

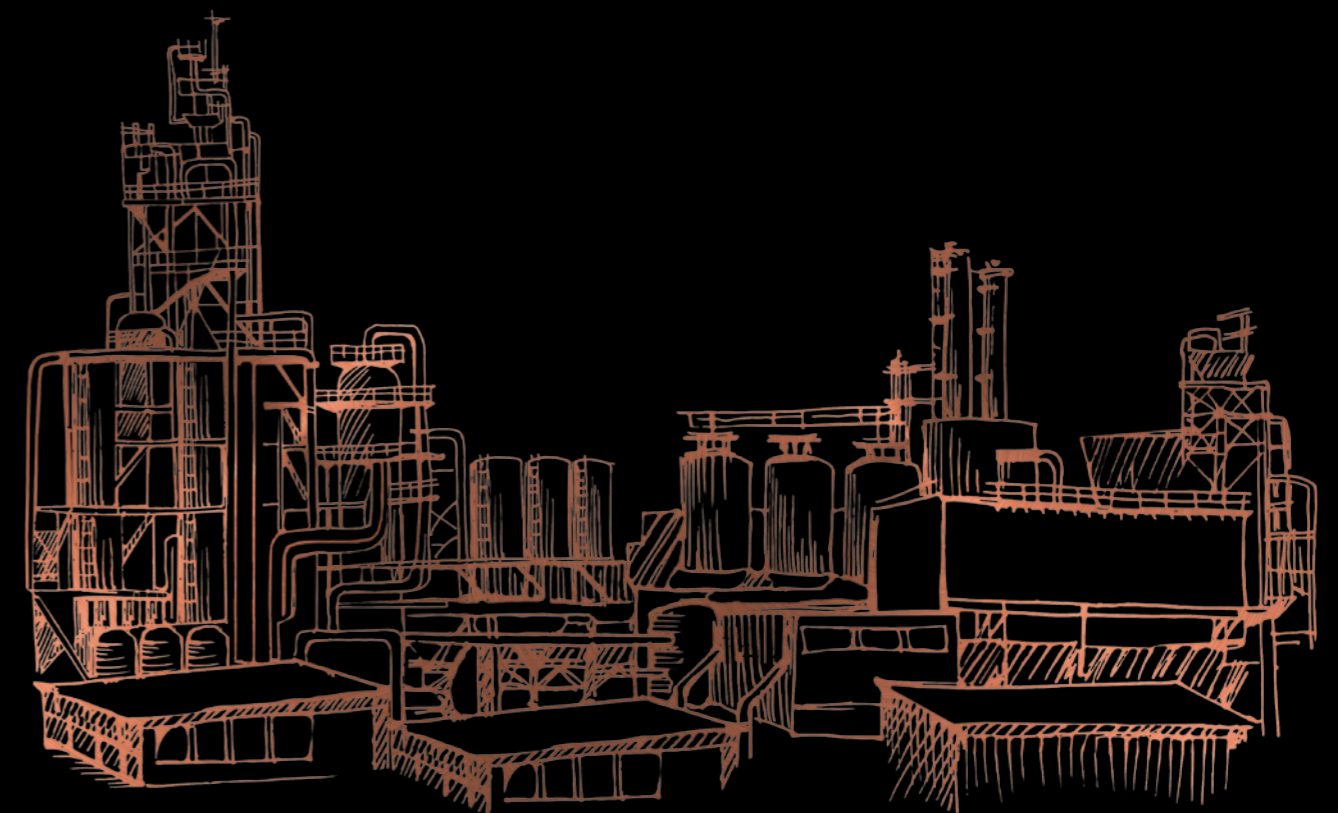
PUBLISHED BY
HELUKABEL® Vietnam



Cables, Wires & Accessories

INSTRUMENTATION CABLES

Ed. 1 // EN



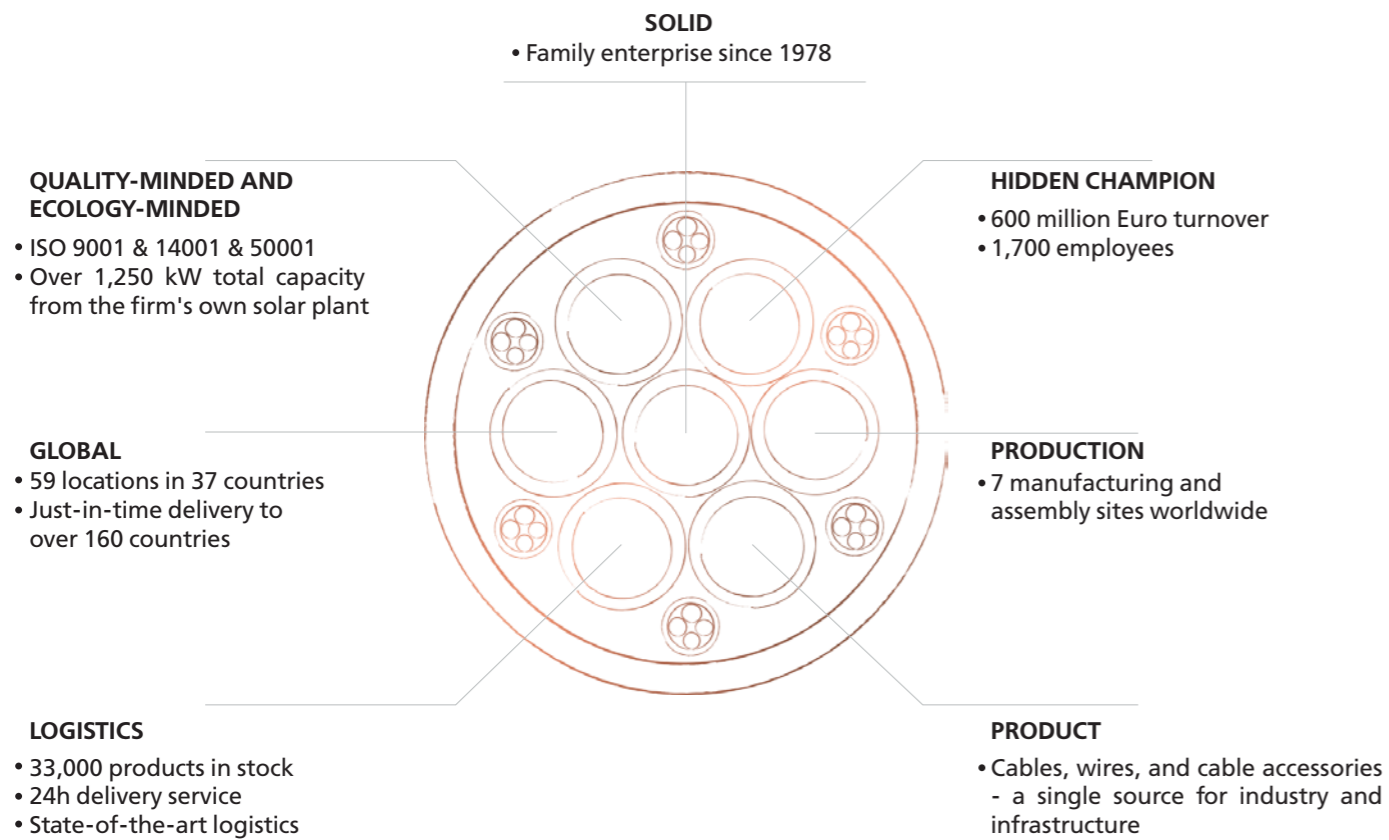
Introduction

The HELUKABEL® Group is a German multinational manufacturer and supplier of cables, wires and cable accessories. With over 1,700 employees located across 59 locations in 37 countries, we offer a broad range of both standard and custom cabling products for multiple sectors. Through innovation, technical expertise and industry knowledge, we strive to develop the optimal cable solutions for every application.

HELUKABEL® Vietnam was founded in 2016 to supply our high-quality cables directly to the Vietnamese market. Since then, over 200 different local customers, including Vietnam's National Assembly House, have applied our cables. With a warehouse of over 1,100 m² in Binh Duong Province, and team members also in Hanoi, Hai Phong, Da Nang and Binh Duong, combined with a vast global network, we provide timely deliveries of a variety of cabling products to meet and satisfy our customers' needs.

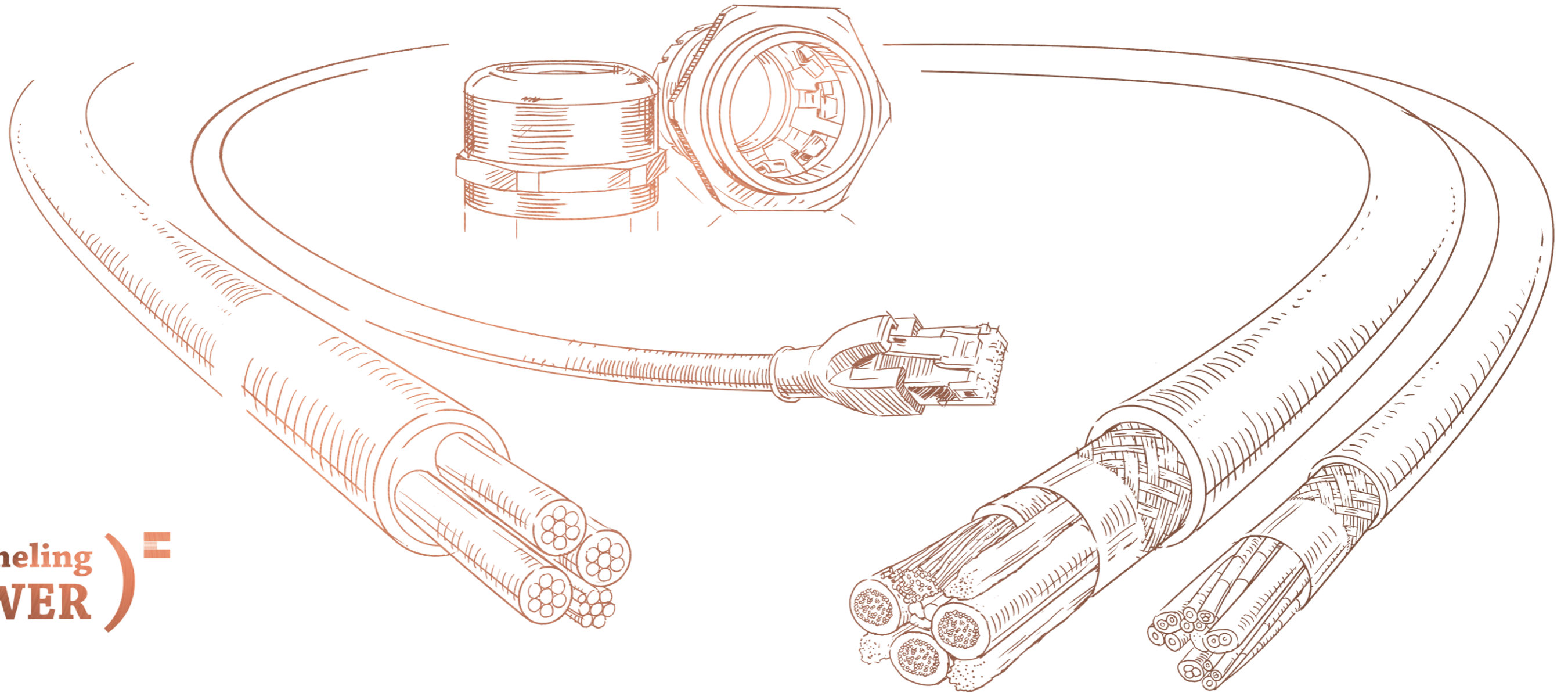
This catalogue is an overview of instrumentation cables and other related products offered by HELUKABEL® Vietnam for applications in the oil and gas sector as well as in the chemical, pharmaceutical and food industries. Custom solutions are also available upon request.

HELUKABEL® At A Glance



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(Channeling POWER)

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

We at HELUKABEL have made it our mission to bring energy and communication to our customers' destinations reliably and consistently at all times, and

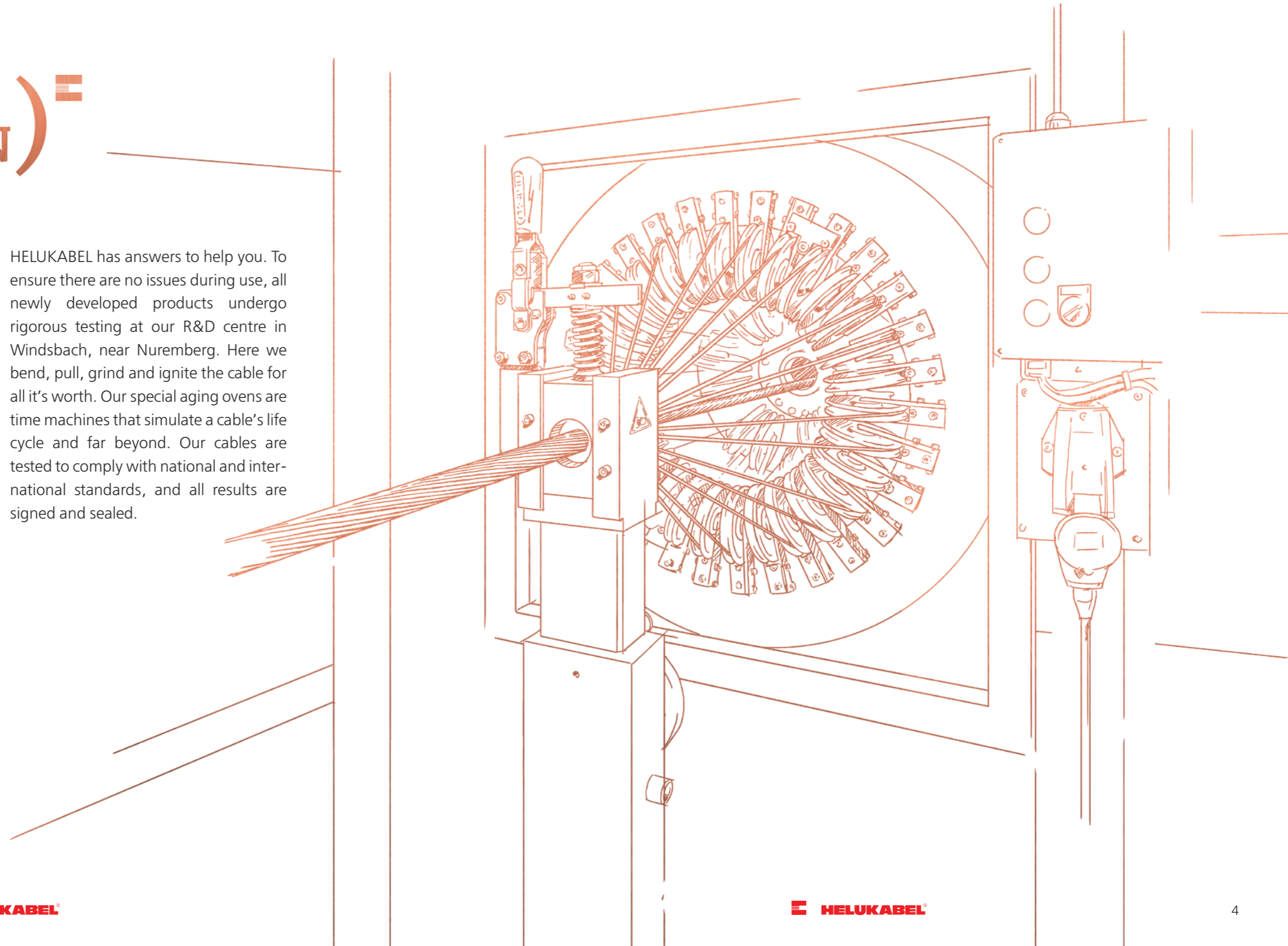
to make the impossible, possible! "Channeling Power" succinctly summarizes this mission and is our commitment to customers.

Over 1,700 employees located at 59 sites across 37 countries work towards this common goal. We see it as our challenge to find the right cable solution for you every day, giving you the time to concentrate on more important things than cables and wires. This is where our products truly create value for you and your application.

Channeling INNOVATION

A cable is only as good as the minds that ask the right questions before it's made. We have a lot of bright minds at HELUKABEL who spend every day searching for intelligent answers. This is important because the challenges faced by modern cables and wires are multifaceted: for example, moving applications with more than ten million cycles, exposure to extreme mechanical and chemical loads, tricky bending radii and space-saving hybrid solutions. For each situation,

HELUKABEL has answers to help you. To ensure there are no issues during use, all newly developed products undergo rigorous testing at our R&D centre in Windsbach, near Nuremberg. Here we bend, pull, grind and ignite the cable for all it's worth. Our special aging ovens are time machines that simulate a cable's life cycle and far beyond. Our cables are tested to comply with national and international standards, and all results are signed and sealed.



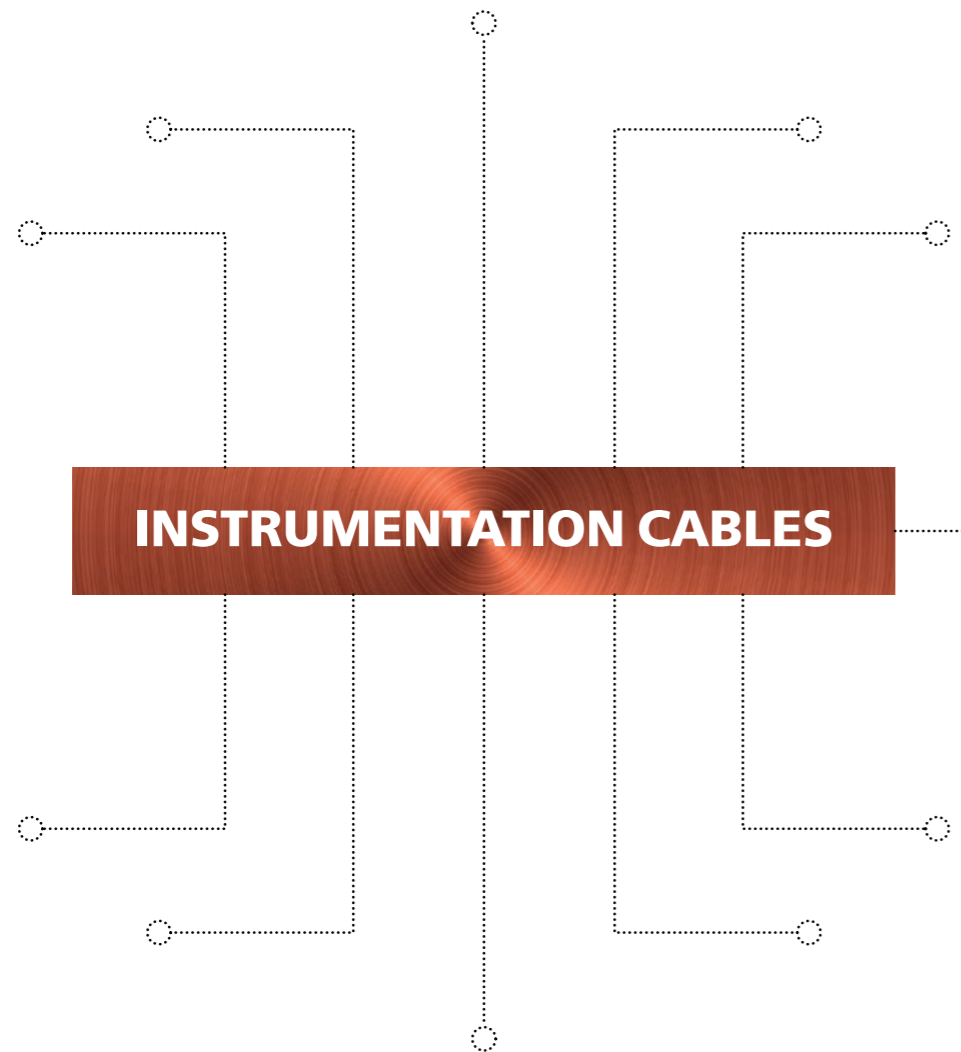
Channeling LOGISTICS

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

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

products in Europe. With over 33,000 products stored in a fully automated, high-bay warehouse, we're ready to act upon your needs quickly and ship you the right cable at a moment's notice. Our "known shipper" status with the Federal Office of Civil Aviation means that your goods are checked in and pass security control directly at our warehouse, which speeds up the shipment process. On top of this, we have 32 additional warehouses on 5 continents so you can order your cables in Spanish, Russian, Chinese or in 23 other languages.

Our Instrumentation Cables



INSTRUMENTATION CABLES

HELUKABEL® EN-50288-7

New Standards
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HELUDATA® Fire Resistant

Normal Standards + Fire Resistant + Oil Resistant
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HELUDATA® UL 13 PLTC

UL Standards + Oil Resistant
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HELUTHERM® PLTC UL 13 / ANSI MC 96.1

Thermocouple Extension Cables + UL Standards
From page 48 To page 50

Cables for Process Automation





Profibus PA + Foundation Fieldbus + SPE Single Pair Ethernet
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Cable Accessories





Brass + Explosive Areas + For Armoured & Unarmoured Cables
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HELUKABEL® EN-50288-7

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HELUKABEL® EN-50288-7 PVC/PVC OS 500

Instrumentation cable, PVC/OS/PVC



Technical data

- **Standard:**
Instrumentation cable acc. to EN 50288-7
- **Temperature range:**
-30°C to +70°C
- **Nominal voltage:**
U AC 500 V
- **Test voltage:**
2 kV/1min
- **Minimum bending radius:**
8 x outer Ø.

Cable structure

- Bare copper conductor, multiple wired acc. to IEC 60228 cl.2
- Core insulation: PVC
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification:
pairs: BU, BK
triads: BU, BK, RD
quads: BU, BK, RD, GY
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire.
- Outer sheath: PVC
- Outer sheath colour: black or blue
- With meter marking

Properties

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

Tests

- Flame retardant acc. to IEC 60332-1
- Flame test on bunched wires acc. to IEC 60332-3-24

Note

- Alternative denomination: RE-Y(St)Y
- Not suitable for direct burial
- For direct burial please refer OSA version
- Installation in hazardous areas acc. to IEC 60079-14 ANNEX E, but only using the correct ATEX conform accessories
- We also offer cable glands HELUTOP® HT-MS-EX-d

Application

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

Voltage	Color of jacket
300V or 500V	Black or Blue

Cross section mm ²	0.5			0.75			1			1.5			2.5		
	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads
No. of	1-36	1-3	1-3	1-36	1-3	1-3	1-36	1-3	1-3	1-36	1-3	1-3	1-36	1-3	1-3

For special requirements upon request, please contact our sales

HELUKABEL® EN-50288-7 PVC/PVC IOS 500

Instrumentation cable, PVC/IS/OS/PVC



Technical data

- **Standard:**
Instrumentation cable acc. to EN 50288-7
- **Temperature range:**
-30°C to +70°C
- **Nominal voltage:**
U AC 500 V
- **Test voltage:**
2 kV/1min
- **Minimum bending radius:**
8 x outer Ø.

Cable structure

- Bare copper conductor, multiple wired acc. to IEC 60228 cl.2
- Core insulation: PVC
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification:
pairs: BU, BK
triads: BU, BK, RD
quads: BU, BK, RD, GY
- Individual screen: pairs, triads or quads indiv. screened with AL/PE tape over tinned copper drain wire.
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire.
- Outer sheath: PVC
- Outer sheath colour: black or blue
- With meter marking

Properties

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

Tests

- Flame retardant acc. to IEC 60332-1
- Flame test on bunched wires acc. to IEC 60332-3-24

Note

- Alternative denomination: RE-Y(St)Y PiMF
- Not suitable for direct burial
- For direct burial please refer OSA version
- Installation in hazardous areas acc. to IEC 60079-14 ANNEX E, but only using the correct ATEX conform accessories
- We also offer cable glands HELUTOP® T-MS-EX-d

Application

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

Voltage	Color of jacket
300V or 500V	Black or Blue

Cross section mm ²	0.5			0.75			1			1.5			2.5		
	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads
No. of	2-36	2-3	2-3	2-36	2-3	2-3	2-36	2-3	2-3	2-36	2-3	2-3	2-36	2-3	2-3

For special requirements upon request, please contact our sales

HELUKABEL® EN-50288-7 PVC/PVC OSA 500

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



Technical data

- **Standard:** Instrumentation cable acc. to EN 50288-7
- **Temperature range:** -30°C to +70°C
- **Nominal voltage:** U AC 500 V
- **Test voltage:** 2 kV/1min
- **Minimum bending radius:** 8 x outer Ø.

Cable structure

- Bare copper conductor, multiple wired acc. to IEC 60228 cl.2
- Core insulation: PVC
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification: pairs: BU, BK triads: BU, BK, RD quads: BU, BK, RD, GY
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire.
- Inner sheath: PVC
- Armouring: single layer of galvanised round steel wires.
- Outer sheath: PVC
- Outer sheath colour: black or blue
- With meter marking

Properties

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

Tests

- Flame retardant acc. to IEC 60332-1
- Flame test on bunched wires acc. to IEC 60332-3-24

Note

- Alternative denomination: RE-Y(St)YRY
- Suitable for direct burial
- Installation in hazardous areas acc. to IEC 60079-14 ANNEX E, but only using the correct ATEX conform accessories
- We also offer cable glands HELUTOP® HT-MS-EX-d / e4

Application

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

Voltage	Color of jacket
300V or 500V	Black or Blue

Cross section mm ²	0.5			0.75			1			1.5			2.5		
	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads
No. of	1-36	1-3	1-2	1-36	1-3	1-2	1-36	1-3	1-2	1-36	1-3	1-2	1-36	1-3	1-2

For special requirements upon request, please contact our sales

HELUKABEL® EN-50288-7 PVC/PVC IOSA 500

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



Technical data

- **Standard:** Instrumentation cable acc. to EN 50288-7
- **Temperature range:** -30°C to +70°C
- **Nominal voltage:** U AC 500 V
- **Test voltage:** 2 kV/1min
- **Minimum bending radius:** 8 x outer Ø.

Cable structure

- Bare copper conductor, multiple wired acc. to IEC 60228 cl.2
- Core insulation: PVC
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification: pairs: BU, BK triads: BU, BK, RD quads: BU, BK, RD, GY
- Individual screen: pairs, triads or quads indiv. screened with AL/PE tape over tinned copper drain wire.
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire.
- Inner sheath: PVC
- Armouring: single layer of galvanised round steel wires.
- Outer sheath: PVC
- Outer sheath colour: black or blue
- With meter marking

Properties

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

Tests

- Flame retardant acc. to IEC 60332-1
- Flame test on bunched wires acc. to IEC 60332-3-24

Note

- Alternative denomination: RE-Y(St)YRY PiMF
- Suitable for direct burial
- Installation in hazardous areas acc. to IEC 60079-14 ANNEX E, but only using the correct ATEX conform accessories
- We also offer cable glands HELUTOP® HT-MS-EX-d / e4

Application

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

Voltage	Color of jacket
300V or 500V	Black or Blue

Cross section mm ²	0.5			0.75			1			1.5			2.5		
	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads
No. of	2-36	2-3	2-3	2-36	2-3	2-3	2-36	2-3	2-3	2-36	2-3	2-3	2-36	2-3	2-3

For special requirements upon request, please contact our sales

HELUKABEL® EN-50288-7 XLPE/PVC OS 500

Instrumentation cable, XLPE/OS/PVC



Technical data

- **Standard:** Instrumentation cable acc. to EN 50288-7
- **Temperature range:** -30°C to +90°C
- **Nominal voltage:** U AC 500 V
- **Test voltage:** 2 kV/1min
- **Minimum bending radius:** 8 x outer Ø.

Cable structure

- Bare copper conductor, multiple wired acc. to IEC 60228 cl.2
- Core insulation: XLPE
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification pairs: BU, BK triads: BU, BK, RD quads: BU, BK, RD, GY
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire.
- Outer sheath: PVC
- Outer sheath colour: black or blue
- With meter marking

Properties

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

Tests

- Flame retardant acc. to IEC 60332-1
- Flame test on bunched wires acc. to IEC 60332-3-24

Note

- Alternative denomination: RE-2X(St)Y
- Not suitable for direct burial
- For direct burial please refer OSA version
- Installation in hazardous areas acc. to IEC 60079-14 ANNEX E, but only using the correct ATEX conform accessories
- We also offer cable glands HELUTOP® T-MS-EX-d

Application

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

Voltage	Color of jacket
300V or 500V	Black or Blue

Cross section mm ²	0.5			0.75			1			1.5			2.5		
	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads
No. of	1-36	1-3	1-3	1-36	1-3	1-3	1-36	1-3	1-3	1-36	1-3	1-3	1-36	1-3	1-3

For special requirements upon request, please contact our sales

HELUKABEL® EN-50288-7 XLPE/PVC IOS 500

Instrumentation cable, XLPE/IS/OS/PVC



Technical data

- **Standard:** Instrumentation cable acc. to EN 50288-7
- **Temperature range:** -30°C to +90°C
- **Nominal voltage:** U AC 500 V
- **Test voltage:** 2 kV/1min
- **Minimum bending radius:** 8 x outer Ø.

Cable structure

- Bare copper conductor, multiple wired acc. to IEC 60228 cl.2
- Core insulation: XLPE
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification pairs: BU, BK triads: BU, BK, RD quads: BU, BK, RD, GY
- Individual screen: pairs indiv. screened with AL/PE tape over tinned copper drain wire
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire
- Outer sheath: PVC
- Outer sheath colour: black or blue
- With meter marking

Properties

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

Tests

- Flame retardant acc. to IEC 60332-1
- Flame test on bunched wires acc. to IEC 60332-3-24

Note

- Alternative denomination: RE-2X(St)Y PiMF
- Not suitable for direct burial
- For direct burial please refer OSA version
- Installation in hazardous areas acc. to IEC 60079-14 ANNEX E, but only using the correct ATEX conform accessories
- We also offer cable glands HELUTOP® HT-MS-EX-d

Application

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

Voltage	Color of jacket
300V or 500V	Black or Blue

Cross section mm ²	0.5			0.75			1			1.5			2.5		
	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads
No. of	2-36	2-3	2-3	2-36	2-3	2-3	2-36	2-3	2-3	2-36	2-3	2-3	2-36	2-3	2-3

For special requirements upon request, please contact our sales

HELUKABEL® EN-50288-7 XLPE/PVC OSA 500

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



Technical data

- **Standard:** Instrumentation cable acc. to EN 50288-7
- **Temperature range:** -30°C to +90°C
- **Nominal voltage:** U AC 500 V
- **Test voltage:** 2 kV/1min
- **Minimum bending radius:** 8 x outer Ø.

Cable structure

- Bare copper conductor, multiple wired acc. to IEC 60228 cl.2
- Core insulation: XLPE
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification pairs: BU, BK triads: BU, BK, RD quads: BU, BK, RD, GY
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire
- Inner sheath: PVC
- Armouring: single layer of galvanised round steel wires.
- Outer sheath: PVC
- Outer sheath colour: black or blue
- With meter marking

Properties

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

Tests

- Flame retardant acc. to IEC 60332-1
- Flame test on bunched wires acc. to IEC 60332-3-24

Note

- Alternative denomination: RE-2X(St)YRY
- Suitable for direct burial
- Installation in hazardous areas acc. to IEC 60079-14 ANNEX E, but only using the correct ATEX conform accessories
- We also offer cable glands HELUTOP® HT-MS-EX-d / e4

Application

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

Voltage	Color of jacket
300V or 500V	Black or Blue

Cross section mm ²	0.5			0.75			1			1.5			2.5		
	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads
No. of	1-36	1-3	1-2	1-36	1-3	1-2	1-36	1-3	1-2	1-36	1-3	1-2	1-36	1-3	1-2

For special requirements upon request, please contact our sales

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

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



Technical data

- **Standard:** Instrumentation cable acc. to EN 50288-7
- **Temperature range:** -30°C to +90°C
- **Nominal voltage:** U AC 500 V
- **Test voltage:** 2 kV/1min
- **Minimum bending radius:** 10 x outer Ø.

Cable structure

- Bare copper conductor, multiple wired acc. to IEC 60228 cl.2
- Core insulation: XLPE
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification pairs: BU, BK triads: BU, BK, RD quads: BU, BK, RD, GY
- Individual screen: pairs, triads or quads indiv. screened with AL/PE tape over tinned copper drain wire
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire
- Inner sheath: PVC
- Armouring: single layer of galvanised round steel wires.
- Outer sheath: PVC
- Outer sheath colour: black or blue
- With meter marking

Properties

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

Tests

- Flame retardant acc. to IEC 60332-1
- Flame test on bunched wires acc. to IEC 60332-3-24

Note

- Alternative denomination: RE-2X(St)YRY PiMF
- Suitable for direct burial
- Installation in hazardous areas acc. to IEC 60079-14 ANNEX E, but only using the correct ATEX conform accessories
- We also offer cable glands HELUTOP® HT-MS-EX-d / e4

Application

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

Voltage	Color of jacket
300V or 500V	Black or Blue

Cross section mm ²	0.5			0.75			1			1.5			2.5		
	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads
No. of	2-36	2-3	2-3	2-36	2-3	2-3	2-36	2-3	2-3	2-36	2-3	2-3	2-36	2-3	2-3

For special requirements upon request, please contact our sales

HELUKABEL® EN-50288-7 XLPE/LSOH OS 500

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



Technical data

- **Standard:** Instrumentation cable acc. to EN 50288-7
- **Temperature range:** -30°C to +90°C
- **Nominal voltage:** U AC 500 V
- **Test voltage:** 2 kV/1min
- **Minimum bending radius:** 8 x outer Ø.

Cable structure

- Bare copper conductor, multiple wired acc. to IEC 60228 cl.2
- Core insulation: XLPE
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification: pairs: BU, BK triads: BU, BK, RD quads: BU, BK, RD, GY
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire.
- Outer sheath: LSOH
- Outer sheath colour: black or blue
- With meter marking

Properties

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

Tests

- Flame retardant acc. to IEC 60332-1
- Flame test on bunched wires acc. to IEC 60332-3-24

Note

- Alternative denomination: RE-2X(St)H
- Not suitable for direct burial
- For direct burial please refer OSA version
- Installation in hazardous areas acc. to IEC 60079-14 ANNEX E, but only using the correct ATEX conform accessories
- We also offer cable glands HELUTOP® T-MS-EX-d

Application

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

Voltage	Color of jacket
300V or 500V	Black or Blue

Cross section mm ²	0.5			0.75			1			1.5			2.5		
	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads
No. of	1-36	1-3	1-3	1-36	1-3	1-3	1-36	1-3	1-3	1-36	1-3	1-3	1-36	1-3	1-3

For special requirements upon request, please contact our sales

HELUKABEL® EN-50288-7 XLPE/LSOH IOS 500

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



Technical data

- **Standard:** Instrumentation cable acc. to EN 50288-7
- **Temperature range:** -30°C to +90°C
- **Nominal voltage:** U AC 500 V
- **Test voltage:** 2 kV/1min
- **Minimum bending radius:** 8 x outer Ø.

Cable structure

- Bare copper conductor, multiple wired acc. to IEC 60228 cl.2
- Core insulation: XLPE
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification: pairs: BU, BK triads: BU, BK, RD quads: BU, BK, RD, GY
- Individual screen: pairs indiv. screened with AL/PE tape over tinned copper drain wire
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire
- Outer sheath: LSOH
- Outer sheath colour: black or blue
- With meter marking

Properties

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

Tests

- Flame retardant acc. to IEC 60332-1
- Flame test on bunched wires acc. to IEC 60332-3-24

Note

- Alternative denomination: RE-2X(St)H PiMF
- Not suitable for direct burial
- For direct burial please refer OSA version
- Installation in hazardous areas acc. to IEC 60079-14 ANNEX E, but only using the correct ATEX conform accessories
- We also offer cable glands HELUTOP® HT-MS-EX-d

Application

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

Voltage	Color of jacket
300V or 500V	Black or Blue

Cross section mm ²	0.5			0.75			1			1.5			2.5		
	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads
No. of	2-36	2-3	2-3	2-36	2-3	2-3	2-36	2-3	2-3	2-36	2-3	2-3	2-36	2-3	2-3

For special requirements upon request, please contact our sales

HELUKABEL® EN-50288-7 XLPE/LSOH OSA 500

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



Technical data

- **Standard:** Instrumentation cable acc. to EN 50288-7
- **Temperature range:** -30°C to +90°C
- **Nominal voltage:** U AC 500 V
- **Test voltage:** 2 kV/1min
- **Minimum bending radius:** 10 x outer Ø.

Cable structure

- Bare copper conductor, multiple wired acc. to IEC 60228 cl.2
- Core insulation: XLPE
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification pairs: BU, BK triads: BU, BK, RD quads: BU, BK, RD, GY
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire
- Inner sheath: LSOH
- Armouring: single layer of galvanised round steel wires.
- Outer sheath: LSOH
- Outer sheath colour: black or blue
- With meter marking

Properties

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

Tests

- Flame retardant acc. to IEC 60332-1
- Flame test on bunched wires acc. to IEC 60332-3-24

Note

- Alternative denomination: RE-2X(St)HRH
- Suitable for direct burial
- Installation in hazardous areas acc. to IEC 60079-14 ANNEX E, but only using the correct ATEX conform accessories
- We also offer cable glands HELUTOP® HT-MS-EX-d / e4

Application

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

Voltage	Color of jacket
300V or 500V	Black or Blue

Cross section mm ²	0.5			0.75			1			1.5			2.5		
	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads
No. of	1-36	1-3	1-2	1-36	1-3	1-2	1-36	1-3	1-2	1-36	1-3	1-2	1-36	1-3	1-2

For special requirements upon request, please contact our sales

HELUKABEL® EN-50288-7 XLPE/LSOH IOSA 500

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



Technical data

- **Standard:** Instrumentation cable acc. to EN 50288-7
- **Temperature range:** -30°C to +90°C
- **Nominal voltage:** U AC 500 V
- **Test voltage:** 2 kV/1min
- **Minimum bending radius:** 10 x outer Ø.

Cable structure

- Bare copper conductor, multiple wired acc. to IEC 60228 cl.2
- Core insulation: XLPE
- Cores stranded in pairs, triads or quads
- Cores twisted together in cable elements in optimal lay length
- Core identification pairs: BU, BK triads: BU, BK, RD quads: BU, BK, RD, GY
- Individual screen: pairs, triads or quads indiv. screened with AL/PE tape over tinned copper drain wire
- Cable elements are stranded in optimal lay length
- Overall screen: AL/PE tape over tinned copper stranded drain wire
- Inner sheath: LSOH
- Armouring: single layer of galvanised round steel wires.
- Outer sheath: LSOH
- Outer sheath colour: black or blue
- With meter marking

Properties

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

Tests

- Flame retardant acc. to IEC 60332-1
- Flame test on bunched wires acc. to IEC 60332-3-24

Note

- Alternative denomination: RE-2X(St)HRH PiMF
- Suitable for direct burial
- Installation in hazardous areas acc. to IEC 60079-14 ANNEX E, but only using the correct ATEX conform accessories
- We also offer cable glands HELUTOP® HT-MS-EX-d / e4

Application

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





Voltage	Color of jacket
300V or 500V	Black or Blue

Cross section mm ²	0.5			0.75			1			1.5			2.5		
	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads	Pair	Triads	Quads
No. of	2-36	2-3	2-3	2-36	2-3	2-3	2-36	2-3	2-3	2-36	2-3	2-3	2-36	2-3	2-3

For special requirements upon request, please contact our sales



HELUDATA[®] Fire Resistant

No.	Page	Name
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HELUDATA® EN-50288-7 FIRE RES OS 500

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



Technical data

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

Cable structure

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

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
 - Cable elements have to be produced out of non-hygroscopic materials
 - Resistant to hydrocarbons
- ### Tests
- Fire resistant acc. to IEC 60331-21
 - Flame retardant acc. to
DIN VDE 0482-332-1-2 /
DIN EN 60332-1-2 / IEC 60332-1-2
 - Flame test on bunched wires acc. to
DIN VDE 0482-332-3-24 /
DIN EN 60332-3-24 / IEC 60332-3-24 (Cat. C)
 - Flame test on bunched wires acc.
DIN VDE 0482-332-3-22 /
DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
 - Corrosiveness of combustion gases acc. to
DIN VDE 0482-754-2 /
DIN EN 60754-2 / IEC 60754-2
 - Smoke density acc. to
DIN VDE 0482-1034-1 /
DIN EN 61034-1 / IEC 61034-1
 - Halogen-free acc. to
DIN VDE 0482-754-1 /
DIN EN 60754-1 / IEC 60754-1
 - Oil resistant acc. to IEC 60811-404 /
NEMA WC 57 / IEC 60811-404
 - UV and sunlight resistant acc. to
ISO 4892-3 & UL 1581 sect. 1200
 - Suitable for usage in explosive atmospheres acc. to
IEC 60079-14 sec. 16.2.2

Note

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

Application

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

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

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

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 FIRE RES IOS 500

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



Technical data

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

Cable structure

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

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
 - Cable elements have to be produced out of non-hygroscopic materials
 - Resistant to hydrocarbons
- ### Tests
- Fire resistant acc. to IEC 60331-21
 - Flame retardant acc. to
DIN VDE 482-332-1-2,
DIN EN 60332-1-2, IEC 60332-1-2
 - Flame test on bunched wires acc. to
DIN VDE 0482-332-3-24 /
DIN EN 60332-3-24 / IEC 60332-3-24 (Cat. C)
 - Flame test on bunched wires acc. to
DIN VDE 0482-332-3-22 /
DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
 - Corrosiveness of combustion gases acc. to
DIN VDE 0482-754-2 /
DIN EN 60754-2 / IEC 60754-2
 - Smoke density acc. to
DIN VDE 0482-1034-1 /
DIN EN 61034-1 / IEC 61034-1
 - Halogen-free acc. to
DIN VDE 0482-754-1 /
DIN EN 60754-1 / IEC 60754-1
 - Oil resistant acc. to IEC 60811-404 /
NEMA WC 57 / IEC 60811-404
 - UV and sunlight resistant acc. to
ISO 4892-3 & UL 1581 sect. 1200
 - Suitable for usage in explosive atmospheres acc. to
IEC 60079-14 sec. 16.2.2

Note

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

Application

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

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

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

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 FIRE RES OSA 500

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



Technical data

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

Cable structure

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

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
 - Cable elements have to be produced out of non-hygroscopic materials
 - Resistant to hydrocarbons
- ### Tests
- Fire resistant acc. to IEC 60331-2-1
 - Flame retardant acc. to DIN VDE 482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2
 - Flame test on bunched wires acc. to DIN VDE 0482-332-3-24 / DIN EN 60332-3-24 / IEC 60332-3-24 (Cat. C)
 - Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
 - Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
 - Smoke density acc. to DIN VDE 0482-1034-1 / DIN EN 61034-1 / IEC 61034-1
 - Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
 - Oil resistant acc. to IEC 60811-404 / NEMA WC 57 / IEC 60811-404
 - UV and sunlight resistant acc. to ISO 4892-3 & UL 1581 sect. 1200
 - Suitable for usage in explosive atmospheres acc. to IEC 60079-14 sec. 16.2.2

Note

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

Application

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

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

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

Dimensions and specifications may be changed without prior notice.

HELUDATA® EN-50288-7 FIRE RES IOSA 500

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



Technical data

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

Cable structure

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

Properties

- Low level of line attenuations and low mutual capacitances enable long transmission distances
 - Cable elements have to be produced out of non-hygroscopic materials
 - Resistant to hydrocarbons
- ### Tests
- Fire resistant acc. to IEC 60331-2-1
 - Flame retardant acc. to DIN VDE 482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2
 - Flame test on bunched wires acc. to DIN VDE 0482-332-3-24 / DIN EN 60332-3-24 / IEC 60332-3-24 (Cat. C)
 - Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
 - Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
 - Smoke density acc. to DIN VDE 0482-1034-1 / DIN EN 61034-1 / IEC 61034-1
 - Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
 - Oil resistant acc. to IEC 60811-404 / NEMA WC 57 / IEC 60811-404
 - UV and sunlight resistant acc. to ISO 4892-3 & UL 1581 sect. 1200
 - Suitable for usage in explosive atmospheres acc. to IEC 60079-14 sec. 16.2.2

Note

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

Application

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





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





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

Dimensions and specifications may be changed without prior notice.



HELUDATA® UL 13 PLTC

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HELUDATA® PLTC UL13 PVC/PVC OS 300

Instrumentation cable, PVC/OS/PVC



Technical data

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

Cable structure

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

Properties

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

Note

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

Application

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

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

Continuation ▶

HELUDATA® PLTC UL13 PVC/PVC OS 300

Instrumentation cable, PVC/OS/PVC

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

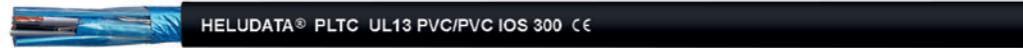
Dimensions and specifications may be changed without prior notice.

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HELUDATA® PLTC UL13 PVC/PVC IOS 300

Instrumentation cable, PVC/IS/OS/PVC



Technical data

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

Cable structure

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

Properties

- Low Smoke Low Halogen (LSLH)
 - Resistant to hydrocarbons
 - Low level of line attenuations and low mutual capacitances enable long transmission distances
 - Cable elements are produced of non-hygroscopic materials
- ### Tests
- Flame test on bunched wires acc. to UL 1685 FT4 / IEEE 1202
 - UV and sunlight resistant acc. to UL 1581 section 1200
 - Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2 and UL VW-1 / UL 1581 sec. 1060 (FT1)
 - Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
 - Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
 - Limiting Oxygen Index (LOI) acc. to ISO 4589-2: min. 30%
 - Smoke density acc. to DIN VDE 0482-1034-1 / DIN EN 61034-1 / IEC 61034-1
 - Low amount of halogen acid gas acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1 (max. 1.3%)
 - Oil resistant acc. to IEC 60754-1 / IEC 60754-1 (max. 1.3%)
 - Oil resistant acc. to IEC 60754-1 / IEC 60754-1 (max. 1.3%)
 - NEMA WC 57
 - Installation in hazardous areas acc. to IEC 60079-14 ANNEX E, but only using the correct ATEX conform accessories.

Note

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

Application

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

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

Continuation ▶

HELUDATA® PLTC UL13 PVC/PVC IOS 300

Instrumentation cable, PVC/IS/OS/PVC

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

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HELUDATA® PLTC UL13 PVC/PVC OSA 300

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



Technical data

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

Cable structure

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

Properties

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

Note

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

Application

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

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

Continuation ▶

HELUDATA® PLTC UL13 PVC/PVC OSA 300

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

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

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HELUDATA® PLTC UL13 PVC/PVC IOSA 300

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



Technical data

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

Cable structure

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

Properties

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

Tests

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

Note

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

Continuation ▶

HELUDATA® PLTC UL13 PVC/PVC IOSA 300

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

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

Dimensions and specifications may be changed without prior notice.

03.03.2021 / Dimensions and specifications may be changed without prior notice.

03.03.2021 / Dimensions and specifications may be changed without prior notice.

HELUDATA® PLTC UL13 XLPE/LSOH OS 300

Instrumentation cable, XLPE/OS/LSOH



Technical data

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

Cable structure

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

Properties

- Low Smoke Zero Halogen (LSOH)
 - Resistant to hydrocarbons
 - Low level of line attenuations and low mutual capacitances enable long transmission distances
 - Cable elements are produced of non-hygroscopic materials
- ### Tests
- Flame test on bunched wires acc. to UL 1685 FT4 / IEEE 1202
 - UV and sunlight resistant acc. to UL 1581 section 1200
 - Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2 and UL VW-1 / UL 1581 sec. 1060 (FT1)
 - Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 (Cat. A)
 - Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
 - Limiting Oxygen Index (LOI) acc. to ISO 4589-2: min. 30%
 - Smoke density acc. to DIN VDE 0482-1034-1 / DIN EN 61034-1 / IEC 61034-1
 - Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1 (max. 0.5%)
 - Oil resistant acc. to IEC 60754-1 / IEC 60754-1 (max. 0.5%)
 - Installation in hazardous areas acc. to IEC 60079-14 ANNEX E, but only using the correct ATEX conform accessories.

Note

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

Application

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

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

Continuation ▶

HELUDATA® PLTC UL13 XLPE/LSOH OS 300

Instrumentation cable, XLPE/OS/LSOH

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

Dimensions and specifications may be changed without prior notice.

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HELUDATA® PLTC UL13 XLPE/LSOH IOS 300

Instrumentation cable, XLPE/IS/OS/LSOH



Technical data

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

Cable structure

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

Properties

- Low Smoke Zero Halogen (LSOH)
 - Resistant to hydrocarbons
 - Low level of line attenuations and low mutual capacitances enable long transmission distances
 - Cable elements are produced of non-hygroscopic materials
- ### Tests
- Flame test on bunched wires acc. to UL 1685 FT4 / IEEE 1202
 - UV and sunlight resistant acc. to UL 1581 section 1200
 - Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2 and UL VW-1 / UL 1581 sec. 1060 (FT1)
 - Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
 - Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
 - Limiting Oxygen Index (LOI) acc. to ISO 4589-2: min. 30%
 - Smoke density acc. to DIN VDE 0482-1034-1 / DIN EN 61034-1 / IEC 61034-1
 - Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1 (max. 0.5%)
 - Oil resistant acc. to IEC 60754-1 / NEMA WC 57
 - Installation in hazardous areas acc. to IEC 60079-14 ANNEX E, but only using the correct ATEX conform accessories.

Note

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

Application

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

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

Continuation ▶

HELUDATA® PLTC UL13 XLPE/LSOH IOS 300

Instrumentation cable, XLPE/IS/OS/LSOH

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

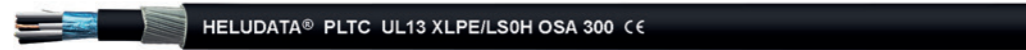
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HELUDATA® PLTC UL13 XLPE/LSOH OSA 300

Instrumentation cable, XLPE/OS/LSOH/SWA/LSOH



Technical data

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

Cable structure

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

Properties

- Low Smoke Zero Halogen (LSOH)
 - Resistant to hydrocarbons
 - Low level of line attenuations and low mutual capacitances enable long transmission distances
 - Cable elements are produced of non-hygroscopic materials
- ### Tests
- Flame test on bunched wires acc. to UL 1685 FT4 / IEEE 1202
 - UV and sunlight resistant acc. to UL 1581 section 1200
 - Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2 and UL VW-1 / UL 1581 sec. 1060 (FT1)
 - Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 (Cat. A)
 - Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
 - Limiting Oxygen Index (LOI) acc. to ISO 4589-2: min. 30%
 - Smoke density acc. to DIN VDE 0482-1034-1 / DIN EN 61034-1 / IEC 61034-1
 - Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1 (max. 0.5%)
 - Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
 - Installation in hazardous areas acc. to IEC 60079-14 ANNEX E, but only using the correct ATEX conform accessories.

Note

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

Continuation ▶

HELUDATA® PLTC UL13 XLPE/LSOH OSA 300

Instrumentation cable, XLPE/OS/LSOH/SWA/LSOH

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

Dimensions and specifications may be changed without prior notice.

19.01.2021 / Dimensions and specifications may be changed without prior notice.

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HELUDATA® PLTC UL13 XLPE/LSOH IOSA 300

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



Technical data

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

Cable structure

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

Properties

- Low Smoke Zero Halogen (LSOH)
 - Resistant to hydrocarbons
 - Low level of line attenuations and low mutual capacitances enable long transmission distances
 - Cable elements are produced of non-hygroscopic materials
- ## Tests
- Flame test on bunched wires acc. to UL 1685 FT4 / IEEE 1202
 - UV and sunlight resistant acc. to UL 1581 section 1200
 - Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2 and UL VW-1 / UL 1581 sec. 1060 (FT1)
 - Flame test on bunched wires acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22 (Cat. A)
 - Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
 - Limiting Oxygen Index (LOI) acc. to ISO 4589-2: min. 30%
 - Smoke density acc. to DIN VDE 0482-1034-1 / DIN EN 61034-1 / IEC 61034-1
 - Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1 (max. 0.5%)
 - Oil resistant acc. to ICEA S-73-532 / NEMA WC 57
 - Installation in hazardous areas acc. to IEC 60079-14 ANNEX E, but only using the correct ATEX conform accessories.

Note

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

Continuation ▶

HELUDATA® PLTC UL13 XLPE/LSOH IOSA 300

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

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




Dimensions and specifications may be changed without prior notice.




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19.01.2021 / Dimensions and specifications may be changed without prior notice.



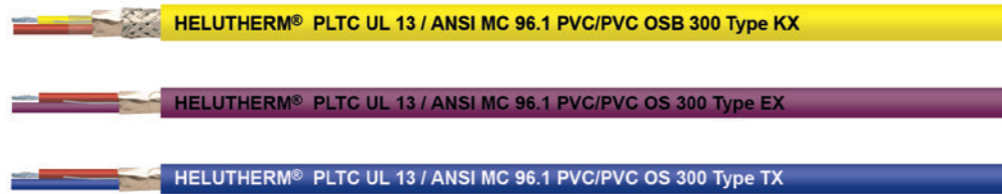
HELUTHERM® PLTC UL 13 / ANSI MC 96.1

No.	Page	Name
1	49	 HELUTHERM® PLTC UL 13 / ANSI MC 96.1 PVC/PVC OSB 300 Type KX
		 HELUTHERM® PLTC UL 13 / ANSI MC 96.1 PVC/PVC OS 300 Type EX
		 HELUTHERM® PLTC UL 13 / ANSI MC 96.1 PVC/PVC OS 300 Type TX

No.	Page	Name
2	50	 HELUTHERM® PLTC UL 13 / ANSI MC 96.1 XLPE/LS0H OSA 300 Type KX
		 HELUTHERM® PLTC UL 13 / ANSI MC 96.1 XLPE/LS0H OS 300 Type JX
		 HELUTHERM® PLTC UL 13 / ANSI MC 96.1 XLPE/LS0H OS 300 Type TX

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

Thermocouple extension cable



Technical data

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

Cable structure

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

Properties

- Low Smoke Low Halogen (LSLH)
- Installation in classified areas acc. to NEC 725 PLTC section 501 Cl. 1 Div. 2 & Cl. 2 Div. 2
- **Tests**
- Flame test on bunched wires acc. to UL 1685
- UV resistant acc. to UL 1581 section 1200
- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to IEC 60332-3-24 (Cat. C) & IEC 60332-3-22 (Cat. A)
- Acidity (ph value) and conductivity acc. to DIN EN 60754-2 / IEC 60754-2
- ISO 4589-2: 2017
Limiting Oxygen Index (LOI) (min. 30%)
- Smoke density acc. to DIN VDE 482-1034-1 / DIN EN 61034-1 / IEC 61034-1
- Low amount of halogen acid gas acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC60754-1 (max. 1.3%)
- Hydrocarbon resistant acc. to IRAM IAP

Application

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

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

Dimensions and specifications may be changed without prior notice.

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

Thermocouple extension cable, halogen-free



Technical data

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

Cable structure

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

Properties

- Low Smoke Zero Halogen (LSOH)
- Installation in classified areas acc. to NEC 725 PLTC section 501 Cl. 1 Div. 2 & Cl. 2 Div. 2
- **Tests**
- Flame test on bunched wires acc. to UL 1685
- UV and sunlight resistant acc. to UL 1581 section 1200
- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Flame test on bunched wires acc. to IEC 60332-3-24 (Cat. C) & IEC 60332-3-22 (Cat. A)
- Acidity (ph value) and conductivity acc. to DIN EN 60754-2 / IEC 60754-2
- ISO 4589-2: 2017
Limiting Oxygen Index (LOI) (min. 37%)
- Low smoke conformity acc. to DIN VDE 0482-1034-1 / DIN EN 61034-1 / IEC 61034-1
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1 (max. 0.5%)
- Hydrocarbon resistant acc. to IRAM IAP

Application

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

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

Dimensions and specifications may be changed without prior notice.



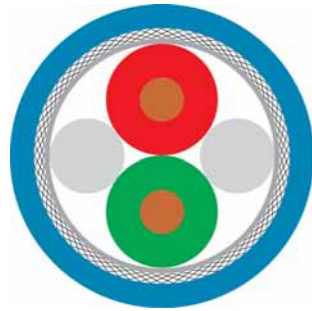
Cables For Process Automation

No.	Page	Name
1	53	 HELUKABEL Profibus PA
2	54	 HELUKABEL Profibus PA
3	55	 HELUKABEL Profibus PA Long Distance
4	56	 HELUKABEL FOUNDATION™ Basic

No.	Page	Name
5	57	 HELUKABEL FOUNDATION™
6	58	 HELUKABEL FOUNDATION™
7	59	 HELUKABEL FOUNDATION™
8	60	 HELUKAT® SPE 10Base-T1L AWG18/1 PVC UL AWM

BUS Cables

Profibus PA fixed installed



Type Cable structure

Inner conductor diameter:
Core insulation:
Core colours:
Stranding element:
Separator:
Shielding 1:
Total shielding:
Outer sheath material:
Cable external diameter:
Outer sheath colour:

Electrical data

Characteristic impedance:
Conductor resistance, max.:
Insulation resistance, min.:
Loop resistance:
Mutual capacitance:
Nominal voltage:
Test voltage:
Attenuation:

Technical data

Weight:
bending radius, repeated:
Operating temperature range min.:
Operating temperature range max.:
Caloric load, approx. value:
Copper weight:

Norms

Applicable standards:
UL Style:

Application

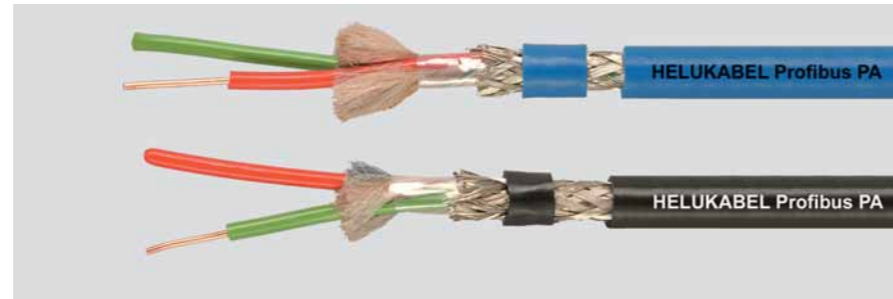
HELUKABEL® Profibus PA is used for normal requirements in the process automation field (chemical industry). The colour blue identifies it as suitable for use in potentially explosive areas (and ATEX/ Class II, EX-i/ EN 60079-14). For other applications, the colour black is usually selected.

Part no.

Dimensions and specifications may be changed without prior notice.

HELUKABEL®

PVC



Hazardous areas 1x2x1.0/2.55 mm

Copper, bare (AWG 18/1)
PE
rd, gn
2 cores + 2 fillers stranded together
Polyester foil over stranded bundle
Al-Foil
Cu braid, tinned
PVC
app. 7,6 mm ± 0,2 mm
Blue similar to RAL 5015

100 Ohm ± 20 %
22 Ohm/km
1 GOhm x km
44 Ohm/km max.
60 nF/km nom.
300 V
2,5 kV
39 kHz ≤ 3,0 dB/km

app. 76 kg/km
140 mm
-30°C
+80°C
0,95 MJ/m
44,00 kg/km

Profibus acc. to DIN 19245 T3 and EN50170
Flame-retardant acc. IEC 60332-2-1
UL Style 2571

82835, Profibus PA

Non-hazardous areas 1x2x1.0/2.55 mm

Copper, bare (AWG 18/1)
PE
rd, gn
2 cores + 2 fillers stranded together
Polyester foil over stranded bundle
Al-Foil
Cu braid, tinned
PVC
app. 7,6 mm ± 0,2 mm
Black

100 Ohm ± 20 %
22 Ohm/km
1 GOhm x km
44 Ohm/km max.
60 nF/km nom.
300 V
2,5 kV
39 kHz ≤ 3,0 dB/km

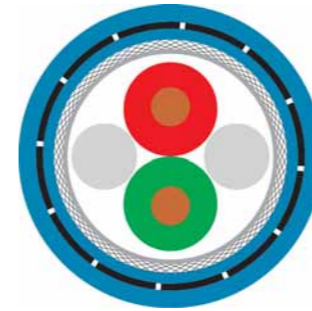
app. 76 kg/km
140 mm
-30°C
+80°C
0,95 MJ/m
44,00 kg/km

Profibus acc. to DIN 19245 T3 and EN50170
Flame-retardant acc. IEC 60332-2-1
UL Style 2571

82836, Profibus PA

BUS Cables

Profibus PA fixed installed armoured



Type Cable structure

Inner conductor diameter:
Core insulation:
Core colours:
Stranding element:
Separator:
Inner sheath material:
Shielding 1:
Total shielding:
Armouring:
Outer sheath material:
Cable external diameter:
Outer sheath colour:

Electrical data

Characteristic impedance:
Conductor resistance, max.:
Insulation resistance, min.:
Loop resistance:
Mutual capacitance:
Nominal voltage:
Test voltage:
Attenuation:

Technical data

Weight:
bending radius, repeated:
Operating temperature range min.:
Operating temperature range max.:
Caloric load, approx. value:
Copper weight:

Norms

Applicable standards:

Application

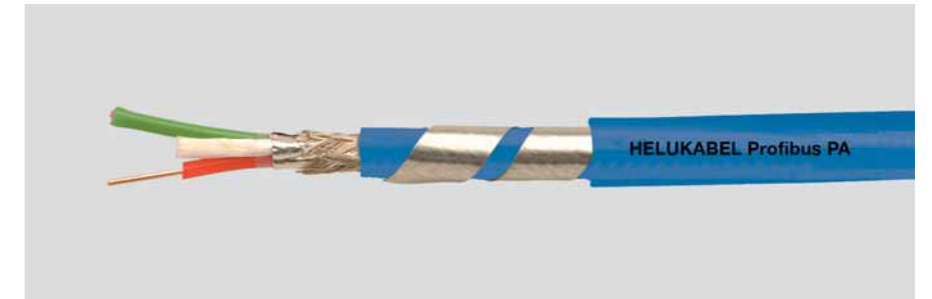
HELUKABEL® Profibus PA Armoured is used in areas with rodent such as rats, nutria etc. but also offers additional protection against all other outside mechanical influences thanks to its steel tape armouring. The colour blue identifies it as suitable for use in potentially explosive areas (and ATEX/ Class II, EX-i/EN 60079-14). For other applications, the colour black is usually used.

Part no.

Dimensions and specifications may be changed without prior notice.

HELUKABEL®

PVC



Hazardous areas 1x2x1.0/2.55 mm

Copper, bare (AWG 18/1)
PE
rd, gn
2 cores + 2 fillers stranded together
Polyester foil over stranded bundle
PVC
Al-Foil
Cu braid, tinned
Steel band
PVC
app. 10,2 mm ± 0,2 mm
Blue similar to RAL 5015

100 Ohm ± 15 %
22 Ohm/km
1 GOhm x km
44 Ohm/km max.
55 nF/km nom.
300 V
2,5 kV
39 kHz ≤ 3,0 dB/km

app. 170 kg/km
140 mm
-20°C
+70°C
1,95 MJ/m
45,00 kg/km

Profibus acc. to DIN 19245 T3 and EN50170
Flame-retardant acc. IEC 60332-2-1

802180, Profibus PA

Non-hazardous areas 1x2x1.0/2.55 mm

Copper, bare (AWG 18/1)
PE
rd, gn
2 cores + 2 fillers stranded together
Polyester foil over stranded bundle
PVC
Al-Foil
Cu braid, tinned
Steel band
PVC
app. 10,2 mm ± 0,2 mm
Black

100 Ohm ± 15 %
22 Ohm/km
1 GOhm x km
44 Ohm/km max.
55 nF/km nom.
300 V
2,5 kV
39 kHz ≤ 3,0 dB/km

app. 170 kg/km
200 mm
-20°C
+70°C
1,95 MJ/m
45,00 kg/km

Profibus acc. to DIN 19245 T3 and EN50170
Flame-retardant acc. IEC 60332-2-1

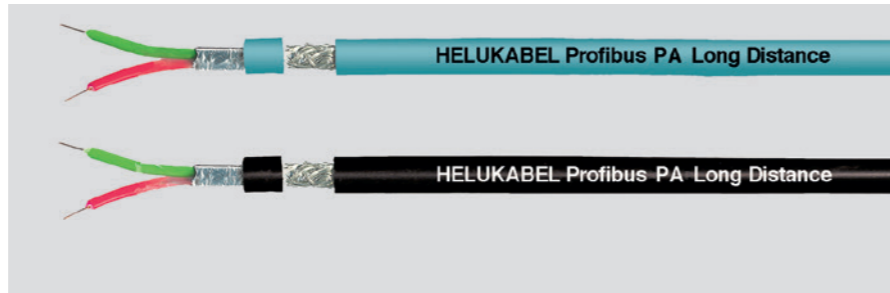
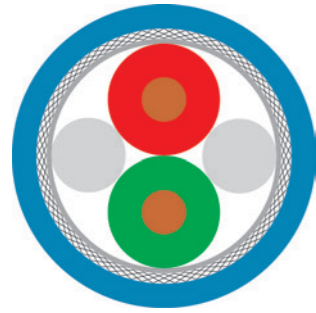
802181, Profibus PA

BUS Cables

Profibus PA LD fixed installed



PVC



Type Cable structure

Inner conductor diameter:
Core insulation:
Core colours:
Stranding element:
Separator:
Shielding 1:
Total shielding:
Outer sheath material:
Cable external diameter:
Outer sheath colour:

Hazardous areas 1x2x1.6/3.2 mm

Copper, bare (AWG 16/7)
Foam-skin-PE
rd, gn
2 cores + 2 fillers stranded together
Polyester foil over stranded bundle
Al-Foil
Cu braid, tinned
PVC
app. 9,5 mm ± 0,3 mm
Blue similar to RAL 5015

Non-hazardous areas 1x2x1.6/3.2 mm

Copper, bare (AWG 16/7)
Foam-skin-PE
rd, gn
2 cores + 2 fillers stranded together
Polyester foil over stranded bundle
Al-Foil
Cu braid, tinned
PVC
app. 9,5 mm ± 0,3 mm
Black similar to RAL 9005

Electrical data

Characteristic impedance:
Conductor resistance, max.:
Insulation resistance, min.:
Loop resistance:
Mutual capacitance:
Nominal voltage:
Test voltage:
Attenuation:

100 Ohm ± 20 %
14,6 Ohm/km
1 GOhm x km
29,2 Ohm/km max.
60 nF/km nom.
300 V
2,5 kV
39 kHz ≤ 2,7 dB/km

100 Ohm ± 20 %
14,6 Ohm/km
1 GOhm x km
29,2 Ohm/km max.
60 nF/km nom.
300 V
2,5 kV
39 kHz ≤ 2,7 dB/km

Technical data

Weight:
bending radius, repeated:
Operating temperature range min.:
Operating temperature range max.:
Caloric load, approx. value:
Copper weight:

app. 131 kg/km
100 mm
-40°C
+70°C
1,57 MJ/m
62,00 kg/km

app. 131 kg/km
100 mm
-40°C
+70°C
1,57 MJ/m
62,00 kg/km

Norms

Applicable standards:
UL Style:

Profibus acc. to DIN 19245 T3 and EN50170
Flame-retardant acc. to IEC 60332-1-2
UL Style 2571

Profibus acc. to DIN 19245 T3 and EN50170
Flame-retardant acc. to IEC 60332-1-2
UL Style 2571

Application

HELUKABEL® Profibus PA Long Distance is used for especially long transmission distances in process networks. It uses a larger conductor cross-section to satisfy the attenuation requirements. The colour blue identifies it as suitable for use in potentially explosive areas (and ATEX/Class II, EX-i/EN 60079-14). For other applications, the colour black is usually selected.

Part no.

800650, Profibus PA

800715, Profibus PA

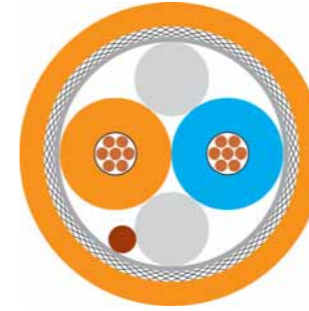
Dimensions and specifications may be changed without prior notice.

BUS Cables

FOUNDATION™ Fieldbus flexible Basic



PVC



Type Cable structure

Inner conductor diameter:
Core insulation:
Core colours:
Stranding element:
Separator:
Shielding 1:
Total shielding:
Drain wire:
Outer sheath material:
Cable external diameter:
Outer sheath colour:

process automation 1x2x1.2/2,55-100 LI

Copper, bare (AWG 18/7)
PO
or, bl
2 cores + 2 fillers stranded together
Polyester foil over stranded bundle
Al-Foil
Cu braid, tinned
yes
PVC
app. 8,0 mm ± 0,3 mm
Orange similar to RAL 2003

Electrical data

Characteristic impedance:
Conductor resistance, max.:
Insulation resistance, min.:
Loop resistance:
Mutual capacitance:
Nominal voltage:
Test voltage:
Attenuation:

100 Ohm ± 20 Ohm
22 Ohm/km
5 GOhm x km
44 Ohm/km max.
60 nF/km nom.
300 V
1,5 kV
39 kHz ≤ 3,4 dB/km

Technical data

Weight:
bending radius, repeated:
Operating temperature range min.:
Operating temperature range max.:
Caloric load, approx. value:
Copper weight:

app. 85 kg/km
80 mm
-40°C
+80°C
1,22 MJ/m
45,00 kg/km

Norms

Applicable standards:
UL Style:
CSA standard:

Foundation Fieldbus Spec. FF-816-1.4
Flame-retardant acc. to IEC 60332-3
CMG 75°C PLTC FT4
CSA FT 4

Application

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

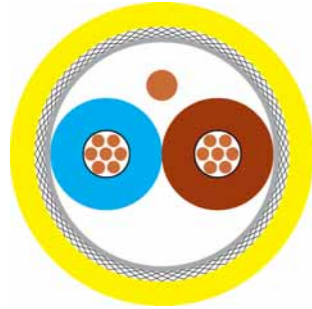
Part no.

803354, Foundation™ Fieldbus Basic

Dimensions and specifications may be changed without prior notice.

BUS Cables

FOUNDATION™ Fieldbus flexible Type A



Type Cable structure

Inner conductor diameter:
Core insulation:
Core colours:
Stranding element:
Separator:
Shielding 1:
Total shielding:
Drain wire:
Outer sheath material:
Cable external diameter:
Outer sheath colour:

process automation 1x2x1.1/2, 85-100 LI

Copper, bare (AWG 18/37)
XLPE ray cross-linking
bu, bn
Double core
-
Al-Foil
Cu braid, tinned
yes
PVC
app. 7,9 mm ± 0,3 mm
Yellow

Electrical data

Characteristic impedance:
Conductor resistance, max.:
Insulation resistance, min.:
Loop resistance:
Mutual capacitance:
Nominal voltage:
Test voltage:
Attenuation:

100 Ohm ± 20 Ohm
24 Ohm/km
2 GOhm x km
48 Ohm/km max.
65 nF/km nom.
300 V
1,5 kV
39 kHz ≤ 3,4 dB/km

Technical data

Weight:
bending radius, repeated:
Operating temperature range min.:
Operating temperature range max.:
Caloric load, approx. value:
Copper weight:

app. 89 kg/km
80 mm
-40°C
+105°C
1,05 MJ/m
42,00 kg/km

Norms

Applicable standards:

UL Style:
CSA standard:

Foundation Fieldbus Spec. FF-816-1.4
Flame-retardant acc. to IEC 60332-3
CMG 105° or CL3 FT4
CSA FT 4

Application

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

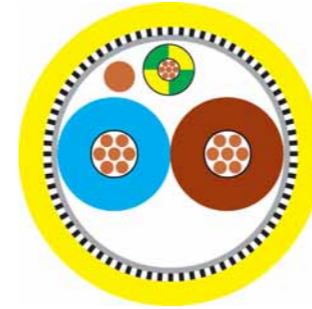
Part no.

801193, Foundation Fieldbus FF A

Dimensions and specifications may be changed without prior notice.

BUS Cables

FOUNDATION™ Fieldbus flexible Type A armoured



Type Cable structure

Inner conductor diameter 1:
Inner conductor diameter 2:
Core insulation 1:
Core insulation 2:
Core colours 1:
Core colours 2:
Stranding element 1:
Separator:
Shielding 1:
Total shielding:
Drain wire:
Armouring:
Outer sheath material:
Cable external diameter:
Outer sheath colour:

process automation 1x2x1.1/2, 85-100 LI + 1x0,8 gnye, armoured

Copper, bare (AWG 18/41)
Copper, bare (AWG 18/37)
XLPE ray cross-linking
PVC
bu, bn
gn/ye
Double core
-
Al-Foil
Al-Foil
yes
Corrugated copper tube
PVC
app. 12,3 mm ± 0,3 mm
Yellow

Electrical data

Characteristic impedance:
Conductor resistance, max.:
Insulation resistance, min.:
Loop resistance:
Mutual capacitance:
Nominal voltage:
Test voltage:
Attenuation:

100 Ohm ± 20 Ohm
24 Ohm/km
2 GOhm x km
48 Ohm/km max.
65 nF/km nom.
300 V
1,5 kV
39 kHz ≤ 3,4 dB/km

Technical data

Weight:
bending radius, repeated:
Operating temperature range min.:
Operating temperature range max.:
Caloric load, approx. value:
Copper weight:

app. 187 kg/km
130 mm
-25°C
+105°C
1,65 MJ/m
125,00 kg/km

Norms

Applicable standards:

UL Style:
CSA standard:

Foundation Fieldbus Spec. FF-816-1.4
Flame-retardant acc. to IEC 60332-3
CMG 105°C or PLTC FT4 Sun Res
CSA FT 4

Application

HELUKABEL® FOUNDATION™ Type A Armoured finds use in areas with rodents such as rats, nutria etc. but also offers additional protection against all other outside mechanical influences thanks to its corrugated tape armouring. Thanks to use of stranded conductors, this cable can be moved occasionally and satisfies the usual American requirements for such networks.

Part no.

801192, Foundation Fieldbus FF A

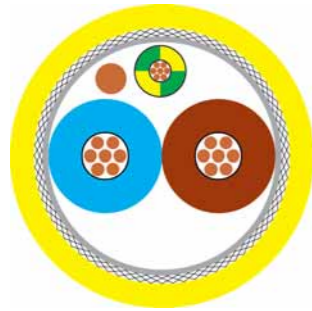
Dimensions and specifications may be changed without prior notice.

BUS Cables

FOUNDATION™ Fieldbus flexible Type A + gnye



PVC



Type Cable structure

Inner conductor diameter 1:
Inner conductor diameter 2:
Core insulation 1:
Core insulation 2:
Core colours 1:
Core colours 2:
Stranding element 1:
Separator:
Shielding 1:
Total shielding:
Drain wire:
Outer sheath material:
Cable external diameter:
Outer sheath colour:

process automation 1x2x1.1/2,85-100 LI + 1x0,8 gnye

Copper, bare (AWG 18/41)
Copper, bare (AWG 18/41)
XLPE ray cross-linking
PVC
bu, bn
gn/ye
Double core
-
Al-Foil
Cu braid, tinned
yes
PVC
app. 7,9 mm ± 0,3 mm
Yellow

Electrical data

Characteristic impedance:
Conductor resistance, max.:
Insulation resistance, min.:
Loop resistance:
Mutual capacitance:
Nominal voltage:
Test voltage:
Attenuation:

100 Ohm ± 20 Ohm
24 Ohm/km
2 GOhm x km
48 Ohm/km max.
65 nF/km nom.
300 V
1,5 kV
39 kHz ≤ 3,4 dB/km

Technical data

Weight:
bending radius, repeated:
Operating temperature range min.:
Operating temperature range max.:
Caloric load, approx. value:
Copper weight:

app. 84 kg/km
80 mm
-25°C
+105°C
1,00 MJ/m
49,00 kg/km

Norms

Applicable standards:

Foundation Fieldbus Spec. FF-816-1.4
Flame-retardant acc. to IEC 60332-3
CMG 105° or CL3 FT4
CSA FT 4

Application

HELUKABEL® FOUNDATION™ Fieldbus Type A + gnye offers an additional conductor in the structure in compliance with the FF specification. Thanks to use of stranded conductors, this cable can be moved occasionally and satisfies the usual American requirements for such networks.

Part no.

801191, Foundation Fieldbus FF A

Dimensions and specifications may be changed without prior notice.

Industrial Ethernet

HELUKAT® SPE Type A 10 BASE T1 1x2xAWG18/1 PVC



Type: Type A for fixed installation

Cable structure 1x2x AWG18/1

Inner conductor: Bare copper conductor
Core insulation: Foam PO
Core colours: White + Blue
Stranding: S stranded in pairs
Screening: Al-foil + braid
Outer sheath: PVC
Outer diameter: 7,0 ± 0,2 mm
Colour: Black

Typical values

Frequency (MHz)	1	4	10	16	20
Attenuation (db/100m)	2.06	3.75	5.82	7.34	8.21

Technical data

Weight: approx.
76 kg/km
Bending radius, repeated: 15 x d
Bending radius, non-recurring: 5 x d
Fixed temperature range.: -30°C to +80°C
Flexible temperature range: -10°C to +70°C

Norms

Applicable standards: SPE Standard 10BASE -T1L (10 Mbit to 1 km)
Type A - fixed installation
Flame-retardant acc. IEC 60332 -2-1
UV-resistant
Approval acc. to AWM
CSA:
RoHS: Compliant 2011/65/EC

Application

Single Pair Ethernet covers the requirements of diverse industries. Depending on the application, users could use the 1-pair cable for fixed installation, for flexible use or for highly dynamic application such as in drag chain or robot. Different jacket materials are used to meet the respective customer requirements. The applications could be manifold and help in machine and plant engineering or process technology. Very concrete examples are camera transmissions, the use in cobots, (collaborative robots that work together with humans) or measurement sensor technology. SPE is the solution for miniaturization and holds out the prospect of small, space- and weight-saving cabling for the future. The type HELUKAT® SPE 1x2xAWG18/1 Type A 10 BASE T1 shown here is suitable for fixed installation up to 1000m transmission distance.

Part no. 11017748, Type A

Dimensions and specifications may be changed without prior notice.



Cable Accessories

No.	Page	Name
1	63	HELUTOP® HT-MS-EX-d Cable gland
2	64	HELUTOP® HT-MS-EX-d1 EMV
3	65	HELUTOP® HT-MS-EX-d / e4

HELUTOP® HT-MS-EX-d Cable gland

Brass, explosive area, pressure resistant



HELUTOP® HT-MS-EX-d

For use in explosive areas

Application

- Zone 1, Zone 2, Zone 21, Zone 22, IIA, IIB, IIC

Material

Brass, nickel plated
Clamp: Polyamide PA 6
Seal: Chloroprene-rubber (CR)
O-ring: Chloroprene-rubber (CR)

Note

Certificate of Conformity:
IMQ 13 ATEX 018X

Marking: Ex-d, Ex-e, EX II 2GD, Exd IIC Gb, Exe IIC Gb, Ex t IIIC DB
Stainless steel 1.4404 and other temperature ranges available on request.

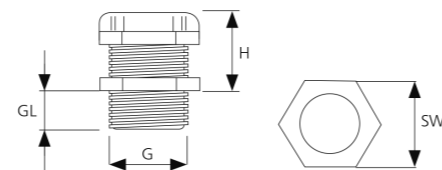
Unit: 1 pcs

Technical data

Protection class: IP 66 / IP 68 (EN 60529)

Temperature range: -40°C up to +80°C

Test standard: EN 60079-0:2012 / EN 60079-1:2007 / EN 60079-7:2007 / EN 60079-11:2012 / EN 60079-31:2014 / IEC 60079-0:2012 / IEC 60079-1:2014 / IEC 60079-7:2006 / IEC 60079-11:2011 / IEC 60079-31:2013



Dimensions

G Thread size
GL Thread length
SW Spanner size

Metric thread

Part no.	Size Metr.	Cable Ø from / to mm	Thread length mm	Spanner size mm	Height mm
906941	M16 x 1,5	4,0 - 12,0	16,0	22	31
906942	M20 x 1,5	4,0 - 12,0	16,0	22	27
906943	M20 x 1,5	10,0 - 16,0	16,0	28	30
906944	M25 x 1,5	10,0 - 18,0	16,0	28	30,5
906945	M25 x 1,5	14,0 - 20,0	16,0	35	34
906946	M32 x 1,5	14,0 - 24,0	16,0	35	33
906947	M32 x 1,5	22,0 - 28,0	16,0	45	41
906948	M40 x 1,5	22,0 - 32,0	18,0	45	41
906949	M40 x 1,5	26,0 - 34,0	18,0	50	44
906950	M50 x 1,5	26,0 - 35,0	18,0	55 / 50	44
906951	M50 x 1,5	35,0 - 44,0	18,0	64	43
906952	M63 x 1,5	35,0 - 45,0	18,0	68 / 64	43
906953	M63 x 1,5	46,0 - 56,0	20,0	75 / 80	52,5
906954	M75 x 1,5	46,0 - 62,0	20,0	80	52
906955	M75 x 1,5	60,0 - 69,0	20,0	95	55
906956	M90 x 1,5	60,0 - 75,0	20,0	95	55
906957	M90 x 1,5	75,0 - 82,0	20,0	105	55
906958	M100 x 1,5	75,0 - 85,0	20,0	105	55
906982	M110 x 1,5	85,0 - 95,0	20,0	115	57

Dimensions and specifications may be changed without prior notice.

HELUTOP® HT-MS-EX-d 1 EMV

Brass, explosive area, pressure resistant



HELUTOP® HT-MS-EX-d 1 EMV

For use in explosive areas. For cables with braided hose, copper tinned (EMC)

Application

- Zone 1, Zone 2, Zone 21, Zone 22, IIA, IIB, IIC

Material

Brass, nickel plated
Contact system: Copper-Beryllium
Clamp: Polyamide PA 6
Seal: Chloroprene-rubber (CR)
O-ring: Chloroprene-rubber (CR)

Note

Also available in stainless steel 1.4404, further sizes or for other temperature ranges on request.

Certificate of Conformity: IMQ 13 ATEX 018X

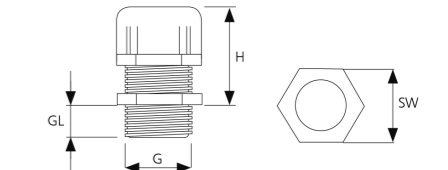
Marking: Ex-d, Ex-e EX II 2GD Ex d IIC Gb, Ex e IIC Gb, Ex tb III CDb
Unit: 1 pcs

Technical data

Protection class: IP 66 / IP 68 (EN 60529)

Temperature range: -40°C up to +80°C

Test standard: EN 60079-0:2012 / EN 60079-1:2007 / EN 60079-7:2007 / EN 60079-11:2012 / EN 60079-31:2014 / IEC 60079-0:2012 / IEC 60079-1:2014 / IEC 60079-7:2016 / IEC 60079-11:2011 / IEC 60079-31:2013



Dimensions

GL Thread length
G Thread size
H Height without thread
SW Spanner size

Metric thread

Part no.	Size Metr.	Cable Ø from / to mm	Thread length mm	Spanner size mm	Height mm
906959	M16 x 1,5	4,0 - 8,0	16,0	22	28,5
906960	M20 x 1,5	4,0 - 12,0	18,0	22	27
906961	M25 x 1,5	10,0 - 18,0	16,0	28	30,5
906962	M32 x 1,5	14,0 - 24,0	19,0	35	33
906963	M40 x 1,5	22,0 - 32,0	20,0	45	40,5
906964	M50 x 1,5	26,0 - 35,0	20,0	55 / 50	43,5

Dimensions and specifications may be changed without prior notice.

02.03.2020 / Dimensions and specifications may be changed without prior notice.

02.03.2020 / Dimensions and specifications may be changed without prior notice.

HELUTOP® HT-MS-EX-d / e4

Brass, explosive areas, for armoured cables



HELUTOP® HT-MS-EX-d / e 4

For use in explosive areas. For armoured cables (copper or steel).

Application

- Zone 1, Zone 2, Zone 21, Zone 22, IIA, IIB, IIC

Material

Brass, nickel plated
Clamp: Polyamide PA 6
Seal: NBR
O-ring: NBR

Properties

- Sealing
- Strain relief
- EMC
- Explosive protection

Note

Stainless steel 1.4404 and other temperature ranges on request.

PVC shrouds and earth tags on request.

Certificate of Conformity: CESI 13 ATEX 033X

Marking: Ex II 2 GD, Exd IIC Gb / Exe IIC Gb, Extb IIIC Db

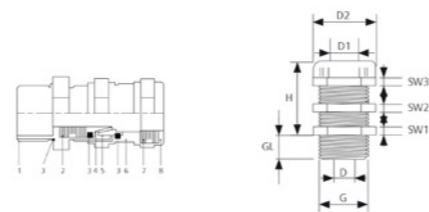
Unit: 1 pcs

Technical data

Protection class: IP 66 / IP 68

Temperature range: -40°C up to +100°C

Test standard: EN 60079-0:2012 / EN 60079-1:2007 / EN 60079-7:2007 / EN 60079-31:2009 / IEC 60079-0:2011
Edition:6.0 / IEC 60079-1:2007-04 Edition: 6.0 / IEC 60079-31:2008 Edition:1 / IEC 60079-7:2006-07 Edition:4



Dimensions:

- 1 Lower body
- 2 Lower sealing ring
- 3 O-Ring
- 4 Grounding cone
- 5 Swivel braid retainer
- 6 Middle body
- 7 Upper sealing ring
- 8 Pressure cap

Metric thread

Part no.	Size Metr.	Cable Ø Inner sheath from / to mm	Cable Ø Outer sheath from / to mm	Thread length mm	Spanner size mm	Angle size D2 mm	Height mm
906965	M16 x 1,5	3,0 - 8,5	6,0 - 12,0	16,0	22 / 26	29,0	47
906966	M16 x 1,5	6,0 - 12,0	8,5 - 16,0	16,0	25 / 29	31,5	48
906967	M20 x 1,5	3,0 - 8,5	6,0 - 12,0	16,0	24 / 26	29,0	47
906968	M20 x 1,5	6,0 - 12,0	8,5 - 16,0	16,0	25 / 29	31,5	47
906970	M25 x 1,5	6,0 - 12,0	8,5 - 16,0	18,0	29 / 29	31,5	48
906972	M25 x 1,5	12,0 - 20,0	16,0 - 26,0	18,0	36 / 40	44,0	60
906973	M32 x 1,5	12,0 - 20,0	16,0 - 26,0	18,0	40 / 40	44,0	62
906974	M32 x 1,5	15,0 - 26,0	20,0 - 33,0	18,0	48 / 52	57,0	78
906975	M40 x 1,5	15,0 - 26,0	20,0 - 33,0	18,0	48 / 52	57,0	78
906976	M40 x 1,5	20,0 - 32,0	29,0 - 41,0	18,0	55 / 60	66,0	89
906977	M50 x 1,5	22,0 - 35,0	33,0 - 48,0	18,0	60 / 70	82,0	97
906978	M50 x 1,5	27,0 - 41,0	36,0 - 52,0	18,0	70 / 70	83,0	100
906979	M63 x 1,5	35,0 - 45,0	43,0 - 57,0	20,0	75 / 80	89,5	106
906980	M63 x 1,5	40,0 - 52,0	47,0 - 60,0	20,0	85 / 85	94,0	107
906981	M75 x 1,5	40,0 - 52,0	47,0 - 60,0	20,0	85 / 85	94,0	107

Dimensions and specifications may be changed without prior notice.

NOTES

Technical modifications

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The length marking, which cannot be calibrated, is an aid, e.g. for easy material allowance determination or for determination of the length remaining on the drum. Deviation of the line length shown by the marking is up to 1%. Incomplete length markings or length markings missing on sections, deviations of the cable length shown by the length marking do not substantiate any legal obligation whatsoever. Only use calibrated measurement devices to determine line length.

Safety notice

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

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