°C to +120°C	496
			yes	no	0.25 - 50	-55°C to +125°C	
0,6/ 1kV	HELUWIND WK 135 D-EMV T UV-resistant, Single-/Multicore 90°C	no	yes	black	1	-40°C to +90°C	810
			no	yes	0.34 - 300	-40°C to +90°C	

* Extremely oil resistant: Please contact us first for special applications.

MOTOR AND SERVO CABLES | Flexible cables for fixed installation or occasional movements

	Sheath material	Screening	Voltage class	without UL Standard	UV-resistant	Colour	Core number / Number of pairs	Temperature range	Cat. page
					Laying outside	Increased oil resistance*	Cross section	flexing	
								Fixed installation	
Motor & servo cables	PVC	with screen	0,6/ 1kV	TOPFLEX® 600-PVC Motor cable without pair, flexible, numbered	no	grey	4	-15°C to +80°C	197
					no	no	1.5 - 120	-40°C to +80°C	
				TOPFLEX® 600-C-PVC Motor cable without pair, flexible, Cu-screened, numbered	no	grey	4	-15°C to +80°C	198
					no	no	1.5 - 120	-40°C to +80°C	
				TOPFLEX®-EMV-2YSLCYK-J Motor cables for power supply connections to frequency converters	no	transp.	4	-5°C to +70°C	204
					no	no	1,5 - 185	-40°C to +70°C	
				TOPFLEX®-EMV-3 PLUS 2YSLCY-J Motor cables for power supply connections to frequency converters	no	transp.	3	-5°C to +70°C	205
					no	no	1.5 - 240	-40°C to +70°C	
				TOPFLEX®-EMV-UV-2YSLCK-J Motor cables for power supply connections to frequency converters	yes	black	4	-5°C to +70°C	206
					yes	no	1,5 - 185	-40°C to +70°C	
				TOPFLEX®-EMV-UV-3 PLUS 2YSLCYK-J Motor-supply cable with control cores	yes	black	3	-5°C to +70°C	207
					yes	no	1.5 - 240	-40°C to +70°C	
				TOPFLEX®-EMV-UV-2XSLCYK-J Motor-supply cable with control cores	yes	black	4	-5°C to +90°C	209
		yes	no	1,5 - 185	-40°C to +90°C				
TOPFLEX®-EMV-UV-3 PLUS 2XSLCYK-J Motor-supply cable with control cores	yes	black	3	-5°C to +90°C	211				
	yes	no	1.5 - 240	-40°C to +90°C					
TOPFLEX®-EMV-UV-2XSLCH-J Motor-supply cable with control cores	no	black	4	-5°C to +90°C	213				
	no	no	1,5 - 185	-40°C to +90°C					
TOPFLEX®-EMV-UV-3 PLUS 2XSLCH-J Motor-supply cable with control cores	no	black	3	-5°C to +90°C	215				
	no	no	1.5 - 240	-40°C to +90°C					
	Oil-resistant PUR	with screen	0,6/ 1kV	TOPFLEX® MOTOR 109 Low capacitance motor power supply cable, increased load rating	yes	orange	3 - 7	-5°C to +70°C	217
					yes	no	1.5 - 25	-40°C to +80°C	

FEEDBACK CABLES | Flexible cables for fixed installation or occasional movements

	Sheath material	Screening	Voltage class	without UL Standard	UV-resistant	Colour	Core number / Number of pairs	Temperature range	Cat. page
					Laying outside	Increased oil resistance*	Cross section	flexing	
								Fixed installation	
Feedback cables	PVC	without screen							
		with screen	300V	Feedback cables PVC	no	grey	-	-5°C to +70°C	202
					no	no	-	-30°C to +80°C	
	PUR Oil-resistant	without screen							
with screen		300V	Feedback cables PUR	no	grey	-	-30°C to +80°C	203	
					no	no	-		-40°C to +80°C

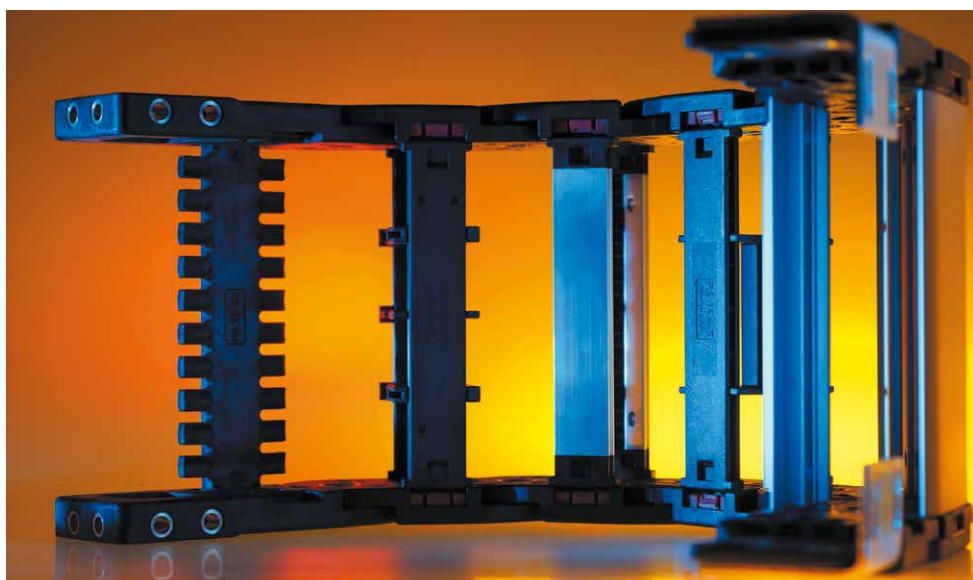
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Energy drag chains

Energy drag chains

- Open chains
- Closed chains
- Accessories
- Installation instructions
- Selection tables

YOU WILL FIND ADDITIONAL ACCESSORIES IN THE CABLE ACCESSORIES CATALOGUE!



Voltage class	According to UL/CSA	NFPA	UV-resistant	Colour	Core number/ Number of pairs	Temperature range	Cat. page
			Laying outside	Increased oil resistance*	Cross section	flexing Fixed installation	
0,6/ 1kV	TOPSERV® 108 PVC acc. to Siemens 6FX5008 Motor cable without pair, flexible, Cu-screened, numbered	no	no	orange	4 1,5 - 50	-0°C to +60°C -20°C to +80°C	465
0,6/ 1kV	TOPSERV® 112 PVC acc. to such as Siemens 6FX5008, Lenze Servo cable with single pair, flexible, Cu-screened	no	no	orange	4 1,5 - 50	0°C to +60°C -20°C to +80°C	465
0,6/ 1kV	TOPSERV® 119 PVC similar Indramat INK Servo cable with two pairs, flexible, Cu-screened	no	no	orange	4 1,5 - 50	-0°C to +60°C -20°C to +80°C	465
0,6/ 1kV	TOPFLEX® 600 VFD Motor cable without pair, flexible	yes	yes	or o. bw	4	-	458
0,6/ 1kV	TOPFLEX® 650 VFD Servo cable with single pair	yes	yes	yes	1,5 - 35	-25°C to +90°C	459
1kV	TOPFLEX®-EMV-UV-2YSLCYK Motor cables for power supply connections to frequency converters	no	yes	black	4	-5°C to +80°C	453
1kV	TOPFLEX®-EMV-UV-3 PLUS 2YSLCYK-J Motor cables for power supply connections to frequency converters	no	yes	no	1,5 - 185	-40°C to +80°C	455
1kV	TOPFLEX®-EMV-UV-2YSLAC11Y-J UL/CSA Motor cables for power supply connections to frequency converters	no	yes	black	3 1,5 - 240	-5°C to +80°C -40°C to +80°C	461
1kV	TOPFLEX® 1000 VFD Motor-supply cable with control cores	yes	yes	black	4 1,5 - 185	-5°C to +80°C -40°C to +80°C	460
1kV	TOPSERV® Hybrid Hybrid cable for SICK HIPERFACE DSL motor-feedback systems	no	yes	orange	8 0,5 - 16	-30°C to +80°C -40°C to +80°C	474

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Voltage class	According to UL/CSA	NFPA	UV-resistant	Colour	Core number/ Number of pairs	Temperature range	Cat. page
			Laying outside	Increased oil resistance*	Cross section	flexing Fixed installation	
30V + 300V	TOPGEBER 511 PVC acc. to such as Siemens 6FX5008, Lenze, similar to Indramat	no	no	gn o. or	-	-0°C to +60°C	467
30V + 300V	TOPGEBER 512 PVC acc. to such as Siemens 6FX5008, Lenze, similar to Indramat	no	yes	gn	-	-30°C to +80°C	470
			yes	no	-	-40°C to +80°C	

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Bundling, binding, and fastening

Bundling, binding, and fastening

- Plastic helix
- Cable tie
- Velcro fastener
- Mounting base

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ACCESSORIES IN THE CABLE
ACCESSORIES CATALOGUE!



PROFINET / INDUSTRIAL ETHERNET | Flexible cables for fixed installation or occasional movements

Category	Sheath material	Frequency range	without UL Standard	UV-resistant	Article number		Temperature range	Cat. page	
				Laying outside	Increased oil resistance*	Outer-Ø ca.	Flame resistant		
INDUSTRIAL ETHERNET <small>Halogen-free cables are marked in red</small>	CAT 5e	PVC							
		FRNC	100 MHz	HELUKAT® 100IND, SF/UTP 2x2xAWG24/1	no	805699	-30°C to +80°C	AUR	
			100 MHz	HELUKAT® 100IND, SF/UTP 2x2xAWG26/7	no	805701	-5°C to +60°C	AUR	
	PUR	100 MHz	HELUKAT® 100IND PROFINET A, robust 2x2xAWG22/1, Fast Connect	yes	801194	-40°C to +80°C	699		
		100 MHz	HELUKAT® 200IND S-FTP, Robustflex 4x2xAWG26/7	no	800068	-40°C to +80°C	692		
		100 MHz	HELUKAT® 100IND PROFINET A, radiation-resistant 2x2xAWG22/7, Fast Connect	yes	801195	-40°C to +80°C	700		
	CAT 6 / CAT 6A	PVC							
	CAT 7 / CAT 7A / CAT 7E	PVC	600 MHz	HELUKAT® 600IND S/STP, robust 4x2xAWG23/1	no	801197	-40°C to +80°C	687	
		FRNC	600 MHz	HELUKAT® 600IND S/FTP, SHIPLINE 4x2xAWG24/7	no	803382	-20°C to +75°C	688	
PUR									

BUS CABLES | Flexible cables for fixed installation or occasional movements

Bus system	Sheath material	Installation range	Impedance	without UL Standard	UV-resistant	Article number		Temperature range	Cat. page
					Laying outside	Increased oil resistance*	Outer-Ø ca.	Flame resistant	
Profibus 150 OHM <small>Halogen-free cables are marked in red</small>	PVC	Indoor	150 OHM	Profibus high temperature +105°C 1x2x0,64 mm		805705	-40°C to +105°C	AUR	
	PUR oil-resistant	Indoor	150 OHM	Profibus L2 1x2x0,64 mm PUR petrol	no	81186	-40°C to +70°C	706	
					no	yes	8,0 mm	IEC 60332-1-2	
	FRNC	Indoor	150 OHM	Profibus L2 1x2x0,64 mm Shipline violet	no	802178	-25°C to +80°C	711	
					no	no	8,0 mm	IEC 60332-1-2	
			150 OHM	Profibus high temperature +200°C 1x2xAWG23/1	no	805706	-50°C to +200°C	AUR	
			150 OHM	Profibus Profibus, fixed installation, PH120 1x2xAWG23/1	no	805695	-20°C to +70°C	AUR	
	PE	Outdoor	150 OHM	Profibus L2 1x2x0,64 mm PE black	yes	80792	-40°C to +70°C	706	
					yes	no	8,0 mm	-	
150 OHM			Profibus L2 1x2x0,64 mm PVC/PE black direct burial	yes	82824	-40°C to +80°C	707		
				yes	no	10,0 mm	-		
150 OHM			Profibus L2 1x2x0,64 mm PVC/PE black Direct burial armoured	yes	802177	-40°C to +80°C	707		
		yes	no	10,6 mm	-				
FEP	Outdoor, Fast Connect	150 OHM	Profibus L1 1x2x0,64 mm PE black	yes	81904	-20°C to +70°C	715		
				yes	no	9,6 mm	-		
Profibus PA 100 OHM	PVC	Indoor	100 OHM	Profibus PA armoured 1x2x1,0/2,55 PVC/PVC black	yes	802181	-20°C to +70°C	715	
					yes	no	10,2 mm	IEC 60332-1-2	
			100 OHM	Profibus PA armoured 1x2x1,0/2,55 PVC/PVC blue EX	no	802180	-20°C to +70°C	715	
					no	no	10,2 mm	IEC 60332-1-2	

* Extremely oil resistant: Please contact us first for special applications.
AUR = Available upon request, or refer to the "Data, Network and BUS Technology" catalogue

Frequency range	According to UL/CSA	NFPA	UV-resistant	Article number		Temperature range	Cat. page
			Laying outside	Increased oil resistance*	Outer-Ø ca.	Flame resistant	
100 MHz	HELUKAT® 100IND PROFinet A FRNC, fixed laying CMG 2x2xAWG22/1, Fast Connect	yes	no	no	805653	-40°C to +80°C IEC 60332-3	699
100 MHz	HELUKAT® 100IND PROFinet B, flexible CMG 2x2xAWG22/7, Fast Connect	yes	yes	no	800654	-40°C to +70°C IEC 60332-1-2	703
100 MHz	HELUKAT® 100IND PROFinet B, Festoon 2x2xAWG22/7, Fast Connect	yes	yes	no	803295	-10°C to +80°C IEC 60332-3	702
100 MHz	HMCB200 Industrial Ethernet PVC green UL Style 2502	no	no	no	802471	-20°C to +80°C IEC 60332-1	724
100 MHz	HMCB500S Industrial Ethernet PVC green UL Style 2502	no	no	no	803672	0°C to +60°C IEC 60332-1	725
100 MHz	HELUKAT® 100IND PROFinet A FRNC, fixed laying CMG 2x2xAWG22/1, Fast Connect	yes	no	no	805653	-40°C to +80°C IEC 60332-3	699
100 MHz	HELUKAT® 100IND PROFinet B, flexible CMG 2x2xAWG22/7, Fast Connect	yes	yes	yes	800654	-40°C to +70°C IEC 60332-1-2	703
100 MHz	HELUKAT® 100IND PROFinet B, hybrid UL style 21282 2x2xAWG22/7+4x1,5	no	yes	no	801651	-40°C to +70°C IEC 60332-1-2	701
100 MHz	HELUKAT® 100IND PROFinet B, WINDKRAFT 105°C 2x2xAWG22/7, Fast Connect	yes	yes	no	802293	-40°C to +105°C IEC 60332-3	693
100 MHz	HELUKAT® 100IND PROFinet B, Shipline 2x2xAWG22/7, Fast Connect	yes	yes	no	802185	-40°C to +70°C IEC 60332-3	702
	Cables are only available without UL/CSA standard; shown on the opposite column, left page						
250 MHz	HELUKAT® 250IND SF/UTP, AWM 4x2xAWG24/1	no	no	no	805681	-40°C to +80°C IEC 60332-3	AUR
250 MHz	HELUKAT® 250IND SF/UTP, CMG 4x2xAWG24/1	yes	no	no	805655	-40°C to +80°C IEC 60332-3	AUR
500 MHz	HELUKAT® 500IND S/FTP, 10GIG CM 4x2xAWG22/1	yes	no	yes	803693	-40°C to +70°C IEC 60332-1-2	690
	Cables are only available without UL/CSA standard; shown on the opposite column, left page						
	Cables are only available without UL/CSA standard; shown on the opposite column, left page						
600 MHz	HELUKAT® 600IND S/FTP, Robustflex UL style 20963 4x2xAWG26/7	no	no	yes	802184	-40°C to +80°C IEC 60332-1-2	689

Impedance	acc. to UL/CSA (please note exceptions)	NFPA	UV-resistant	Article number		Temperature range	Cat. page
			Laying outside	Increased oil resistance*	Outer-Ø ca.	Flame resistant	
150 OHM	Profibus L2 1x2x0,64 mm PVC grey CMX	yes	no	no	80384	-40°C to +70°C IEC 60332-1-2	705
150 OHM	Profibus L2 1x2x0,64 mm PVC violet CMX	yes	no	no	81448	-40°C to +70°C IEC 60332-1-2	705
150 OHM	Profibus SK 1x2x0,64 mm VC violet CMG Fast Connect	yes	yes	no	81903	-40°C to +80°C IEC 60332-3	717
150 OHM	Profibus L2/FIP 7-wire 1x2x0,64 mm PVC violet UL 2571 continuous movements, no CSA!	no	no	no	800648	-20°C to +80°C EN 50265-2-1	708
150 OHM	Profibus SK 1x2x0,64 mm PUR violet UL style 20236 Fast Connect	no	yes	yes	81905	-40°C to +70°C IEC 60332-1-2	718
150 OHM	Profibus SK 1x2x0,64 mm FRNC violet CM Fast Connect	yes	no	no	81501	-25°C to +70°C EN 50265-2-1	718
	Cables are only available without UL/CSA standard; shown on the opposite column, left page						
	Cables are only available without UL/CSA standard; shown on the opposite column, left page						
100 OHM	Profibus PA 1x2x1,0/ 2,55 mm PVC black UL Style 2571, no CSA!	no	no	no	82836	-30°C to +80°C IEC 60332-1-2	714
100 OHM	Profibus PA Long Distance 1x2x1,6/ 3,2 mm PVC black, no CSA! UL Style 2571	no	no	no	800715	-40°C to +70°C IEC 60332-1-2	716
100 OHM	Profibus PA 1x2x1,0/2,55 mm PVC blue EX, UL Style 2571, no CSA	no	no	no	82835	-30°C to +80°C IEC 60332-1-2	714
100 OHM	Profibus PA Long Distance 1x2x1,6/3,2 mm PVC blue EX no SCA, UL Style 2571	no	no	no	800650	-40°C to +70°C IEC 60332-1-2	716

* Extremely oil resistant: Please contact us first for special applications.

AUR = Available upon request, or refer to the "Data, Network and BUS Technology" catalogue

BUS CABLES | Flexible cables for fixed installation or occasional movements

Bus system	Sheath material	Installation range	Impedance	without UL Standard	UV-resistant	Article number		Temperature range	Cat. page	
					Laying outside	Increased oil resistance*	Outer-Ø ca.	Flame resistant		
CAN BUS 120 OHM <small>Halogen-free cables are marked in red</small>	PVC	Indoor		Cables are only available with UL/CSA standard; shown on the opposite column, right page						
			Outdoor		120 OHM	CAN Bus direct burial, PE 1x2x0,50 mm ²	yes	804268	-40°C to +70°C	AUR
					120 OHM	CAN Bus direct burial, PE 4x1x0,50 mm ²	yes	804269	-40°C to +70°C	AUR
	PUR oil-resistant	Indoor		Cables are only available with UL/CSA standard; shown on the opposite column, right page						
DEVICENET 120 OHM <small>Halogen-free cables are marked in red</small>	PVC	Indoor		Cables are only available with UL/CSA standard; shown on the opposite column, right page						
	FRNC	Indoor		Cables are only available with UL/CSA standard; shown on the opposite column, right page						
	Oil-resistant PUR	Indoor		Cables are only available with UL/CSA standard; shown on the opposite column, right page						
	CPE	Indoor		Cables are only available with UL/CSA standard; shown on the opposite column, right page						
INTER BUS 100 OHM <small>Halogen-free cables are marked in red</small>	PVC	Indoor		Cables are only available with UL/CSA standard; shown on the opposite column, right page						
	FRNC	Indoor	100 OHM	I-BUS long-distance BUS, fixed installation indoor halogen-free pastel-turquoise 3x2x0,22	no	81557	-25°C to +60°C	743		
	PUR oil-resistant	Indoor	100 OHM	I-BUS long-distance BUS, drag chain PUR pastel-turquoise 3x2x0,25, for use in drag chains.	no	81203	-20°C to +70°C	744		
			100 OHM	I-BUS Insta long-distance BUS, drag chain PUR pastel-turquoise 3x2x0,25 + 3x1,0, for use in drag chains.	no	82696	-20°C to +70°C	744		
AS-INTERFACE <small>Halogen-free cables are marked in red</small>	EPDM (rubber)	Indoor	-	A-BUS EPDM yellow 2x1,5 mm²	no	80824	-40°C to +85°C	747		
			-	A-BUS EPDM black 2x1,5 mm²	yes	80825	-40°C to +85°C	747		
			-	A-BUS EPDM yellow 2x2,5 mm²	no	804408	-40°C to +85°C	748		
			-	A-BUS EPDM black 2x2,5 mm²	yes	804409	-40°C to +85°C	748		
	TPE	Indoor	-	A-BUS TPE yellow 2x1,5 mm²	no	801846	-40°C to +105°C	751		
			-	A-BUS TPE black 2x1,5 mm²	yes	801847	-40°C to +105°C	751		
	FRNC	Indoor		Cables are only available with UL/CSA standard; shown on the opposite column, right page						
	PUR oil-resistant	Indoor		Cables are only available with UL/CSA standard; shown on the opposite column, right page						
FOUNDATION™ Fieldbus	PVC			Cables are only available with UL/CSA standard; shown on the opposite column, right page						

* Extremely oil resistant: Please contact us first for special applications.

Impedance	acc. to UL/CSA (please note exceptions)	NFPA	UV-resistant	Article number		Temperature range	Cat. page
			Laying outside	Increased oil resistance*	Outer-Ø ca.	Flame resistant	
120 OHM	CAN Bus 1x2x0,22 mm² PVC violet UL style 2571 no CSA!	no	no	no	81286	-40°C to +70°C IEC 60332-1-2	731
120 OHM	CAN Bus 4x1x0,22 mm² PVC violet UL style 2571 no CSA!	no	no	no	81287	-40°C to +70°C IEC 60332-1-2	731
120 OHM	CAN Bus 2x2x0,22 mm² PVC violet UL style 2571	no	no	no	82509	-25°C to +70°C IEC 60332-1-2	732
120 OHM	CAN Bus 1x2x0,34 mm² PVC violet UL style 2571 no CSA!	no	no	no	801572	-30°C to +70°C IEC 60332-1-2	734
120 OHM	CAN Bus 4x1x0,34 mm² PVC violet UL style 2571 no CSA!	no	no	no	801573	-30°C to +70°C IEC 60332-1-2	734
120 OHM	CAN Bus 2x2x0,34 mm² PVC violet CMX	yes	no	no	803344	-40°C to +70°C IEC 60332-1-2	735
120 OHM	CAN Bus 1x2x0,5 mm² PVC violet UL style 2571 no CSA!	no	no	no	800571	-40°C to +70°C IEC 60332-1-2	736
120 OHM	CAN Bus 4x1x0,5 mm² PVC violet UL style 2571 no CSA!!	no	no	no	800685	-40°C to +70°C IEC 60332-1-2	736
120 OHM	CAN Bus 2x2x0,5 mm² PVC violet CMX	yes	no	no	803722	-40°C to +70°C IEC 60332-1-2	737
120 OHM	CAN Bus 1x2x0,75 mm² PVC violet UL style 2571	no	no	no	803383	-40°C to +70°C IEC 60332-1-2	739
120 OHM	CAN Bus 4x1x0,75 mm² PVC violet UL style 2571	no	no	no	803384	-40°C to +70°C IEC 60332-1-2	739
Cables are only available without UL/CSA standard; shown on the opposite column, left page							
120 OHM	CAN Bus 105°C 4xAWG24 PUR violet UL style 21223	no	no	yes	801982	-40°C to +105°C IEC 60332-1-2	733
120 OHM	DeviceNet™ Thick PVC grey 1x2xAWG18 + 1x2xAWG15 CMG	yes	no	yes	800683	-20°C to +80°C IEC 60332-1-2	753
120 OHM	DeviceNet™ Thin PVC grey 1x2xAWG24 + 1x2xAWG22 CMG	yes	no	yes	800684	-20°C to +80°C IEC 60332-1-2	753
120 OHM	DeviceNet™ Thick FRNC violet 1x2xAWG18 + 1x2xAWG15, CL2 CMG	yes	no	no	800681	-25°C to +80°C IEC 60332-1-2	754
120 OHM	DeviceNet™ Thin FRNC violet 1x2xAWG24 + 1x2xAWG22, CL2 CMG	yes	no	no	800682	-25°C to +80°C IEC 60332-1-2	754
120 OHM	DeviceNet™ Thick PUR violet 1x2xAWG18 + 1x2xAWG15, CMX	yes	no	yes	81909	-40°C to +80°C VW1	756
120 OHM	DeviceNet™ Thin PUR violet 1x2xAWG24 + 1x2xAWG22, CMX	yes	no	yes	81910	-40°C to +80°C VW1	756
120 OHM	DeviceNet™ Thick CPE yellow 1x2xAWG18 + 1x2xAWG15 CMG PLTC	yes	no	no	81907	-20°C to +60°C FT4	755
120 OHM	DeviceNet™ Thin CPE yellow 1x2xAWG24 + 1x2xAWG22 CL2 CMG	yes	no	no	81908	-20°C to +60°C FT4	755
100 OHM	I-BUS long-distance BUS, fixed installation indoor PVC pastel-turquoise 3x2x0,22, no CSA! UL style 2571	no	no	-	80778	-40°C to +70°C IEC 60332-1-2	742
100 OHM	I-BUS Insta long-distance BUS, fixed installation indoor PVC pastel-turquoise 3x2x0,22 + 3x1,0, no CSA! UL style 2571	no	no	-	81202	-40°C to +70°C IEC 60332-1-2	742
Cables are only available without UL/CSA standard; shown on the opposite column, left page							
Cables are only available without UL/CSA standard; shown on the opposite column, left page							
Cables are only available without UL/CSA standard; shown on the opposite column, left page							
-	A-BUS TPE, UL CMG, black 2x1,5 mm²	yes	yes	yes	804693	-40°C to +105°C IEC 60332-1-2	AUR
-	A-BUS TPE, UL CMG, yellow 2x1,5 mm²	yes	no	yes	805694	-40°C to +105°C IEC 60332-1-2	AUR
-	A-BUS for switch cabinets FLIH yellow 2x0,86/2,5, UL style 20549 no CSA!	no	no	yes	802183	-25°C to +70°C IEC 60332-1-2	752
-	A-BUS PUR yellow 2x1,5 mm² UL style 20549	no	no	yes	82434	-40°C to +80°C IEC 60332-1-2	749
-	A-BUS PUR black 2x1,5 mm² UL style 20549	no	yes	yes	82822	-40°C to +80°C IEC 60332-1-2	749
-	A-BUS PUR yellow 2x2,5 mm² UL Style 21866	no	no	yes	804410	-40°C to +80°C FT2	750
-	A-BUS PUR black 2x2,5 mm² UL Style 21866	no	yes	yes	804411	-40°C to +80°C FT2	750
100 OHM	FOUNDATION™ Fieldbus Basic 1x2x1,1/2,55 PVC orange CMG PLTC	yes	yes	no	803354	-40°C to +80°C IEC60332-3	720
100 OHM	FOUNDATION™ Fieldbus Typ A+green yellow 1x2x1,1/2,85 + 1x0,8 PVC yellow CMG CL3	yes	yes	no	801191	-25°C to +105°C IEC60332-3	721
100 OHM	FOUNDATION™ Fieldbus Typ A armoured 1x2x1,1/2,85 + 1x0,8 PVC yellow CMG PLTC	yes	yes	no	801192	-25°C to +105°C IEC60332-3	722

* Extremely oil resistant; Please contact us first for special applications.
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CONTROL CABLE | Highly flexible cables for continuous movements, such as drag chains

Control cables	Sheath material	Screening	Drag chain class	Voltage class	without UL Standard	UV-resistant	Colour	Core number	Temperature range	Cat. page
						Laying outside	Increased oil resistance*	Cross section	flexing	
									Fixed installation	
Halogen-free cables are marked in red / Bio-oil & fuel-resistant cables are marked in green	PVC	without screen	300/ 500V	300/ 500V	JZ-HF highly flexible, numbered, oil-resistant, VDE-Reg.	no	grey	2 - 65	-10°C to +80°C	160
						no	yes	0.5 - 16	-40°C to +80°C	
						yes	black	2 - 42	-15°C to +80°C	
		with screen	300/ 500V	300/ 500V	MULTISPEED® 500-PVC Highly flexible, numbered, low torsion, 7 or more cores are bunch stranded	yes	yes	0.5 - 2.5	-30°C to +80°C	162
						yes	yes	0.5 - 2.5	-30°C to +80°C	
						yes	yes	0.5 - 2.5	-30°C to +80°C	
	Oil-resistant PUR	without screen	300/ 500V	300/ 500V	JZ-HF-CY Highly flexible, screened, VDE-Reg., oil-resistant	no	grey	2 - 61	-10°C to +80°C	163
						no	yes	0.5 - 16	-40°C to +80°C	
						yes	black	2 - 25	-15°C to +80°C	
		with screen	300/ 500V	300/ 500V	MULTISPEED® 500-C-PVC Highly flexible, numbered, low torsion, 7 or more cores are bunch stranded, Cu-screened	yes	black	2 - 25	-15°C to +80°C	165
						yes	yes	0.5 - 2.5	-30°C to +80°C	
						yes	yes	0.5 - 2.5	-30°C to +80°C	
TPE-O Oil-resistant	without screen	300/ 500V	300/ 500V	PURö-JZ-HF Highly flexible, coolant-resistant, oil-resistant	yes	grey	2 - 65	-20°C to +80°C	167	
					yes	yes	0.5 - 95	-40°C to +80°C		
					yes	grey	2 - 65	-30°C to +80°C		
					yes	yes	0.5 - 16	-50°C to +80°C		
					yes	black	2 - 42	-30°C to +80°C		
	with screen	0,6/ 1kV	0,6/ 1kV	TOPFLEX® 611-PUR Motor power supply, halogen-free	yes	grey	4	-30°C to +80°C	199	
					yes	yes	1.5 - 120	-40°C to +80°C		
					yes	grey	2 - 65	-20°C to +80°C		
					yes	yes	0.5 - 16	-40°C to +80°C		
					yes	grey	2 - 36	-30°C to +80°C		
with screen	300/ 500V	300/ 500V	MULTIFLEX 512®-C-PUR highly flexible, extreme conditions, halogen-free, Cu-screened	yes	grey	2 - 36	-30°C to +80°C	174		
				yes	yes	0.5 - 16	-40°C to +80°C			
				yes	dark blue	2 - 25	-30°C to +80°C			
				yes	yes	0.5 - 2.5	-40°C to +80°C			
				yes	grey	2 - 25	-30°C to +80°C			
with screen	0,6/ 1kV	0,6/ 1kV	TOPFLEX® 611-C-PUR Motor power supply, halogen-free, Cu-screened	no	grey	4	-30°C to +80°C	200		
				no	yes	1.5 - 120	-40°C to +80°C			
				yes	dark blue	2 - 42	-30°C to +80°C			
				yes	yes	0.5 - 35	-40°C to +80°C			
				yes	black	2 - 25	-30°C to +90°C			
with screen	300/ 500V	300/ 500V	MULTISPEED® 500-TPE safety against high bending, low torsion, halogen-free, 7 or more cores are bunch stranded	yes	black	2 - 25	-30°C to +90°C	184		
				yes	yes	0.5 - 2.5	-40°C to +100°C			
				yes	dark blue	2 - 25	-30°C to +80°C			
				yes	yes	0.5 - 4	-40°C to +80°C			
				yes	black	2 - 25	-30°C to +90°C			
with screen	300/ 500V	300/ 500V	KOMPOSPEED JZ-HF-500 Highly flexible, halogen-free, numbered, microbe-resistant	yes	black	2 - 25	-30°C to +90°C	185		
				yes	yes	0.5 - 2.5	-40°C to +100°C			
				yes	black	2 - 25	-30°C to +90°C			
				yes	yes	0.5 - 2.5	-40°C to +100°C			
				yes	black	2 - 25	-30°C to +90°C			

* Extremely oil resistant: Please contact us first for special applications.

Cable glands

Cable glands

For standard applications:

- Plastic
- Stainless steel

For specific applications:

- Electromagnetic compatibility
- Robust applications
- Increased temperature
- Hazardous area
- Special pressure & installation conditions

YOU WILL FIND ADDITIONAL ACCESSORIES IN THE CABLE ACCESSORIES CATALOGUE!



Drag chain class	Voltage class	According to UL/CSA	NFPA	UV-resistant	Colour	Core number	Temperature range	Cat. page
				Laying outside	Increased oil resistance*	Cross section	flexing	
600V	JZ-602 RC highly flexible, red cores		no	yes	black	3 - 34	-5°C to +90°C	423
				yes	yes	0.5 - 35	-40°C to +90°C	
600V	MULTISPEED® 500-PVC UL/CSA safety against high bending, low torsion, 7 or more cores are bunch stranded, extruded as filler w/ pressure		no	yes	black	2 - 42	-5°C to +80°C	425
				yes	yes	0.5 - 2.5	-30°C to +80°C	
600V	MULTIFLEX 600 Highly flexible, oil-resistant, numbered, for exposed run TC-ER, PLTC-ER, ITC-ER		yes	yes	black	2 - 60	-5°C to +90°C	424
				yes	yes	AWG20 - AWG2	-40°C to +90°C	
600V	JZ-602 RC-CY Highly flexible, Cores red, screened (D-screen)		no	yes	black	3 - 34	-5°C to +90°C	427
				yes	yes	0.5 - 35	-40°C to +90°C	
600V	MULTISPEED® 500-C-PVC UL/CSA safety against high bending, low torsion, with inner sheath, Cu-screened, 7 or more cores are bunch stranded		no	yes	black	2 - 25	-5°C to +80°C	429
				yes	yes	0.5 - 2.5	-30°C to +80°C	
600V	MULTIFLEX 600-C Highly flexible, oil-resistant, numbered, Cu-screened, for exposed run TC-ER, PLTC-ER, ITC-ER		yes	yes	black	2 - 60	-5°C to +90°C	428
				yes	yes	AWG20 - AWG2	-40°C to +90°C	
1kV	JZ-HF-FCY Highly flexible, oil-resistant, numbered, Cu-screened,		no	no	grey	2 - 25	-5°C to +80°C	426
				no	no	AWG20 - AWG12	-40°C to +80°C	
600V	JZ 602 RC-PUR Highly flexible, numbered		no	yes	grey	3 - 34	-5°C to +80°C	430
				yes	no	0.5 - 35	-40°C to +80°C	
600V	MULTIFLEX 512®-PUR UL/CSA Highly flexible, numbered, halogen-free, two approval		no	yes	grey	2 - 65	-30°C to +80°C	431
				yes	yes	0.5 - 16	-40°C to +80°C	
600V	MULTISPEED® 500-PUR UL/CSA safety against high bending, numbered, low torsion, halogen-free, 7 or more cores are bunch stranded		no	yes	black	2 - 42	-30°C to +80°C	433
				yes	yes	0.5 - 2.5	-40°C to +80°C	
1kV	PURö-JZ-HF-FCP Highly flexible, oil-resistant, Cu-screened		no	yes	grey	2 - 25	-5°C to +80°C	435
				yes	yes	0.5 - 4	-40°C to +80°C	
600V	JZ-602 RC-C-PUR Highly flexible, numbered, with inner sheath, D-screen		no	yes	grey	3 - 34	-5°C to +80°C	436
				yes	no	0.5 - 35	-40°C to +80°C	
600V	MULTIFLEX 512®-C-PUR UL/CSA Highly flexible, numbered, halogen-free, two approval, Cu-screened		no	yes	grey	2 - 65	-30°C to +80°C	437
				yes	yes	0.5 - 16	-40°C to +80°C	
600V	MULTISPEED® 500-C-PUR UL/CSA safety against high bending, numbered, low torsion, halogen-free, 7 or more cores are bunch stranded, Cu-screened,		no	yes	black	2 - 36	-30°C to +80°C	439
				yes	yes	0.5 - 2.5	-40°C to +80°C	
1kV	MULTISPEED® 500-TPE UL/CSA safety against high bending, highly flexible, low torsion		no	yes	grey	2 - 25	-30°C to +80°C	441
				yes	yes	0.5 - 2.5	-40°C to +80°C	
1kV	MULTISPEED® 500-C-TPE UL/CSA safety against high bending, highly flexible, low torsion		no	yes	grey	2 - 25	-30°C to +80°C	443
				yes	yes	0.5 - 2.5	-40°C to +80°C	

* Extremely oil resistant: Please contact us first for special applications.

Tools

Tools

- Cable shear
- Dismantling/stripping
- Crimping/Pressing
- Shield-Kon tools
- Fastening
- Cable tie tools
- Handling
- Mounting

YOU WILL FIND ADDITIONAL ACCESSORIES IN THE CABLE ACCESSORIES CATALOGUE!



DATA CABLES | Highly flexible cables for continuous movements, such as drag chains

Data cables Halogen-free cables are marked in red	Sheath material	Screening	Drag chain class	Voltage class (Peak operating voltage)	without UL Standard	UV-resistant	Colour	Core number / Number of pairs	Temperature range	Cat. page
						Laying outside	Increased oil resistance*	Cross section	flexing	
									Fixed installation	
	PVC	without screen	300/ 500V	SUPERTRONIC®-PVC Drag chain cable, colour code acc. to DIN 47100	no	grey	2 - 25 0.14 - 0.34	-5°C to +70°C -40°C to +70°C	187	
				350V	SENSORFLEX Sensor actuator cable, colour coded	no	gb/or	3 - 5	-5°C to +80°C	128
				300/ 500V	SUPERTRONIC®-C-PVC Drag chain cable, colour code acc. to DIN 47100, Cu-screened	no	grey	2 - 25 0.14 - 0.34	-5°C to +70°C -40°C to +70°C	188
		Oil-resistant PUR	without screen	300V	SUPERTRONIC®-PUR6 Drag chain cable, colour code acc. to DIN 47100, Cu-screened	yes	grey	2 - 25 0.14 - 0.34	-5°C to +70°C -40°C to +70°C	189
					SUPERTRONIC®-C-PUR6 Drag chain cable, halogen-free, colour code acc. to DIN 47100, Cu-screened	yes	grey	2 - 25 0.14 - 0.34	-30°C to +70°C -40°C to +70°C	190
			with screen	300/ 500V	SUPER-PAAR-TRONIC-C-PUR® Drag chain cable, twisted pairs, colour code acc. to DIN 47100, Cu-screened	yes	grey	1 - 14 0.25 - 1	-30°C to +70°C -40°C to +70°C	191

SINGLE CORE | Highly flexible cables for continuous movements, such as drag chains

Single cores Halogen-free cables are marked in red	Sheath material	Screening	Drag chain class	Voltage class	without UL Standard	UV-resistant	Colour	Core number	Temperature range	Cat. page
						Laying outside	Increased oil resistance*	Cross section	flexing	
									Fixed installation	
	PVC	without screen								
		with screen								
	Oil-resistant PUR	without screen								
		with screen								
	TPE-O	without screen	0,6/ 1kV	KOMPOSPEED 600 double insulated, halogen-free, for drag chains	yes	bw	1	-30°C to +90°C	322	
		with screen	0,6/ 1kV	KOMPSPEED 600-C double insulated, halogen-free, for drag chains, Cu-screened	yes	bw	1	-30°C to +90°C		

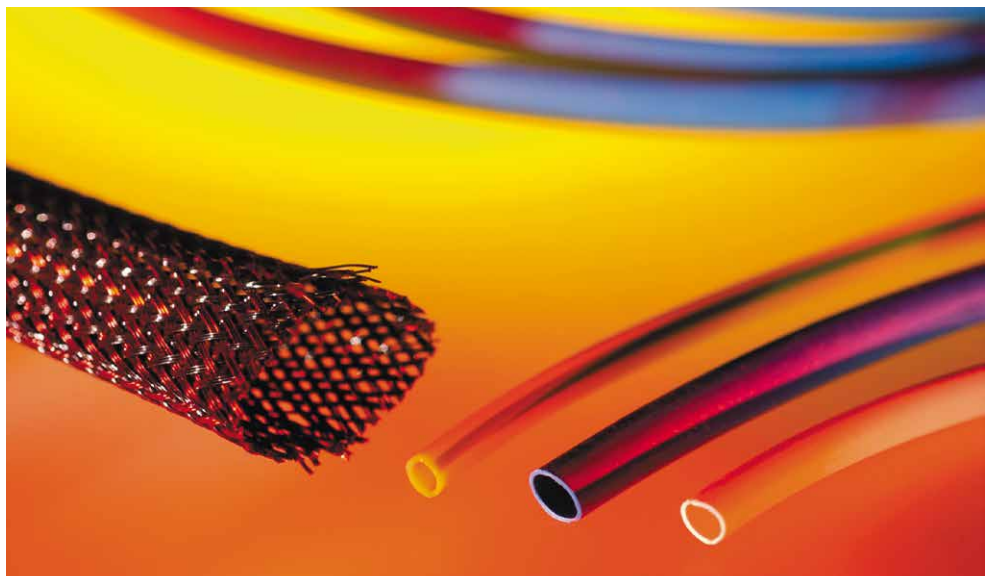
* Extremely oil resistant: Please contact us first for special applications.

Insulated, shrink, braided, and temperature protection tubes

Insulated, shrink, braided, and temperature protection tubes

- Insulation tubes
- Heat shrink tubing
- Braided hose
- High-temperature protection
- End caps

YOU WILL FIND ADDITIONAL ACCESSORIES IN THE CABLE ACCESSORIES CATALOGUE!



Drag chain class	Voltage class	According to UL/CSA	NFPA	UV-resistant	Colour	Core number/ Number of pairs	Temperature range	Cat. page
				Laying outside	Increased oil resistance*	Cross section	flexing	
							Fixed installation	
	300V	SUPERTRONIC®-310-PVC Drag chain cable, cores acc. to DIN 47100	no	no	grey	2 - 25	-5°C to +80°C	445
				no	no	0.14 - 0.34	-40°C to +80°C	
	300V	SUPERTRONIC®-310-C-PVC Drag chain cable, cores acc. to DIN 47100, Cu-screened	no	no	grey	2 - 25	-5°C to +80°C	446
				no	no	0.14 - 0.34	-40°C to +80°C	
	300V	SUPERTRONIC®-330-PURö Drag chain cable, halogen-free, cores acc. to DIN 47100	no	yes	grey	2 - 25	-30°C to +80°C	447
				yes	yes	0.14 - 0.34	-40°C to +80°C	
	300V	MULTISPEED®-TRONIC-PUR Drag chain cable, cores acc. to DIN 47100, 7 or more cores are bunch stranded, extruded as filler with pressure	no	yes	black	2 - 25	-30°C to +80°C	448
				yes	no	0.25 - 0.34	-40°C to +80°C	
	300V	SUPERTRONIC®-330-C-PURö Drag chain cable, cores acc. to DIN 47100, Cu-screened	no	yes	grey	2 - 25	-30°C to +80°C	449
				yes	yes	0.14 - 0.34	-40°C to +80°C	
	300V	SUPER-PAAR-TRONIC-340-C-PUR Drag chain cable, twisted pairs, halogen-free, cores acc. to DIN 47100, Cu-screened	no	yes	grey	1 - 14	-30°C to +80°C	451
				yes	yes	0.25 - 1	-40°C to +80°C	
	300V	MULTISPEED®-TRONIC-C-PUR Drag chain cable, Cu-screened, cores acc. to DIN 47100, 7 or more cores are bunch stranded, extruded as filler with pressure	no	yes	black	2 - 25	-30°C to +80°C	450
				yes	no	0.25 - 0.34	-40°C to +80°C	

Drag chain class	Voltage class	According to UL/CSA	NFPA	UV-resistant	Colour	Core number	Temperature range	Cat. page
				Laying outside	Increased oil resistance*	Cross section	flexing	
							Fixed installation	
	600V	SINGLE 602-RC -J/-O Special drag chains, cores 90°C, 600V	no	no	bw	1	-5°C to +90°C	501
				no	no	10 - 300	-40°C to +90°C	
	600V	SINGLE 602-RC-CY -J/-O Special drag chains, cores 90°C, 600V, screened	no	no	orange	1	-5°C to +90°C	502
				no	no	10 - 300	-40°C to +90°C	
		TOPFLEX® 301 unscreened, double insulated single core	no	no	bw	1	-15°C to +80°C	T9
				no	yes	6 - 240	-	
	0,6/ 1kV	MULTISPEED® 600-PUR -J/-O Special drag chains, cores 90°C, 600V, halogen-free	no	yes	bw	1	-30°C to +80°C	504
				yes	no	6 - 300	-40°C to +90°C	
		TOPFLEX® 301-C screened, double insulated single core	no	no	bw	1	-15°C to +80°C	T9
				no	yes	6 - 240	-	
	0,6/ 1kV	MULTISPEED® 600-C-PUR -J/-O Special drag chains, cores 90°C, 600V, screened, halogen-free	no	yes	bw	1	-30°C to +80°C	505
				yes	no	6 - 300	-40°C to +90°C	

* Extremely oil resistant: Please contact us first for special applications.

Core end sleeves and cable lugs

Core end sleeves and cable lugs

- Core end sleeves
- Shield connectors
- Solderless terminals
- Tubular cable lugs
- Compression joints

YOU WILL FIND ADDITIONAL ACCESSORIES IN THE CABLE ACCESSORIES CATALOGUE!



MOTOR and SERVO CABLES | Highly flexible cables for continuous movements, such as drag chains

Motor and servo cable Halogen-free cables are marked in red	Sheath material	Screening	Drag chain class	Voltage class	without UL Standard	UV-resistant	Colour	Core number / Number of pairs	Temperature range	Cat. page
						Laying outside	Increased oil resistance*	Cross section	flexing	
									Fixed installation	
	PVC	without screen								
		with Screen								
	Oil-resistant PUR	without screen	0,6/ 1kV	TOPFLEX®611-PUR Motor cable without pair, highly flexible, numbered, halogen-free	yes	grey	4	-30°C to +80°C	199	
		with Screen	0,6/ 1kV	TOPFLEX®611-C-PUR Motor cable without pair, Cu-screened, highly flexible, numbered, halogen-free	yes	yes	1.5 - 120	-40°C to +80°C		
		with screen	0,6/ 1kV	TOPSERV® 110 Servo cables with 1 pair	yes	petrol	4+2	-30°C to +80°C	201	
			0,6/ 1kV	TOPSERV® 120 Servo cables with 2 pairs	yes	petrol	1.5 - 50	-40°C to +80°C	201	
	TPO	without screen								
		with screen								

FEEDBACK CABLE | Highly flexible cables for continuous movements, such as drag chains

Feedback cables Halogen-free cables are marked in red	Sheath material	Screening	Drag chain class	Voltage class	without UL Standard	UV-resistant	Colour	Core number / Number of pairs	Temperature range	Cat. page
						Laying outside	Increased oil resistance*	Cross section	flexing	
									Fixed installation	
	PVC	without screen								
		with screen	350 V	Feedback cable PVC Coloured cores	no	grey	10 + 4	-5°C to +70°C	202	
	Oil-resistant PUR	without screen								
		with Screen	300 V	Feedback cable PUR	yes	grey	-	-30°C to +80°C	203	

* Extremely oil resistant: Please contact us first for special applications.

HELUTEC® SIGNAL AND POWER PLUG CONNECTORS

The innovative HELUTEC® system



This sensational, quick fastening connector is safe and stable while saving time and installation costs. The vibration resistant lock mechanism was perfected for plug connectors sizes M17, M23 and M40, which can be found in the HELUTEC® series 617, 917, 623, 723, 923 and 940. The HELUTEC® angle junction boxes can be easily combined at any time with the HELUTEC® system or with standard lock nuts. This also addresses the issue of downward compatibility. Slide it on and rotate for a tight fit. Patented perfection included.

The Patented Special Development for the HELUTEC® Series 615/915



Fits in tight locations. In areas with limited space, just wind the pre-tensioned lock nut before sliding the nut into the lock position. A small rotation with a little pull at the plug releases the lock nut preventing an unintended release of the vibration resistant quick fastener. Only a quarter turn and a slight pull on the connector is required to disconnect. The connection is absolutely vibration proof. This was specially developed and patented for the HELUTEC® series 615/915.

The freely customizable connector



Bonded for life. This overmolded connector consists of a housing and the overmold, which are bonded together and cannot be disassembled. This provides the required manipulation security for customized units - a design that is normally only available for cast versions. All commercially available cables at any length can be connected to the inner section of the robust metal housing. This is for both options: Standard screw connections or those items that include a patented fast lock system. For almost any pin design.

Voltage class	According to UL/CSA	NFPA	UV-resistant	Colour	Core number/ Number of pairs	Temperature range	Cat. page
			Laying outside	Increased oil resistance*	Cross section	flexing Fixed installation	
0,6/ 1kV	TOPSERV® PVC see catalogue for Drag chain class	no	no no	orange yes	4 1.5 - 50	-0°C to +60°C -20°C to +80°C	465
1kV	TOPSERV® Hybrid Hybrid cable for SICK HIPERFACE DSL motor-feedback systems	no	yes yes	orange no	8 0.5 - 16	-30°C to +80°C -40°C to +80°C	474
0,6/ 1kV	TOPSERV® PUR	no	yes yes	orange yes	4 1.5 - 50	-30°C to +80°C -40°C to +80°C	468
0,6/ 1kV	TOPSERV® 109 Single Drag chain cable, halogen-free, meter marking	no	no no	orange yes	1 6 - 50	-30°C to +80°C -40°C to +80°C	AUR
0,6/ 1kV	TOPSERV® 600 VFD Motor cable without pair, highly flexible	yes	yes yes	or o. bw no	4 1,5 - 35	-25°C to +90°C -	472
0,6/ 1kV	TOPSERV® 650 VFD Servo cable with single pair, highly flexible	yes	yes yes	or o. bw no	4 1,5 - 35	-25°C to +105°C -	473

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* Extremely oil resistant: Please contact us first for special applications.

Drag chain class	Voltage class	According to UL/CSA	NFPA	UV-resistant	Colour	Core number/ Number of pairs	Temperature range	Cat. page
				Laying outside	Increased oil resistance*	Cross section	flexing Fixed installation	
	30V + 300V	TOPSERV® PVC see catalogue for Drag chain class	no	no no	gn o. or yes	- -	-0°C to +60°C -20°C to +80°C	467
	30V + 300V	TOPGEBER 512 PUR acc. to Siemens 6FX8008Plus, Lenze, Indramat, Elau, B+R, Heidenhain, Berger Lahr etc.	no	yes yes	gn o. or yes	- -	-30°C to +80°C -40°C to +80°C	470

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HELUTEK®-Serie 617 / 623 / 627 Signal connectors – Controlling – Monitoring



Stable, versatile, safe: HELUTEK® series can be found where a safe connection is required within a limited installation space. The plug connectors in the 617, 623 and 627 series are designed especially for extra-low voltages, and are used in any application that transmits signals, controls motors or monitors the smooth functioning of a system. For this purpose, a multitude of multi-pin insulation bodies - matching a variety of different designs such as plugs, couplings and flush-mounted boxes - are available for the user. Consequently, HELUTEK® engineers are able to handle a multitude of customer-specific connector requirements in a very innovative way.

HELUTEK®-Serie 917 / 923 / 932 / 940 / 958 Power plug connectors – Strong and Safe



Extremely resilient: HELUTEK® power plug connectors accelerate torque heavy drive motors, spindle drives and servo motors reliably up to the highest rotational speeds while tolerating millions of abrupt starts and stops. Voltages up to 630 V and currents of up to 200 A are transferred reliably even in continuous operation and under the most demanding conditions. Cable cross sections of up to 50 mm² and the smallest possible designs are - depending on the application - part of the scope of delivery as well as a perfect EMC shielding for the highest operational and work safety. Strong vibrations and sudden stops have no impact on these plug connectors in day-to-day operations

Online configurator:
www.helukabel.de

PROFINET / INDUSTRIAL ETHERNET | Highly flexible cables for continuous movements, such as drag chains

Industrial Ethernet <small>Halogen-free cables are marked in red</small>	Sheath material	Category	Drag chain class	Frequency range	without UL Standard	UV-resistant	Part no.		Temperature range	Cat. page
						Laying outside	Increased oil resistance*	Outer-Ø ca.	Flame resistance	
PUR	CAT 5	**	100 MHz	HELUKAT® 2005 SF/UTP, drag chain 4 x 1 x AWG24/19	no	800088	-25°C to +70°C	696		
		**	100 MHz	HELUKAT® 2005 SF/UTP, drag chain 4x2xAWG24/19	no	yes	6,2 mm	IEC 60332-1-2	697	
	CAT 5e				Cables are only available with UL/CSA standard; shown on the opposite column, right page					
PUR or PVC	CAT 6 / CAT 6 _A			Cables are only available with UL/CSA standard; shown on the opposite column, right page						
	CAT 7			Cables are only available with UL/CSA standard; shown on the opposite column, right page						

BUS CABLES | Highly flexible cables for continuous movements, such as drag chains

BUS CABLES <small>Halogen-free cables are marked in red</small>	Sheath material	Installation range	Drag chain class	Impedance	without UL Standard	UV-resistant	Part no.		Temperature range	Cat. page
						Laying outside	Increased oil resistance*	Outer-Ø ca.	Flame-retardant	
Profibus	PVC	Indoor	**		Cables are only available with UL/CSA standard; shown on the opposite column, right page					
			**	150 OHM	Profibus L2 drag chain 1x2x0,64 mm (Litze) PUR petrol	no	81003	-30°C to +70°C	709	
	Oil-resistant PUR	Indoor	**	150 OHM	Profibus L2 drag chain 1x2x0,64 mm (Litze) PUR violet	no	yes	8,0 mm	IEC60332-1	709
			**			no	80267	-30°C to +70°C	709	
					Cables are only available with UL/CSA standard; shown on the opposite column, right page					
CANBUS	PUR oil-resistant	Indoor	**	120 OHM	CAN Bus drag chain 1x2x0,25 mm² PUR violet	no	81911	-40°C to +70°C	740	
			**	120 OHM	CAN Bus drag chain 4x1x0,25 mm² PUR violet	no	yes	6,1 mm	no	740
			**			no	81912	-30°C to +70°C	740	
			**			no	yes	6,5 mm	no	740
DEVICENET	Oil-resistant PUR	Indoor			Cables are only available with UL/CSA standard; shown on the opposite column, right page					
AS-INTERFACE	Oil-resistant PUR	Indoor			Cables are only available with UL/CSA standard; shown on the opposite column, right page					
POF	PUR	Indoor	**		DESINA-HYBRID BUS POF + 4x1,5	no	81713	-20°C to +80°C	712	
			**		POF/PA 2P980 I-V4Y(ZN)11Y	no	yes	8,8 mm	no	649
			**			no	801201	-20°C to +70°C	649	
						yes	8,0 mm	no	649	

* Extremely oil resistant: Please contact us first for special applications.

** Drag chain classes are available on request (dnb@helukabel.de).

Drag chain class	Frequency range	According to UL/CSA	NFPA	UV-resistant		Part no.		Temperature range		Cat. page
				Laying outside	Increased oil resistance*	Outer-Ø ca.	Flame-retardant			
**	100 MHz	HELUKAT® 100T SF/UTP, Tordierflex UL Style 20963 4x2xAWG26/19, Torsion	no	no no	no yes	800067 7,5 mm	-40°C to +80°C IEC 60332-1-2		698	
**	100 MHz	HELUKAT® 100IND PROFinet C, highly flexible CMG, PVC 2x2xAWG22/7, Fast Connect	yes	no no	yes	802914 6,5 mm	-20°C to +70°C IEC 60332-3		AUR	
**	100 MHz	HELUKAT® 100IND PROFinet C, highly flexible CMX, PUR 2x2xAWG22/7, Fast Connect	yes	no no	yes	800655 6,5 mm	-20°C to +70°C IEC 60332-1-2		703	
**	100 MHz	HELUKAT® 100IND PROFinet C, Torsion UL Style 21161 2x2xAWG26/19, no CSA!	no	no no	yes	802186 6,5 mm	-40°C to +80°C IEC 60332-1-2		704	
**	155 MHz	HELUKAT® 100S SF/UTP, drag chain ECO, UL Style 20963 4x1xAWG26/19	no	no no	yes	82838 4,8 mm	-40°C to +80°C IEC 60332-1-2		694	
**	155 MHz	HELUKAT® 100S SF/UTP, drag chain ECO, UL Style 20963 4x2xAWG26/19	no	no no	yes	82839 6,6 mm	-40°C to +80°C IEC 60332-1-2		695	
**	100 MHz	HMCB500S Industrial Ethernet PVC green UL Style 2502 2x2xAWG24+1x2xAWG22	no	no no	no	803672 6,8 mm	-20°C to +80°C no		725	
**	100 MHz	HMCB800W Industrial Ethernet PUR green UL Style 20236 2x2x0,20+1x2x0,38	no	no no	yes	804767 6,95 mm	-20°C to +60°C no		726	
**	250 MHz	HELUKAT® 250S SF/UTP, drag chain, CMX 4x2xAWG26/19	yes	no no	yes	803387 7,8 mm	-30°C to +70°C IEC 60332-1-2		691	
**	500 MHz	HELUKAT® Industrial Ethernet S/FTP, drag chain, CM, PVC 4x2xAWG24/7	yes	no no	no	805704 8,9 mm	-10°C to +80°C IEC 60332-3		AUR	
**	500 MHz	HELUKAT® Industrial Ethernet S/FTP, drag chain, CMX, PUR 4x2xAWG24/7	no	no no	yes	805703 8,9 mm	-40°C to +80°C IEC 60332-1-2		AUR	
**	500 MHz	HELUKAT® S/FTP, drag chain, CMX, PUR 4x2xAWG26/7	yes	no no	yes	805548 7,8 mm	-10°C to +70°C IEC 60332-1-2		AUR	
**	600 MHz	HELUKAT® SF/FTP, drag chain, PUR 4x2xAWG24/7	yes	no no	yes	805614 8,7 mm	-30°C to +70°C IEC 60332-1-2		AUR	
**	600 MHz	HELUKAT® SF/FTP, Torsion, PUR 4x2xAWG24/7	yes	no no	yes	805828 8,7 mm	-30°C to +70°C IEC 60332-1-2		AUR	

Drag chain class	Impedance	According to UL/CSA	NFPA	UV-resistant		Part no.		Temperature range		Cat. page
				Laying outside	Increased oil resistance*	Outer-Ø ca.	Flame-retardant			
**	150 OHM	Profibus L2 FESTOON 1x2x0,65 mm PVC petrol CMG	yes	yes yes	no yes	800649 8,0 mm	-40°C to +60°C EN 50265-2-1		713	
**	150 OHM	Profibus ET200X PUR petrol UL Style 20351 1x2x0,65+3x1x1,5	no	no no	yes	82913 9,7 mm	-5°C to +60°C no		710	
**	150 OHM	Profibus ECOFAST TPU petrol UL Style 20233 1x2x0,65+4x1x1,5	no	no no	yes	800044 11,5 mm	-15°C to +60°C IEC 60332-1-2		710	
**	150 OHM	Profibus L2 Torsion 1x2x0,8 mm PUR violet CMX	yes	no no	yes	800109 8,0 mm	-25°C to +75°C IEC60332-1		713	
**	150 OHM	Profibus SK drag chain 1x2x0,64 mm (Litze) PUR petrol CMX Fast Connect	yes	no no	yes	81906 8,0 mm	-40°C to +70°C IEC 60332-1-2		719	
**	150 OHM	Profibus SK drag chain 1x2x0,64 mm (Litze) PUR violet CMX Fast Connect	yes	no no	yes	801659 8,0 mm	-40°C to +70°C IEC 60332-1-2		719	

**	120 OHM	CAN Bus drag chain 1x2x0,34 mm² PUR violet CMX no CSA!	yes	no no	yes	802182 6,9 mm	-30°C to +70°C IEC 60332-1-2		741
**	120 OHM	CAN Bus drag chain 4x1x0,34 mm² PUR violet CMX no CSA!	yes	no no	yes	802339 7,5 mm	-30°C to +70°C IEC 60332-1-2		741
**	120 OHM	CAN BUS drag chain 1x2x0,5 mm² CMX	yes	no no	yes	805685 8,0 mm	-40°C to +80°C IEC 60332-1-2		AUR
**	120 OHM	CAN BUS drag chain 4x2x0,5 mm² CMX	yes	no no	yes	805696 8,2 mm	-40°C to +80°C IEC 60332-1-2		AUR

**	120 OHM	DeviceNet™ Thick PUR violet 1x2xAWG18 + 1x2xAWG15 CMX	yes	no no	yes	81909 12,2 mm	-40°C to +80°C VW1		756
**	120 OHM	DeviceNet™ Thin PUR violet 1x2xAWG24 + 1x2xAWG22 CMX	yes	no no	yes	81910 6,9 mm	-40°C to +80°C VW1		756

**	-	A-BUS PUR yellow 2x1,5 mm² UL Style 20549	no	no no	yes	82434 -	-40°C to +80°C IEC 60332-1-2		749
**	-	A-BUS PUR black 2x1,5 mm² UL Style 20549	no	yes yes	yes	82822 -	-40°C to +80°C IEC 60332-1-2		749
**	-	A-BUS PUR yellow 2x2,5 mm² UL Style 20549	no	no no	yes	804410 -	-40°C to +80°C		750
**	-	A-BUS PUR black 2x2,5 mm² UL Style 20549	no	yes yes	yes	804411 -	-40°C to +80°C		750

Cables are only available without UL/CSA standard; shown on the opposite column, left page										
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* Extremely oil resistant: Please contact us first for special applications.

** Drag chain classes are available on request (dnb@helukabel.de).

AUR = Available upon request, or refer to the "Data, Network and BUS Technology" catalogue

BUS CABLES | Highly flexible cables for continuous movements, such as drag chains

	Sheath-material	Installation range	Drag chain class	Impedance	without UL Standard	UV-resistant	Part no.		Temperature range	Cat. page
						Laying outside	Increased oil resistance*	Outer-Ø ca.	Flame-retardant	
MULTI BUS	PUR	Indoor			Cables are only available with UL/CSA standard; shown on the opposite column, right page					
USB 2.0 / 3.0	PUR	Indoor			Cables are only available with UL/CSA standard; shown on the opposite column, right page					
Safety BUS	PUR	Indoor			Cables are only available with UL/CSA standard; shown on the opposite column, right page					

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** Drag chain classes are available on request (dnb@helukabel.de).

End caps & core end sleeves

End caps & Core end sleeves for

- Telecommunication cables
- Low-voltage
- Medium-voltage
- Accessories/component parts

YOU WILL FIND ADDITIONAL ACCESSORIES IN THE CABLE ACCESSORIES CATALOGUE!



Cable protection tube systems

Cable protection tube systems

Corrugated tubes:

- For standard applications
- Oversized
- Dividable corrugated tubes:

Highly flexible cable tubes

- Plastic with coil springs
- Metal, spiral wound

Cable protection tubes for heavy duty applications

YOU WILL FIND ADDITIONAL ACCESSORIES IN THE CABLE ACCESSORIES CATALOGUE!



Drag chain class	Impedance	According to UL/CSA	NFPA	UV-resistant	Part no.		Temperature range	Cat. page
				Laying outside	Increased oil resistance*	Outer-Ø ca.	Flame-retardant	
** see catalogue		Multibus I 15-core highly flexible, Torsion C-UL	no	no	801652		-30°C to +80°C	745
				no	no	14,7 mm	yes	
** see catalogue		Multibus II 15-core highly flexible, Torsion C-UL	no	no	804115		-20°C to +80°C	746
				no	no	15,0 mm	yes	
** 90 OHM		USB S 2.0 drag chain 1x2xAWG28 + 1x2xAWG20 UL Style 20963	no	no	802469		-30°C to +60°C	727
				no	no	5,0 mm	yes	
** 90 OHM		USB L 2.0 drag chain 1x2xAWG24 + 1x2xAWG20 UL Style 20963	no	no	802470		-30°C to +70°C	728
				no	no	6,3 mm	yes	
** 90 OHM		USB 3.0 drag chain 2x2xAWG28 + 2x2xAWG28 UL Style 20236	no	no	805287		-30°C to +70°C	729
				no	no	6,5 mm	yes	
** 110 OHM		SafetyBUS PUR yellow 3x0,75 CMX	yes	no	800652		-30°C to +80°C	758
				no	no	7,8 mm	yes	

* Extremely oil resistant: Please contact us first for special applications.

** Drag chain classes are available on request (dnb@helukabel.de).

NOTES

Prices

Errors excepted. All prices are subject to change and without obligation

Technical modifications

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The cables and wires described in the brochure are produced in accordance with national and international standards, as well as plant standards; application safety, as stipulated in safety directives, standards, and statutory regulations, as amended, are provided. Following proper installation and usage guidelines, the possibility of product-specific dangers can be excluded. This brochure describes general use information for each product. Independent of the above, the applicable DIN VDE specifications apply. Installation and processing must only be executed by qualified electricians.

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