

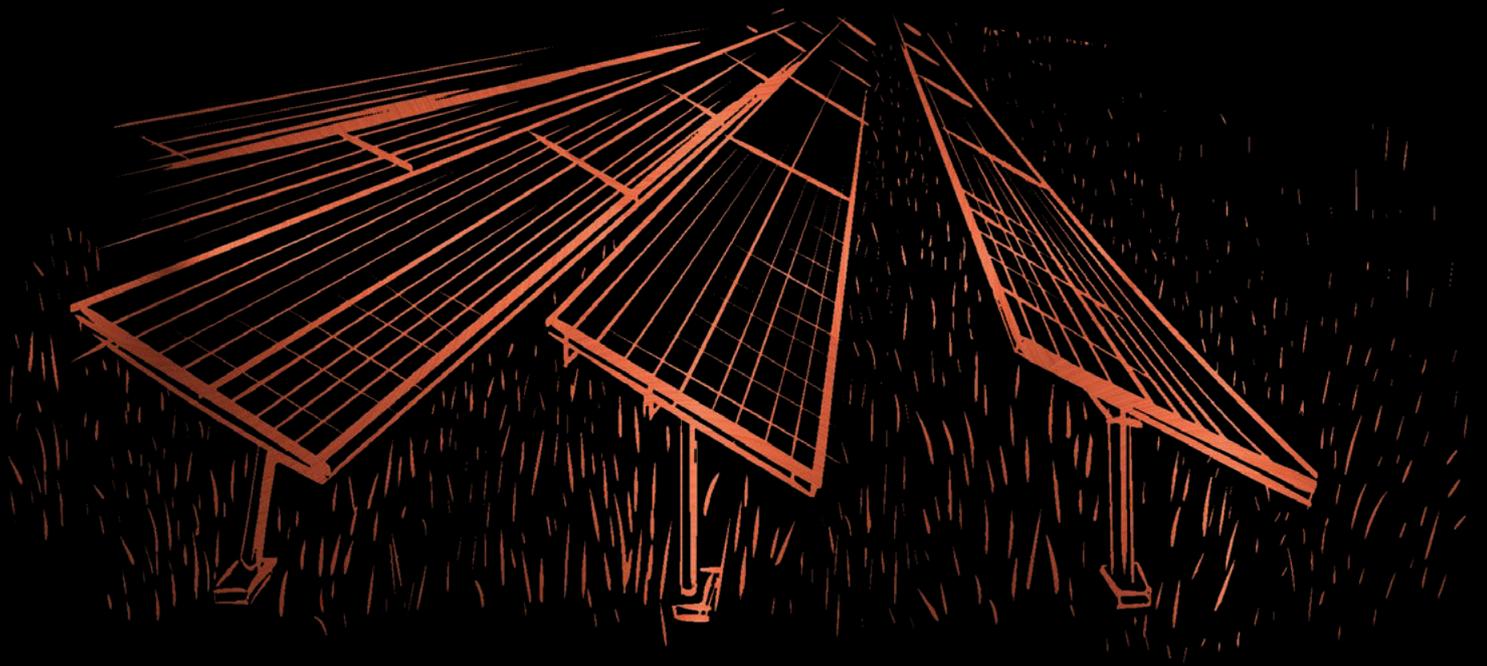
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HELUKABEL® SOUTH AFRICA



Cable Solutions for Solar & Energy Storage Systems

# HELUKABEL® SOLAR POWER

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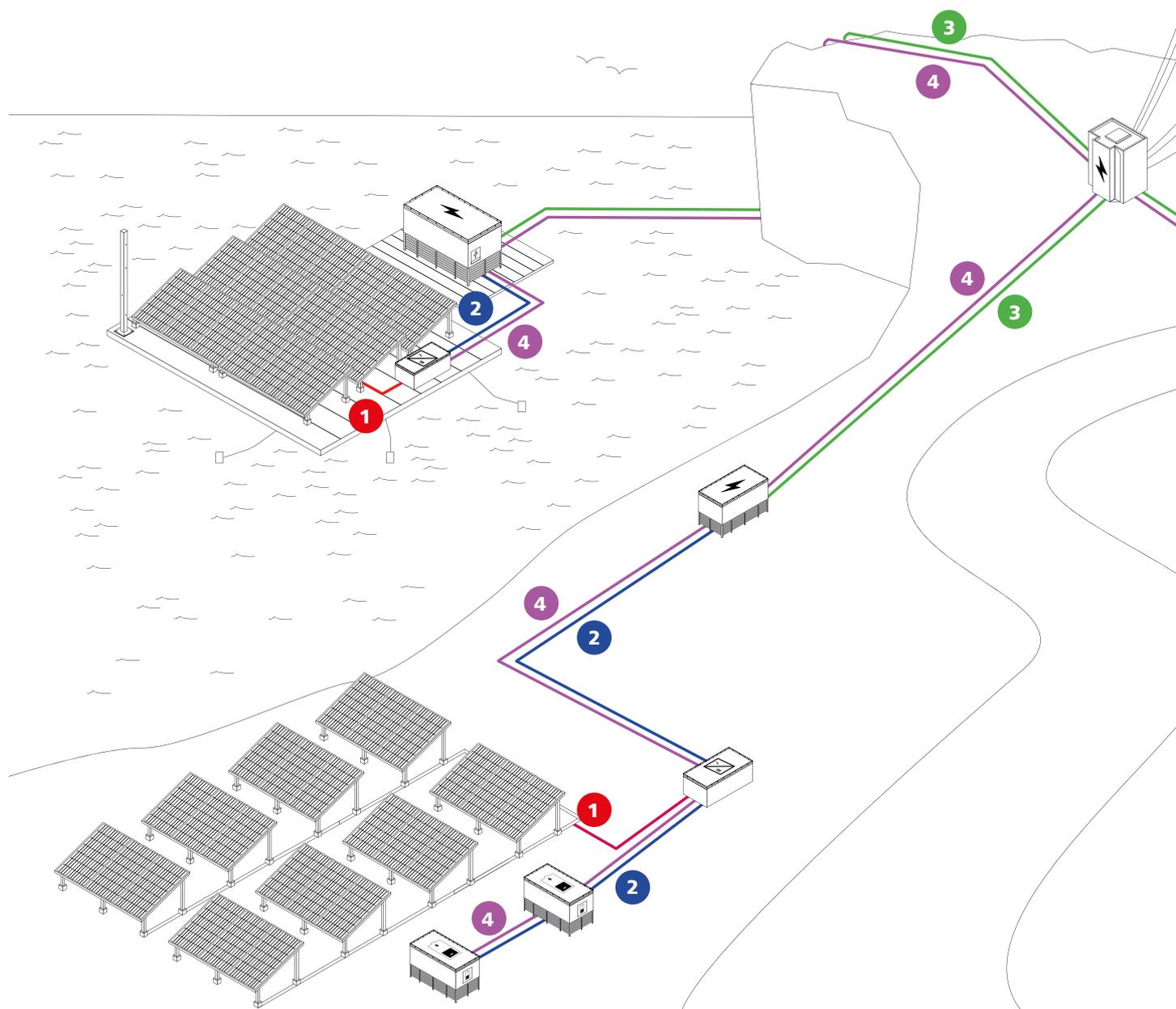


**( Channeling  
POWER )** 

# Solar Power

The demand for renewable energy is rapidly increasing worldwide and solar energy is one of the most important and cleanest energy sources for this, along with wind and water. In order to take advantage of them, photovoltaic systems are used - for homes, industrial halls, office buildings, farms and floating systems. The environmental conditions vary greatly; however, photovoltaic systems are almost always exposed to weather, humidity, UV radiation and strongly fluctuating temperatures.

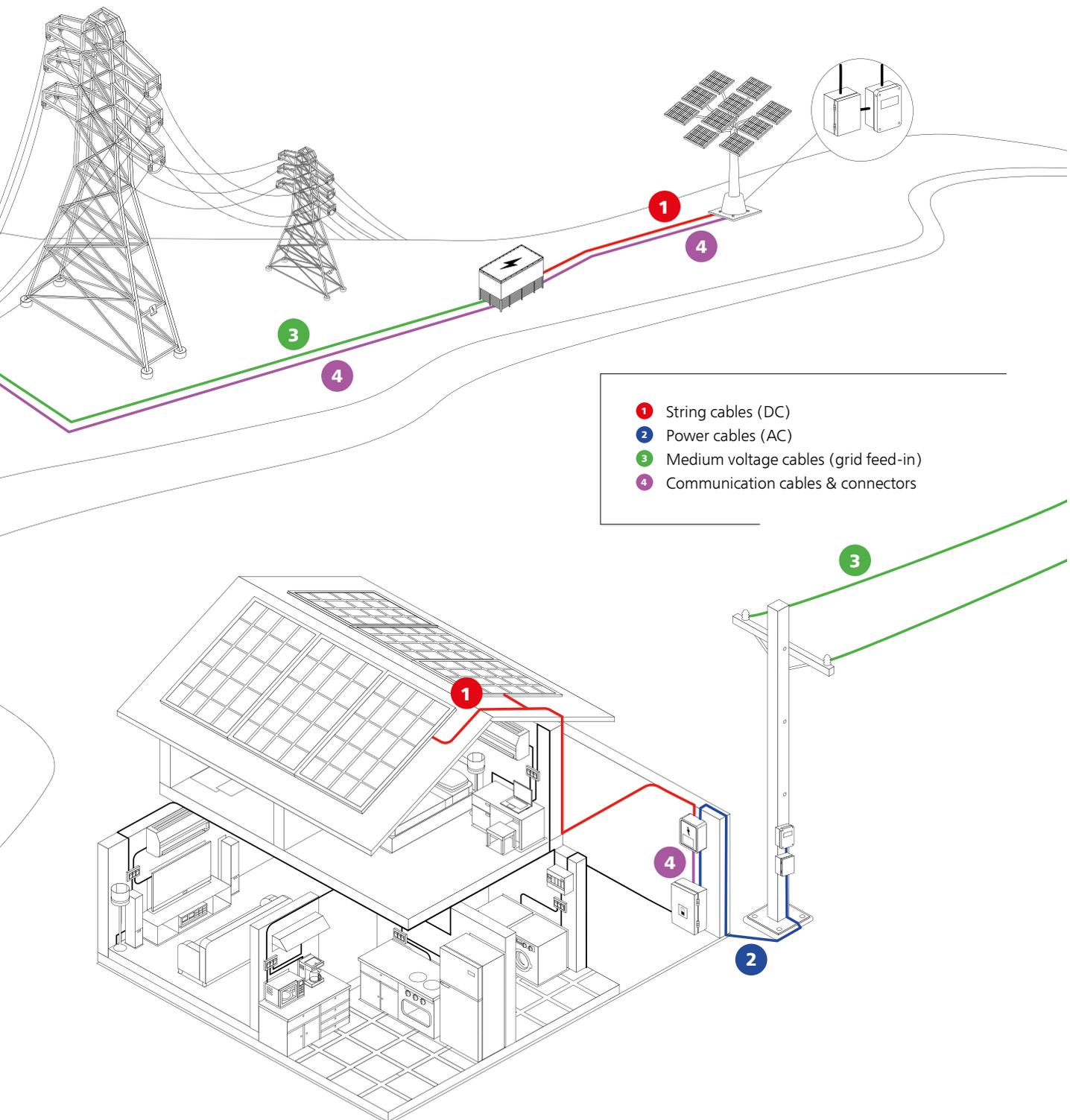
Reliable and durable cabling of the individual solar modules with each other and the cabling to the inverters and storage systems is crucial for efficient operation of the systems. This is where cables are needed that reliably withstand all external influences - this is the only way to get the energy generated to where it is needed. As a leading manufacturer and supplier of electrical connection technology, HELUKABEL has decades of experience in the photovoltaic industry - and supplies the ideal cables and wires as well as the right accessories for every application.



We offer a broad range of products, from DC string cables for connecting solar panels, to earth and medium-voltage cables for connection and grid feed-in, to fibre optic and data cables for networks and communication. In addition, we offer integrated cable management systems including connectors, plugs, hoses, glands, housings and tools, as well as pre-assembled cables. Our experts are particularly competent in developing customised

solutions for special applications - and thanks to our global presence, all local and regional requirements such as environmental conditions and design standards can be met.

HELUKABEL thus supports manufacturers, installers and operators of photovoltaic systems worldwide in generating clean, sustainable and renewable energy.



- 1 String cables (DC)
- 2 Power cables (AC)
- 3 Medium voltage cables (grid feed-in)
- 4 Communication cables & connectors

# Solutions for Photovoltaic Systems

For further information, please refer to the corresponding data sheets at: [www.helukabel.com/](http://www.helukabel.com/) 999999 en  
(replace the red numbers with the corresponding part no.)

## 1 STRING CABLES (DC)

### SOLARFLEX® -X H1Z2Z2-K

1500 V DC, EN 50618, copper wire, tinned, finely stranded acc. to DIN VDE 0295 Cl. 5 / IEC 60228 Cl. 5 resistant to: UV radiation, ozone, weathering effects, water. Halogen-free and flame retardant.  
Used for cabling solar modules. Suitable for direct burial.  
Recommendation: Installation in pipes. Available in various colours, cross sections and drum sizes  
Part no. 713529



## Solar connectors

### MC 4 1000V

PV-male / female cable coupler  
Part no. 905206 / 905207



### MC 4-Evo 2 1500 V

PV-male / female cable coupler  
Part no. 11020678 / 11020682



PV MC4 male & female  
Branch connector



Inline Fuse Connectors



### Extension solar cable 6 mm<sup>2</sup>

MC4 male to MC4 female 2, 8, 10 m.  
Part no. 11023765 / 11023767 / 11023767  
Additional fabrication options available upon request.



### Battery connection cable set

Battery cable 2XNSGAFÖU. With and without cable lugs.  
Available in various cross sections.  
Part no. 11023261



Moulded Assemblies



## 2 POWER CABLES (AC)

### **NYJ / NY-O**

Power / control cable, 0.6/1 kV, VDE approved, bare copper conductor, PVC insulation, PVC sheath

**Part no. 32001**



### **N2XJ / N2X-O**

Power distribution cable, 0.6/1 kV, VDE approved, higher current carrying capacity, bare copper conductor, XLPE insulation, PVC sheath

**Part no. 32850**



### **NAYJ / NAY-O**

Power distribution cable, 0.6/1 kV, VDE approved, aluminum conductor, PVC insulation, PVC sheath

**Part no. 32301**



### **NA2XJ / NA2X-O**

Power distribution cable, 0.6/1 kV, VDE approved, current carrying capacity, aluminum conductor, XLPE insulation, PVC sheath

**Part no. 33113**



### **N2XH-J / N2XH-O**

Power / control cable, 0.6/1 kV, halogen-free, bare copper conductor, XLPE insulation, TPO sheath

**Part no. 53558**



### **(N)A2XH-J / (N)A2XH-O**

Power / control cable, 0.6/1 kV, halogen-free, aluminum conductor, XLPE insulation, TPO sheath

**Part no. 50073**



### **HELUPOWER® 1000 RV-K**

Connection cable, direct burial, 90°C, bare copper conductor, XLPE insulation, PVC sheath

**Part no. 11003798**



### **H07RN-F**

Connection cable, oil-resistant, weather-resistant, bare copper conductor, rubber insulation and sheath

**Part no. 37001**



### **HELUPOWER® H07RN-F LS0H**

Connection cable, oil-resistant, halogen-free, bare copper conductor, special rubber insulation and sheath

**Part no. 30737**



### **NSGAFÖU 1,8/3 kV**

short-circuit and earth-fault proof p to 1kV, copper wire tinned, high mechanical stress, flame-retardant and oil-resistant

**Part no. 38501**



### HELUPOWER® THERMFLEX® 145

Tinned stranded copper wire, temperature resistant, improved behavior in case of fire, XLPE insulation and sheathing

**Part no. 17001667**



### NF-USE NF XPC 32-321 U-1000R2V

Rigid industrial power cable, bare copper conductor, low voltage, 0.6/1kV, XLPE insulation, PVC sheath

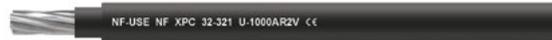
**Part no. 19000700**



### NF-USE NF XPC 32-321 U-1000AR2V

rigid industrial power cable, aluminum conductor, low voltage, 0.6/1kV, XLPE insulation, PVC sheath

**Part no. 19002046**



### WK POWERLINE® ALU

Standard 1 KV, 1.8/3KV suitable for underground installation, robust, flexible, PUR sheath, UV and oil resistant

**Part no. 707647**



Local versions and standards available on request.

## 3 MEDIUM VOLTAGE CABLES (GRID FEED-IN)

### N2XSY

6/10 kV, 12/20 kV, 18/30 kV, VDE approved, bare copper conductor, XLPE insulation, PVC sheath

**Part no. 32400**



### N2XS2Y

6/10 kV, 12/20 kV, 18/30 kV, VDE approved, bare copper conductor, XLPE insulation, PE sheath

**Part no. 32480**



### N2XS(F)2Y

6/10 kV, 12/20 kV, 18/30 kV, VDE approved, bare copper conductor, XLPE insulation, PE sheath, longitudinally waterproof

**Part no. 32560**



### N2XS(FL)2Y

6/10 kV, 12/20 kV, 18/30 kV, VDE approved, bare copper conductor, XLPE insulation, PE sheath, laterally waterproof

**Part no. 33054**



### NA2XSY

6/10 kV, 12/20 kV, 18/30 kV, VDE approved, aluminum conductor, XLPE insulation, PVC sheath

**Part no. 32440**



### NA2XS2Y

6/10 kV, 12/20 kV, 18/30 kV, VDE approved, aluminum conductor, XLPE insulation, PE sheath

**Part no. 32520**



Local versions and standards available on request.

## 4 COMMUNICATION CABLES & CONNECTORS

### PAAR-TRONIC-Li-2YCYv

Low capacitance, EMC-preferred type

Part no. 21129



### Fibre optic cables (SM and MM)

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#### HELUCOM® PACT A-DQ(ZN)B2Y

3000N, central, single mode E9/125µm

Part no. 11017392



#### HELUCOM® A-DQ(ZN)B2Y

2700N, stranded, single mode E9/125µm

Part no. 80188



#### HELUCOM® A-DQ(ZN)(SR)2Y

1500N, steel armoured, central, single mode E9/125µm

Part no. 803928



### Fibre optic equipment

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Customised fibre optic harnesses



Loose tube cable with splitting body and retraction protection



Robust, moulded splitting body



Mini-conductor cable

Available on request.

### Ethernet copper data cables

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#### HELUKAT® 600A S/FTP PVC/PVC

LAN cable, Cat.7e, outdoor

Part no. 801147



#### HELUKAT® 600E S/FTP PVC

LAN cable, Cat.7e, direct burial

Part no. 802167



#### HELUKAT® 600AE S/FTP FRNC/ PE

LAN cable, Cat.7e, direct burial, armoured

Part no. 802168



#### HELUKAT® 600 S/FTP FRNC

LAN cable, Cat.7e, tight cable channels / duplex version

Part no. 80810 / 81446



### Ethernet patchcords

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#### Industrial Ethernet Patchcords (IP protected)

RJ45-IP20 180°, Cat.6A, normal flexible application

Part no. 806618



#### Ethernet Patchcords RJ45

S/FTP halogen-free, Cat.6, class E

Part no. 806253



#### HELUKAT500IND ExtraFlex RJ45

S/FTP Cat.6A, RJ45-IP20 180°

Part no. 11007749



### BUS system cables

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#### E-BUS / KNX

PVC + FRNC, fixed installation

Part no. 81663 / 804042



#### E-BUS / KNX

PE, fixed installation, direct burial

Part no. 802800



#### CAN Bus

PVC, fixed installation, indoor

Part no. 803722



## RJ45 copper connector



Part no. 11022946



Part no. 804544



Part no. 11017885



Part no. 11017766



Part no. 11017767

Part no.	Cat.	Connector	Pins	Core Ø in mm	Cable Ø in mm	AWG solid	AWG stranded	UL	Class	Standard
11022946	6 <sub>A</sub>	straight	8	max. 1.6	5.5-10.0	22-24	22/7 – 27/7	yes	IP20	TIA 568 B
804544	6 <sub>A</sub>	straight	8	max. 1.6	5.0-9.5	22-26	22-27/7		IP20	TIA 568 A
11017885	6 <sub>A</sub>	straight	8	1.0-1.4	6.0-7.5	26-23	26-23		IP20	TIA 568 A/B
11017766	6 <sub>A</sub>	straight	8	1.0-1.4	7.0-8.5	26-23	26-23		IP20	TIA 568 A/B
11017767	8	straight	8	1.4-1.65	7.0-8.5	24-22	24-22		IP20	TIA 568 A/B

## ACCESSORIES

### Glands



#### HELUTOP HT-MS-EP4

Brass, nickel plated, EMC-cable gland with integrated contact system for safe, quick assembly and contacting

Part no. 905181



#### HELUTOP HT

Plastic, polyamide PA6 cable gland with vibration protection

Part no. 93908



#### HSK-PVDF

Polyvinylidene fluoride for use at high temperatures, under long-term UV exposure

Part no. 97571



#### HELUTOP Easy

Threadless, for quick installation with patented spring/snap system without tools

Part no. 908054

### Cable fastening systems



#### Cable clamps K / KS

For fastening single and multi-conductor cables (K) or in a triangular connection (KS). Available on request



#### Heluclamp D1-M

For the short-circuit-proof fastening of single-core or multi-core medium and high voltage cables

Part no. 11022869



# ACCESSORIES

## HELUCOND corrugated tubes

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### PP

Polypropylene, for medium stress applications

**Part no. 920170**

### PA6-UL

Polyamide 6, for heavy duty applications

**Part no. 920384**

### PA12

Polyamide 12, highly flexible, high load rating for heavy-duty applications

**Part no. 920156**



### CO-PA

Polyamide 6, UV-resistant, halogen-free, dividable

**Part no. 90061**

### CO-PP

Polypropylene, halogen-free, dividable

**Part no. 97496**

### CO-PP-UV

Polypropylene, UV-resistant, halogen-free, dividable

**Available upon request**

## Medium voltage straight joint

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### MSVM-S Medium voltage straight joint

#### Heat-shrinkable - Single core.

For connecting cables with differing cross-sections, conductor materials and cable designs with all single-core plastic power cables with external conductor layer up to 18/30(36)kV

**Part no. 93107**



### MSVM-S Medium voltage straight joint

#### Heat-shrinkable - Triple core.

For connecting cables with differing cross-sections, conductor materials and cable designs with all 3-core plastic power cables with external conductor layer up to 18/30(36)kV

**Part no. 93135**

## Drum unwinder / decoiler

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### HELUTOOL 250 pocket / 190 Drum unwinder

For simple reeling of cable drums

**Part no. 903716 / 93529**



### TROMBOI 500 Drum decoiler

Shaftless, for drums with different diameters and weights

**Part no. 904760**

## Others



**KMK-PA-MB / KM-EMV(EMC)**  
Counternuts  
**Part no. 97816**



**TY-MX**  
UV-resistant cable tie  
**Part no. 91052**



**EKI**  
End caps with internal adhesive  
**Part no. 97642**

## Cable lugs



**HELU-S-PK-AL-FG-VZN**  
Aluminum, tinned, FG, extruded,  
straight ring design  
**Part no. 909853**



**HELU-S-PV-AL/CU**  
Press connector for aluminum  
conductors, strain relieved  
**Part no. 907836**



**HELU-S-PK-AL/CU**  
Aluminum/Copper, non-insulated,  
straight compression lug  
**Part no. 907568**

## Tools



**WK-APW 18**  
**Hydraulic hand press**  
For processing cable lugs and  
connectors up to 1000 m<sup>2</sup>  
**Part no. 909871**



**HELUTOOL D20 cable shear**  
Cuts Cu and Al cables smoothly  
and clean without crushing,  
solid / stranded  
**Part no. 904933**



**Photovoltaic case**  
Equipped with: Stripping pliers 4-10 mm<sup>2</sup>  
Crimping pliers PEW12, cable shear  
**Part no. 11009092**

# Contact

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