

Your Single Supplier For Industrial Automation Cables

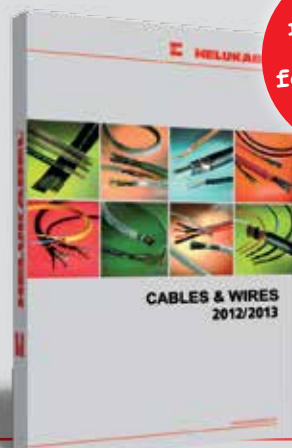


INDUSTRIAL AUTOMATION CABLE SELECTION TABLES

EASY TO USE!

Motor, Servo and Feedback Cables
Single Conductors • Control Cables
Data Cables • Bus Cables
Industrial Ethernet

incl. reference pages for 2012/2013 catalog



www.helukabel.com

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5 CABLE QUALIFYING QUESTIONS

1. Fixed (starting on page 4) or flexing application (starting on page 12)?
2. Type of cable (control cable, data cable, servo cable, bus cable, etc.)?
3. Jacket material?
4. Shielded or unshielded?
5. Approvals (e.g. UL/CSA, VDE, CE, etc.)?

CABLE TRACK CLASSIFICATION

| | SK1 | SK2 | SK3 |
|--------------------------|---------------------|---------------------|--------------------------------------|
| Distance Traveled (max.) | 5 m | 15 m | 50 m |
| Bending Radius (min.) | 10 x Ø | 7.5 x Ø | 7.5 x Ø shielded 5 x Ø unshielded |
| Speed (max.) | 2 m/s | 3 m/s | 5 m/s |
| Acceleration (max.) | 10 m/s ² | 10 m/s ² | 50 m/s ² |
| Cycles (min.) | 1 mill. | 5 mill. | 5 mill. |

This classification is used as a pre-selection. The exact cable track values can be found in the 2012/2013 Cables & Wires catalog on pages 30-37.

NOTES

- red** Halogen-free Cables
- green** Bio-oil and Fuel
- blue** Microbe Resistant cables

- ↪ * Oil Resistance
Please consult with technical support for special applications.
- ↪ Conversion Table | AWG – mm² on page 14
- ↪ Dimensions and specifications may be changed without prior notice.

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CABLE TRACK CLASSIFICATION

| | SK1 | SK2 | SK3 |
|--------------------------|---------------------|---------------------|--------------------------------------|
| Distance Traveled (max.) | 5 m | 15 m | 50 m |
| Bending Radius (min.) | 10 x Ø | 7.5 x Ø | 7.5 x Ø shielded 5 x Ø unshielded |
| Speed (max.) | 2 m/s | 3 m/s | 5 m/s |
| Acceleration (max.) | 10 m/s ² | 10 m/s ² | 50 m/s ² |
| Cycles (min.) | 1 mill. | 5 mill. | 5 mill. |

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CABLES & WIRES

RESEARCH AND DEVELOPMENT



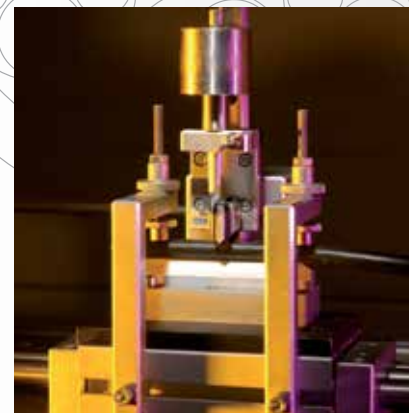
We offer optimal, customized solutions for our customers. The focus is on flexible cables for diverse applications.



We develop cables that are exceptionally durable and perform under conditions such as extreme chemical, electrical and mechanical stress combined with small bending radii and a high number of bending cycles.

TEST CENTER

The HELUKABEL® test center provides a variety of tests including cable track (bending cycles), fire, durability, etc., to guarantee our high quality standards.



THE RIGHT PARTNER!

HELUKABEL - YOUR SINGLE SUPPLIER

PRODUCTION



Made in Germany since 1988, HELUKABEL® produces cables & wires at our factory in Windsbach near Nuremberg.



Currently 340,000 kilometers (212,500 miles) of cables are produced annually. The production and design facility provides expertise in automation, technology, structural engineering and renewable energy.

LOGISTICS



HELUKABEL® has one of Europe's largest automated cable and wire distribution centers. The majority of our 33,000 products are warehoused in the state-of-the-art Hemmingen facility, near Stuttgart.



Using the latest conveyor and control technology, the extensively automated distribution center compiles thousands of "just-in-time" orders daily from over 40,000 pallet storage spaces by 18 rack feeders. The small-piece warehouse is also fully automated, further increasing our ability to fulfill orders for our customers around the world as quickly as possible.

CONTROL CABLES | Fixed Applications

| Outer jacket material | Shielding | Voltage class | Without UL standard | | | | Cat. page | Voltage class | According UL/CSA standard | | | | Cat. page | Voltage class | According NFPA 79 | | | | Cat. page | | | | | |
|-----------------------|--------------------|--|--|--|-------------------|----------------|-----------------------------------|------------------------|---------------------------------|--|---|----------------------------------|----------------|----------------|-------------------|-----------|--------------------------|---|---|--------------------------|-----------------|--------------------|--------------------------|---------------|
| | | | Color | No. cores | Temperature range | flexing | | | Color | No. cores | Temperature range | flexing | | | Color | No. cores | Temperature range | flexing | | | | | | |
| | | | | | | | | | | | | | | | | | | | | increased oil resistant* | AWG/kcmil No. | fixed installation | increased oil resistant* | AWG/kcmil No. |
| PVC | without shield | 300/500V | JZ-500 | flexible, number coded, VDE-Reg. | gray | 2 - 100 | -15°C to +80°C | A6 | 600V | JZ-602 | flexible, number coded, oil resistant | two approvals, | gray | 2 - 41 | -5°C to +90°C | N7 | 600V | TRAYCONTROL 500 | flexible, number coded, oil resistant, TC-ER, PLTC-ER, ITC-ER | gray | 2 - 61 | -5°C to +90°C | N27 | |
| | | 300/500V | JB-500 | flexible, Cores color | gray | 2 - 25 | -15°C to +80°C | A21 | 600V | JZ-603 (H05VV5-F) | flexible, number coded, oil resistant | multi approvals, | gray | 2 - 61 | -5°C to +90°C | N9 | 600V | JZ 604 TC TRAY CABLE | flexible, number coded, for exposed run | black | 2 - 25 | -5°C to +90°C | N25 | |
| | | 300/500V | H05VV5-F (NYSLY6-JZ) | flexible, number coded, increased oil resistant | gray | 2 - 65 | -5°C to +70°C | A11 | 0.6/1kV | JZ-600 UL/CSA | flexible, number coded, | two approvals | bl. o. gr | 2 - 25 | -5°C to +80°C | N10 | 600V | TRAYCONTROL 600 | flexible, number coded, oil resistant, for exposed run | black | 2 - 61 | -40°C to +90°C | N30 | |
| | | 300/500V | (H)05VV5-F ((N)YSLYÖ-JZ) | flexible, number coded, VDE-Reg. | gray | 2 - 7 | -5°C to +70°C | A13 | 0.6/1kV | HELWIND WK 103w-T | UV resistant, Single-/Multicore | | black | 1 - 50 | -35°C to +90°C | T27 | 600V | TRAYCONTROL 530 | flexible TC-ER control cable with colored cores | gray | 2 - 65 | -5°C to +90°C | N29 | |
| | | 300/500V | JZ-500 orange | flexible, VDE-Reg., for interlocking purposes | orange | 2 - 5 | -5°C to +80°C | A10 | 0.6/1kV | HELWIND WK 103k-T | UV resistant, Single-/Multicore | | black | 1 - 50 | -40°C to +80°C | T28 | | | | | | | | |
| | | 450/750V | JB-750 | flexible, Cores color | gray | 2 - 11 | -5°C to +80°C | A22 | | | | | | | | | | | | | | | | |
| | | 450/750V | JB-750 yellow | flexible, for warning indication | yellow | 3 - 5 | -5°C to +80°C | A23 | | | | | | | | | | | | | | | | |
| | | 0.6/1kV | JZ-600 | flexible, number coded | black | 2 - 100 | -15°C to +80°C | A16 | | | | | | | | | | | | | | | | |
| | | 0.6/1kV | TOPFLEX® 600-PVC | power supply connection | gray | 4 | -5°C to +80°C | D4 | | | | | | | | | | | | | | | | |
| | 300/500V | F-CY-JZ | flexible, number coded, Cu-shielded, VDE-Reg. | gray | 2 - 100 | -5°C to +80°C | A27 | 600V | JZ-602-CY | flexible numb. cod., shielded, with inner jacket | two approvals, oil resis., | gray | 2 - 41 | -5°C to +90°C | N17 | 600V | TRAYCONTROL 500-C | flexible, number coded, oil resistant, Cu-shielded, for exposed run, TC-ER, PLTC-ER, ITC-ER | gray | 3 - 7 | -5°C to +90°C | N35 | | |
| | 300/500V | F-CY-OZ | flexible, number coded, Cu-shielded, without g/y, VDE-Reg. | gray | 1 - 100 | -5°C to +80°C | A25 | 600V | JZ-603-CY | flexible, number coded, shielded, with inner jacket | multi approvals, | gray | 2 - 61 | -5°C to +90°C | N19 | 600V | JZ 604-FCY TC TRAY CABLE | flexible, number coded, for exposed run, exposed run | black | 2 - 61 | -5°C to +90°C | N33 | | |
| | 300/500V | H05VVC4V5-K (NYSLYCÖ-JZ) | flexible, number coded, oil resistant, Cu-shielded | gray | 2 - 65 | -5°C to +70°C | A29 | 0.6/1kV | JZ-600-Y-CY UL/CSA | flexible, number coded, shielded, with inner jacket, oil resistant | two approvals, | bl. o. gr | 2 - 25 | -5°C to +80°C | N20 | 600V | JZ 604-YCY TC TRAY CABLE | flexible, number coded, for exposed run, exposed run, with inner jacket | black | 3 - 7 | -5°C to +90°C | N34 | | |
| | 300/500V | (H)05VVC4V5-K ((N)YSLYCÖ-JZ) | flexible, number coded, oil resistant, Cu-shielded | gray | 2 - 12 | -5°C to +70°C | A31 | 0.6/1kV | HELWIND WK 103w EMV D-T | UV resistant, Single-/Multicore | | black | 1 - 50 | -35°C to +90°C | T27 | 0.6/1kV | TRAYCONTROL 600-C | flexible, number coded, oil resistant, for exposed run | black | 3 - 25 | -40°C to +90°C | N37 | | |
| | 300/500V | Y-CY-JZ | flexible, number coded, transparent, Cu-shielded | transp. | 2 - 100 | -15°C to +80°C | A32 | 0.6/1kV | HELWIND WK 103k EMV D-T | UV resistant, Single-/Multicore | | black | 1 - 50 | -40°C to +80°C | T28 | | | | | | | | | |
| | 300/500V | Y-CY-JB | flexible, cores color, transparent, Cu-shielded | transp. | 2 - 5 | -15°C to +80°C | A38 | | | | | | | | | | | | | | | | | |
| | 300/500V | SY-JZ | flexible, number coded, steel wire braiding | transp. | 2 - 100 | -15°C to +80°C | A34 | | | | | | | | | | | | | | | | | |
| | 300/500V | SY-JB | flexible, cores color, steel wire braiding | transp. | 2 - 12 | -15°C to +80°C | A40 | | | | | | | | | | | | | | | | | |
| | 0.6/1kV | JZ-600-Y-CY | flexible, number coded, Cu-shielded | black | 2 - 25 | -15°C to +80°C | A36 | | | | | | | | | | | | | | | | | |
| 0.6/1kV | TOPFLEX® 600-C-PVC | power supply connection, Cu-shielded | gray | 4 | -5°C to +80°C | D6 | | | | | | | | | | | | | | | | | | |
| PUR oil resistant | without shield | 300/500V | JZ-500 PUR | tear, number coded | gray | 2 - 42 | -5°C to +80°C | A43 | 600V | JZ-602-PUR | flexible, number coded, | two approvals, oil resistant | gray | 2 - 41 | -5°C to +80°C | N46 | | | | | | | | |
| | | 300/500V | PUR6-JZ | tear, coolant resistant, increased oil resistant | gray | 2 - 50 | -5°C to +80°C | A44 | 0.6/1kV | JZ-600 PUR | flexible, number coded, tear, | coolant and oil resistant | bl. o. gr | 2 - 25 | -5°C to +80°C | N49 | | | | | | | | |
| | | 300/500V | PUR-ORANGE (also available in PUR-YELLOW A47) | abrasion resistant, coolant resistant | orange | 2 - 7 | -5°C to +80°C | A46 | 0.6/1kV | HELWIND WK 135-T | UV resistant, Single-/Multicore | 90°C | black | 1 - 32 | -40°C to +90°C | T29 | | | | | | | | |
| | | 300/500V | H05BQ-F / H07BQ-F | abrasion resistant, tear, tear and cut-resistant | orange | 2 - 12 | -40°C to +80°C | A48 | 0.6/1kV | HELWIND WK 137-T FT4 | UV resistant, Single-/Multicore | 90°C | black | 3 - 18 | -40°C to +90°C | T30 | | | | | | | | |
| | | 300/500V | UNIPUR | flexible at low temperatures, wear-resistant, robust, cores color | by requ. | 2 - 41 | -40°C to +90°C | A49 | | | | | | | | | | | | | | | | |
| | | 300/500V | BIOFLEX-500-JZ | Bio-fuel resistant, Bio-oil resistant, abrasion resistant, recyclable | green | 2 - 42 | -20°C to +80°C | A84 | | | | | | | | | | | | | | | | |
| | | 450/750V | PUR-750 | flexible at low temperatures, cores color, halogen-free | orange | 2 - 25 | -40°C to +80°C (short time 100°C) | A51 | | | | | | | | | | | | | | | | |
| | | 300/500V | F-C-PUR6-JZ | tear, number coded, shielded | gray | 2 - 50 | -5°C to +80°C | A54 | 600V | JZ-602-C-PUR | flexible, number coded, oil resistant, Cu-shielded, | two approvals, with inner jacket | gray | 2 - 41 | -5°C to +80°C | N51 | | | | | | | | |
| | | 300/500V | UNIPUR-CP | flexible at low temperatures, wear-resistant, robust, cores color, Cu-shielded | by requ. | 2 - 41 | -40°C to +90°C | A58 | 0.6/1kV | JZ-600-YC-PUR | flexible, number coded, tear, Cu-shielded | coolant and oil resist., | bl. o. gr | 2 - 25 | -5°C to +80°C | N52 | | | | | | | | |
| 300/500V | BIOFLEX-500-JZ-C | Bio-fuel resistant, Bio-oil resistant, number coded, abrasion resistant, recyclable, Cu-shielded | green | 2 - 42 | -20°C to +80°C | A85 | 0.6/1kV | HELWIND WK 135 D-EMV T | UV resistant, Single-/Multicore | 90°C | black | 1 - 32 | -40°C to +90°C | T29 | | | | | | | | | | |
| FRNC halogen-free | without shield | 300/500V | JZ-500 HMH | flexible, numb. coded, extr. fire resist., oil resist., halogen-free | gray | 2 - 65 | -15°C to +70°C | A62 | 600V | MEGAFLEX® 500 | halogen-free, flame retardant, | oil res., UV-res., numb. coded | gray | 2 - 65 | -30°C to +80°C | N54 | | | | | | | | |
| | | 450/750V | JB-750 HMH | flexible, cores color, halogen-free, extr. fire resistant, oil resistant | gray | 3 - 5 | -15°C to +70°C | A68 | 0.6/1kV | MEGAFLEX® 600 | flexible, number coded, flame retardant, | oil resistant, UV-resistant | black | 2 - 65 | -30°C to +80°C | N 58 | | | | | | | | |
| | | 0.6/1kV | JZ-600 HMH | flexible, number coded, extr. fire resistant, oil resistant | black | 2 - 25 | -15°C to +70°C | A66 | 0.6/1kV | HELWIND WK 137-T FT4 | UV resistant, Single-/Multicore | 90°C | black | 3 - 18 | -40°C to +90°C | T30 | | | | | | | | |
| | 300/500V | JZ-500 HMH-C | flexible, number coded, halogen-free, oil resistant, Cu-shielded, extr. fire resistant | gray | 2 - 25 | -15°C to +70°C | A71 | 600V | MEGAFLEX® 500-C | halogen-free, flame retardant, number coded | oil resist., UV-resistant, | gray | 2 - 25 | -30°C to +80°C | N56 | | | | | | | | | |
| | 450/750V | JB-750 HMH-C | flexible, cores color, halogen-free, oil resistant, Cu-shielded, extr. fire resistant | gray | 3 - 5 | -15°C to +70°C | A77 | 0.6/1kV | MEGAFLEX® 600-C | flexible, number coded, retardant, UV-resistant, | oil resistant, flame Cu-shielded | black | 2 - 25 | -30°C to +80°C | N60 | | | | | | | | | |
| | 0.6/1kV | JZ-600 HMH-C | flexible, number coded, Cu-shielded, extr. fire resistant, oil resistant | black | 3 - 25 | -15°C to +70°C | A75 | 0.6/1kV | HELWIND WK 137 D-EMV T | UV resistant, Single-/Multicore | 90°C | black | 3 - 18 | -40°C to +90°C | T30 | | | | | | | | | |
| TPE-O oil resistant | without shield | 300/500V | KOMPOFLEX JZ-500 | halogen-free, number coded, microbial resistant | black | 2 - 61 | -30°C to +90°C | A87 | | | | | | | | | TRAYCONTROL 670 HDP | flexible, oil resistant, open installation (TC-ER) | orange | 4 | -40°C to +105°C | N32 | | |
| | with shield | 300/500V | KOMPOFLEX JZ-500-C | halogen-free, numb. coded, microbial resistant, Cu-shielded | black | 2 - 61 | -30°C to +90°C | A88 | | | | | | | | | TRAYCONTROL 670-C HDP | flexible, oil resistant, open installation (TC-ER) | orange | 4 | -40°C to +105°C | N32 | | |

Cables for Fixed Applications

Halogen-free cables are marked in red / Bio-oil and fuel resistant cables are marked in green / Microbial resistant cables are marked in blue

DATA CABLES | Fixed Applications

| Data Cables Halogen-free cables are marked in red | Jacket materials | Shielding | Voltage class (Nominal peak voltage) | Without UL standard | | | | Voltage class | According UL/CSA standard | | | | Voltage class | According NFPA 79 | | | | | | |
|--|------------------|-----------|--|---------------------|---------------------|-------------------|-----------|--|---|---------------------|-------------------|-----------------|----------------|-------------------|---|-------------------|-----------|--------------------------|---------------|----------------------------|
| | | | | Color | No. cores/No.paires | Temperature range | Cat. page | | Color | No. cores/No.paires | Temperature range | Cat. page | | Color | No. cores/No.paires | Temperature range | Cat. page | | | |
| | | | | | | | | | | | | | | | | | | increased oil resistant* | AWG/kcmil No. | flexing fixed installation |
| PVC | without shield | 300/500V | TRONIC (LIYY) flexible, color code acc. to DIN 47100 | gray | 2 - 100 | -5°C to +80°C | B4 | 300V | CONTROL CABLE UL (LIYY) Style 2464/300V (80°C) | bl. o. gr | 2 - 30 | -10°C to +80°C | N65 | 300V | TRAYCONTROL 300 flexible, oil resistant, NPFA79 | gray | 2 - 50 | -25°C to +105°C | N38 | |
| | | 300/500V | PAAR-TRONIC twisted pairs, flexible, color code acc. to DIN 47100 | gray | 1 - 55 | -5°C to +80°C | B6 | 600V | CONTROL CABLE UL (LIYY) Style 2516/600V (105°C) | bl. o. gr | 2 - 36 | -10°C to +105°C | N66 | 300V | TRAYCONTROL 300 TP twisted pairs, flexible, oil resistant, NPFA79 | gray | 1 - 250 | -25°C to +105°C | N42 | |
| | | | | no | 26 - 16 | -40°C to +80°C | | | | no | 26 - 16 | -20°C to +80°C | | | | yes | 28 - 16 | | | |
| | | | | gray | 1 - 100 | -5°C to +80°C | B9 | 300V | CONTROL CABLE UL (LIYY-TP) twisted pairs, Style 2464/300V (80°C) | bl. o. gr | 1 - 25 | -10°C to +80°C | N67 | | | | | | | |
| | | | | no | 26 - 16 | -40°C to +80°C | | | | no | 26 - 16 | -20°C to +80°C | | | | gray | 2 - 50 | -25°C to +105°C | N40 | |
| | | | | gray | 1 - 61 | -5°C to +80°C | B11 | 600V | CONTROL CABLE UL (LIYCY) Style 2464/300V (80°C), Cu-shielded | bl. o. gr | 2 - 30 | -10°C to +80°C | N69 | 300V | TRAYCONTROL 300-C flexible, Cu-shielded, oil resistant, NPFA79 | gray | 2 - 50 | -25°C to +105°C | N44 | |
| | with shield | 300/500V | TRONIC-CY (LIY-CY) flexible, color code acc. to DIN 47100, Cu-shielded | gray | 1 - 61 | -5°C to +80°C | B11 | 600V | CONTROL CABLE UL (LIYCY) Style 2516/600V (105°C), Cu-shielded | bl. o. gr | 2 - 30 | -10°C to +105°C | N71 | 300V | TRAYCONTROL 300-C TP twisted pairs, flexible, Cu-shielded, oil resistant, NPFA79 | gray | 1 - 25 | -25°C to +105°C | N44 | |
| | | 300/500V | PAAR-TRONIC-CY twisted pairs, flexible, color code acc. to DIN 47100, Cu-shielded | gray | 26 - 16 | -30°C to +80°C | | | | no | 14 - 4 | -20°C to +105°C | | | | yes | 26 - 17 | | | |
| | | 300/500V | PAAR-CY-OZ twisted pairs, flexible, cores number coded, Cu-shielded | gray | 2 - 25 | -5°C to +80°C | B13 | 300V | CONTROL CABLE UL (LIYCY-TP) twisted pairs, Cu-shielded, Style 2464/300V (80°C) | bl. o. gr | 1 - 25 | -10°C to +80°C | N72 | | | | | | | |
| | | | | no | 17 - 16 | -40°C to +80°C | | | | no | 26 - 20 | -20°C to +80°C | | | | | | | | |
| | | 300/500V | PAAR-TRONIC-CY-CY (LIYCY-CY) twisted pairs, flexible, cores number coded, Cu-shielded, All pairs-CY stranded together | gray | 2 - 48 | -5°C to +80°C | B14 | | | | | | | | | | | | | |
| | | | | no | 26 - 20 | -40°C to +80°C | | | | | | | | | | | | | | |
| PUR oil resistant | without shield | | | | | | 0.6/ 1kV | HELUWIND WK 135-T UV resistant, Single-/Multicore | 90°C | black | 1 - 32 | -40°C to +90°C | T29 | | | | | | | |
| | with shield | 300/500V | DATAPUR-C flexible, color code acc. to DIN 47100, Cu-shielded | gray | 2 - 25 | -5°C to +80°C | B22 | 0.6/ 1kV | HELUWIND WK 135 D-EMV T UV resistant, Single-/Multicore | 90°C | black | 1 - 32 | -40°C to +90°C | T29 | | | | | | |
| | | | yes | 26 - 20 | -40°C to +80°C | | | | yes | 22 - 600 | -40°C to +90°C | | | | | | | | | |
| FRNC halogen-free | without shield | 300/500V | DATAFLAMM halogen-free | gray | 2 - 50 | +5°C to +70°C | B8 | 0.6/ 1kV | HELUWIND WK 137-T FT4 UV resistant, Single-/Multicore | 90°C | black | 3 - 18 | -40°C to +90°C | T30 | | | | | | |
| | with shield | 300/500V | DATAFLAMM-C halogen-free, Cu-shielded | gray | 2 - 40 | +5°C to +70°C | B23 | 0.6/ 1kV | HELUWIND WK 137 D-EMV T UV resistant, Single-/Multicore | 90°C | black | 3 - 18 | -40°C to +90°C | T30 | | | | | | |
| | | | no | 26 - 18 | -40°C to +70°C | | | | yes | 18 - 2 | -40°C to +90°C | | | | | | | | | |

SINGLE CORES | Fixed Applications

| Single Cores Halogen-free cables are marked in red | Jacket materials | Shielding | Voltage class | Without UL standard | | | | Voltage class | According UL/CSA standard | | | | Voltage class | According NFPA 79 | | | | | |
|---|---|-------------------------|--|---------------------|-----------------|-------------------|---|---------------|--|----------------|-------------------|----------------------------|----------------|-------------------|--|-------------------|-----------|--------------------------|---------------|
| | | | | Color | No. cores | Temperature range | Cat. page | | Color | No. cores | Temperature range | Cat. page | | Color | No. cores | Temperature range | Cat. page | | |
| | | | | | | | | | | | | | | | | | | increased oil resistant* | AWG/kcmil No. |
| PVC | without shield | 300/500V | H05V-K PVC core, finely stranded | diff. | | -5°C to +70°C | K6 | 300V | UL-Style 1007, CSA TR 64 PVC single cores, 80°C, tinned wire | diff. | | -5°C to +80°C | N108 | 600V | FIVENORM HAR-UL-CSA-AWM-MTW PVC-single core 600V, 105°C | diff. | | +5°C to +90°C | N113 |
| | | 450/750V | H07V-K/ (H)07V-K PVC core, finely stranded | diff. | | -5°C to +70°C | K8 | 300V | UL-Style 1569, CSA TR 64 PVC single cores, 105°C | diff. | | -5°C to +105°C | N109 | 600V | THHN 90°C, PVC + nylon single core | diff. | | +90°C dry NEC | N115 |
| | | | | no | 16 - 500 | -30°C to +80°C | | | | no | 26 - 10 | -30°C to +105°C | | | | no | 14 - 1000 | | |
| | | | | diff. | | -5°C to +70°C | K12 | 600V | UL-Style 1015 PVC single cores | diff. | | -5°C to +105°C | N110 | 600V | UL-Style 1015 PVC single cores | diff. | | -5°C to +105°C | N110 |
| | | | | no | 20 - 500 | -30°C to +80°C | | | | no | 24 - 500 | -30°C to +105°C | | | | no | 24 - 500 | -30°C to +105°C | |
| | | | | diff. | | -5°C to +70°C | K13 | 600V | DREINORM PVC single core, UL-Style 1013 and CSA 600V | diff. | | +5°C to 70°C | N111 | | | | | | |
| | | | | no | 20 - 10 | -30°C to +80°C | | | | no | 20 - 300 | -10°C to +70°C | | | | | | | |
| | | | | diff. | | -5°C to +70°C | K10 | 600V | SINGLE 600 -J/-O Special-insulated wire, double insulated | black | | -5°C to +90°C | N120 | | | | | | |
| | | | | no | 20 - 8 | -30°C to +80°C | | | | no | 10 - 500 | -40°C to +90°C | | | | | | | |
| | | 450/750V | H07V-R PVC single cores multi stranded wires | diff. | | -5°C to +70°C | K11 | 600V | THHN/THWN 90°C, PVC + nylon single core | diff. | | THHN: +90°C THWN: +75°C | N115 | | | | | | |
| | | | | no | 6 - 500 | -30°C to +80°C | | | | no | 14 - 1000 | | | | | | | | |
| | | 300/500V | H05V2-K/LIYW PVC single cores, 90°C, heat-resistant | diff. | | +5°C to +90°C | K19 | 0.6/ 1kV | HELUWIND WK 103w-T UV resistant, Single-/Multicore | black | | -35°C to +90°C | T27 | | | | | | |
| | | diff. | | -10°C to +105°C | | | | no | 2 - 750 | -40°C to +90°C | | | | | | | | | |
| 450/750V | H07V2-K PVC single cores, 90°C, heat-resistant | black | | +5°C to +90°C | K21 | 0.6/ 1kV | HELUWIND WK 103k-T UV resistant, Single-/Multicore | black | | -40°C to +80°C | T28 | | | | | | | | |
| | | no | 16 - 500 | | | | | no | 2 - 750 | -40°C to +80°C | | | | | | | | | |
| 600/1000V | HELUTERM 125 -J/-O extraflexible, halogen-free, heat-resistant and low-temperat. | black | | -50°C to +125°C | K20 | | | | | | | | | | | | | | |
| | | no | 20 - 3/0 | | | | | | | | | | | | | | | | |
| PUR oil resistant | without shield | 1kV | PUR-SINGLE CORES low-temperature, halogen-free | diff. | 20 - 16 | -40°C to +80°C | K15 | 0.6/ 1kV | HELUWIND WK 135-T UV resistant, Single-/Multicore | 90°C | black | | -40°C to +90°C | T29 | | | | | |
| | with shield | | | no | | | | | | | yes | 2 - 750 | -40°C to +90°C | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| FRNC | without shield | 300/500V resp. 450/750V | HELUTERM 145 flexible, cross-linked, halogen-free | diff. | | | K22 | 300V | HELUTERM® 145 Core cable flexible, cross-linked, halogen-free | diff. | | -35°C to +120°C | N117 | | | | | | |
| | | | no | 24 - 500 | -55°C to +145°C | | | 600V | HELUTERM® 145 Core cable flexible, cross-linked, halogen-free | diff. | | -35°C to +120°C | N118 | | | | | | |
| | | | | | | | | 0.6/ 1kV | HELUWIND WK 135 D-EMV T UV resistant, Single-/Multicore | 90°C | black | | -40°C to +90°C | T29 | | | | | |
| | with shield | | | | | | | | | yes | 2/0 - 600 | -40°C to +90°C | | | | | | | |

MOTOR- AND SERVO CABLES | Fixed Applications

| Motor- and Servocables | Jacket materials | Shielding | Voltage class | Without UL standard | | | | Cat. page | Voltage class | According UL/CSA standard | | | | Cat. page | Voltage class | According NFPA 79 | | | | Cat. page |
|------------------------|------------------|-----------|---------------|--|---------------------|--------------------------|----------------|-----------|---------------|--|---------------------|-------------------|--------------------|-----------|---------------|-------------------|---------------------|--------------------------|-----------------|-----------|
| | | | | Color | No. cores/No.paires | Temperature range | | | | Color | No. cores/No.paires | Temperature range | | | | Color | No. cores/No.paires | Temperature range | | |
| | | | | | | increased oil resistant* | AWG/kcmil No. | | | | | flexing | fixed installation | | | | | increased oil resistant* | AWG/kcmil No. | |
| PVC | without shield | | 0.6/ 1kV | TOPFLEX® 600-PVC | gray | 4 | -5°C to +80°C | D4 | | | | | | | | | | | | |
| | | | | Motor cable without pair, flexible, number coded | no | 16 - 4/0 | -40°C to +80°C | | | | | | | | | | | | | |
| | with shield | | 0.6/ 1kV | TOPFLEX® 600-C-PVC | gray | 4 | -5°C to +80°C | D6 | 0.6/ 1kV | TOPSERV® 108 PVC acc. to Siemens 6FX5008 | orange | 4 | -0°C to +60°C | N127 | 0.6/ 1kV | TOPFLEX® 600 VFD | or o. bl. | 4 | | N137 |
| | | | | Motor cable without pair, flexible, Cu-shielded, number coded, | no | 16 - 4/0 | -40°C to +80°C | | | | yes | 16 - 1 | -20°C to +80°C | | | | yes | 16 - 2 | -25°C to +90°C | |
| | | | | | | | | | 0.6/ 1kV | TOPSERV® 112 PVC acc. to e.g. Siemens 6FX5008, Lenze | orange | 4 | 0°C to +60°C | N128 | 0.6/ 1kV | TOPFLEX® 650 VFD | or o. bl. | 4 | | N138 |
| | | | | Servocable with one pair, flexible, Cu-shielded | no | 16 - 1 | -20°C to +80°C | | | | yes | 16 - 1 | -20°C to +80°C | | | | yes | 16 - 2 | -25°C to +105°C | |
| PUR oil resistant | without shield | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |

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FEEDBACK CABLES | Fixed Applications

| Feedback Cables | Jacket materials | Shielding | Voltage class | Without UL standard | | | | Cat. page | Voltage class | According UL/CSA standard | | | | Cat. page | Voltage class | According NFPA 79 | | | | Cat. page | |
|-------------------|------------------|-----------|---------------|---|---------------------|--------------------------|----------------|-----------|---------------|---------------------------|---------------------|-------------------|--------------------|-----------|---------------|-------------------|---------------------|--------------------------|---------------|-----------|---------|
| | | | | Color | No. cores/No.paires | Temperature range | | | | Color | No. cores/No.paires | Temperature range | | | | Color | No. cores/No.paires | Temperature range | | | |
| | | | | | | increased oil resistant* | AWG/kcmil No. | | | | | flexing | fixed installation | | | | | increased oil resistant* | AWG/kcmil No. | | flexing |
| PVC | without shield | | | | | | | | | | | | | | | | | | | | |
| | | | 300V | TOPFLEX® 240-PVC | gray | - | -10°C to +70°C | D12 | 30V + 300V | TOPGEBER 511 PVC | gr o. or | - | -0°C to +60°C | N130 | | | | | | | |
| | | | | 4x2x0.38mm ² +4x0.5mm ² , diff. Colorcodes | no | - | -30°C to +80°C | | | | yes | - | -20°C to +80°C | | | | | | | | |
| | | | 300V | TACHOFEEDBACK-CABLE-C-PVC | gray | - | -5°C to +70°C | D10 | | | | | | | | | | | | | |
| | with shield | | 300V | INKREMENTALFEEDBACK-CABLE-C-PVC | gray | - | -5°C to +70°C | D10 | | | | | | | | | | | | | |
| | | | | (9x0.5mm ²) | no | - | -30°C to +80°C | | | | | | | | | | | | | | |
| PUR oil resistant | without shield | | 300V | TOPFLEX® PVC | gray | - | -5°C to +70°C | D13 | | | | | | | | | | | | | |
| | | | | (10x0.14mm ² +2x0.5mm ²) or (10x0.14mm ² +4x0.5mm ²) or (15x0.14mm ² +4x0.5mm ²) | no | - | -30°C to +80°C | | | | | | | | | | | | | | |
| with shield | | | | TOPFLEX® 240-PUR | orange | - | -10°C to +70°C | D12 | | | | | | | | | | | | | |
| | | | | | yes | - | -30°C to +80°C | | | | | | | | | | | | | | |

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INDUSTRIAL ETHERNET | Fixed Applications

| Industrial Ethernet | Category | Jacket materials | Frequency range Mhz | Without UL standard | | | Cat. page | Frequency range Mhz | According UL/CSA standard | | | Cat. page | Frequency range Mhz | According NFPA 79 | | | Cat. page | | |
|---------------------------------------|----------|-------------------------------|--|------------------------------------|-------------------|------------------|-------------|--|--|---|------------------|----------------|---------------------|--|--|---|----------------|----------------|-------------|
| | | | | Part no. | Temperature range | Flame-resistance | | | Part no. | Temperature range | Flame-resistance | | | Part no. | Temperature range | Flame-resistance | | | |
| | | | | | | | | | | | | | | | | | | oil resist.* | Outer Ø |
| Halogen-free cables are marked in red | CAT 5e | PVC | | | | | 100 | HELUKAT® 100IND PROFInet A, fixed installation CMG | 800653 | -40°C to +80°C | IEC 60332-1 | R101 | 100 | HELUKAT® 100IND PROFInet A, fixed installation CMG | 800653 | -40°C to +80°C | IEC 60332-1 | R101 | |
| | | | | | | | | | | yes | 6.5 mm | | | | | yes | 6.5 mm | | |
| | | | | | | | | | | | | | | | | | | | |
| | PUR | 100 | HELUKAT® 100IND PROFInet B, flexible CMG | 800654 | -40°C to +70°C | IEC 60332-1 | R105 | 100 | HELUKAT® 100IND PROFInet B, flexible CMG | 800654 | -40°C to +70°C | IEC 60332-1 | R105 | 100 | HELUKAT® 100IND PROFInet B, flexible CMG | 800654 | -40°C to +70°C | IEC 60332-1 | R105 |
| | | | 2x2xAWG22/7, Fast Connect | yes | 6.5 mm | | | | | yes | 6.5 mm | | | | | yes | 6.5 mm | | |
| | CAT 6A | PVC | 100 | HELUKAT® 100IND PROFInet A, robust | 801194 | -40°C to +80°C | IEC 60332-1 | R101 | 100 | HELUKAT® 100IND PROFInet B, hybrid UL style 21282 | 801651 | -40°C to +70°C | IEC 60332-1 | R103 | 100 | HELUKAT® 100IND PROFInet B, hybrid UL style 21282 | 801651 | -40°C to +70°C | IEC 60332-1 |
| | | | 2x2xAWG22/1 | yes | 6.5 mm | | | | | yes | 10.3 mm | | | | | yes | 10.3 mm | | |
| CAT 7 | PVC | 100 | HELUKAT® 200IND S-FTP, Robustflex | 800068 | -40°C to +80°C | IEC 60332-1 | R94 | 500 | HELUKAT® 500IND S/FTP, 10GIG CM | 803693 | -40°C to +70°C | IEC 60332-1 | R92 | 500 | HELUKAT® 500IND S/FTP, 10GIG CM | 803693 | -40°C to +70°C | IEC 60332-1 | R92 |
| | | | 4x2xAWG26/7 | yes | 5.7 mm | | | | | yes | 9.6 mm | | | | | yes | 9.6 mm | | |
| PUR | 600 | HELUKAT® 600IND S/STP, robust | 801197 | -40°C to +80°C | IEC 60332-1 | R89 | 600 | HELUKAT® 600IND S/FTP, Robustflex UL style 20963 | 802184 | -40°C to +80°C | IEC 60332-1 | R91 | 600 | HELUKAT® 600IND S/FTP, Robustflex UL style 20963 | 802184 | -40°C to +80°C | IEC 60332-1 | R91 | |
| | | 4x2xAWG23/1 | yes | 8.2 mm | | | | | yes | 6.4 mm | | | | | yes | 6.4 mm | | | |

BUS CABLES | Fixed Applications

| Bussystem | Jacket insulation | Application | Impedance | Without UL standard | Part no. | | Temperature range | Cat. page | Impedance | According UL/CSA standard (Note the exception) | Part no. | | Temperature range | Cat. page | Impedance | According NFPA 79 | Part no. | | Temperature range | Cat. page |
|---|-------------------|-------------|-----------|---|--------------------------|-----------------|-------------------|---|--|--|--|--------------------------|--|--|---|---|-----------------|------------------|-------------------|-----------|
| | | | | | increased oil resistant* | Outer Ø approx. | | | | | Flame-resistance | increased oil resistant* | | | | | Outer Ø approx. | Flame-resistance | | |
| Profibus 150 OHM <small>Halogen-free cables are marked in red</small> | PVC | Indoor | | | | | | | 150 OHM | Profibus L2 1x2x0.64mm ² PVC gray CMX | 80384 | -40°C to +70°C | R107 | 150 OHM | Profibus L2 1x2x0.64mm ² PVC gray CMX | 80384 | -40°C to +70°C | R107 | | |
| | | | | | | | | | 150 OHM | Profibus L2 1x2x0.64mm ² PVC violet CMX | 81448 | -40°C to +70°C | R107 | 150 OHM | Profibus L2 1x2x0.64mm ² PVC violet CMX | 81448 | -40°C to +70°C | R107 | | |
| | | | | | | | | | 150 OHM | Profibus SK 1x2x0.64mm ² VC violet CMG Fast Connect | 81903 | -40°C to +80°C | R119 | 150 OHM | Profibus SK 1x2x0.64mm ² VC violet CMG Fast Connect | 81903 | -40°C to +80°C | R119 | | |
| | PUR | Indoor | 150 OHM | Profibus L2 1x2x0.64mm ² PUR petrol | 81186 | -40°C to +70°C | R108 | 150 OHM | Profibus L2/FIP 7-wire 1x2x0.64mm ² PVC violet UL 2571 bewegter Einsatz, without CSA! | 800648 | -20°C to +70°C | R110 | | | | | | | | |
| FRNC | Indoor | | | yes | 8.0 mm | IEC 60332-1 | | 150 OHM | Profibus SK 1x2x0.64mm ² PUR violet UL style 20236, Fast Connect | 81905 | -40°C to +70°C | R120 | | | | | | | | |
| | | | | | | | | | 150 OHM | Profibus SK 1x2x0.64mm ² FRNC violet CM, Fast Connect | 81501 | -25°C to +70°C | R120 | 150 OHM | Profibus SK 1x2x0.64mm ² FRNC violet CM Fast Connect | 81501 | -25°C to +70°C | R120 | | |
| Profibus PA 100 OHM | PVC | Indoor | 100 OHM | Profibus PA armoured 1x2x1.0/2.55mm ² PVC/PVC black | 802181 | -20°C to +70°C | R117 | 100 OHM | Profibus PA 1x2x1.0/2.55mm ² PVC black UL-style 2571, without CSA! | 82836 | -20°C to +70°C | R116 | | | | | | | | |
| | | | | | no | 10.2 mm | EN 50265-2-1 | | 100 OHM | Profibus PA Long Distance 1x2x1.6/3.2mm ² PVC black, w/o CSA! UL-style 2571 | 800715 | -40°C to +70°C | R118 | | | | | | | |
| CAN BUS 120 OHM <small>Halogen-free cables are marked in red</small> | PVC | Indoor | | | | | | | 120 OHM | CAN Bus 1x2x0.22mm ² PVC violet UL style 2571, without CSA! | 81286 | -40°C to +70°C | R132 | | | | | | | |
| | | | | | | | | | 120 OHM | CAN Bus 4x1x0.22mm ² PVC violet UL style 2571, without CSA! | 81287 | -40°C to +70°C | R132 | | | | | | | |
| | | | | | | | | | | 120 OHM | CAN Bus 2x2x0.22mm ² PVC violet UL style 2571 | 82509 | -25°C to +70°C | R133 | | | | | | |
| | | | | | | | | | | 120 OHM | CAN Bus 1x2x0.34mm ² PVC violet UL style 2571, without CSA! | 801572 | -25°C to +70°C | R135 | | | | | | |
| | | | | | | | | | | 120 OHM | CAN Bus 4x1x0.34mm ² PVC violet UL style 2571, without CSA! | 801573 | -25°C to +70°C | R135 | | | | | | |
| | | | | | | | | | | 120 OHM | CAN Bus 2x2x0.34mm ² PVC violet CMX | 803344 | -40°C to +70°C | R136 | 120 OHM | CAN Bus 2x2x0.34 mm ² PVC violet CMX | 803344 | -40°C to +70°C | R136 | |
| | | | | | | | | | | 120 OHM | CAN Bus 1x2x0.5mm ² PVC violet UL style 2571, without CSA! | 800571 | -40°C to +70°C | R137 | | | | | | |
| | | | | | | | | | | 120 OHM | CAN Bus 4x1x0.5mm ² PVC violet UL style 2571, without CSA! | 800685 | -40°C to +70°C | R137 | | | | | | |
| | | | | | | | | | | 120 OHM | CAN Bus 2x2x0.5mm ² PVC violet CMX | 803722 | -40°C to +70°C | R138 | 120 OHM | CAN Bus 2x2x0.5 mm ² PVC violet CMX | 803722 | -40°C to +70°C | R138 | |
| | | | | | | | | | | 120 OHM | CAN Bus 1x2x0.75mm ² PVC violet UL style 2571 | 803383 | -40°C to +70°C | R139 | | | | | | |
| | | | | | | | | | | 120 OHM | CAN Bus 4x1x0.75mm ² PVC violet UL style 2571 | 803384 | -40°C to +70°C | R139 | | | | | | |
| | | | | | | | | | | 120 OHM | CAN Bus 105°C 4xAWG24 PUR violet UL style 21223 | 801982 | -40°C to +105°C | R134 | | | | | | |
| DEVICENET 120 OHM <small>Halogen-free cables are marked in red</small> | PVC | Indoor | | | | | | 120 OHM | DeviceNet™ Thick PVC gray 1x2xAWG18 + 1x2xAWG15 CMG | 800683 | -20°C to +80°C | R153 | 120 OHM | DeviceNet™ Thick PVC gray 1x2xAWG18 + 1x2xAWG15 CMG | 800683 | -20°C to +80°C | R153 | | | |
| | | | | | | | | 120 OHM | DeviceNet™ Thin PVC gray 1x2xAWG24 + 1x2xAWG22 CMG | 800684 | -20°C to +80°C | R153 | 120 OHM | DeviceNet™ Thin PVC gray 1x2xAWG24 + 1x2xAWG22 CMG | 800684 | -20°C to +80°C | R153 | | | |
| | FRNC | Indoor | | | | | | 120 OHM | DeviceNet™ Thick FRNC violet 1x2xAWG18 + 1x2xAWG15, CL2 CMG | 800681 | -25°C to +80°C | R154 | 120 OHM | DeviceNet™ Thick FRNC violet 1x2xAWG18 + 1x2xAWG15 CL2 CMG | 800681 | -25°C to +80°C | R154 | | | |
| | | | | | | | | 120 OHM | DeviceNet™ Thin FRNC violet 1x2xAWG24 + 1x2xAWG22, CL2 CMG | 800682 | -25°C to +80°C | R154 | 120 OHM | DeviceNet™ Thin FRNC violet 1x2xAWG24 + 1x2xAWG22 CL2 CMG | 800682 | -25°C to +80°C | R154 | | | |
| | PUR | Indoor | | | | | | 120 OHM | DeviceNet™ Thick PUR violet 1x2xAWG18 + 1x2xAWG15, CMX | 81909 | -40°C to +80°C | R156 | 120 OHM | DeviceNet™ Thick PUR violet 1x2xAWG18 + 1x2xAWG15 CMX | 81909 | -40°C to +80°C | R156 | | | |
| | | | | | | | 120 OHM | DeviceNet™ Thin PUR violet 1x2xAWG24 + 1x2xAWG22, CMX | 81910 | -40°C to +80°C | R156 | 120 OHM | DeviceNet™ Thin PUR violet 1x2xAWG24 + 1x2xAWG22 CMX | 81910 | -40°C to +80°C | R156 | | | | |
| INTER BUS 100 OHM <small>Halogen-free cables are marked in red</small> | PVC | Indoor | | | | | | 100 OHM | I-Bus, long-distance BUS, installat., indoor, PVC, 3x2x0.22mm ² , without CSA! | 80778 | -40°C to +70°C | R142 | | | | | | | | |
| | | | | | | | | 100 OHM | I-Bus, long-distance BUS, installat., indoor, PVC, 3x2x0.22mm ² + 3x1.0mm ² , without CSA! UL style 2571 | 81202 | -40°C to +70°C | R142 | | | | | | | | |
| | FRNC | Indoor | 100 OHM | I-BUS long-distance BUS fixed installation indoor halogen-free, pastel turquoise, 3x2x0.22mm ² | 81557 | -25°C to +60°C | R143 | | | | | | | | | | | | | |
| PUR | Indoor | | | | | | | 100 OHM | I-BUS long-distance BUS cable track PUR pastel turquoise, 3x2x0.25mm ² , suitable for use in cable tracks | 81203 | -20°C to +70°C | R144 | | | | | | | | |
| | | | | | | | 100 OHM | I-BUS Insta-long-distance BUS cable track PUR pastel turquoise, 3x2x0.25mm ² + 3x1.0mm ² , suitable for use in cable tracks | 82696 | -20°C to +70°C | R144 | | | | | | | | | |
| AS- INTERFASE <small>Halogen-free cables are marked in red</small> | EPDM (rubber) | Indoor | | A-BUS EPDM yellow 2x1.5 mm ² | 80824 | -40°C to +85°C | R147 | | | | | | | | | | | | | |
| | | | | A-BUS EPDM black 2x1.5 mm ² | 80825 | -40°C to +85°C | R147 | | | | | | | | | | | | | |
| | TPE | Indoor | | A-BUS TPE yellow 2x1.5 mm ² | 801846 | -40°C to +105°C | R149 | | A-BUS TPE UL/CSA yellow 2x1.5mm ² , UL style 21439 | 801954 | -40°C - +105°C | R150 | | | | | | | | |
| | | | | A-BUS TPE black 2x1.5 mm ² | 801847 | -40°C to +105°C | R149 | | A-BUS TPE UL/CSA black 2x1.5mm ² , UL style 21439 | 801955 | -40°C - +105°C | R150 | | | | | | | | |
| | FRNC | Indoor | | | | | | | A-BUS for switch cabinets FLH, UL style 20549, yellow 2x0.86/2.5mm ² , without CSA! | 802183 | -25°C to +70°C | R151 | | | | | | | | |
| | | | | | | | | | A-BUS PUR yellow 2x1.5mm ² , UL style 20549 | 82434 | -40°C to +80°C | R148 | | | | | | | | |
| PUR | Indoor | | | | | | | A-BUS PUR black 2x1.5mm ² , UL style 20549 | 82822 | -40°C to +80°C | R148 | | | | | | | | | |

Cables for Fixed Applications

CONTROL CABLES | Flexing Applications

| Jacket materials | Shielding | Cable track class | Voltage class | Without UL standard | Color | No. cores | Temperature range | Cat. page | Cable track class | Voltage class | According UL/CSA standard | Color | No. cores | Temperature range | Cat. page | Cable track class | Voltage class | According NFPA 79 | Color | No. cores | Temperature range | Cat. page | | | | | | | | | | | | |
|---------------------|-------------------|-------------------|---|--|---------|-----------------|-------------------|-----------|---|--|---------------------------|----------------|----------------|-------------------|--|-------------------|---------------------------------------|-------------------|----------------|----------------|-------------------|-----------|--------------------------|---------------|---------|--------------------|--------------------------|---------------|---------|--------------------|--------------------------|---------------|---------|--------------------|
| | | | | | | | | | | | | | | | | | | | | | | | increased oil resistant* | Cross section | flexing | fixed installation | increased oil resistant* | Cross section | flexing | fixed installation | increased oil resistant* | Cross section | flexing | fixed installation |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PVC | without shield | 300/500V | JZ-HF high flexible, number coded, oil resistant, VDE-Reg. | grey | 2 - 65 | -5°C to +80°C | C5 | 600V | JZ-602 RC high flexible, cores red | black | 3 - 34 | -5°C to +90°C | N83 | 600V | MULTIFLEX 600 high flexible, oil resistant, number coded, for exposed run TC-ER, PLTC-ER, ITC-ER | black | 2 - 60 | -5°C to +90°C | N62 | | | | | | | | | | | | | | | |
| | | 300/500V | MULTISPEED® 500-PVC high flexible, number coded, low torsion, 7 or more cores stranded to a unit | yes | 20 - 6 | -40°C to +80°C | C7 | 600V | MULTISPEED® 500-PVC UL/CSA safty again. high bend., low tors., 7 or more cores stranded | black | 2 - 42 | -5°C to +80°C | N82 | | | | yes | 20 - 2 | -40°C to +90°C | | | | | | | | | | | | | | | |
| | with shield | 300/500V | JZ-HF-CY high flexible, shielded, VDE-Reg., oil resistant | grey | 2 - 61 | -5°C to +80°C | C8 | 600V | JZ-602 RC-CY high flexible, cores red, shielded (D-shield) | black | 3 - 34 | -5°C to +90°C | N85 | 600V | MULTIFLEX 600-C high flexible, oil resistant, number coded, Cu-shielded, for exposed run TC-ER, PLTC-ER, ITC-ER | black | 2 - 60 | -5°C to +90°C | N63 | | | | | | | | | | | | | | | |
| | | 300/500V | MULTISPEED® 500-C-PVC high flexible, number coded, low torsion, 7 or more cores stranded to a unit, Cu-shielded | yes | 20 - 6 | -40°C to +80°C | C10 | 600V | MULTISPEED® 500-C-PVC UL/CSA safty against high bending, low torsion, with inner jacket, Cu-shielded, number coded, 7 or more cores stranded | black | 2 - 25 | -5°C to +80°C | N84 | | | | yes | 20 - 2 | -40°C to +90°C | | | | | | | | | | | | | | | |
| | PUR oil resistant | without shield | 300/500V | PUR6-JZ-HF high flexible, coolant resistant, oil resistant | grey | 2 - 65 | -5°C to +80°C | C12 | 600V | JZ 602 RC-PUR high flexible, number coded, | grey | 3 - 34 | -5°C to +80°C | N86 | | | | | | | | | | | | | | | | | | | | |
| | | | 300/500V | MULTIFLEX 512®-PUR high flexible, extreme conditions, number coded, halogen-free, oil resistant | yes | 20 - 3/0 | -40°C to +80°C | C14 | 600V | MULTIFLEX 512®-PUR UL/CSA high flexible, number coded, halogen-free two approvals | grey | 2 - 65 | -40°C to +80°C | N87 | | | | yes | 20 - 6 | -50°C to +80°C | | | | | | | | | | | | | | |
| 300/500V | | | MULTISPEED® 500-PUR safty against high bending, low torsion, halogen-free, 7 or more cores stranded to a unit | black | 2 - 42 | -30°C to +80°C | C16 | 600V | MULTISPEED® 500-PUR UL/CSA safty again. high bend., low torsion, halogen-free, 7 or more cores stranded | black | 2 - 42 | -30°C to +80°C | N89 | | | | yes | 20 - 14 | -50°C to +80°C | | | | | | | | | | | | | | | |
| 300/500V | | | BIOFLEX-500-JZ-HF high flexible, bio-oil and fuel resistant, number coded, abrasion resistant, recyclable | green | 2 - 25 | -20°C to +80°C | C26 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.6/1kV | | | TOPFLEX® 611-PUR power supply connection, halogen-free | grey | 4 | -30°C to +80°C | D5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| yes | | | 16 - 4/0 | -50°C to +90°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| with shield | | 300/500V | PUR6-JZ-HF-YCP high flexible, number coded, Cu-shielded | grey | 2 - 65 | -5°C to +80°C | C17 | 600V | JZ-602 RC-C-PUR high flexible, number coded, with inner jackets | grey | 3 - 34 | -5°C to +80°C | N91 | | | | | | | | | | | | | | | | | | | | | |
| | | 300/500V | MULTIFLEX 512®-C-PUR high flexible, extreme conditions, halogen-free, Cu-shielded | yes | 20 - 6 | -40°C to +80°C | C19 | 600V | MULTIFLEX 512®-C-PUR UL/CSA high flexible, free, two approvals, | grey | 2 - 65 | -40°C to +80°C | N92 | | | | number coded, halogen-Cu-shielded | yes | 20 - 6 | -50°C to +80°C | | | | | | | | | | | | | | |
| | | 300/500V | MULTISPEED® 500-C-PUR safty against high bending, low torsion, halogen-free, 7 or more cores stranded to a unit, Cu-shielded | blue | 2 - 25 | -30°C to +80°C | C21 | 600V | MULTISPEED® 500-C-PUR UL/CSA safty against numb. coded, low torsion, 7 or more cores stranded Cu-shielded | black | 2 - 36 | -30°C to +80°C | N94 | | | | high bending, halogen-free to a unit, | yes | 20 - 14 | -50°C to +80°C | | | | | | | | | | | | | | |
| | | 300/500V | BIOFLEX-500-JZ-HF-C high flexible, Bio-oil and fuel resistant, number coded, abrasion resistant, recyclable, Cu-shielded | green | 2 - 25 | -20°C to +80°C | C28 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 0.6/1kV | TOPFLEX® 611-C-PUR power supply connection, halogen-free, Cu-shielded | grey | 4 | -30°C to +80°C | D7 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | yes | 16 - 4/0 | -50°C to +90°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPE-O oil resistant | without shield | 300/500V | MULTISPEED® 500-TPE safty against high bending, low torsion, halogen-free, skf, 7 or more cores stranded to a unit | blue | 2 - 42 | -30°C to +80°C | C22 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 300/500V | KOMPOSPEED JZ-HF-500 high flexible, number coded, halogen-free, microbial resistant | yes | 20 - 2 | -50°C to +80°C | C29 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | with shield | 300/500V | MULTISPEED® 500-C-TPE safty against high bend., low torsion, halogen-free, shielded, 7 or more cores stranded to a unit | black | 2 - 25 | -30°C to +90°C | C24 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 300/500V | KOMPOSPEED JZ-HF-500-C high flexible, number coded, halogen-free, Cu-shielded, microbial resistant | yes | 20 - 14 | -40°C to +100°C | C30 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Control Cables
Halogen-free cables are marked in red / Bio-oil and fuel resistant cables are marked in green

Special Single Cores for Cable Tracks

Cable Accessories



Cable Glands · Protective Conduits · Signal & Data Connectors



Ferrules & Lugs · Cable Ties & Cable Wraps · Installation Tools



DATA CABLES | Flexing Applications

| Data Cables Halogen-free cables are marked in red | Jacket materials | Shielding | Cable track class | Voltage class (Nominal peak voltage) | Without UL standard | Color | | No. cores/No.paires | Temperature range | | Cat. page | Cable track class | Voltage class | According UL/CSA standard | Color | | No. cores/No.paires | Temperature range | | Cat. page | Cable track class | Voltage class | According NFPA 79 | Color | | No. cores/No.paires | Temperature range | | Cat. page | | | | | |
|--|-------------------|----------------|-------------------|--|---|--|---|---|-------------------|---|--|--|---|---|--------------------------|----------------|---------------------|-------------------|--------------------|-----------|-------------------|---------------|-------------------|--------------------------|---------------|---------------------|-------------------|--------------------|-----------|--------------------------|---------------|---------|--------------------|---------|
| | | | | | | increased oil resistant* | Cross section | | flexing | fixed installation | | | | | increased oil resistant* | Cross section | | flexing | fixed installation | | | | | increased oil resistant* | Cross section | | flexing | fixed installation | | increased oil resistant* | Cross section | flexing | fixed installation | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | flexing |
| PUR oil resistant | PVC | without shield | 300/500V | SUPERTRONIC®-PVC cable track cable, color code acc. to DIN 47100 | grey | 2 - 25 | -5°C to +70°C | C31 | 300V | SUPERTRONIC®-310-PVC cable track cable, cores acc. to DIN 47100 | grey | 2 - 25 | -5°C to +80°C | N100 | | | | | | | | | | | | | | | | | | | | |
| | | with shield | 300/500V | SUPERTRONIC®-C-PVC cable track cable, color code acc. to DIN 47100, Cu-shielded | grey | 2 - 25 | -5°C to +70°C | C32 | 300V | SUPERTRONIC®-310-C-PVC cable track cable, cores acc. to DIN 47100, Cu-shielded | grey | 2 - 25 | -5°C to +80°C | N101 | | | | | | | | | | | | | | | | | | | | |
| | PUR oil resistant | | without shield | 300V | SUPERTRONIC®-PURö cable track cable, color code acc. to DIN 47100, Cu-shielded | grey | 2 - 25 | -5°C to +70°C | C33 | 300V | SUPERTRONIC®-330-PURö cable track cable, halogen-free, cores acc. to DIN 47100 | grey | 2 - 25 | -40°C to +80°C | N102 | | | | | | | | | | | | | | | | | | | |
| | | | with shield | 300/500V | SUPERTRONIC®-C-PURö cable track cable, halogen-free, color code acc. to DIN 47100, Cu-shielded | grey | 2 - 25 | -40°C to +70°C | C34 | 300V | SUPERTRONIC®-330-C-PURö cable track cable, Cu-shielded, halogen-free, cores acc. to DIN 47100 | grey | 2 - 25 | -40°C to +80°C | N103 | | | | | | | | | | | | | | | | | | | |
| | | | | without shield | 300V | MULTISPEED®-TRONIC-PUR cable track cable, halogen-free, cores acc. to DIN 47100, 7 or more cores stranded to a unit, extruded as filler with pressure | black | 2 - 25 | -30°C to +80°C | N105 | 300V | MULTISPEED®-TRONIC-PUR cable track cable, halogen-free, cores acc. to DIN 47100, 7 or more cores stranded to a unit, extruded as filler with pressure | black | 2 - 25 | -30°C to +80°C | N105 | | | | | | | | | | | | | | | | | | |
| | | | | with shield | 300/500V | SUPER-PAAR-TRONIC-C-PUR® cable track cable, twisted pairs, color code acc. to DIN 47100, Cu-shielded | grey | 1 - 14 | -40°C to +70°C | C35 | 300V | SUPER-PAAR-TRONIC-340-C-PUR cable track cable, twisted pairs, Cu-shielded, halogen-free, cores acc. to DIN 47100 | grey | 1 - 14 | -20°C to +80°C | N104 | | | | | | | | | | | | | | | | | | |
| | | | | | without shield | 300V | MULTISPEED®-TRONIC-C-PUR cable track cable, halogen-free, Cu-shielded, cores acc. to DIN 47100, 7 or more cores stranded to a unit, extruded as filler with pressure | black | 2 - 25 | -30°C to +80°C | N106 | 300V | MULTISPEED®-TRONIC-C-PUR cable track cable, halogen-free, Cu-shielded, cores acc. to DIN 47100, 7 or more cores stranded to a unit, extruded as filler with pressure | black | 2 - 25 | -30°C to +80°C | N106 | | | | | | | | | | | | | | | | | |
| | | | | | with shield | 300V | SHIPFLEX 512 cable for cable track, halogen-free | grey | 2 - 36 | -40°C to +80°C | W17 | 300V | SHIPFLEX 512 cable for cable track, halogen-free | grey | 2 - 36 | -40°C to +80°C | W17 | | | | | | | | | | | | | | | | | |
| | | | | | | without shield | 300V | SHIPFLEX 330 cable for cable track, halogen-free | grey | 2 - 36 | -40°C to +80°C | W18 | 300V | SHIPFLEX 330 cable for cable track, halogen-free | grey | 2 - 36 | -40°C to +80°C | W18 | | | | | | | | | | | | | | | | |
| | | | | | | with shield | 300V | SHIPFLEX 340 cable for cable track, halogen-free | grey | 2 - 25 | -40°C to +80°C | W19 | 300V | SHIPFLEX 340 cable for cable track, halogen-free | grey | 2 - 25 | -40°C to +80°C | W19 | | | | | | | | | | | | | | | | |

Special Single Cores for Cable Tracks

SINGLE CORES | Flexing Applications

| Single Cores Halogen-free cables are marked in red | Jacket materials | Shielding | Cable track class | Voltage class | Without UL standard | Color | | No. cores | Temperature range | | Cat. page | Cable track class | Voltage class | According UL/CSA standard | Color | | No. cores | Temperature range | | Cat. page | Cable track class | Voltage class | Acc. NFPA 79 | Color | | No. cores | Temperature range | | Cat. page | | | | |
|---|------------------|----------------|-------------------|---|---|--------------------------|----------------|----------------|-------------------|--|-----------|-------------------|----------------|---------------------------|--------------------------|---------------|-----------|-------------------|--------------------|-----------|-------------------|---------------|--------------|--------------------------|---------------|-----------|-------------------|--------------------|-----------|--------------------------|---------------|---------|--------------------|
| | | | | | | increased oil resistant* | Cross section | | flexing | fixed installation | | | | | increased oil resistant* | Cross section | | flexing | fixed installation | | | | | increased oil resistant* | Cross section | | flexing | fixed installation | | increased oil resistant* | Cross section | flexing | fixed installation |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PUR oil resistant | PVC | without shield | | 600V | SINGLE 602-RC -J/-O special single cores for cable tracks 90°C, 600V | black | 1 | -5°C to +90°C | N122 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | with shield | | 600V | SINGLE 602-RC -CY -J/-O special single cores for cable tracks 90°C, 600V, shielded | orange | 1 | -5°C to +90°C | N123 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | without shield | | 0.6/1kV | MULTISPEED® 600-PUR -J/-O special single cores for cable tracks 90°C, 600V, halogen-free | black | 1 | -30°C to +80°C | N124 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | with shield | | 0.6/1kV | MULTISPEED® 600-C-PUR -J/-O special single cores for cable tracks 90°C, 600V, shielded, halogen-free | black | 1 | -30°C to +80°C | N125 | | | | | | | | | | | | | | | | | | | | | | | | |
| | TPE-O | without shield | 0.6/1kV | KOMPOSPEED 600 double-insulated, halogen-free, suitable for cable track appl. | black | 1 | -30°C to +90°C | K37 | 0.6/1kV | SHIPFLEX 109 cable for cable track, halogen-free, meter marking | orange | 1 | -40°C to +80°C | W20 | | | | | | | | | | | | | | | | | | | |
| | | with shield | 0.6/1kV | KOMPSPEED 600-C double-insulated, halogen-free, suitable for cable track applications, Cu-shielded | black | 1 | -30°C to +90°C | K37 | | | | | | | | | | | | | | | | | | | | | | | | | |

Conversion Table | AWG - mm²

| AWG No. | Cross section mm² | AWG No. | Cross section mm² | AWG No. | Cross section mm² | AWG No. | Cross section mm² | AWG No. | Cross section mm² | AWG No. | Cross section mm² |
|-----------|-------------------|---------|-------------------|---------|-------------------|---------|-------------------|---------|-------------------|---------|-------------------|
| 1000 MCM* | 507.00 | 3/0 | 85.00 | 7 | 10.600 | 16 | 1.310 | 25 | 0.6300 | 34 | 0.02000 |
| 750 | 380.00 | 2/0 | 67.50 | 8 | 8.366 | 17 | 1.040 | 26 | 0.1280 | 35 | 0.01610 |
| 600 | 304.00 | 0 | 53.40 | 9 | 6.630 | 18 | 0.823 | 27 | 0.1020 | 36 | 0.01230 |
| 500 | 254.00 | 1 | 42.40 | 10 | 5.260 | 19 | 0.653 | 28 | 0.0804 | 37 | 0.01000 |
| 400 | 203.00 | 2 | 33.60 | 11 | 4.150 | 20 | 0.519 | 29 | 0.0646 | 38 | 0.00795 |
| 350 | 178.00 | 3 | 26.70 | 12 | 3.300 | 21 | 0.412 | 30 | 0.0503 | 39 | 0.00632 |
| 300 | 152.00 | 4 | 21.20 | 13 | 2.620 | 22 | 0.325 | 31 | 0.0400 | | |
| 250 | 127.00 | 5 | 16.80 | 14 | 2.080 | 23 | 0.259 | 32 | 0.0320 | | |
| 4/0 | 107.20 | 6 | 13.30 | 15 | 1.650 | 24 | 0.205 | 33 | 0.0252 | | |

For more information see "Cables & Wires 2012/2013" catalog page X83

MOTOR- AND SERVO CABLES | Flexing Applications

| Motor- and Servocables <small>Halogen-free cables are marked in red</small> | Jacket materials | Shielding | Cable track class | Voltage class | Without UL standard | | | | Cable track class | Voltage class | According UL/CSA standard | | | | Cable track class | Voltage class | According NFPA 79 | | | | |
|--|------------------|-----------|-------------------|---------------|--|-------------------------|-------------------|----------------------------------|-------------------|---------------|--|-------------------------|-------------------|----------------------------------|-------------------|---|-------------------|-------------------------|---------------------|-----------|--------------------------|
| | | | | | Color | No. cores/ No.paires | Temperature range | Cat. page | | | Color | No. cores/ No.paires | Temperature range | Cat. page | | | Color | No. cores/ No.paires | Temperature range | Cat. page | |
| | | | | | | | | | | | | | | | | | | | | | increased oil resistant* |
| PVC | without shield | | | | | | | | | | | | | | | | | | | | |
| | with shield | | | | | | | | | | | | | | 0.6/ 1kV | TOPSERV® 600 VFD (LISTED AS PVC, BUT ARE ACTUALLY TPE) Motor cable without pair, high flexible | or o. bl yes | 4 16 - 2 | -25°C to +90°C - | N139 | |
| PUR oil resistant | without shield | | | 0.6/ 1kV | TOPFLEX® 611-PUR Motor cable without pair, high flexible, number coded, halogen-free | grey yes | 4 16 - 4/0 | -30°C to +80°C -50°C to +90°C | D5 | | | | | | | | | | | | |
| | with shield | | | 0.6/ 1kV | TOPFLEX® 611-C-PUR Motor cable without pair, Cu-shielded, high flexible, number coded, halogen-free | grey yes | 4 16 - 4/0 | -30°C to +80°C -50°C to +90°C | D5 | 0.6/ 1kV | TOPSERV® 109 PUR acc. to Siemens 6FX8008Plus Motor cable without pair, high-flexible, shielded, number coded, | orange yes | 4 16 - 1 | -30°C to +80°C -40°C to +80°C | N131 | | | | | | |
| | | | | 0.6/ 1kV | TOPSERV® 110 Servocables with 1 pair | petrol yes | 4+2 16 - 1 | -40°C to +90°C -40°C to +90°C | D9 | 0.6/ 1kV | TOPSERV® 113 PUR acc. to e.g. Siemens 6FX8008Plus, Lenze Servocable with one pair, high-flexible, shielded, number coded, | orange yes | 4 16 - 1 | -30°C to +80°C -40°C to +80°C | N132 | | | | | | |
| | | | | 0.6/ 1kV | TOPSERV® 120 Servocables with 2 pairs | petrol yes | 4+2+2 16 - 1 | -40°C to +90°C -40°C to +90°C | D9 | 0.6/ 1kV | TOPSERV® 121 PUR acc. to e.g. Indramat INK Servocable with two pairs, high flexible, shielded | orange yes | 4 16 - 1 | -30°C to +80°C -40°C to +80°C | N134 | | | | | | |
| | | | | | | | | | | 0.6/ 1kV | SHIFFLEX 109 cable for cable track, halogen-free, meter marking | orange no | 4 17 - 3/0 | -40°C to +80°C -40°C to +80°C | W21 | | | | | | |
| | | | | | | | | | | 0.6/ 1kV | SHIFFLEX 113 cable for cable track, halogen-free, meter marking | orange no | 4 + 2 16 - 1 | -40°C to +80°C -40°C to +80°C | W22 | | | | | | |
| | | | | | | | | | | 0.6/ 1kV | SHIFFLEX 121 cable for cable track, halogen-free, meter marking | orange no | 4 + 2 18 - 1 | -40°C to +80°C -40°C to +80°C | W23 | | | | | | |

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FEEDBACK CABLES | Flexing Applications

| Feedback Cables <small>Halogen-free cables are marked in red</small> | Jacket materials | Shielding | Cable track class | Voltage class | Without UL standard | | | | Cable track class | Voltage class | According UL/CSA standard | | | | Cable track class | Voltage class | According NFPA 79 | | | |
|---|------------------|-----------|-------------------|---------------|---|-------------------------|-------------------|----------------|-------------------|---------------|--|-------------------------|-------------------|----------------------------------|-------------------|---------------|-------------------|-------------------------|-------------------|-----------|
| | | | | | Color | No. cores/ No.paires | Temperature range | Cat. page | | | Color | No. cores/ No.paires | Temperature range | Cat. page | | | Color | No. cores/ No.paires | Temperature range | Cat. page |
| | | | | | | | | | | | | | | | | | | | | |
| PVC | without shield | | | | | | | | | | | | | | | | | | | |
| | with shield | | | | | | | | | | | | | | | | | | | |
| PUR oil resistant | without shield | | | | | | | | | | | | | | | | | | | |
| | with shield | | | 300 V | TOPFLEX®-PUR (10x0.14mm ² +2x0.5mm ²) or (10x0.14mm ² +4x0.5mm ²) or (15x0.14mm ² +4x0.5mm ²) | grey yes | - | -30°C to +80°C | D14 | 30V + 300V | TOPGEBER 512 PUR acc. to e.g. Siemens 6FX8008Plus, Lenze, Indramat, Elau, B+R, Heidenhain, Berger Lehr etc. | gr o. or yes | - | -30°C to +80°C -40°C to +80°C | N135 | | | | | |

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HELUTEK® SIGNAL AND POWER PLUG CONNECTORS

The Innovative Helutek® System

This sensational, quick-fastening connector is safe and stable while saving time and installation costs. The vibration resistant lock mechanism was perfected for plug connectors sizes M7, M23 and M40, which can be found in the HELUTEK® series 617, 917, 623, 723, 923 and 940. The HELUTEK® angle junction boxes can be easily combined at any time with the HELUTEK® system or with standard lock nuts. This also addresses the issue of downward compatibility. Slide it on and rotate for an exact seat. Patented perfection included.

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

Fits in tight locations. In areas with limited space, just wind the pre-tensioned lock nut before sliding the nut into the lock position. A small rotation with a little pull at the plug releases the lock nut preventing an unintended release of the vibration resistant quick fastener. This was specially developed and patented for the HELUTEK® series 615/915.

The Freely Customizable Plug Connector

Bonded for life. This overmolded connector consists of a housing and the overmold, which are bonded together and cannot be disassembled. This provides the required manipulation security for customized units - a design that is normally only available for cast versions. All commercially available cables at any length can be connected to the inner section of the robust metal housing. This is for both options: Standard screw connections or those items that include a patented fast-lock system. Without casting, however, optically similar, with integrated bend protection, for almost any pin design.

HELUTEK® Series 617 / 623 / 627 Signal Connectors - Controlling - Monitoring

Stable, versatile, safe: HELUTEK® series can be found where a safe connection is required within a limited installation space. The plug connections of the series 617, 623 and 627, which are designed especially for the safety extra-low voltage are used in any application that transmits signals, controls motors or monitors the smooth functioning of a system. For this purpose, a multitude of multi-pole insulation bodies - matching a variety of different designs such as plugs, couplings and flush-mounting boxes - are available for the user. This includes a classic design, which shows its innovative features by satisfying each new customer specific requirement - another achievement of the HELUTEK® designers.

HELUTEK® Series 917 / 923 / 932 / 940 / 958 Power Plug Connector - Strong and Safe

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

INDUSTRIAL ETHERNET | Flexing Applications

| Industrial Ethernet | Jacket materials | Category | Cable track class | Frequency range Mhz | Without UL standard | | | | Cat. page | Cable track class | Frequency range Mhz | According UL/CSA standard | | | | Cable track class | Frequency range Mhz | According NFPA 79 | | | | Cat. page |
|---------------------|------------------|----------|-------------------|--|--------------------------|-------------|--------------------------|------------------|-----------|---|---------------------|---------------------------|--------------------------|-------------------|------------------|---|---------------------|--------------------------|---------|-------------------|------------------|-----------|
| | | | | | part no. | | Temperature range | Flame-resistance | | | | Part no. | | Temperature range | Flame-resistance | | | Part no. | | Temperature range | Flame-resistance | |
| | | | | | increased oil resistant* | Outer Ø | increased oil resistant* | | | | | Outer Ø | increased oil resistant* | Outer Ø | | | | increased oil resistant* | Outer Ø | | | |
| CAT 5 | PUR | PUR | 100 | HELUKAT® 2005 SF/UTP, cable track 4 x 1 x AWG24/19 | | | | R98 | 100 | HELUKAT® 100T SF/UTP, Tordierflex UL Style 20963 4x2xAWG26/19, Torsion | | | | R100 | 100 | HELUKAT® 100IND PROFInet C, high flexible CMX 2x2xAWG22/7, Fast Connect | | | | R105 | | |
| | | | | 800088 | -25°C to +70°C | IEC 60332-1 | 800067 | -40°C to +80°C | | IEC 60332-1 | 800655 | -40°C to +70°C | IEC 60332-1 | | | | | | | | | |
| CAT 5e | PUR | PUR | 100 | HELUKAT® 2005 SF/UTP, cable track 4x2xAWG24/19 | | | | R99 | 100 | HELUKAT® 100IND PROFInet C, high flexible CMX 2x2xAWG22/7, Fast Connect | | | | R105 | 100 | HELUKAT® 100IND PROFInet C, high flexible CMX 2x2xAWG22/7, Fast Connect | | | | R105 | | |
| | | | | 81155 | -25°C to +70°C | IEC 60332-1 | 802186 | -40°C - +80°C | | IEC 60332-1 | 802186 | -40°C - +80°C | IEC 60332-1 | | | | | | | | | |
| | | | | yes | 6.2 mm | IEC 60332-1 | yes | 7.5 mm | | IEC 60332-1 | yes | 6.5 mm | IEC 60332-1 | | | | | | | | | |
| | | | | yes | 9.5 mm | IEC 60332-1 | yes | 6.5 mm | | IEC 60332-1 | yes | 6.5 mm | IEC 60332-1 | | | | | | | | | |
| CAT 6 | PUR | PUR | 100 | HELUKAT® 1005 SF/UTP, cable track ECO, UL Style 20963 4x1xAWG26/19 | | | | R96 | 155 | HELUKAT® 1005 SF/UTP, cable track ECO, UL Style 20963 4x1xAWG26/19 | | | | R96 | 155 | HELUKAT® 1005 SF/UTP, cable track ECO, UL Style 20963 4x1xAWG26/19 | | | | R96 | | |
| | | | | 82838 | -40°C to +80°C | IEC 60332-1 | 82838 | -40°C to +80°C | | IEC 60332-1 | 82839 | -40°C - +80°C | IEC 60332-1 | | | | | | | | | |
| CAT 6 | PUR | PUR | 100 | HELUKAT® 1005 SF/UTP, cable track ECO, UL Style 20963 4x2xAWG26/19 | | | | R97 | 155 | HELUKAT® 1005 SF/UTP, cable track ECO, UL Style 20963 4x2xAWG26/19 | | | | R97 | 155 | HELUKAT® 1005 SF/UTP, cable track ECO, UL Style 20963 4x2xAWG26/19 | | | | R97 | | |
| | | | | 82839 | -40°C - +80°C | IEC 60332-1 | 82839 | -40°C - +80°C | | IEC 60332-1 | 803387 | -30°C to +70°C | IEC 60332-1 | | | | | | | | | |
| CAT 6 | PUR | PUR | 600 | HELUKAT® 2505 SF/UTP, cable track 4x2xAWG26/19 | | | | R93 | 600 | HELUKAT® 2505 SF/UTP, cable track 4x2xAWG26/19 | | | | R93 | 600 | HELUKAT® 2505 SF/UTP, cable track 4x2xAWG26/19 | | | | R93 | | |
| | | | | 803387 | -30°C to +70°C | IEC 60332-1 | 803387 | -30°C to +70°C | | IEC 60332-1 | 803387 | -30°C to +70°C | IEC 60332-1 | | | | | | | | | |

BUS CABLES | Flexing Applications

| BUS CABLES | Jacket materials | Shielding | Cable track class | Impedance | Without UL standard | | | | Cat. page | Cable track class | Impedance | According UL/CSA standard | | | | Cable track class | Impedance | According NFPA 79 | | | | Cat. page |
|-------------------|-------------------|-----------|-------------------|--|--------------------------|-------------|--------------------------|------------------|-----------|---|-----------|---------------------------|--------------------------|-------------------|------------------|--|-------------|--------------------------|---------|-------------------|------------------|-----------|
| | | | | | Part no. | | Temperature range | Flame-resistance | | | | Part no. | | Temperature range | Flame-resistance | | | Part no. | | Temperature range | Flame-resistance | |
| | | | | | increased oil resistant* | Outer Ø | increased oil resistant* | | | | | Outer Ø | increased oil resistant* | Outer Ø | | | | increased oil resistant* | Outer Ø | | | |
| Profibus 150 OHM | PVC | Indoor | 150 OHM | Profibus L2 drag 1x2x0.64mm ² (stranded) PUR petrol | | | | R111 | 150 OHM | Profibus L2 FESTOON 1x2x0.65 mm ² PVC petrol CMG | | | | R115 | 150 OHM | Profibus L2 FESTOON 1x2x0.65 mm ² PVC petrol CMG | | | | R115 | | |
| | | | | 81003 | -20°C to +60°C | IEC60332-1 | 800649 | -40°C to +60°C | | EN 50265-2-1 | 800649 | -40°C to +60°C | EN 50265-2-1 | | | | | | | | | |
| | PUR oil resistant | Indoor | 150 OHM | Profibus L2 drag 1x2x0.64mm ² (stranded) PUR violet | | | | R111 | 150 OHM | Profibus ET200X PUR petrol UL-style 20351 1x2x0.65mm ² +3x1x1.5mm ² | | | | R112 | 150 OHM | Profibus L2 Torsion 1x2x0.8mm ² PUR violet CMX | | | | R115 | | |
| | | | | 80267 | -20°C to +60°C | IEC60332-1 | 82913 | -5°C to +60°C | | no | 82913 | -5°C to +60°C | no | | | | | | | | | |
| | | | | yes | 8.0 mm | IEC60332-1 | yes | 11.0 mm | | IEC 60332-1 | 800044 | -20°C to +60°C | IEC 60332-1 | 800109 | | -25°C to +75°C | IEC60332-1 | | | | | |
| | | | | yes | 8.0 mm | IEC60332-1 | yes | 8.0 mm | | IEC60332-1 | 81906 | -40°C to +70°C | IEC 60332-1 | 81906 | | -40°C to +70°C | IEC 60332-1 | | | | | |
| CANBUS 120 OHM | PUR oil resistant | Indoor | 120 OHM | CAN Bus drag 1x2x0.25mm ² PUR violet | | | | R140 | 120 OHM | CAN Bus drag 1x2x0.34mm ² PUR violet CMX without CSA! | | | | R141 | 120 OHM | CAN Bus drag 1x2x0.34mm ² PUR violet CMX without CSA! | | | | R141 | | |
| | | | | 81911 | -20°C to +70°C | no | 802182 | -30°C to +70°C | | IEC 60332-1 | 802182 | -30°C to +70°C | IEC 60332-1 | | | | | | | | | |
| DEVICENET 120 OHM | PUR oil resistant | Indoor | 120 OHM | CAN Bus drag 4x1x0.25mm ² PUR violet | | | | R140 | 120 OHM | CAN Bus drag 4x1x0.34mm ² PUR violet CMX without CSA! | | | | R141 | 120 OHM | CAN Bus drag 4x1x0.34mm ² PUR violet CMX without CSA! | | | | R141 | | |
| | | | | 81912 | -20°C to +70°C | no | 802339 | -30°C to +70°C | | IEC 60332-1 | 802339 | -30°C to +70°C | IEC 60332-1 | | | | | | | | | |
| INTERBUS 100 OHM | PUR oil resistant | Indoor | 100 OHM | I-BUS long-distance BUS cable track PUR pastel-turquoise 3x2x0.25mm ² | | | | R144 | 120 OHM | DeviceNet™ Thick PUR violet 1x2xAWG18 + 1x2xAWG15 CMX | | | | R156 | 120 OHM | DeviceNet™ Thick PUR violet 1x2xAWG18 + 1x2xAWG15 CMX | | | | R156 | | |
| | | | | 81203 | -20°C to +70°C | IEC 60332-1 | 81909 | -40°C to +80°C | | VW1 | 81909 | -40°C to +80°C | VW1 | | | | | | | | | |
| AS-INTERFASE | PUR oil resistant | Indoor | 100 OHM | I-BUS Insta-long-distance BUS cable track PUR pastel-turquoise, 3x2x0.25mm ² + 3x1.0mm ² | | | | R144 | 120 OHM | DeviceNet™ Thin PUR violet 1x2xAWG24 + 1x2xAWG22 CMX | | | | R156 | 120 OHM | DeviceNet™ Thin PUR violet 1x2xAWG24 + 1x2xAWG22 CMX | | | | R156 | | |
| | | | | 82696 | -20°C to +70°C | IEC 60332-1 | 81910 | -40°C to +80°C | | VW1 | 81910 | -40°C to +80°C | VW1 | | | | | | | | | |
| AS-INTERFASE | PUR oil resistant | Indoor | - | A-BUS PUR yellow 2x1.5mm ² UL Style 20549 | | | | R148 | - | A-BUS PUR yellow 2x1.5mm ² UL Style 20549 | | | | R148 | - | A-BUS PUR yellow 2x1.5mm ² UL Style 20549 | | | | R148 | | |
| | | | | 82434 | -40°C to +80°C | IEC 60332-1 | 82822 | -40°C to +80°C | | IEC 60332-1 | 82822 | -40°C to +80°C | IEC 60332-1 | | | | | | | | | |



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