Энергия ветра

Технические характеристики

По вопросам продаж и поддержки обращайтесь:

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Архангельск (8182)63-90-72
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Набережные Челны (8552)20-53-41
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Тверь (4822)63-31-35
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Тула (4872)74-02-29
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
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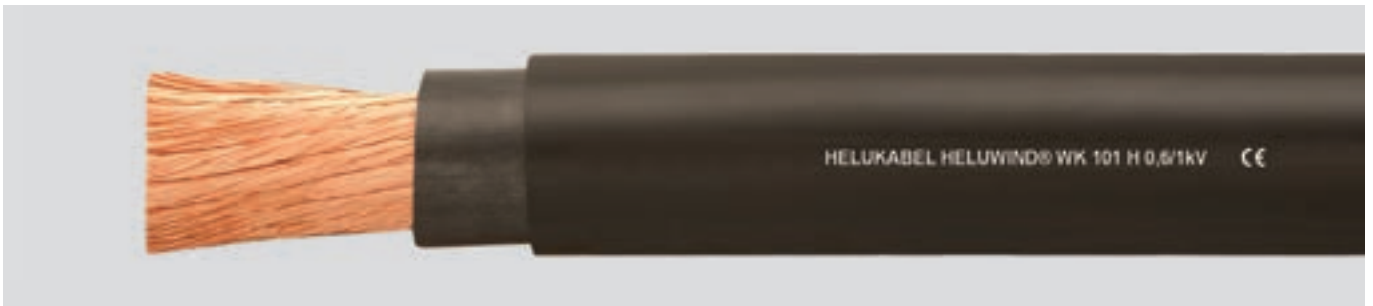
Хабаровск (4212)92-98-04
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Ярославль (4852)69-52-93

Россия (495)268-04-70
Киргизия (996)312-96-26-47
Казахстан (7172)727-132

Эл. почта hbe@nt-rt.ru || Сайт: https://helukabel.nt-rt.ru/

HELUWIND® WK 101 H

0,6/1 kV, halogen free, high flexible



Technical data

- **Temperature range**
  flexing -40°C to +90°C
  fixed installation -50°C to +100°C
- Permissible conductor **operating temperature** +90°C
- **Nominal voltage**
  VDE U_0/U 0,6/1 kV
- **Test voltage**
  4000 V
- **Highest permissible voltage**
  - DC:
    Conductor/Conductor 1,8 kV
    Conductor/Earth 0,9 kV
  - AC: Conductor/Earth 0,7 kV
  - Three phase: Conductor/Conductor 1,2 kV
- **Minimum bending radius**
  flexing 7,5x cable Ø
  fixed installation 4x cable Ø
- **Halogen-free**
  IEC 60754-1

Cable structure

- Special bare copper conductor, fine stranded acc. to IEC 60228
- Seperarting foil wrap
- Insulation: special compound black
- Sheath: special compound
- Sheath colour: black

Properties

- Halogen-free
- Abrasion resistant
- Extremely oil resistant
- UV and ozone-resistant
- Recyclable
- Multi-climate application

Note

A torsional version for loop application is available on request.
For more information, especially on custom cables, please contact us:
wind@helukabel.de

Application

The HELUWIND® WK series has been specifically designed for use in wind power plants. These cables are used in cases that require extremely narrow bending radii and high current carrying capacity levels (+90°C conductor temperature).
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
707522	1 x 16	-	9,7	154,0	240,0
707523	1 x 25	-	11,2	240,0	287,7
707524	1 x 35	-	12,6	336,0	394,4
707525	1 x 50	-	14,2	480,0	590,0
707526	1 x 70	-	16,2	672,0	757,7
707527	1 x 95	-	18,9	912,0	1230,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
707528	1 x 120	-	20,2	1152,0	1295,7
707529	1 x 150	-	22,8	1440,0	1679,7
707494	1 x 185	-	26,7	1776,0	2009,9
707495	1 x 240	-	30,5	2304,0	2900,0
707530	1 x 300	-	34,9	2880,0	3490,1
707531	1 x 400	-	40,1	3840,0	4430,0

Dimensions and specifications may be changed without prior notice.

HELUWIND® WK DLO, WK DLO-Torsion

2 kV, FT4, VW-1, RHH/RHW-2, UL44

Technical data

- **Temperature range**
  flexing -40°C to +90°C
- **Nominal voltage**
  2000 V
- **Torsion application**
  only for WK DLO-Torsion
  +/- 150° per 1m
- **Torsion rating**
  Torsion tested in accordance with HELUKABEL test requirements
- **Approvals**
  RHH/RHW-2, PRI PRII, CSA RW90, CSA 22.2 No. 38, VW-1, cold impact test, cold bend test, wet or dry per UL44, for CT use
- **Flame test**
  CSA FT1, FT4, IEEE 1202

Cable structure

- Special stranded bare copper wire, fine stranded acc. to ASTM-B3
- Insulation: EP
- Seperarting foil wrap
- Sheath: TPE/CPE
- Sheath colour: black

Properties

- UV resistant

Note

For more information, especially on custom cables, please contact us: wind@helukabel.de

Application

The cable HELUWIND® WK DLO was specifically designed for use in wind turbines up to a nominal voltage of 2 kV.
It has been specially developed for torsion applications in wind turbines. We supply the leading wind turbine manufacturers.

WK DLO 2 kV

Part no.	Cross-section AWG / kcmil	Outer Ø app. mm	Weight app. kg / km	Outer Ø app. inch	Weight app. lb / kft
703156	14	5,9	37,0	0,23	0,0
703157	12	6,3	69,0	0,25	0,0
703158	10	7,2	100,0	0,28	0,0
702513	8	8,4	142,0	0,33	0,0
703159	6	9,4	200,0	0,37	0,0
703160	4	11,2	286,0	0,44	0,0
703161	2	12,7	370,0	0,50	0,0
703162	1	16,4	637,0	0,65	0,0
703163	1/0	16,7	715,0	0,66	0,0
703862	2/0	17,6	830,0	0,69	0,0
703164	3/0	19,6	1104,0	0,77	0,0
702863	4/0	21,0	1298,0	0,83	0,0
702514	262 kcmil	23,7	1590,0	0,93	0,0
703165	313 kcmil	25,4	1872,0	1,00	0,0
708857	373 kcmil	27,1	2176,0	1,07	0,0
703167	444 kcmil	28,8	2570,0	1,13	0,0
702515	535 kcmil	31,4	3046,0	1,24	0,0
703168	646 kcmil	33,6	3600,0	1,32	0,0
703169	777 kcmil	36,0	4290,0	1,42	0,0
703170	929 kcmil	38,4	5144,0	1,51	0,0
703171	1111 kcmil	42,5	6070,0	1,67	0,0

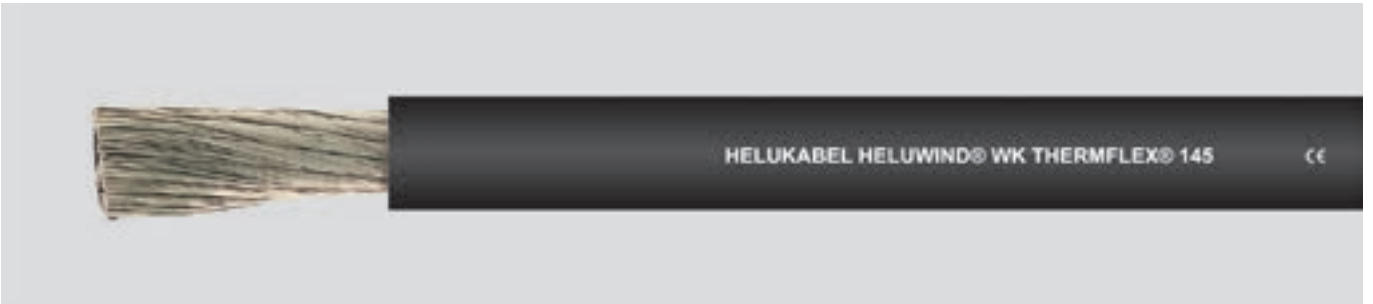
WK DLO-Torsion 2 kV

Part no.	Cross-section AWG / kcmil	Outer Ø app. mm	Weight app. kg / km	Outer Ø app. inch	Weight app. lb / kft
709729	8	8,4	142,0	0,33	0,0
709730	6	9,4	200,0	0,37	0,0
709731	4	11,2	286,0	0,44	0,0
709732	2	12,7	370,0	0,50	0,0
709733	1	16,4	637,0	0,65	0,0
709734	1/0	16,7	715,0	0,66	0,0
709735	2/0	17,6	830,0	0,69	0,0
709288	3/0	19,6	1104,0	0,77	0,0
709289	4/0	21,0	1298,0	0,83	0,0
709290	262 kcmil	23,7	1590,0	0,93	0,0
709291	313 kcmil	25,4	1872,0	1,00	0,0
709292	373 kcmil	27,1	2176,0	1,07	0,0
709293	444 kcmil	28,8	2570,0	1,13	0,0
709294	535 kcmil	31,4	3046,0	1,24	0,0
709295	646 kcmil	33,6	3600,0	1,32	0,0
709296	777 kcmil	36,0	4290,0	1,42	0,0
709297	929 kcmil	38,4	5144,0	1,51	0,0
709298	1111 kcmil	42,5	6070,0	1,67	0,0

Dimensions and specifications may be changed without prior notice.

HELUWIND® WK THERMFLEX® 145

UV resistant, halogen-free, +145°C



Technical data

- **Temperature range**
  flexing -20°C to +120°C
  fixed installation -55°C to +145°C
- **Nominal voltage**
  U_0/U 0,6/1 kV
- **Test voltage**
  4000 V
- **Highest permissible voltage**
  - DC:
    Conductor/Conductor 1,8 kV
    Conductor/Earth 0,9 kV
  - AC: Conductor/Earth 0,7 kV
  - Three phase: Conductor/Conductor 1,2 kV
- **Insulation resistance**
  min. 100 MOhm x km
- **Minimum bending radius**
  flexing 12,5x cable Ø
  fixed installation 4x cable Ø
- **Flame test**
  IEC 60332-3-24 Cat.C

Cable structure

- Tinned copper conductor,
  fine stranded acc. to IEC 60228 cl.5
- Insulation: special polyolefin-copolymer,
  halogen-free, flame retardant
- Sheath colour: black

Properties

- Halogen-free, no release
  of corrosive or toxic gases
- Reduced propagation of fire
- Minimal smoke generation
- Good abrasion resistance
- Good oil and weathering resistance
- Resistant to UV radiation and ozone
- Thermal class B
- Easy to assemble
- The materials used during manufacturing
  are cadmium-free, contain no silicone
  and are free from substances harmful
  to the wetting properties of lacquers

Note

For more information, especially on
custom cables and connectivity
solutions, please contact us:
wind@helukabel.de

Application

This special cable can be used as a generator connecting cable in wind power plants, for example. Other areas of application: Connecting cable for temperature class B (130°C) in the case of motors, transformers, relays, coils, magnets, and so onUnit connections in the automotive industry. Halogen-free wiring of switchgear and control cabinets. Connecting cable for heating equipment. Supply line for high-power lighting in industry, sports centres and street lighting.

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

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
75486	1 x 6	-	5,4	58,0	70,0
75487	1 x 10	-	6,8	96,0	119,0
75488	1 x 16	-	8,5	154,0	180,0
75489	1 x 25	-	10,3	240,0	270,0
75490	1 x 35	-	11,8	336,0	373,0
75491	1 x 50	-	13,9	480,0	528,0
75492	1 x 70	-	16,0	672,0	728,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
75493	1 x 95	-	17,3	912,0	966,0
75494	1 x 120	-	20,0	1152,0	1230,0
75495	1 x 150	-	22,1	1440,0	1530,0
71437	1 x 185	-	24,8	1776,0	2106,3
75496	1 x 240	-	27,7	2304,0	2583,8
706557	1 x 300	-	30,0	2880,0	3910,0
706558	1 x 400	-	38,7	3840,0	4870,0

Dimensions and specifications may be changed without prior notice.

HELUPOWER® THERMFLEX® 145-Single

conductor stranded with optimal lay lengths, reinforced insulation, temperature-resistant, improved behaviour in case of fire

TECHNICAL DATA

Single core

Temperature range	flexible -40°C to +120°C fixed -55°C to +145°C
Short circuit temperature at the conductor	+250°C
Nominal voltage	AC U_0/U 600/1000 V
Max. permissible operating voltage	alternating current (AC) conductor/earth 700 V three-phase alternating current (AC) conductor/conductor 1200 V direct current (DC) conductor/earth 900 V direct current (DC) conductor/conductor 1800 V
Test voltage	4000 V
Minimum bending radius	flexible 12.5x Outer-Ø fixed 4x Outer-Ø

CABLE STRUCTURE

- Copper wire tinned, finely stranded acc. to DIN VDE 0295 Class 5 / IEC 60228 Class 5
- Core insulation: cross-linked polyolefin
- Core identification: black
- x = without protective conductor

PROPERTIES

- resistant to: oil, UV radiation, ozone, weathering effects
- abrasion-resistant, notch-resistant
- halogen-free
- the materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- reduced fire propagation, no release of corrosive and toxic gases, low smoke development

TESTS

- halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- bundle fire test acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22
- smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2
- oil-resistant acc. to DIN VDE 0473-811-404 / DIN EN 60811-404 / IEC 60811-404, IRM 902 4h at +70°C
- Certifications:
  6 - 240 mm²: DNV GL

APPLICATION

This cable is used as a generator connection cable in wind power plants and wherever a high current carrying capacity is required and a reduced outer diameter is beneficial due to limited installation space. Other areas of application: connection cable of thermal class B (130°C) for motors, transformers, relays, coils, magnets; power unit connections in the automotive industry; halogen-free wiring of switch and control cabinets; connecting cable for heating devices; supply cable for high-performance luminaires in industrial areas, sports facilities and traffic infrastructure; wiring of charging stations and pantographs within e-Mobility applications.

NOTES

- the conductor is metrically (mm²) constructed, AWG numbers are approximated, and are for reference only

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
75486	1 x 6	10	5.4	58.0	79.0
75487	1 x 10	8	6.8	96.0	156.0
75488	1 x 16	6	8.5	154.0	218.0
75489	1 x 25	4	10.3	240.0	331.0
75490	1 x 35	2	11.8	336.0	448.0
75491	1 x 50	1	13.9	480.0	632.0
75492	1 x 70	2/0	16.0	672.0	820.0

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
75493	1 x 95	3/0	17.3	912.0	1076.0
75494	1 x 120	4/0	20.0	1152.0	1392.0
75495	1 x 150	250 kcmil	22.1	1440.0	1788.0
71437	1 x 185	350 kcmil	24.8	1776.0	2106.3
75496	1 x 240	400 kcmil	27.7	2304.0	2749.0
706557	1 x 300	500 kcmil	30.0	2880.0	3910.0
706558	1 x 400	750 kcmil	38.7	3840.0	4870.0

HELUPOWER® THERMFLEX® 145-C

conductor stranded with optimal lay lengths, temperature-resistant, improved behaviour in case of fire, EMC-preferred type

TECHNICAL DATA

Sheathed single core cable

Temperature range	flexible -40°C to +120°C fixed -55°C to +145°C
Short circuit temperature at the conductor	+250°C
Nominal voltage	AC U_0/U 600/1000 V
Max. permissible operating voltage	alternating current (AC) conductor/earth 700 V three-phase alternating current (AC) conductor/conductor 1200 V direct current (DC) conductor/earth 900 V direct current (DC) conductor/conductor 1800 V
Test voltage	4000 V
Minimum bending radius	flexible 12.5x Outer-Ø fixed 4x Outer-Ø

CABLE STRUCTURE

- Copper wire tinned, finely stranded acc. to DIN VDE 0295 Class 5 / IEC 60228 Class 5
- Core insulation: cross-linked polyolefin
- Core identification: black
- x = without protective conductor
- Screen: braided screen of tinned copper wires, approx. coverage 85%
- Outer sheath: cross-linked polyolefin
- Sheath colour: black

PROPERTIES

- resistant to: oil, UV radiation, ozone, weathering effects
- abrasion-resistant, notch-resistant
- for outdoor use
- halogen-free
- the materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- reduced fire propagation, no release of corrosive and toxic gases, low smoke development

TESTS

- halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- bundle fire test acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22
- smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2
- oil-resistant acc. to DIN VDE 0473-811-404 / DIN EN 60811-404 / IEC 60811-404, IRM 902 4h at +70°C

APPLICATION

This cable is used as a generator connection cable in wind power plants and wherever a high current carrying capacity is required and a reduced outer diameter is beneficial due to limited installation space. Other areas of application: connection cable of thermal class B (130°C) for motors, transformers, relays, coils, magnets; power unit connections in the automotive industry; halogen-free wiring of switch and control cabinets; connecting cable for heating devices; supply cable for high-performance luminaires in industrial areas, sports facilities and traffic infrastructure; wiring of charging stations and pantographs within e-Mobility applications. EMC= Electromagnetic compatibility; to optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

NOTES

- the conductor is metrically (mm²) constructed, AWG numbers are approximated, and are for reference only

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
17001676	1 x 16	6	10.3	183.0	328.0
17001677	1 x 25	4	12.8	275.0	443.0
17001678	1 x 35	2	13.9	391.0	612.0
17001679	1 x 50	1	16.6	532.0	749.0
17001680	1 x 70	2/0	19.1	756.0	968.0
17001681	1 x 95	3/0	20.6	1030.0	1087.0

Part no.	No. cores x cross-sec. mm²	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
17001682	1 x 120	4/0	23.0	1289.0	1595.0
17001683	1 x 150	250 kcmil	25.6	1568.0	2033.0
17001684	1 x 185	350 kcmil	29.1	1941.0	2363.0
17001685	1 x 240	400 kcmil	33.1	2568.0	3099.0
17001686	1 x 300	500 kcmil	35.6	3147.0	4221.0

HELUWIND® WK (N)A2XH

0,6/1 kV, halogen-free

Technical data

- **Temperature range**
  fixed installation -40°C to +90°C
  during assembly -5°C to +50°C
- Permissible conductor **operating temperature** +90°C
- **Nominal voltage**
  U_0/U 0,6/1 V
- **Test voltage**
  4 kV
- **Approvals**
  production in acc. to VDE standards, CE compliant
- **Minimum bending radius**
  15x cable Ø
- **Flame test**
  IEC 60332-3-24,
  IEC 60332-1-2 cat. C
- **Smoke density**
  IEC 61034-1-2
- **Corrosivity of combustion gases**
  IEC 60754-2
- **Halogen-free**
  IEC 60754-1
- **Current carrying capacity**
  IEC 60364-5-52 Table B.52.13

Cable structure

- ALU conductors, stranded conductors acc. to IEC 60228 cl.2
- Core insulation: cross-linked PE
- Core identification: black
- Sheath: thermoplastic polymer
- Sheath colour: black

Properties

- Halogen-free
- UV resistant

Note

For more information, especially on custom cables and connectivity solutions, please contact us: wind@helukabel.de

Application

The HELUWIND® WK series was specifically designed for wind power applications. We supply the leading wind turbine manufacturers with our cables.
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	AL weight kg / km	Weight app. kg / km
712374	1 x 95	-	18,0	275,5	445,0
712589	1 x 150	-	20,0	435,0	950,0
705031	1 x 185	-	22,0	537,0	1100,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	AL weight kg / km	Weight app. kg / km
705032	1 x 240	-	25,0	696,0	1208,0
705033	1 x 300	-	28,5	870,0	1342,0
705034	1 x 400	-	32,0	1160,0	1843,0

Dimensions and specifications may be changed without prior notice.

HELUWIND® WK ALU Tower

0,6/1 kV

Technical data

- **Temperature range**
  flexing -25°C to +50°C
  fixed installation -40°C to +90°C
- Permissible conductor **operating temperature** +90°C
- **Nominal voltage**
  0,6/1 kV
- **Test voltage**
  4 kV
- **Minimum bending radius**
  15x cable Ø
- **Approvals**
  acc. to IEC 60502-1

Cable structure

- ALU stranded round shaped conductors (RM) acc. to IEC 60228 cl.2 (nv) annealed
- Insulation: EPR compound black
- Sheath: special PCP compound
- Sheath colour: black

Properties

- UV resistant
- Oil resistant

Note

For more information, especially on custom cables and connectivity solutions, please contact us: wind@helukabel.de

Application

For medium mechanical stress in dry, damp and wet environments; for outdoor use; particularly as a power cable in wind turbines, for fixed installation in the tower or lattice tower. Due to the special cable structure, and outer sheath, this cable provides a better flexibility than standard cables (NAYY-NA2XY-NA2XH). Thanks to its increased flexibility, this cable is perfectly suited for connecting wind turbines and external substations (pipes). The cable is also available with a rated voltage of 1,8/3 kV.

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

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	AL weight kg / km	Weight app. kg / km
708470	1 x 150	-	23,0	435,0	790,0
708471	1 x 185	-	26,0	537,0	960,0
709957	1 x 240	-	25,0	696,0	1100,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	AL weight kg / km	Weight app. kg / km
708473	1 x 300	-	29,0	870,0	1342,0
708474	1 x 400	-	31,4	1160,0	1843,0

Dimensions and specifications may be changed without prior notice.

HELUWIND® WK ALU Blade

lightning protection, rotor blades

Technical data

- **Temperature range**
  fixed installation -40°C to +80°C
- **Nominal voltage**
  0,6/1 kV
- **Test voltage**
  4 kV
- **Minimum bending radius**
  fixed installation 15x cable Ø

Cable structure

- Aluminium conductor, with special conductor construction
- Special insulation compound
- Sheath colour: black

Properties

- Oil resistant
- UV resistant

Note

For more information, especially on custom cables and connectivity solutions, please contact us: wind@helukabel.de

Application

This lightning protection cable is suitable for limited flexible applications despite its multi-stranding (class 2) aluminium conductor. This cable can be used in rotor blades of wind turbines.

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

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	AL weight kg / km	Weight app. kg / km
706576	1 x 50	-	12,1	160,0	376,0
706577	1 x 70	-	13,7	224,0	491,0

Dimensions and specifications may be changed without prior notice.

HELUWIND® WK POWERLINE Blade Copper 0,6/1 kV

lightning protection

RoHS

Technical data

- **Temperature range**

fixed installation -40°C to +80°C

- **Nominal voltage**

0,6/1 kV (50 Hz)

- **Test voltage**

4 kV (50 Hz)

- **Min. bending radius**

fixed installation 4 x cable Ø

Cable structure

- Bare Copper conductor RM
- Special insulation compound
- Sheath colour: black

Properties

- oil resistant
- UV-resistant

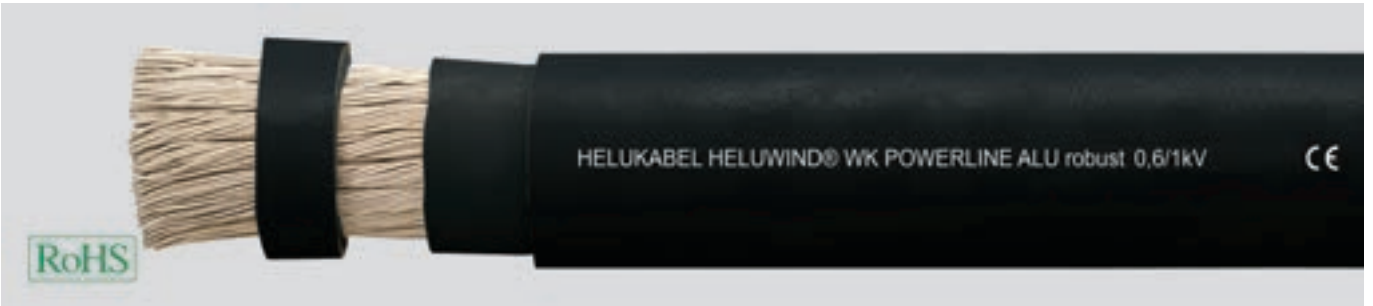
Application

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

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
708678	1 x 50	-	12,1	480,0	690,0
708679	1 x 70	-	13,7	672,0	1050,0

HELUWIND® WK POWERLINE ALU robust

0,6/1 kV, flexible ALU-Conductor



Technical data

- **Temperature range**
  flexing -20°C to +90°C
  fixed installation -40°C to +105°C
- Permissible conductor **operating temperature** +105°C up to 3000h
- **Nominal voltage**
  0,6/1 kV
- **Test voltage**
  4 kV
- **Minimum bending radius**
  flexing 10x cable Ø
  fixed installation 4x cable Ø
- **Flame test**
  IEC 60332-1-2
- **Approvals**
  acc. to DIN VDE 0250-813
  UL/CSA in preparation

Cable structure

- Aluminium conductor, fine stranded wires
- Special insulation black
- Sheath: special compound
- Sheath colour: black

Properties

- Extremely abraison resistant
- UV resistant
- Oil resistant
- Easy to assemble
- Recyclable

Note

For more information, especially on custom cables and connectivity solutions, please contact us: wind@helukabel.de

Application

The WK POWERLINE ALU robust is a highly flexible aluminium cable with a finely stranded structure and is designed for use in the power engineering sector; specifically, for power cabling in wind power plants. An essential advantage of the WK POWERLINE ALU series is the highly mechanical resistance of the outer sheath. Thanks to its high degree of flexibility and low tare weight, this cable can be fed in the tower in one length. This eliminates the need for time-consuming cabling of each individual tower segment. However, its key advantage lies in the process reliability the connection technology offers: using this cable can reduce the number of interruptions between the topmost tower segment and the converter from 90 connection points to just 18 (depending on the number of power cables and tower segments). The amount of time required for installation can drop from several days to a few hours. For torsion applications, we recommend the WK 103-Torsion, WK 135-Torsion or WK 137-Torsion.

The HELUWIND® WK POWERLINE ALU may only be used with certified connection technology from HELUKABEL®. This includes C8 crimp connections and screwed connections; both described in the "Connection Technology" section and tested in accordance with IEC 61238-1 cl. A.

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

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	AL weight kg / km	Weight app. kg / km
707097	1 x 70	-	17,4	206,0	460,0
707098	1 x 95	-	17,9	280,0	536,0
707099	1 x 120	-	20,6	355,0	576,0
707100	1 x 150	-	22,4	441,0	665,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	AL weight kg / km	Weight app. kg / km
707101	1 x 185	-	24,5	544,0	950,0
707102	1 x 240	-	28,1	706,0	1150,0
707103	1 x 300	-	31,4	882,0	1398,0
707104	1 x 400	-	36,7	1176,0	1588,0

Dimensions and specifications may be changed without prior notice.

HELUWIND® WK POWERLINE ALU

1,8/3 kV, flexible ALU-Conductor, direct burial

Technical data

- **Temperature range**
  flexing -20°C to +90°C
  fixed installation -40°C to +105°C
- Permissible conductor **operating temperature** +105°C up to 3000h
- **Nominal voltage**
  1,8/3 kV
- **Test voltage**
  9 kV
- **Minimum bending radius**
  flexing 10x cable Ø
  fixed installation 4x cable Ø
- **Flame test**
  IEC 60332-1-2
- **Approvals**
  in accordance DIN VDE 0250-813

Cable structure

- Aluminium conductor, fine stranded wires
- Special insulation black
- Sheath: special compound
- Sheath colour: black

Properties

- UV resistant
- Oil resistant
- Easy to assemble
- Recyclable
- Direct burial

Note

For more information, especially on custom cables and connectivity solutions, please contact us: wind@helukabel.de

Application

The HELUWIND® WK POWERLINE ALU is a highly flexible, aluminium cable with a finely stranded structure and is designed for use in the power engineering sector, specifically for power cabling in industrial applications. Thanks to its high level of flexibility and reduced weight, this cable is an interesting option compared to fine-stranded copper cables in many applications.

The HELUWIND® WK POWERLINE ALU series unlocks its full potential, when it comes to power wiring of wind power plants. Due to its low weight, cables can be fed through the tower in one length. This eliminates the need for the time-consuming cabling of individual tower segments. However, the key benefit is an increased reliability of the connection technology: The number of interruptions between the topmost tower segment and the converter can be reduced from 90 connection points to just 18 (depending on the number of power cables and tower segments). As a result, the amount of time required for installation can drop from several days, to a few hours. For torsion applications, we recommend the HELUWIND® WK 103-Torsion, WK 135-Torsion or WK 137-Torsion.

The HELUWIND® WK POWERLINE ALU may only be used with certified connection technology from HELUKABEL®. This includes C8 crimp connections and screwed connections; both described in the "Connection Technology" section and tested in accordance with IEC 61238-1 cl. A.

The cable is also available in a halogen-free design, with UL/CSA approval, and a rated voltage of 0.6/1 kV. The "robust" version features a high abrasion and mechanical load resistant PUR sheath.
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	AL weight kg / km	Weight app. kg / km
707647	1 x 185	-	26,0	544,0	1020,0
706578	1 x 240	-	30,3	706,0	1250,0
707432	1 x 300	-	33,2	882,0	1520,0
707648	1 x 400	-	37,4	1176,0	1855,0

Dimensions and specifications may be changed without prior notice.

HELUWIND® WK POWERLINE ALU robust

1,8/3 kV, flexible ALU-Conductor

Technical data

- **Temperature range**
  flexing -20°C to +90°C
  fixed installation -40°C to +105°C
- Permissible conductor **operating temperature** +105°C up to 3000h
- **Nominal voltage**
  1,8/3 kV
- **Test voltage**
  9 kV
- **Minimum bending radius**
  flexing 10x cable Ø
  fixed installation 4x cable Ø
- **Flame test**
  IEC 60332-1-2
- **Approvals**
  in accordance DIN VDE 0250-813

Cable structure

- Aluminium conductor, fine stranded wires
- Special insulation black
- Sheath: special compound
- Sheath colour: black

Properties

- Extremely abraison resistant
- UV resistant
- Oil resistant
- Easy to assemble
- Recyclable

Note

For more information, especially on custom cables and connectivity solutions, please contact us: wind@helukabel.de

Application

The HELUWIND® WK POWERLINE ALU robust is a highly flexible, aluminium cable with a finely stranded structure and is designed for use in the power engineering sector, specifically for power cabling in industrial applications. Thanks to its high level of flexibility and reduced weight, this cable is an interesting option compared to fine-stranded copper cables in many applications.

The HELUWIND® WK POWERLINE ALU series unlocks its full potential, when it comes to power wiring of wind power plants. Due to its low weight, cables can be fed through the tower in one length. This eliminates the need for the time-consuming cabling of individual tower segments. However, the key benefit is an increased reliability of the connection technology: The number of interruptions between the topmost tower segment and the converter can be reduced from 90 connection points to just 18 (depending on the number of power cables and tower segments). As a result, the amount of time required for installation can drop from several days, to a few hours. For torsion applications, we recommend the HELUWIND® WK 103-Torsion, WK 135-Torsion or WK 137-Torsion.

The HELUWIND® WK POWERLINE ALU may only be used with certified connection technology from HELUKABEL®. This includes C8 crimp connections and screwed connections; both described in the "Connection Technology" section and tested in accordance with IEC 61238-1 Cl. A.

The cable is also available in a halogen-free design, with UL/CSA approval, and a rated voltage of 0,6/1 kV. The "robust" version features a high abrasion and mechanical load resistant PUR sheath.

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

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	AL weight kg / km	Weight app. kg / km
707692	1 x 185	-	26,0	544,0	1020,0
707693	1 x 240	-	28,4	706,0	1250,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	AL weight kg / km	Weight app. kg / km
707694	1 x 300	-	33,2	882,0	1520,0
707695	1 x 400	-	38,1	1176,0	1855,0

Dimensions and specifications may be changed without prior notice.

HELUWIND® WK POWERLINE ALU halogen-free

1,8/3 kV, flexible ALU-Conductor

Technical data

- **Temperature range**
  flexing -20°C to +90°C
  fixed installation -40°C to +105°C
- Permissible conductor **operating temperature** +105°C up to 3000h
- **Nominal voltage**
  1,8/3 kV
- **Test voltage**
  9 kV
- **Minimum bending radius**
  flexing 10x cable Ø
  fixed installation 4x cable Ø
- **Approvals**
  in accordance DIN VDE 0250-813

Cable structure

- Aluminium conductor, fine stranded wires
- Special insulation black
- Sheath: special compound
- Sheath colour: black

Properties

- Halogen-free
- Abraison resistant
- UV resistant
- Oil resistant
- Easy to assemble
- Recyclable

Note

For more information, especially on custom cables and connectivity solutions, please contact us: wind@helukabel.de

Application

The HELUWIND® WK POWERLINE ALU halogen-free is a highly flexible, aluminium cable with a finely stranded structure and is designed for use in the power engineering sector, specifically for power cabling in industrial applications. Thanks to its high level of flexibility and reduced weight, this cable is an interesting option compared to fine-stranded copper cables in many applications.

The HELUWIND® WK POWERLINE ALU series unlocks its full potential, when it comes to power wiring of wind power plants. Due to its low weight, cables can be fed through the tower in one length. This eliminates the need for the time-consuming cabling of individual tower segments. However, the key benefit is an increased reliability of the connection technology: The number of interruptions between the topmost tower segment and the converter can be reduced from 90 connection points to just 18 (depending on the number of power cables and tower segments). As a result, the amount
of time required for installation can drop from several days, to a few hours. For torsion applications, we recommend the HELUWIND® WK 103-Torsion, WK 135-Torsion or WK 137-Torsion.

The HELUWIND® WK POWERLINE ALU may only be used with certified connection technology from HELUKABEL®. This includes C8 crimp connections and screwed connections; both described in the "Connection Technology" section and tested in accordance with IEC 61238-1 cl. A.

The cable is also available with UL/CSA approval.
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	AL weight kg / km	Weight app. kg / km
709143	1 x 185	-	26,0	544,0	1020,0
709144	1 x 240	-	28,4	706,0	1150,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	AL weight kg / km	Weight app. kg / km
709145	1 x 300	-	33,2	882,0	1400,0
709146	1 x 400	-	38,1	1176,0	1680,0

Dimensions and specifications may be changed without prior notice.

HELUWIND® WK RHH/RHW-2 ALU

UL listed as types RHW/RHW-2. RW90/R90, FT4 per CSA

Technical data

- **Temperature range**
  flexing -40°C to +90°C (wet & dry)
- **Nominal voltage**
  2000 V
- **Approvals**
  UL 44 for Thermoset-Insulated Wires and Cables
  ICEA S-95-658 / NEMA WC70 for Non-shielded 0-2 kV Cables
  All cross sections are rated VW1 (fire protection classification)

Cable structure

- **Conductor:**
  - Aluminium AA-8000 alloy compacted conductor
  - Class B stranding, per ASTM B801
  - Sizes: 6 AWG - 1000 kcmil
- **Insulation:**
  - Flame retardant thermoset ethylene propylene rubber (EPR) compound
- **Sheath:**
  - Black flame retardant thermoset chlorinated polyethylene (CPE) compound

Properties

- Sheath is rated Oil Resistance I or II per UL 44
- Rated Sun Resistance for CT use, 1/0 AWG and larger

Note

- **RHH/RHW-2 600 V on request** For more information, especially on custom cables and connectivity solutions, please contact us: wind@helukabel.de

Application

For power, lighting, signal and control circuits installed in wet or dry locations. In conduit, duct, tray, and open air, and aerial installations. Suitable for use in industrial areas, fixed installation in wind turbines and utility systems where flame resistance is essential.

Part no.	Cross-section AWG / kcmil	Outer Ø app. mm	Weight app. kg / km	Outer Ø app. inch	Weight app. lb / kft
708746	6	8,9	0,0	0,35	71,0
708747	4	9,9	0,0	0,39	91,0
708748	2	11,4	0,0	0,45	124,0
708749	1	13,7	0,0	0,54	174,0
708750	1/0	14,5	0,0	0,57	202,0
708751	2/0	15,5	0,0	0,61	238,0
708752	3/0	16,8	0,0	0,66	281,0
708753	4/0	18,0	0,0	0,71	335,0

Part no.	Cross-section AWG / kcmil	Outer Ø app. mm	Weight app. kg / km	Outer Ø app. inch	Weight app. lb / kft
708754	250 kcmil	20,8	0,0	0,82	429,0
712222	300 kcmil	22,1	0,0	0,87	491,0
712223	350 kcmil	23,4	0,0	0,92	552,0
712224	400 kcmil	24,4	0,0	0,96	612,0
712225	500 kcmil	26,4	0,0	1,04	729,0
712226	600 kcmil	29,2	0,0	1,15	878,0
712227	750 kcmil	31,5	0,0	1,24	1052,0
712228	1000 kcmil	35,2	0,0	0,00	1338,0

Dimensions and specifications may be changed without prior notice.

N2XS2Y 6/10 kV, 12/20 kV, 18/30 kV

XLPE-insulated, Cu-conductor, single core, screened, PE-sheath

Technical data

- XLPE-insulated power cables acc.to DIN VDE 0276 part 620, HD 620 S2 and IEC 60502
- **Temperature range** during installation up to -20°C
- **Operating temperature** max. +90°C
- **Short circuit temperature** +250°C (short circuit duration max. 5 s)
- **Nominal voltage** U_0/U 6/10 kV, 12/20 kV, 18/30 kV
- **Operating voltage**, 50 Hz for 6/10 kV = max. 12 kV for 12/20 kV = max. 24 kV for 18/30 kV = max. 36 kV
- **Test voltage** for 6/10 kV = 21 kV for 12/20 kV = 42 kV for 18/30 kV = 63 kV
- **Minimum bending radius** 15x cable Ø
- **Power rating** see "Technical Informations"

Cable structure

- Bare copper conductor, to DIN VDE 0295 cl.2, multi-wire, BS 6360 cl.2, IEC 60228 cl.2
- Inner semi-conducting coating
- Core insulation of cross-linked polyethylene (XLPE), compound type DIX8 to HD 620 S2
- Outer conductive layer extruded and permanently welded with the core insulation
- Conductive wrapping
- Screen: Braiding of copper wires with one or two tapes applied helically
- Wrapping
- Outer sheath of PE compound type DMP2 to HD 620 S2
- Sheath colour: black

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- **Installation notes** To guarantee an optimum on operating reliability the extruded semi-conductive layer is spliced with the insulation for long duration. For this reason we recommend a peeling tool for installation

Note

- rm = round conductor, multi-wire
- Further dimensions available on request.
- AWG sizes are approximate equivalent values. The actual cross section is in mm².

Application

Suitable for indoor installation and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switch-boards and power stations. The PE-outer sheath is resistant to high mechanical stress for laying the cables. This PE-sheath is not flame retardant acc. to DIN EN 60332-1-2. The inner conducting layer between the conductor and the XLPE insulation and the firmly bonded outer conducting layer on the XLPE insulation assures a construction free of partial discharges with high operational reliability.

Part no.	No.cores x cross-sec. mm²	Operation voltage max.	Nominal voltage kV	Insulation thickness mm	Sheath thickness Nominal value mm	Outer Ø min. - max. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
32480	1 x 35 rm / 16	12	6 / 10	3,4	2,5	23,0 - 28,0	518,0	910,0	2
32481	1 x 50 rm / 16	12	6 / 10	3,4	2,5	24,0 - 29,0	662,0	990,0	1
32482	1 x 70 rm / 16	12	6 / 10	3,4	2,5	26,0 - 31,0	854,0	1205,0	2/0
32483	1 x 95 rm / 16	12	6 / 10	3,4	2,5	26,0 - 32,0	1098,0	1520,0	3/0
32484	1 x 120 rm / 16	12	6 / 10	3,4	2,5	28,0 - 34,0	1334,0	1760,0	4/0
32485	1 x 150 rm / 16	12	6 / 10	3,4	2,5	29,0 - 35,0	1622,0	2020,0	300 kcmil
32486	1 x 150 rm / 25	12	6 / 10	3,4	2,5	29,0 - 35,0	1725,0	2130,0	300 kcmil
32487	1 x 185 rm / 16	12	6 / 10	3,4	2,5	31,0 - 37,0	1958,0	2360,0	350 kcmil
32488	1 x 185 rm / 25	12	6 / 10	3,4	2,5	31,0 - 37,0	2059,0	2470,0	350 kcmil
32489	1 x 240 rm / 16	12	6 / 10	3,4	2,5	33,0 - 39,0	2486,0	2960,0	500 kcmil
32490	1 x 240 rm / 25	12	6 / 10	3,4	2,5	33,0 - 39,0	2587,0	3020,0	500 kcmil
32491	1 x 300 rm / 25	12	6 / 10	3,4	2,5	36,0 - 41,0	3163,0	3630,0	600 kcmil
32492	1 x 400 rm / 35	12	6 / 10	3,4	2,5	40,0 - 45,0	4234,0	4560,0	750 kcmil
32493	1 x 500 rm / 35	12	6 / 10	3,4	2,5	43,0 - 48,0	5194,0	5580,0	1000 kcmil
32494	1 x 35 rm / 16	24	12 / 20	5,5	2,5	27,0 - 32,0	518,0	960,0	2
32495	1 x 50 rm / 16	24	12 / 20	5,5	2,5	28,0 - 33,0	662,0	1160,0	1
32496	1 x 70 rm / 16	24	12 / 20	5,5	2,5	30,0 - 35,0	854,0	1410,0	2/0
32497	1 x 95 rm / 16	24	12 / 20	5,5	2,5	31,0 - 36,0	1094,0	1670,0	3/0
32498	1 x 120 rm / 16	24	12 / 20	5,5	2,5	33,0 - 38,0	1334,0	1960,0	4/0
32499	1 x 150 rm / 16	24	12 / 20	5,5	2,5	34,0 - 39,0	1622,0	2220,0	300 kcmil
32500	1 x 150 rm / 25	24	12 / 20	5,5	2,5	34,0 - 39,0	1723,0	2310,0	300 kcmil
32501	1 x 185 rm / 16	24	12 / 20	5,5	2,5	36,0 - 41,0	1958,0	2620,0	350 kcmil
32502	1 x 185 rm / 25	24	12 / 20	5,5	2,5	36,0 - 41,0	2059,0	2670,0	350 kcmil
32503	1 x 240 rm / 16	24	12 / 20	5,5	2,5	39,0 - 44,0	2486,0	3160,0	500 kcmil
32504	1 x 240 rm / 25	24	12 / 20	5,5	2,5	39,0 - 44,0	2587,0	3270,0	500 kcmil
32505	1 x 300 rm / 25	24	12 / 20	5,5	2,5	41,0 - 46,0	3163,0	3880,0	600 kcmil
32506	1 x 400 rm / 35	24	12 / 20	5,5	2,5	44,0 - 49,0	4234,0	4820,0	750 kcmil
32507	1 x 500 rm / 35	24	12 / 20	5,5	2,5	47,0 - 52,0	5194,0	5860,0	1000 kcmil

Continuation ▸

N2XS2Y 6/10 kV, 12/20 kV, 18/30 kV

XLPE-insulated, Cu-conductor, single core, screened, PE-sheath

Part no.	No.cores x cross-sec. mm²	Operation voltage max.	Nominal voltage kV	Insulation thickness mm	Sheath thickness Nominal value mm	Outer Ø min. - max. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
32508	1 x 50 rm / 16	36	18 / 30	8	2,5	32,0 - 38,0	662,0	1410,0	1
32509	1 x 70 rm / 16	36	18 / 30	8	2,5	34,0 - 40,0	854,0	1660,0	2/0
32510	1 x 95 rm / 16	36	18 / 30	8	2,5	35,0 - 41,0	1094,0	1970,0	3/0
32511	1 x 120 rm / 16	36	18 / 30	8	2,5	37,0 - 43,0	1334,0	2220,0	4/0
32512	1 x 150 rm / 25	36	18 / 30	8	2,5	38,0 - 44,0	1723,0	2650,0	300 kcmil
32513	1 x 185 rm / 25	36	18 / 30	8	2,5	40,0 - 46,0	2059,0	2980,0	350 kcmil
32514	1 x 240 rm / 25	36	18 / 30	8	2,5	42,0 - 48,0	2587,0	3570,0	500 kcmil
32515	1 x 300 rm / 25	36	18 / 30	8	2,5	45,0 - 51,0	3163,0	4220,0	600 kcmil
32516	1 x 400 rm / 35	36	18 / 30	8	2,5	48,0 - 54,0	4234,0	5170,0	750 kcmil
32517	1 x 500 rm / 35	36	18 / 30	8	2,5	51,0 - 57,0	5194,0	6260,0	1000 kcmil

Dimensions and specifications may be changed without prior notice. (RQ03)

N2XS(F)2Y 6/10 kV, 12/20 kV, 18/30 kV

XLPE-insulated, Cu-conductor, single core, longitudinally watertight, screened, PE-sheath

Technical data

- XLPE-insulated power cables acc.to DIN VDE 0276 part 620, HD 620 S2 and IEC 60502
- **Temperature range** during installation up to -20°C
- **Operating temperature** max. +90°C
- **Short circuit temperature** +250°C (short circuit duration max. 5 s)
- **Nominal voltage** U_0/U 6/10 kV, 12/20 kV, 18/30 kV
- **Operating voltage**, 50 Hz for 6/10 kV = max. 12 kV for 12/20 kV = max. 24 kV for 18/30 kV = max. 36 kV
- **Test voltage** for 6/10 kV = 21 kV for 12/20 kV = 42 kV for 18/30 kV = 63 kV
- **Minimum bending radius** 15x cable Ø
- **Power rating** see "Technical Infromations"

Cable structure

- Bare copper conductor, to DIN VDE 0295 cl.2, multi-wire, BS 6360 cl.2, IEC 60228 cl.2
- Inner semi-conducting coating
- Core insulation of cross-linked polyethylene (XLPE), compound type DIX8 to HD 620 S2
- Outer conductive layer extruded and permanently welded with the core insulation
- Longitudinally watertight, conductive wrapping
- Screen: Braiding of copper wires with one or two tapes applied helically
- Longitudinally water-tight wrapping
- Outer sheath of PE compound type DMP2 to HD 620 S2
- Sheath colour: black

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- **Installation notes** To guarantee an optimum on operating reliability the extruded semi-conductive layer is spliced with the insulation for long duration. For this reason we recommend a peeling tool for installation

Note

- rm = round conductor, multi-wire
- Further types and dimensions on request.
- AWG sizes are approximate equivalent values. The actual cross section is in mm².

Application

Suitable for indoor installation and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switch-boards and power stations. The PE-outer sheath is resistant to high mechanical stress for laying the cables. This PE sheath is not flame retardant acc. to DIN EN 60332-1-2. The inner conducting layer between the conductor and the XLPE insulation and the firmly bonded outer conducting layer on the XLPE insulation assures a construction free of partial discharges with high operational reliability.

Part no.	No.cores x cross-sec. mm²	Operation voltage max.	Nominal voltage kV	Insulation thickness mm	Screen cross-sec. mm²	Sheath thickness Nominal value mm	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
32560	1 x 35 rm / 16	12	6 / 10	3,4	16	2,5	26,0	518,0	1050,0	2
32561	1 x 50 rm / 16	12	6 / 10	3,4	16	2,5	28,0	662,0	1150,0	1
32562	1 x 70 rm / 16	12	6 / 10	3,4	16	2,5	30,0	854,0	1460,0	2/0
32563	1 x 95 rm / 16	12	6 / 10	3,4	16	2,5	31,0	1094,0	1700,0	3/0
32564	1 x 120 rm / 16	12	6 / 10	3,4	16	2,5	32,0	1334,0	2030,0	4/0
32565	1 x 150 rm / 25	12	6 / 10	3,4	25	2,5	34,0	1723,0	2350,0	300 kcmil
32566	1 x 185 rm / 25	12	6 / 10	3,4	25	2,5	36,0	2059,0	2700,0	350 kcmil
32567	1 x 240 rm / 25	12	6 / 10	3,4	25	2,5	38,0	2587,0	3300,0	500 kcmil
32568	1 x 300 rm / 25	12	6 / 10	3,4	25	2,5	40,0	3163,0	3900,0	600 kcmil
32569	1 x 400 rm / 35	12	6 / 10	3,4	35	2,5	44,0	4234,0	4850,0	750 kcmil
32570	1 x 500 rm / 35	12	6 / 10	3,4	35	2,5	47,0	5194,0	6000,0	1000 kcmil
79954	1 x 630 rm / 35	12	6 / 10	3,4	35	2,5	49,0	6442,0	7020,0	1250 kcmil
32571	1 x 35 rm / 16	24	12 / 20	5,5	16	2,5	31,0	518,0	1210,0	2
32572	1 x 50 rm / 16	24	12 / 20	5,5	16	2,5	33,0	662,0	1400,0	1
32573	1 x 70 rm / 16	24	12 / 20	5,5	16	2,5	34,0	854,0	1550,0	2/0
32574	1 x 95 rm / 16	24	12 / 20	5,5	16	2,5	36,0	1094,0	1800,0	3/0
32575	1 x 120 rm / 16	24	12 / 20	5,5	16	2,5	37,0	1334,0	2150,0	4/0
32576	1 x 150 rm / 25	24	12 / 20	5,5	25	2,5	39,0	1723,0	2400,0	300 kcmil
32577	1 x 185 rm / 25	24	12 / 20	5,5	25	2,5	41,0	2059,0	2850,0	350 kcmil
32578	1 x 240 rm / 25	24	12 / 20	5,5	25	2,5	43,0	2587,0	3250,0	500 kcmil
32579	1 x 300 rm / 25	24	12 / 20	5,5	25	2,5	45,0	3163,0	3850,0	600 kcmil
32580	1 x 400 rm / 35	24	12 / 20	5,5	35	2,5	48,0	4234,0	4900,0	750 kcmil
32581	1 x 500 rm / 35	24	12 / 20	5,5	35	2,5	52,0	5194,0	6100,0	1000 kcmil
33092	1 x 630 rm / 35	24	12 / 20	5,5	35	2,5	54,0	6442,0	7340,0	1250 kcmil

Continuation ▸

N2XS(F)2Y 6/10 kV, 12/20 kV, 18/30 kV

XLPE-insulated, Cu-conductor, single core, longitudinally watertight, screened, PE-sheath

Part no.	No.cores x cross-sec. mm²	Operation voltage max.	Nominal voltage kV	Insulation thickness mm	Screen cross-sec. mm²	Sheath thickness Nominal value mm	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
32582	1 x 50 rm / 16	36	18 / 30	8	16	2,5	37,0	662,0	1700,0	1
32583	1 x 70 rm / 16	36	18 / 30	8	16	2,5	38,0	854,0	1950,0	2/0
32584	1 x 95 rm / 16	36	18 / 30	8	16	2,5	40,0	1094,0	2300,0	3/0
32585	1 x 120 rm / 16	36	18 / 30	8	16	2,5	42,0	1334,0	2600,0	4/0
32586	1 x 150 rm / 25	36	18 / 30	8	25	2,5	43,0	1723,0	3000,0	300 kcmil
32587	1 x 185 rm / 25	36	18 / 30	8	25	2,5	45,0	2059,0	3350,0	350 kcmil
32588	1 x 240 rm / 25	36	18 / 30	8	25	2,5	47,0	2587,0	4100,0	500 kcmil
32589	1 x 300 rm / 25	36	18 / 30	8	25	2,5	50,0	3163,0	4800,0	600 kcmil
32590	1 x 400 rm / 35	36	18 / 30	8	35	2,5	53,0	4234,0	5750,0	750 kcmil
32591	1 x 500 rm / 35	36	18 / 30	8	35	2,5	56,0	5194,0	6700,0	1000 kcmil
708487	1 x 630 rm / 35	36	18 / 30	8	35	2,5	59,0	6442,0	7760,0	1250 kcmil

Dimensions and specifications may be changed without prior notice. (RQ03)

N2XS(FL)2Y 6/10 kV, 12/20 kV, 18/30 kV

XLPE-insulated, Cu-conductor, single core, screened, longitudinally and crosswise watertight, PE-sheath

Technical data

- XLPE-insulated power cables acc. to DIN VDE 0276 part 620, HD 620 S2 and IEC 60502
- **Temperature range** during installation up to -20°C
- **Operating temperature** max. +90°C
- **Short circuit temperature** +250°C (short circuit duration max. 5 s)
- **Nominal voltage** U_0/U 6/10 kV, 12/20 kV, 18/30 kV
- **Operating voltage**, 50 Hz for 6/10 kV = max. 12 kV for 12/20 kV = max. 24 kV for 18/30 kV = max. 36 kV
- **Test voltage** for 6/10 kV = 21 kV for 12/20 kV = 42 kV for 18/30 kV = 63 kV
- **Minimum bending radius** 15x cable Ø
- **Power ratings** see "Technical Infromations"

Cable structure

- Bare copper conductor, to DIN VDE 0295 cl.2, multi-wire, BS 6360 cl.2, IEC 60228 cl.2
- Inner semi-conducting coating
- Core insulation of cross-linked polyethylene (XLPE), compound type DIX8 to HD 620 S2
- Outer conductive layer extruded and permanently welded with the core insulation
- Longitudinally watertight, conductive wrapping
- Screen: Braiding of copper wires with one or two tapes applied helically
- Longitudinally watertight wrapping
- Aluminium tape spliced with PE sheath
- Outer sheath of PE compound type DMP2 to HD 620 S2
- Sheath colour: black

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- **Installation notes** To guarantee an optimum on operating reliability the extruded semi-conductive layer is spliced with the insulation for long duration. For this reason we recommend a peeling tool for installation

Note

- rm = round conductor, multi-wire
- Further types and dimensions on request.
- AWG sizes are approximate equivalent values. The actual cross section is in mm².

Application

Installation primarily for power utility grids and in cable ducts, outdoors, underground and in water, and also on pallets for manufacturing plants, switchgear and power stations. The resistant Al/PE-laminated sheathing acts as a cross water barrier. It inhibits the diffusion of water. In case of sheathing damage, water impact is contained at the flaw. The cable can be severely mechanically stressed during installation and operation. The PE sheathing is not flame-retardant to DIN EN 60332-1-2. The internal conductive layer between conductor and VPE insulation and the adherent external conductive layer on the VPE insulation guarantees a design with high operational safety and no partial discharge.

Part no.	No.cores x cross-sec. mm²	Operation voltage max.	Nominal voltage kV	Insulation thickness mm	Screen cross-sec. mm²	Sheath thickness Nominal value mm	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
33054	1 x 35 rm / 16	12	6 / 10	3,4	16	2,5	28,0	518,0	860,0	2
33055	1 x 50 rm / 16	12	6 / 10	3,4	16	2,5	30,0	662,0	1000,0	1
33056	1 x 70 rm / 16	12	6 / 10	3,4	16	2,5	32,0	854,0	1350,0	2/0
33057	1 x 95 rm / 16	12	6 / 10	3,4	16	2,5	33,0	1094,0	1680,0	3/0
33058	1 x 120 rm / 16	12	6 / 10	3,4	16	2,5	34,0	1334,0	2070,0	4/0
33059	1 x 150 rm / 25	12	6 / 10	3,4	25	2,5	36,0	1723,0	2350,0	300 kcmil
33060	1 x 185 rm / 25	12	6 / 10	3,4	25	2,5	38,0	2059,0	2710,0	350 kcmil
33061	1 x 240 rm / 25	12	6 / 10	3,4	25	2,5	40,0	2587,0	3260,0	500 kcmil
38049	1 x 300 rm / 25	12	6 / 10	3,4	25	2,5	42,0	3163,0	3850,0	600 kcmil
38050	1 x 400 rm / 35	12	6 / 10	3,4	35	2,5	46,0	4234,0	4740,0	750 kcmil
38051	1 x 500 rm / 35	12	6 / 10	3,4	35	2,5	49,0	5194,0	5800,0	1000 kcmil
38052	1 x 630 rm / 35	12	6 / 10	3,4	35	2,5	51,0	6442,0	7120,0	1250 kcmil
38053	1 x 35 rm / 16	24	12 / 20	5,5	16	2,5	33,0	518,0	1020,0	2
33066	1 x 50 rm / 16	24	12 / 20	5,5	16	2,5	35,0	662,0	1170,0	1
33067	1 x 70 rm / 16	24	12 / 20	5,5	16	2,5	36,0	854,0	1470,0	2/0
33083	1 x 95 rm / 16	24	12 / 20	5,5	16	2,5	38,0	1094,0	1860,0	3/0
33069	1 x 120 rm / 16	24	12 / 20	5,5	16	2,5	39,0	1334,0	2260,0	4/0
33070	1 x 150 rm / 25	24	12 / 20	5,5	25	2,5	41,0	1723,0	2550,0	300 kcmil
33071	1 x 185 rm / 25	24	12 / 20	5,5	25	2,5	43,0	2059,0	2920,0	350 kcmil
33072	1 x 240 rm / 25	24	12 / 20	5,5	25	2,5	45,0	2587,0	3490,0	500 kcmil
33073	1 x 300 rm / 25	24	12 / 20	5,5	25	2,5	47,0	3163,0	4090,0	600 kcmil
33074	1 x 400 rm / 35	24	12 / 20	5,5	35	2,5	50,0	4234,0	5010,0	750 kcmil
33075	1 x 500 rm / 35	24	12 / 20	5,5	35	2,5	54,0	5194,0	6090,0	1000 kcmil
38054	1 x 630 rm / 35	24	12 / 20	5,5	35	2,5	55,0	6442,0	7440,0	1250 kcmil

Continuation ▸

N2XS(FL)2Y 6/10 kV, 12/20 kV, 18/30 kV

XLPE-insulated, Cu-conductor, single core, screened, longitudinally and crosswise watertight, PE-sheath

Part no.	No.cores x cross-sec. mm²	Operation voltage max.	Nominal voltage kV	Insulation thickness mm	Screen cross-sec. mm²	Sheath thickness Nominal value mm	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
34312	1 x 50 rm / 16	36	18 / 30	8	16	2,5	36,0	662,0	1400,0	1
38055	1 x 70 rm / 16	36	18 / 30	8	16	2,5	40,0	854,0	1710,0	2/0
38056	1 x 95 rm / 16	36	18 / 30	8	16	2,5	42,0	1094,0	2110,0	3/0
38057	1 x 120 rm / 16	36	18 / 30	8	16	2,5	44,0	1334,0	2520,0	4/0
38058	1 x 150 rm / 25	36	18 / 30	8	25	2,5	45,0	1723,0	2830,0	300 kcmil
34313	1 x 185 rm / 25	36	18 / 30	8	25	2,5	47,0	2059,0	3210,0	350 kcmil
38059	1 x 240 rm / 25	36	18 / 30	8	25	2,5	49,0	2587,0	3790,0	500 kcmil
34314	1 x 300 rm / 25	36	18 / 30	8	25	2,5	52,0	3163,0	4430,0	600 kcmil
34315	1 x 400 rm / 35	36	18 / 30	8	35	2,5	55,0	4234,0	5390,0	750 kcmil
38060	1 x 500 rm / 35	36	18 / 30	8	35	2,5	58,0	5194,0	6500,0	1000 kcmil
38061	1 x 630 rm / 35	36	18 / 30	8	35	2,5	60,0	6442,0	7870,0	1250 kcmil

Dimensions and specifications may be changed without prior notice. (RQ03)

NA2XSY 6/10 kV, 12/20 kV, 18/30 kV

XLPE-insulated, alu-conductor, single core, screened, PVC-sheath

Technical data

- XLPE-insulated power cables acc. to DIN VDE 0276 part 620, HD 620 S2 and IEC 60502
- **Temperature range** during installation up to -5°C
- **Operating temperature** max. +90°C
- **Short circuit temperature** +250°C (short circuit duration max. 5 s)
- **Nominal voltage** U_0/U 6/10 kV, 12/20 kV, 18/30 kV
- **Operating voltage**, 50 Hz for 6/10 kV = max. 12 kV for 12/20 kV = max. 24 kV for 18/30 kV = max. 36 kV
- **Test voltage** for 6/10 kV = 21 kV for 12/20 kV = 42 kV for 18/30 kV = 63 kV
- **Minimum bending radius** 15x cable Ø
- **Power rating** see "Technical Infromations"

Cable structure

- Aluminium-conductor, to DIN VDE 0295 cl.2, multi-wire, BS 6360 cl.2, IEC 60228 cl.2
- Inner semi-conducting coating
- Core insulation of cross-linked polyethylene (XLPE), compound type DIX8 to HD 620 S2
- Outer conductive layer extruded and permanently welded with the core insulation
- Conductive wrapping
- Screen: Braiding of copper wires with one or two tapes applied helically
- Wrapping
- Outer sheath of PVC compound type DMV6 to HD 620 S2
- Sheath colour: red

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Self-extinguishing and flame retardant acc. to DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2 (equivalent DIN VDE 0472 part 804 test method B)
- **Installation notes** To guarantee an optimum on operating reliability the extruded semi-conductive layer is spliced with the insulation for long duration. For this reason we recommend a peeling tool for installation

Note

- rm = round conductor, multi-wire
- Further dimensions available on request.
- AWG sizes are approximate equivalent values. The actual cross section is in mm².

Application

Suitable for installation mostly for power supply stations, in indoors and in cable ducts, outdoor with protected laying, underground and in water as well as for installation on cable trays for industries, switch-boards and power stations. Due to the good laying characteristic, this can also be laid easily in difficult line guideways.
The inner conducting layer between the conductor and the XLPE insulation and the firmly bonded outer conducting layer on the XLPE insulation assures a construction free of partial discharges with high operational reliability.

Part no.	No.cores x cross-sec. mm²	Operation voltage max.	Nominal voltage kV	Insulation thickness mm	Sheath thickness Nominal value mm	Outer Ø min. - max. mm	Cop. weight kg / km	Alu weight kg / km	Weight app. kg / km	AWG-No.
32440	1 x 50 rm / 16	12	6 / 10	3,4	2,5	24,0 - 29,0	182,0	145,0	780,0	1
32441	1 x 70 rm / 16	12	6 / 10	3,4	2,5	26,0 - 31,0	182,0	203,0	875,0	2/0
32442	1 x 95 rm / 16	12	6 / 10	3,4	2,5	26,0 - 32,0	182,0	276,0	990,0	3/0
32443	1 x 120 rm / 16	12	6 / 10	3,4	2,5	28,0 - 34,0	182,0	348,0	1110,0	4/0
32444	1 x 150 rm / 16	12	6 / 10	3,4	2,5	29,0 - 35,0	182,0	435,0	1240,0	300 kcmil
32445	1 x 150 rm / 25	12	6 / 10	3,4	2,5	29,0 - 35,0	283,0	435,0	1310,0	300 kcmil
32446	1 x 185 rm / 16	12	6 / 10	3,4	2,5	31,0 - 37,0	182,0	537,0	1405,0	350 kcmil
32447	1 x 185 rm / 25	12	6 / 10	3,4	2,5	31,0 - 37,0	283,0	537,0	1460,0	350 kcmil
32448	1 x 240 rm / 16	12	6 / 10	3,4	2,5	33,0 - 39,0	182,0	696,0	1615,0	500 kcmil
32449	1 x 240 rm / 25	12	6 / 10	3,4	2,5	33,0 - 39,0	283,0	696,0	1660,0	500 kcmil
32450	1 x 300 rm / 25	12	6 / 10	3,4	2,5	36,0 - 41,0	283,0	870,0	1910,0	600 kcmil
32451	1 x 400 rm / 35	12	6 / 10	3,4	2,5	40,0 - 45,0	394,0	1160,0	2315,0	750 kcmil
32452	1 x 500 rm / 35	12	6 / 10	3,4	2,5	43,0 - 48,0	394,0	1450,0	2750,0	1000 kcmil
32453	1 x 50 rm / 16	24	12 / 20	5,5	2,5	28,0 - 33,0	182,0	145,0	950,0	1
32454	1 x 70 rm / 16	24	12 / 20	5,5	2,5	30,0 - 35,0	182,0	203,0	1110,0	2/0
32455	1 x 95 rm / 16	24	12 / 20	5,5	2,5	31,0 - 36,0	182,0	276,0	1220,0	3/0
32456	1 x 120 rm / 16	24	12 / 20	5,5	2,5	32,0 - 38,0	182,0	348,0	1310,0	4/0
32457	1 x 150 rm / 16	24	12 / 20	5,5	2,5	33,0 - 39,0	182,0	435,0	1460,0	300 kcmil
32458	1 x 150 rm / 25	24	12 / 20	5,5	2,5	33,0 - 39,0	283,0	435,0	1520,0	300 kcmil
32459	1 x 185 rm / 16	24	12 / 20	5,5	2,5	35,0 - 41,0	182,0	537,0	1660,0	350 kcmil
32460	1 x 185 rm / 25	24	12 / 20	5,5	2,5	35,0 - 41,0	283,0	537,0	1720,0	350 kcmil
32461	1 x 240 rm / 16	24	12 / 20	5,5	2,5	38,0 - 44,0	182,0	696,0	1860,0	500 kcmil
32462	1 x 240 rm / 25	24	12 / 20	5,5	2,5	38,0 - 44,0	283,0	696,0	1910,0	500 kcmil
32463	1 x 300 rm / 25	24	12 / 20	5,5	2,5	40,0 - 46,0	283,0	870,0	2220,0	600 kcmil
32464	1 x 400 rm / 35	24	12 / 20	5,5	2,5	43,0 - 49,0	394,0	1160,0	2620,0	750 kcmil
32465	1 x 500 rm / 35	24	12 / 20	5,5	2,5	46,0 - 52,0	394,0	1450,0	3030,0	1000 kcmil

Continuation ▸

NA2XSY 6/10 kV, 12/20 kV, 18/30 kV

XLPE-insulated, alu-conductor, single core, screened, PVC-sheath

Part no.	No.cores x cross-sec. mm²	Operation voltage max.	Nominal voltage kV	Insulation thickness mm	Sheath thickness Nominal value mm	Outer Ø min. - max. mm	Cop. weight kg / km	Alu weight kg / km	Weight app. kg / km	AWG-No.
32466	1 x 50 rm / 16	36	18 / 30	8	2,5	32,0 - 38,0	182,0	145,0	1260,0	1
32467	1 x 70 rm / 16	36	18 / 30	8	2,5	34,0 - 40,0	182,0	203,0	1360,0	2/0
32468	1 x 95 rm / 16	36	18 / 30	8	2,5	35,0 - 41,0	182,0	276,0	1510,0	3/0
32469	1 x 120 rm / 16	36	18 / 30	8	2,5	37,0 - 43,0	182,0	348,0	1610,0	4/0
32470	1 x 150 rm / 16	36	18 / 30	8	2,5	38,0 - 44,0	182,0	435,0	1760,0	300 kcmil
32471	1 x 150 rm / 25	36	18 / 30	8	2,5	38,0 - 44,0	283,0	435,0	1810,0	300 kcmil
32472	1 x 185 rm / 16	36	18 / 30	8	2,5	40,0 - 46,0	182,0	537,0	1960,0	350 kcmil
32473	1 x 185 rm / 25	36	18 / 30	8	2,5	40,0 - 46,0	283,0	537,0	2020,0	350 kcmil
32474	1 x 240 rm / 16	36	18 / 30	8	2,5	42,0 - 48,0	182,0	696,0	2210,0	500 kcmil
32475	1 x 240 rm / 25	36	18 / 30	8	2,5	42,0 - 48,0	283,0	696,0	2260,0	500 kcmil
32476	1 x 300 rm / 25	36	18 / 30	8	2,5	45,0 - 51,0	283,0	870,0	2560,0	600 kcmil
32477	1 x 400 rm / 35	36	18 / 30	8	2,5	48,0 - 54,0	394,0	1160,0	2960,0	750 kcmil
32478	1 x 500 rm / 35	36	18 / 30	8	2,5	51,0 - 57,0	394,0	1450,0	3460,0	1000 kcmil

Dimensions and specifications may be changed without prior notice. (RQ03)

NA2XS2Y 6/10 kV, 12/20 kV, 18/30 kV

XLPE-insulated, Alu-conductor, single core, screened, PE-sheath

Technical data

- XLPE-insulated power cables acc. to DIN VDE 0276 part 620, HD 620 S2 and IEC 60502
- **Temperature range** during installation up to -20°C
- **Operating temperature** max. +90°C
- **Short circuit temperature** +250°C (short circuit duration max. 5 s)
- **Nominal voltage** U_0/U 6/10 kV, 12/20 kV, 18/30 kV
- **Operating voltage**, 50 Hz for 6/10 kV = max. 12 kV for 12/20 kV = max. 24 kV for 18/30 kV = max. 36 kV
- **Test voltage** for 6/10 kV = 21 kV for 12/20 kV = 42 kV for 18/30 kV = 63 kV
- **Minimum bending radius** 15x cable Ø
- **Power ratings** see "Technical Infromations"

Cable structure

- Aluminium-conductor, to DIN VDE 0295 cl.2, multi-wire, BS 6360 cl.2, IEC 60228 cl.2
- Inner semi-conducting coating
- Core insulation of cross-linked polyethylene (XLPE), compound type DIX8 to HD 620 S2
- Outer conductive layer extruded and permanently welded with the core insulation
- Conductive wrapping
- Screen: Braiding of copper wires with one or two tapes applied helically
- Wrapping
- Outer sheath of PE compound type DMP2 to HD 620 S2
- Sheath colour: black

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- **Installation notes** To guarantee an optimum on operating reliability the extruded semi-conductive layer is spliced with the insulation for long duration. For this reason we recommend a peeling tool for installation

Note

- rm = round conductor, multi-wire
- Further dimensions available on request.
- AWG sizes are approximate equivalent values. The actual cross section is in mm².

Application

Suitable for indoor installation and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switch-boards and power stations. The PE-outer sheath is resistant to high mechanical stress for laying the cables. This PE sheath is not flame retardant acc. to DIN EN 60332-1-2. The inner conducting layer between the conductor and the XLPE insulation and the firmly bonded outer conducting layer on the XLPE insulation assures a construction free of partial discharges with high operational reliability.

Part no.	No.cores x cross-sec. mm²	Operation voltage max.	Nominal voltage kV	Insulation thickness mm	Sheath thickness Nominal value mm	Outer Ø min. - max. mm	Cop. weight kg / km	Alu weight kg / km	Weight app. kg / km	AWG-No.
32520	1 x 50 rm / 16	12	6 / 10	3,4	2,5	24,0 - 29,0	182,0	145,0	710,0	1
32521	1 x 70 rm / 16	12	6 / 10	3,4	2,5	26,0 - 31,0	182,0	203,0	790,0	2/0
32522	1 x 95 rm / 16	12	6 / 10	3,4	2,5	26,0 - 32,0	182,0	276,0	920,0	3/0
32523	1 x 120 rm / 16	12	6 / 10	3,4	2,5	28,0 - 34,0	182,0	348,0	990,0	4/0
32524	1 x 150 rm / 16	12	6 / 10	3,4	2,5	29,0 - 35,0	182,0	435,0	1110,0	300 kcmil
32525	1 x 150 rm / 25	12	6 / 10	3,4	2,5	29,0 - 35,0	283,0	435,0	1220,0	300 kcmil
32526	1 x 185 rm / 16	12	6 / 10	3,4	2,5	31,0 - 37,0	182,0	537,0	1260,0	350 kcmil
32527	1 x 185 rm / 25	12	6 / 10	3,4	2,5	33,0 - 39,0	283,0	537,0	1370,0	350 kcmil
32528	1 x 240 rm / 16	12	6 / 10	3,4	2,5	33,0 - 39,0	182,0	696,0	1480,0	500 kcmil
32529	1 x 240 rm / 25	12	6 / 10	3,4	2,5	33,0 - 39,0	283,0	696,0	1530,0	500 kcmil
32530	1 x 300 rm / 25	12	6 / 10	3,4	2,5	36,0 - 41,0	283,0	870,0	1820,0	600 kcmil
32531	1 x 400 rm / 35	12	6 / 10	3,4	2,5	40,0 - 45,0	394,0	1160,0	2220,0	750 kcmil
32532	1 x 500 rm / 35	12	6 / 10	3,4	2,5	43,0 - 48,0	394,0	1450,0	2570,0	1000 kcmil
32533	1 x 50 rm / 16	24	12 / 20	5,5	2,5	28,0 - 33,0	182,0	145,0	890,0	1
32534	1 x 70 rm / 16	24	12 / 20	5,5	2,5	30,0 - 35,0	182,0	203,0	970,0	2/0
32535	1 x 95 rm / 16	24	12 / 20	5,5	2,5	31,0 - 36,0	182,0	276,0	1120,0	3/0
32536	1 x 120 rm / 16	24	12 / 20	5,5	2,5	32,0 - 38,0	182,0	348,0	1210,0	4/0
32537	1 x 150 rm / 16	24	12 / 20	5,5	2,5	33,0 - 39,0	182,0	435,0	1370,0	300 kcmil
32538	1 x 150 rm / 25	24	12 / 20	5,5	2,5	33,0 - 39,0	283,0	435,0	1420,0	300 kcmil
32539	1 x 185 rm / 16	24	12 / 20	5,5	2,5	35,0 - 41,0	182,0	537,0	1530,0	350 kcmil
32540	1 x 185 rm / 25	24	12 / 20	5,5	2,5	35,0 - 41,0	283,0	537,0	1570,0	350 kcmil
32541	1 x 240 rm / 16	24	12 / 20	5,5	2,5	38,0 - 44,0	182,0	696,0	1720,0	500 kcmil
32542	1 x 240 rm / 25	24	12 / 20	5,5	2,5	38,0 - 44,0	283,0	696,0	1830,0	500 kcmil
32543	1 x 300 rm / 25	24	12 / 20	5,5	2,5	40,0 - 46,0	283,0	870,0	2070,0	600 kcmil
32544	1 x 400 rm / 35	24	12 / 20	5,5	2,5	43,0 - 49,0	394,0	1160,0	2460,0	750 kcmil
32545	1 x 500 rm / 35	24	12 / 20	5,5	2,5	46,0 - 52,0	394,0	1450,0	2890,0	1000 kcmil
33078	1 x 630 rm / 35	24	12 / 20	5,5	2,5	47,0 - 53,0	394,0	1827,0	3370,0	1250 kcmil
32546	1 x 50 rm / 16	36	18 / 30	8	2,5	32,0 - 38,0	182,0	145,0	1120,0	1

Continuation ▸

NA2XS2Y 6/10 kV, 12/20 kV, 18/30 kV

XLPE-insulated, Alu-conductor, single core, screened, PE-sheath

Part no.	No.cores x cross-sec. mm²	Operation voltage max.	Nominal voltage kV	Insulation thickness mm	Sheath thickness Nominal value mm	Outer Ø min. - max. mm	Cop. weight kg / km	Alu weight kg / km	Weight app. kg / km	AWG-No.
32547	1 x 70 rm / 16	36	18 / 30	8	2,5	34,0 - 40,0	182,0	203,0	1270,0	2/0
32548	1 x 95 rm / 16	36	18 / 30	8	2,5	35,0 - 41,0	182,0	276,0	1380,0	3/0
32549	1 x 120 rm / 16	36	18 / 30	8	2,5	37,0 - 43,0	182,0	348,0	1530,0	4/0
32550	1 x 150 rm / 25	36	18 / 30	8	2,5	38,0 - 44,0	283,0	435,0	1720,0	300 kcmil
32551	1 x 185 rm / 25	36	18 / 30	8	2,5	40,0 - 46,0	283,0	537,0	1860,0	350 kcmil
32552	1 x 240 rm / 25	36	18 / 30	8	2,5	42,0 - 48,0	283,0	696,0	2110,0	500 kcmil
32553	1 x 300 rm / 25	36	18 / 30	8	2,5	45,0 - 51,0	283,0	870,0	2370,0	600 kcmil
32554	1 x 400 rm / 35	36	18 / 30	8	2,5	48,0 - 54,0	394,0	1160,0	2820,0	750 kcmil
32555	1 x 500 rm / 35	36	18 / 30	8	2,5	51,0 - 57,0	394,0	1450,0	3280,0	1000 kcmil
32999	1 x 630 rm / 35	36	18 / 30	8	2,5	52,0 - 59,0	394,0	1827,0	3770,0	1250 kcmil

Dimensions and specifications may be changed without prior notice. (RQ03)

NA2XS(F)2Y 6/10 kV, 12/20 kV, 18/30 kV

XLPE-insulated, alu-conductor, single core, longitudinally watertight, screened, PE-sheath

Technical data

- XLPE-insulated power cables acc. to DIN VDE 0276 part 620, HD 620 S2 and IEC 60502
- **Temperature range** during installation up to -20°C
- **Operating temperature** max. +90°C
- **Short circuit temperature** +250°C (short circuit duration max. 5 s)
- **Nominal voltage** U_0/U 6/10 kV, 12/20 kV, 18/30 kV
- **Operating voltage**, 50 Hz for 6/10 kV = max. 12 kV for 12/20 kV = max. 24 kV for 18/30 kV = max. 36 kV
- **Test voltage** for 6/10 kV = 21 kV for 12/20 kV = 42 kV for 18/30 kV = 63 kV
- **Minimum bending radius** 15x cable Ø
- **Power rating** see "Technical Infromations"

Cable structure

- Aluminium-conductor, to DIN VDE 0295 cl.2, multi-wire, BS 6360 cl.2, IEC 60228 cl.2
- Inner semi-conducting coating
- Core insulation of cross-linked polyethylene (XLPE), compound type DIX8 to HD 620 S2
- Outer conductive layer extruded and permanently welded with the core insulation
- Longitudinally watertight, conductive wrapping
- Screen: Braiding of copper wires with one or two tapes applied helically
- Longitudinally watertight wrapping
- Outer sheath of PE compound typeDMP2 to HD 620 S2
- Sheath colour: black
- Sheath wall thickness nominal value 2,5 mm

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- **Installation notes** To guarantee an optimum on operating reliability the extruded semi-conductive layer is spliced with the insulation for long duration. For this reason we recommend a peeling tool for installation

Note

- rm = round conductor, multi-wire
- Further types and dimensions on request.
- AWG sizes are approximate equivalent values. The actual cross section is in mm².

Application

Suitable for indoor installation and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switch-boards and power stations. The PE-outer sheath is resistant to high mechanical stress for laying the cables. This PE sheath is not flame retardant acc. to DIN EN 60332-1-2. The inner conducting layer between the conductor and the XLPE insulation and the firmly bonded outer conducting layer on the XLPE insulation assures a construction free of partial discharges with high operational reliability.

Part no.	No.cores x cross-sec. mm²	Operation voltage max.	Nominal voltage kV	Insulation thickness mm	Screen cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Alu weight kg / km	Weight app. kg / km	AWG-No.
32600	1 x 35 rm / 16	12	6 / 10	3,4	16	26,0	182,0	102,0	780,0	2
32601	1 x 50 rm / 16	12	6 / 10	3,4	16	28,0	182,0	145,0	850,0	1
32602	1 x 70 rm / 16	12	6 / 10	3,4	16	30,0	182,0	203,0	980,0	2/0
32603	1 x 95 rm / 16	12	6 / 10	3,4	16	31,0	182,0	276,0	1080,0	3/0
32604	1 x 120 rm / 16	12	6 / 10	3,4	16	32,0	182,0	348,0	1150,0	4/0
32605	1 x 150 rm / 25	12	6 / 10	3,4	25	34,0	283,0	435,0	1280,0	300 kcmil
32606	1 x 185 rm / 25	12	6 / 10	3,4	25	36,0	283,0	537,0	1420,0	350 kcmil
32607	1 x 240 rm / 25	12	6 / 10	3,4	25	38,0	283,0	696,0	1630,0	500 kcmil
32608	1 x 300 rm / 25	12	6 / 10	3,4	25	40,0	283,0	870,0	1950,0	600 kcmil
32609	1 x 400 rm / 35	12	6 / 10	3,4	35	44,0	394,0	1160,0	2350,0	750 kcmil
32610	1 x 500 rm / 35	12	6 / 10	3,4	35	47,0	394,0	1450,0	2780,0	1000 kcmil
32611	1 x 50 rm / 16	24	12 / 20	5,5	16	33,0	182,0	145,0	920,0	1
32612	1 x 70 rm / 16	24	12 / 20	5,5	16	34,0	182,0	203,0	1030,0	2/0
32613	1 x 95 rm / 16	24	12 / 20	5,5	16	36,0	182,0	276,0	1140,0	3/0
32614	1 x 120 rm / 16	24	12 / 20	5,5	16	37,0	182,0	348,0	1250,0	4/0
32615	1 x 150 rm / 25	24	12 / 20	5,5	25	39,0	283,0	435,0	1320,0	300 kcmil
32616	1 x 185 rm / 25	24	12 / 20	5,5	25	41,0	283,0	537,0	1570,0	350 kcmil
32617	1 x 240 rm / 25	24	12 / 20	5,5	25	43,0	283,0	696,0	1780,0	500 kcmil
32618	1 x 300 rm / 25	24	12 / 20	5,5	25	45,0	283,0	870,0	2100,0	600 kcmil
32619	1 x 400 rm / 35	24	12 / 20	5,5	35	48,0	394,0	1160,0	2480,0	750 kcmil
32620	1 x 500 rm / 35	24	12 / 20	5,5	35	50,0	394,0	1450,0	2900,0	1000 kcmil
33090	1 x 630 rm / 35	24	12 / 20	5,5	35	52,0	394,0	1827,0	3380,0	1250 kcmil
33091	1 x 800 rm / 35	24	12 / 20	5,5	35	57,0	394,0	2320,0	4400,0	1500 kcmil
33097	1 x 1000 rm / 35	24	12 / 20	5,5	35	62,0	394,0	2900,0	4780,0	2000 kcmil

Continuation

NA2XS(F)2Y 6/10 kV, 12/20 kV, 18/30 kV

XLPE-insulated, alu-conductor, single core, longitudinally watertight, screened, PE-sheath

Part no.	No.cores x cross-sec. mm²	Operation voltage max.	Nominal voltage kV	Insulation thickness mm	Screen cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Alu weight kg / km	Weight app. kg / km	AWG-No.
32621	1 x 50 rm / 16	36	18 / 30	8	16	37,0	182,0	145,0	1250,0	1
32622	1 x 70 rm / 16	36	18 / 30	8	16	38,0	182,0	203,0	1500,0	2/0
32623	1 x 95 rm / 16	36	18 / 30	8	16	40,0	182,0	276,0	1700,0	3/0
32624	1 x 120 rm / 16	36	18 / 30	8	16	42,0	182,0	348,0	1800,0	4/0
32625	1 x 150 rm / 25	36	18 / 30	8	25	43,0	283,0	435,0	2050,0	300 kcmil
32626	1 x 185 rm / 25	36	18 / 30	8	25	45,0	283,0	537,0	2150,0	350 kcmil
32627	1 x 240 rm / 25	36	18 / 30	8	25	47,0	283,0	696,0	2400,0	500 kcmil
32628	1 x 300 rm / 25	36	18 / 30	8	25	50,0	283,0	870,0	2700,0	600 kcmil
32629	1 x 400 rm / 35	36	18 / 30	8	35	53,0	394,0	1160,0	3200,0	750 kcmil
32630	1 x 500 rm / 35	36	18 / 30	8	35	56,0	394,0	1450,0	3555,0	1000 kcmil
31219	1 x 630 rm / 35	36	18 / 30	8	35	58,0	394,0	1827,0	3790,0	1250 kcmil

Dimensions and specifications may be changed without prior notice. (RQ03)

NA2XS(FL)2Y 6/10 kV, 12/20 kV, 18/30 kV

XLPE-insulated, alu-conductor, single core, longitudinally and crosswise watertight, screened, PE-sheath

Technical data

- XLPE-insulated power cables acc. to DIN VDE 0276 part 620, HD 620 S2 and IEC 60502
- **Temperature range** during installation up to -20°C
- **Operating temperature** max. + 90°C
- **Short circuit temperature** 250°C (short circuit duration max. 5 s)
- **Nominal voltage** U_0/U 6/10 kV, 12/20 kV, 18/30 kV
- **Operating voltage**, 50 Hz for 6/10 kV = max. 12 kV for 12/20 kV = max. 24 kV for 18/30 kV = max. 36 kV
- **Test voltage** for 6/10 kV = 21 kV for 12/20 kV = 42 kV for 18/30 kV = 63 kV
- **Minimum bending radius** 15x cable Ø
- **Power ratings** see "Technical Infromations"

Cable structure

- Aluminium-conductor, to DIN VDE 0295 cl.2, multi-wire, BS 6360 cl.2, IEC 60228 cl.2
- Inner semi-conducting coating
- Core insulation of cross-linked polyethylene (XLPE), compound type DIX8 to HD 620 S2
- Outer conductive layer extruded and permanently welded with the core insulation
- Longitudinally watertight, conductive wrapping
- Screen: Braiding of copper wires with one or two tapes applied helically
- Longitudinally watertight wrapping
- Aluminium tape spliced with PE sheath
- Outer sheath of PE compound type DMP2 to HD 620 S2
- Sheath colour: black
- Sheath wall thickness nominal value 2,5 mm

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- **Installation notes** To guarantee an optimum on operating reliability the extruded semi-conductive layer is spliced with the insulation for long duration. For this reason we recommend a peeling tool for installation

Note

- rm = round conductor, multi-wire
- Further types and dimensions on request.
- AWG sizes are approximate equivalent values. The actual cross section is in mm².

Application

Installation primarily for power utility grids and in cable ducts, outdoors, underground and in water, and also on pallets for manufacturing plants, switchgear and power stations. The resistant Al/PE-laminated sheathing acts as a cross water barrier. It inhibits the diffusion of water. In case of sheathing damage, water impact is contained at the flaw. The cable can be severely mechanically stressed during installation and operation. The PE sheathing is not flame-retardant to DIN EN 60332-1-2. The internal conductive layer between conductor and VPE insulation and the adherent external conductive layer on the VPE insulation guarantees a design with high operational safety and no partial discharge.

Part no.	No.cores x cross-sec. mm²	Operation voltage max.	Nominal voltage kV	Insulation thickness mm	Screen cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Alu weight kg / km	Weight app. kg / km	AWG-No.
38062	1 x 50 rm / 16	12	6 / 10	3,4	16	30,0	182,0	145,0	710,0	1
38063	1 x 70 rm / 16	12	6 / 10	3,4	16	32,0	182,0	203,0	890,0	2/0
38064	1 x 95 rm / 16	12	6 / 10	3,4	16	33,0	182,0	276,0	1100,0	3/0
38065	1 x 120 rm / 16	12	6 / 10	3,4	16	34,0	182,0	348,0	1330,0	4/0
38066	1 x 150 rm / 25	12	6 / 10	3,4	25	36,0	283,0	435,0	1450,0	300 kcmil
38067	1 x 185 rm / 25	12	6 / 10	3,4	25	38,0	283,0	537,0	1580,0	350 kcmil
38068	1 x 240 rm / 25	12	6 / 10	3,4	25	40,0	283,0	696,0	1780,0	500 kcmil
38069	1 x 300 rm / 25	12	6 / 10	3,4	25	42,0	283,0	870,0	1990,0	600 kcmil
38070	1 x 400 rm / 35	12	6 / 10	3,4	35	46,0	394,0	1160,0	2320,0	750 kcmil
38071	1 x 500 rm / 35	12	6 / 10	3,4	35	49,0	394,0	1450,0	2690,0	1000 kcmil
38072	1 x 630 rm / 35	12	6 / 10	3,4	35	51,0	394,0	1827,0	3160,0	1250 kcmil
38073	1 x 50 rm / 16	24	12 / 20	5,5	16	35,0	182,0	145,0	870,0	1
38074	1 x 70 rm / 16	12	12 / 20	5,5	16	36,0	182,0	203,0	1060,0	2/0
38075	1 x 95 rm / 16	24	12 / 20	5,5	16	38,0	182,0	276,0	1280,0	3/0
38076	1 x 120 rm / 16	24	12 / 20	5,5	16	39,0	182,0	348,0	1520,0	4/0
33089	1 x 150 rm / 25	24	12 / 20	5,5	25	41,0	283,0	435,0	1650,0	300 kcmil
38077	1 x 185 rm / 25	24	12 / 20	5,5	25	43,0	283,0	537,0	1800,0	350 kcmil
38078	1 x 240 rm / 25	24	12 / 20	5,5	25	45,0	283,0	696,0	2000,0	500 kcmil
38079	1 x 300 rm / 25	24	12 / 20	5,5	25	47,0	283,0	870,0	2230,0	600 kcmil
38080	1 x 400 rm / 35	24	12 / 20	5,5	35	50,0	394,0	1160,0	2580,0	750 kcmil
38081	1 x 500 rm / 35	24	12 / 20	5,5	35	54,0	394,0	1450,0	2980,0	1000 kcmil
38082	1 x 630 rm / 35	24	6 / 10	5,5	35	55,0	394,0	1827,0	3480,0	1250 kcmil

Continuation ▸

NA2XS(FL)2Y 6/10 kV, 12/20 kV, 18/30 kV

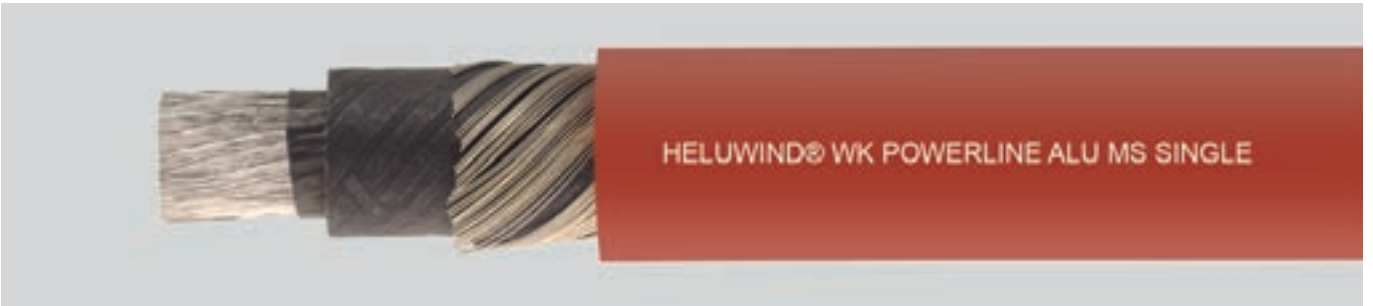
XLPE-insulated, alu-conductor, single core, longitudinally and crosswise watertight, screened, PE-sheath

Part no.	No.cores x cross-sec. mm²	Operation voltage max.	Nominal voltage kV	Insulation thickness mm	Screen cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Alu weight kg / km	Weight app. kg / km	AWG-No.
33084	1 x 50 rm / 16	36	18 / 30	8	16	39,0	182,0	145,0	1100,0	1
33085	1 x 70 rm / 16	36	18 / 30	8	16	40,0	182,0	203,0	1300,0	2/0
38083	1 x 95 rm / 16	36	18 / 30	8	16	42,0	182,0	276,0	1530,0	3/0
38084	1 x 120 rm / 16	36	18 / 30	8	16	44,0	182,0	348,0	1780,0	4/0
38085	1 x 150 rm / 25	36	18 / 30	8	25	45,0	283,0	435,0	1920,0	300 kcmil
38086	1 x 185 rm / 25	36	18 / 30	8	25	47,0	283,0	537,0	2080,0	350 kcmil
38087	1 x 240 rm / 25	36	10 / 30	8	25	49,0	283,0	696,0	2300,0	500 kcmil
38088	1 x 300 rm / 25	36	18 / 30	8	25	52,0	283,0	870,0	2550,0	600 kcmil
38089	1 x 400 rm / 35	36	18 / 30	8	35	55,0	394,0	1160,0	2960,0	750 kcmil
38090	1 x 500 rm / 35	36	18 / 30	8	35	30,0	394,0	1450,0	3380,0	1000 kcmil
38091	1 x 630 rm / 35	36	18 / 30	8	35	60,0	394,0	1827,0	3900,0	1250 kcmil

Dimensions and specifications may be changed without prior notice. (RQ03)

HELUWIND® WK POWERLINE ALU MS SINGLE

3,6/6 kV, 12/20 kV, 18/30 kV with flexible ALU stranded wires



Technical data

- **Temperature range**
  flexing -20°C up to +90°C
- **Nominal voltage**
  3,6/6 kV,
  12/20 kV,
  or 18/30 kV
- **Maximum short circuit conductor temperature**
  +250°C
- **Minimum bending radius**
  flexing 10x cable Ø
  fixed installation 8x cable Ø

Cable structure

- **Conductor**
  Highly flexible aluminium conductor
  Extruded inner semi conductive layer
- **Insulation**
  Material EPR
  1st semi conductive layer extruded
  2nd semi conductive layer tape wrapped
- Screen wrapped copper wires
- **Outer sheath**
  Material special rubber compound
  Colour red

Properties

- Oil resistant
- UV resistant
- Hydrolysis resistant
- Ozone resistant
- Flame retardant
- Heat resistant

Note

For more information, especially on custom cables and connectivity solutions, please contact us: wind@helukabel.de

Application

Designed for use in switchboards and power generators, where very small bending radii are required. In wind turbines, for applications requiring flexible connections; ideal to be fed through the tower in one continuous length. This eliminates cost intensive connection points between the individual tower sections. Not suitable for applications in the cable loop.

3,6/6 (7,2) kV

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	AL weight kg / km	Weight app. kg / km
712184	1x50	-	25,0	0,0	807,0
712185	1x70	-	27,0	0,0	932,0
712186	1x95	-	28,4	0,0	1039,0
712187	1x120	-	30,8	0,0	1231,0
712188	1x150	-	33,4	0,0	1492,0
712189	1x185	-	34,0	0,0	1633,0
712190	1x240	-	38,1	0,0	1610,0
712192	1x300	-	41,7	0,0	2293,0
712191	1x400	-	46,3	0,0	2791,0

12/20 (24) kV

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	AL weight kg / km	Weight app. kg / km
712193	1x50	-	31,2	0,0	1214,0
712194	1x70	-	33,4	0,0	1389,0
712195	1x95	-	34,8	0,0	1516,0
712196	1x120	-	37,2	0,0	1756,0

12/20 (24) kV

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	AL weight kg / km	Weight app. kg / km
712197	1x150	-	39,8	0,0	2043,0
712198	1x185	-	40,4	0,0	2208,0
712199	1x240	-	44,3	0,0	2535,0
712200	1x300	-	47,3	0,0	2884,0
712201	1x400	-	51,7	0,0	3421,0

18/30 (36) kV

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	AL weight kg / km	Weight app. kg / km
712202	1x50	-	36,6	0,0	1648,0
712203	1x70	-	38,8	0,0	1853,0
712204	1x95	-	40,2	0,0	1997,0
712205	1x120	-	42,6	0,0	2285,0
712206	1x150	-	45,2	0,0	2586,0
712207	1x185	-	45,8	0,0	2771,0
712208	1x240	-	49,7	0,0	3139,0
712209	1x300	-	52,7	0,0	3529,0
712210	1x400	-	57,1	0,0	4123,0

Dimensions and specifications may be changed without prior notice.

HELUWIND® WK POWERLINE ALU MULTI

0,6/1 kV, finely stranded aluminium conductor

Technical data

- **Temperature range**
  flexing -20°C to +90°C
  fixed installation -40°C to +90°C
- **Nominal voltage**
  0,6/1kV
- **Minimum bending radius**
  flexing 8x cable Ø
  fixed installation 6x cable Ø
- **Flame retardant**
  EN 60332-1 Low Smoke Emission

Cable structure

- Aluminium conductor, finely stranded
- Special PVC insulation
- Other colours on request
- Core identification: colour code
- Special PVC compound sheath
  On request: rubber insulated outer sheath
- Sheath colour: black

Properties

- Oil resistant
- UV resistant
- Flexible
- Lightweight
- Robust
- Durable
- Easy to assemble

Note

For more information, especially on custom cables and connectivity solutions, please contact us: wind@helukabel.de

Application

The HELUWIND® WK POWERLINE ALU MULTI is a highly flexible aluminium cable with a fine wire stranded structure. Thanks to its high level of flexibility and reduced weight, this cable is suitable for many industrial applications.

The HELUWIND® WK POWERLINE ALU MULTI may only be used with certified connection technology from HELUKABEL®. This includes C8 crimp connections and screwed connections; both described in the "Connection Technology" section and tested in accordance with IEC 61238-1 cl. A.

The cable is also available in other insulation materials and in a halogen-free design.
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	AL weight kg / km	Weight app. kg / km
711083	4x50	38,8	590,0	980,0
711084	4x70	43,0	824,0	1280,0
711085	4x95	50,0	1120,0	1640,0

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	AL weight kg / km	Weight app. kg / km
711086	4x120	54,5	1420,0	2005,0
711087	4x150	58,0	1764,0	2320,0

Dimensions and specifications may be changed without prior notice.

HELUWIND® WK POWERLINE ALU SINGLE

0,6/1 kV, flexible aluminium stranded wires

Technical data

- **Temperature range**
  flexing -20°C to +90°C
  fixed installation -40°C to +105°C
- Permissible conductor **operating temperature** +105°C up to 3000h
- **Nominal voltage**
  0,6/1 kV
- **Test voltage**
  2,5 kV
- **Minimum bending radius**
  4x cable Ø acc. to
  DIN VDE 0298 Part 3, Table 2
- **Flame test**
  IEC 60332-1-2
- **Approvals**
  conforms to DIN VDE 0250-813
  UL/CSA in preparation

Cable structure

- Fine-wire aluminium strands
- Special insulation black
- Other colours available upon request

Properties

- UV resistant
- Oil resistant
- Easy to assemble
- Recyclable

Note

For more information, especially on custom cables and connectivity solutions, please contact us:
wind@helukabel.de

Application

The HELUWIND® WK POWERLINE ALU Single is a highly flexible, fine-wire, single conductor with a heat-resistant wire insulation. Its reduced weight of up to 50% over comparable copper wires (H07-VK) provides a huge advantage in many applications.

The HELUWIND® WK POWERLINE ALU Single may only be used with certified connection technology from HELUKABEL®. This includes C8 crimp connections and screwed connections; both described in the "Connection Technology" section and tested in accordance with IEC 61238-1 cl. A. A space-saving welding technique is available as an additional option.

The wire is also available in a halogen-free design, with UL/CSA approval, and a rated voltage of 1.8/3 kV. Suitable for the interior wiring of devices, distributors, and switchboards as well as for protected laying in and on lamps with a nominal voltage up to 1000 V AC or up to 750 V DC towards the end. Not suitable for direct laying on trays, gutters, or tubs.
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	AL weight kg / km	Weight app. kg / km
709914	1x70	-	15,9	206,0	315,0
709915	1x95	-	17,2	280,0	420,0
709916	1x120	-	18,2	355,0	507,0
709917	1x150	-	19,2	441,0	601,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	AL weight kg / km	Weight app. kg / km
709918	1x185	-	22,1	544,0	950,0
709919	1x240	-	25,1	706,0	1060,0
709920	1x300	-	27,8	882,0	1290,0
709921	1x400	-	32,7	1176,0	1460,0

Dimensions and specifications may be changed without prior notice.

H05Z-K / H07Z-K

single core, halogen-free

Technical data

- Single cores for low emission of smoke and corrosive gases in case of fire to DIN VDE 0285-525-3-41 / DIN EN 50525-3-41
- **Conductor resistance** acc. to DIN VDE 0295 cl.5
- **Temperature range** -40°C to +90°C
- Permissible conductor **operating temperature** +90°C
- **Nominal voltage** H05Z-K = U_0/U 300/500 V H07Z-K = U_0/U 450/750 V
- **Test voltage** 2500 V
- **Insulation resistance** at 90°C to DIN VDE 0282 part 9
- **Minimum bending radius** fixed installation core Ø ≤ 8 mm: 4x core Ø core Ø> 8-12 mm: 5x core Ø core Ø> 12 mm: 6x core Ø
- **Radiation resistance** up to 20x10⁶ cJ/kg (up to 20 Mrad)

Cable structure

- Bare Cu-conductor, to DIN VDE 0295 cl.5, fine wire, BS 6360 cl.5, IEC 60228 cl.5
- Separating foil over conductor permitted
- Core insulation of cross-linked polyolefin compound type EI5 to DIN VDE 0207-363-5 / DIN EN 50363-5
- Core identification: see table below
- **LS0H**= Low Smoke Zero Halogen

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Self-extinguishing and flame retardant acc. o DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2 (equivalent DIN VDE 0472 part 804 test method B)
- Ozone resistant acc. to DIN VDE 0473-811-403,DIN EN 60811-403
- Smoke density acc. to DIN VDE 0482 part 1034-1+2, DIN EN 61034-1+2, IEC 61034-1+2, BS 7622 part 1+2 (previously DIN VDE 0472 part 816)
- Halogen-free acc. to DIN VDE 0285-525-1,DIN EN 50525-1 appendix B

Note

- Type H07Z-K Colour yellow only as (H)07Z-K available

Application

Halogen-free single-core wires are used for installation in dry environments for wiring up lighting fixtures and units where valuable assets are to protected from further damage resulting from fire. These types are suitable for laying in tubes on and under plaster, as well as in closed installation ducts.

H07Z-K, suitable for protected, permanent laying in or on lighting installations or switching and control equipment up to 1000 V AC or 750 V DC to earth.

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

H05Z-K

Cross-sec. mm²	Outer Ø min. - max. mm	Cop. weight kg / km	Weight app. kg / km	BK	GN-YE	BU	BN	RD	WH	GY	VT	YE	D-BU	OG	U-BU
Part no.				52872	52873	52874	52875	52876	52877	52878	52879	52880	52945	52946	53071
0,5	2,1 - 2,6	4,8	9,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				52881	52882	52883	52884	52885	52886	52887	52888	52889	52947	52948	53072
0,75	2,2 - 2,8	7,2	12,4	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				52890	52891	52892	52893	52894	52895	52896	52897	52898	52949	52950	53073
1	2,4 - 2,9	9,6	15,0	-	-	-	-	-	-	-	-	-	-	-	-

H07Z-K

Cross-sec. mm²	Outer Ø min. - max. mm	Cop. weight kg / km	Weight app. kg / km	BK	GN-YE	BU	BN	RD	WH	GY	VT	YE	D-BU	OG	U-BU
Part no.				51768	51769	51770	51771	51772	51773	51774	51775	51776	52951	52952	53074
1,5	2,8 - 3,5	14,4	24,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				51777	51778	51779	51780	51781	51782	51783	51784	51785	52953	52954	53075
2,5	3,4 - 4,3	24,0	35,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				51786	51787	51788	51789	51790	51791	51792	51793	51794	52955	52956	53076
4	3,9 - 4,9	38,0	51,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				51795	51796	51797	51798	51799	51800	51801	51802	51803	52957	52958	53077
6	4,4 - 5,5	58,0	71,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				51804	51805	51806	51807	51808	51809	51810	51811	51812	52959	52960	53078
10	5,7 - 7,1	96,0	118,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				51813	51814	51815	51816	51817	51818	51819	51820	51821	52961	52962	53079
16	6,7 - 8,4	154,0	180,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				51822	51823	51824	51825	51826	51827	51828	51829	51830	52963	52964	53080
25	8,4 - 10,6	240,0	278,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				51831	51832	51833	51834	51835	51836	51837	51838	51839	52965	52966	53081
35	9,7 - 12,1	336,0	375,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				51840	51841	51842	51843	51844	51845	51846	51847	51848	52967	52968	53082
50	11,5 - 14,4	480,0	560,0	-	-	-	-	-	-	-	-	-	-	-	-

Continuation ▸

H05Z-K / H07Z-K

single core, halogen-free

H07Z-K

Cross-sec. mm²	Outer Ø min. - max. mm	Cop. weight kg / km	Weight app. kg / km	BK	GN-YE	BU	BN	RD	WH	GY	VT	YE	D-BU	OG	U-BU
Part no.				51849	51850	51851	51852	51853	51854	51855	51856	51857	52969	52970	53083
70	13,2 - 16,6	672,0	780,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				51858	51859	51860	51861	51862	51863	51864	51865	51866	52971	52972	53084
95	15,1 - 18,8	912,0	952,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				51867	51868	51869	51870	51871	51872	51873	51874	51875	52973	52974	53085
120	16,7 - 20,9	1152,0	1200,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				51876	51877	51878	51879	51880	51881	51882	51883	51884	52975	52976	53086
150	18,6 - 23,3	1440,0	1505,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				51885	51886	51887	51888	51889	51890	51891	51892	51893	52977	52978	53087
185	20,6 - 25,8	1776,0	1845,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				51894	51895	51896	51897	51898	51899	51900	51901	51902	52979	52980	53088
240	23,5 - 29,4	2304,0	2400,0	-	-	-	-	-	-	-	-	-	-	-	-

H05Z-K, barrel (with various capacity)

Cross-sec. mm²	Outer Ø min. - max. mm	Cop. weight kg / km	Weight app. kg / km	RD/WH	BU/WH	BN/WH	D-BU/WH
Part no.				51392	51393	51394	51395
0,5	2,1 - 2,6	4,8	9,0				
Part no.				51396	51397	51398	51399
0,75	2,2 - 2,8	7,2	12,4				
Part no.				51400	51401	51402	51403
1	2,2 - 2,8	9,6	15,0				

H07Z-K, barrel (with various capacity)

Cross-sec. mm²	Outer Ø min. - max. mm	Cop. weight kg / km	Weight app. kg / km	RD/WH	BU/WH	BN/WH	D-BU/WH
Part no.				51404	51405	51406	51407
1,5	2,8 - 3,5	14,4	24,0				
Part no.				51408	51409	51410	51411
2,5	3,4 - 4,3	24,0	35,0				
Part no.				51412	51413	51414	51415
4	3,9 - 4,9	38,0	51,0				
Part no.				51416	51417	51418	50899
6	4,4 - 5,5	58,0	71,0				

H05Z-K two colour

Cross-sec. mm²	Outer Ø min. - max. mm	Cop. weight kg / km	Weight app. kg / km	BK	GN-YE	BU	BN	RD	WH	GY	VT	YE	D-BU	OG	U-BU
Part no.				52809	52810	52811	52812	52813	52814	52815	52816	-	52817	52819	-
0,5	2,1 - 2,6	4,8	9,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				52821	52822	52823	52824	52825	52826	52827	52828	-	52829	52831	-
0,75	2,2 - 2,8	7,2	12,4	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				52833	52834	52835	52836	52837	52838	52839	52840	-	52841	52843	-
1	2,4 - 2,9	9,6	15,0	-	-	-	-	-	-	-	-	-	-	-	-

H07Z-K two colour

Cross-sec. mm²	Outer Ø min. - max. mm	Cop. weight kg / km	Weight app. kg / km	BK	GN-YE	BU	BN	RD	WH	GY	VT	YE	D-BU	OG	U-BU
Part no.				52845	52846	52847	52848	52849	52850	52851	52852	-	52853	52855	-
1,5	2,8 - 3,5	14,4	24,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				52857	52858	52859	52860	52861	52862	52863	52864	-	52865	52867	-
2,5	3,4 - 4,3	24,0	35,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				52135	52136	52137	52138	52139	52140	52141	52142	-	52143	52144	-
4	3,9 - 4,9	38,0	51,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				52145	52146	52147	52148	52149	52150	52151	52152	-	52153	52154	-
6	4,4 - 5,5	58,0	71,0	-	-	-	-	-	-	-	-	-	-	-	-

Dimensions and specifications may be changed without prior notice. (RK01)

FIVENORM

HAR-UL-CSA-AWM-MTW, PVC single core, UL Style 10269/UL Standard 1063, 600 V, 105°C

Technical data

- PVC-single cores acc. to DIN VDE 0285-525-2-31/ DIN EN 50525-2-31, UL Std.1063, UL Style 10269 and CSA-TEW and CSA-AWM I A/B
- **Temperature range**
  H05V2-K / H07V2-K
  flexing +5°C to +90°C
  fixed installation -40°C to +90°C
  UL (AWM) -40°C to +105°C
  UL (MTW) -40°C to +90°C
  CSA (TEW) -40°C to +105°C
- **Nominal voltage**
  up to 1 mm² H05V2-K: U_0/U 300/500 V
  from 1,5 mm² H07V2-K: U_0/U 450/750 V
  UL (AWM) 1000 V (AC)
  UL (AWM) 1250 V (DC)
  UL (MTW) 600 V
  CSA (TEW) 600 V
- **Test voltage**
  H05V2-K = 2000 V
  H07V2-K = 2500 V
- **Test voltage** (Spark Test)
  0,5 mm² = 5 kV
  ≥ 0,75 mm² = 6 kV
- **Insulation resistance**
  min. 20 MOhm x km
- **Minimum bending radius**
  fixed installation for core Ø:
  ≤ 8 mm: 4x core Ø
  > 8-12 mm: 5x core Ø
  > 12 mm: 6x core Ø

Cable structure

- Bare copper fine wire stranded to DIN VDE 0295 cl.5, BS 6360 cl.5 and IEC 60228 cl.5, acc. to UL Std.758
- Core insulation of PVC compound type TI3 to DIN VDE 0207-363-3/DIN EN 50363-3 CSA-C 22.2 No. 210 tab.12 class H and class 43 acc. to UL Std.1581
- Core identification to DIN VDE 0293

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- PCV self-extinguishing and flame retardant acc. to DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2 (equivalent DIN VDE 0472 part 804 test method B), UL VW-1, CSA FT1

Note

- Tinned conductor on request.
- up to = 1,0 mm² = H05V2-K, from 1,5 mm² up to 35 mm² = H07V2-K. Cross-sections up to 35 mm² is acc. to DIN VDE 0285-525-2-31. Due to this cross section >35 mm² is the type H07V-K but with an increased heat-resistant PVC-compound TI3.
- **Type H05V:**
  approved one-colour mark: black, blue, brown, grey, orange, pink, red, turquoise, violet, white, green and yellow.
  Two-coloured mark in any combination of the above individual colours.
- **Type H07V:**
  approved mark: black, blue, brown, grey, orange, pink, red, turquoise, violet, white and green-yellow.
  Other marks are available as (H).

Application

Five norms approved connecting jumper wire primarily designed for exportes, used in machine tools. The approbation of HAR, UL-AWM, UL-MTW, CSA-AWM, CSA-Equipment-wire make possible an economical storekeeping and simplification of parts list.
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Cross-sec. mm² / AWG-no.	Outer Ø app. mm	Cop. weight kg / km	BK	GN-YE	BU	BN	RD	WH	GY	VT	YE	PK	GN	TRANS	D-BU	OG	o.col.	2-col.
app. RAL			9005	-	5015	8003	3000	1013	7000	4005	1021	3015	6018	-	5010	2003	-	-
Part no. 0,5 / 22	2,5	5,2	64075	64076	64077	64078	64079	64080	64081	64082	64083	64084	64085	64086	64087	64088	64089	64090
Part no. 0,75 / 20	2,65	7,2	64091	64092	64093	64094	64095	64096	64097	64098	64099	64100	64101	64102	64103	64104	64105	64106
Part no. 1 / 18	2,8	9,6	64107	64108	64109	64110	64111	64112	64113	64114	64115	64116	64117	64118	64119	64120	64121	64122

Continuation ▸

FIVENORM

HAR-UL-CSA-AWM-MTW, PVC single core, UL Style 10269/UL Standard 1063, 600 V, 105°C

Cross-sec. mm² / AWG-no.	Outer Ø app. mm	Cop. weight kg / km	BK	GN-YE	BU	BN	RD	WH	GY	VT	YE	PK	GN	TRANS	D-BU	OG	o.col.	2-col.
app. RAL			9005	-	5015	8003	3000	1013	7000	4005	1021	3015	6018	-	5010	2003	-	-
Part no. 1,5 / 16	3,05	14,4	64123	64124	64125	64126	64127	64128	64129	64130	64131	64132	64133	64134	64135	64136	64137	64138
Part no. 2,5 / 14	3,6	24,0	64139	64140	64141	64142	64143	64144	64145	64146	64147	64148	64149	64150	64151	64152	64153	64154
Part no. 4 / 12	4,1	38,0	64155	64156	64157	64158	64159	64160	64161	64162	64163	64164	64165	64166	64167	64168	64169	64170
Part no. 6 / 10	4,8	58,0	64171	64172	64173	64174	64175	64176	64177	64178	64179	64180	64181	64182	64183	64184	64185	64186
Part no. 10 / 8	6,4	96,0	64187	64188	64189	64190	64191	64192	64193	64194	64195	64196	64197	64198	64199	64200	64201	64202
Part no. 16 / 6	8,1	154,0	64203	64204	64205	64206	64207	64208	64209	64210	64211	64212	64213	64214	64215	64216	64217	64218
Part no. 25 / 4	9,6	240,0	64219	64220	64221	64222	64223	64224	64225	64226	64227	64228	64229	64230	64231	64232	64233	64234
Part no. 35 / 2	10,8	336,0	64235	64236	64237	64238	64239	64240	64241	64242	64243	64244	64245	64246	64247	64248	64249	64250
Part no. 50 / 1	13,6	480,0	64251	64252	64253	64254	64255	64256	64257	64258	64259	64260	64261	64262	64263	64264	64265	64266
Part no. 70 / 2/0	15,2	672,0	64267	64268	64269	64270	64271	64272	64273	64274	64275	64276	64277	64278	64279	64280	64281	64282
Part no. 95 / 3/0	16,8	912,0	64283	64284	64285	64286	64287	64288	64289	64290	64291	64292	64293	64294	64295	64296	64297	64298
Part no. 120 / 4/0	19,5	1152,0	64299	64300	64301	64302	64303	64304	64305	64306	64307	64308	64309	64310	64311	64312	64313	64314
Part no. 150 / 300 kcmil	22,2	1440,0	64315	64316	64317	64318	64319	64320	64321	64322	64323	64324	64325	64326	64327	64328	64329	64330

Barrel (with various capacity)

Cross-sec. mm² / AWG-no.	Outer Ø app. mm	Cop. weight kg / km	BK	GN-YE	BU	BN	RD	WH	GY	VT	YE	PK	GN	TRANS	D-BU	OG	o.col.	2-col.
app. RAL			9005	-	5015	8003	3000	1013	7000	4005	1021	3015	6018	-	5010	2003	-	-
Part no. 0,5 / 22	2,5	5,2	65402	65403	65404	65405	65406	65407	65408	65409	65413	65410	65412		65414	65411		
Part no. 0,75 / 20	2,65	7,2	65415	65416	65417	65418	65419	65420	65421	65422	65426	65423	65425		65427	65424		
Part no. 1 / 18	2,8	9,6	65428	65429	65430	65431	65432	65433	65434	65435	65439	65436	65438		65440	65437		

Barrel (with various capacity)

Cross-sec. mm² / AWG-no.	Outer Ø app. mm	Cop. weight kg / km	BK	GN-YE	BU	BN	RD	WH	GY	VT	YE	PK	GN	TRANS	D-BU	OG	o.col.	2-col.
app. RAL			9005	-	5015	8003	3000	1013	7000	4005	1021	3015	6018	-	5010	2003	-	-
Part no. 1,5 / 16	3,05	14,4	65441	65442	65443	65444	65445	65446	65447	65448	65452	65449	65451		65453	65450		
Part no. 2,5 / 14	3,6	24,0	65454	65455	65456	65457	65458	65459	65460	65461	65465	65462	65464		65466	65463		
Part no. 4 / 12	4,1	38,0	65467	65468	65469	65470	65471	65472	65473	65474	65478	65475	65477		65549	65476		
Part no. 6 / 10	4,8	58,0	65550	65551	65552	65553	65554	65555	65556	65557	65558	65559	65560		65561	65562		

Two colour

Cross-sec. mm² / AWG-no.	Outer Ø app. mm	Cop. weight kg / km	BU/WH	WH/BU	D-BU/WH	WH/OG	WH/RD	BK/OG	D-BU/OG	RD/WH	WH/D-BU	YE/BN	OG/BU					
app. RAL			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Part no. 0,5 / 22	2,5	5,2	63402	63403	63404	63405	63406	63482	63332	63352	63372	65386	69625					
Part no. 0,75 / 20	2,65	7,2	63407	63408	63409	63410	63411	63483	63333	63353	63373	65387	69626					
Part no. 1 / 18	2,8	9,6	63412	63413	63414	63415	63416	63484	63334	63354	63374	65388	69627					

Two colour

Cross-sec. mm² / AWG-no.	Outer Ø app. mm	Cop. weight kg / km	WH/YE	OG/D-BU	YE/BU	BU/OG	OG/RD	OG/BK	OG/WH	YE/RD	BK/YE							
app. RAL			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Part no. 0,5 / 22	2,5	5,2	69827	69828	69829	69830	69831	69832	69833	69834	69835							
Part no. 0,75 / 20	2,65	7,2	69836	69837	69838	69839	69840	69841	69842	69843	69844							
Part no. 1 / 18	2,8	9,6	69845	69846	69847	69848	69849	69850	69851	69852	69853							

Continuation ▸

FIVENORM

HAR-UL-CSA-AWM-MTW, PVC single core, UL Style 10269/UL Standard 1063, 600 V, 105°C

Two colour

Cross-sec. mm² / AWG-no.	Outer Ø app. mm	Cop. weight kg / km	BU/WH	WH/BU	D-BU/WH	WH/OG	WH/RD	BK/OG	D-BU/OG	RD/WH	WH/D-BU	YE/BN	OG/BU
app. RAL			-	-	-	-	-	-	-	-	-	-	-
Part no. 1,5 / 16	3,05	14,4	63417	63418	63419	63420	63421	63485	63335	63355	63375	65389	69628
Part no. 2,5 / 14	3,6	24,0	63422	63423	63424	63425	63426	63486	63336	63356	63376	65390	69629
Part no. 4 / 12	4,1	38,0	63427	63428	63429	63430	63431	63487	63337	63357	63377	65391	69630
Part no. 6 / 10	4,8	58,0	63432	63433	63434	63435	63436	63488	63338	63358	63378	65392	69655
Part no. 10 / 8	6,4	96,0	63437	63438	63439	63440	63441	63489	63339	63359	63379	65393	69656
Part no. 16 / 6	8,1	154,0	63442	63443	63444	63445	63446	63490	63340	63360	63380	65394	69657
Part no. 25 / 4	9,6	240,0	63447	63448	63449	63450	63451	63491	63342	63362	63382	65395	69658
Part no. 35 / 2	10,8	336,0	63452	63453	63454	63455	63456	63492	63343	63363	63383	65396	69659
Part no. 50 / 1	13,6	480,0	63457	63458	63459	63460	63461	63493	63344	63364	63384	65397	69660
Part no. 70 / 2/0	15,2	627,0	63462	63463	63464	63465	63466	63494	63345	63365	63385	65398	69738
Part no. 95 / 3/0	16,8	912,0	63467	63468	63469	63470	63471	63495	63346	63366	63386	65499	69739
Part no. 120 / 4/0	19,5	1152,0	63472	63473	63474	63475	63476	63496	63347	63367	63387	65400	69740
Part no. 150 / 300 kcmil	22,2	1440,0	63477	63478	63479	63480	63481	63497	63348	63368	63388	65401	69741

Two colour

Cross-sec. mm² / AWG-no.	Outer Ø app. mm	Cop. weight kg / km	WH/YE	OG/D-BU	YE/BU	BU/OG	OG/RD	OG/BK	OG/WH	YE/RD	BK/YE
app. RAL			-	-	-	-	-	-	-	-	-
Part no. 1,5 / 16	3,05	14,4	69854	69855	69856	69857	69858	69859	69860	69861	69862
Part no. 2,5 / 14	3,6	24,0	69863	69864	69865	69866	69867	69868	69869	69870	69871
Part no. 4 / 12	4,1	38,0	69872	69873	69874	69875	69876	69877	69878	69879	69880
Part no. 6 / 10	4,8	58,0	69881	69882	69883	69884	69885	69886	69887	69888	69889
Part no. 10 / 8	6,4	96,0	69890	69891	69892	69893	69894	69895	69896	69897	69898
Part no. 16 / 6	8,1	154,0	69899	69900	69901	69902	69903	69904	69905	69906	69907

Two colour, barrel (with various capacity)

Cross-sec. mm² / AWG-no.	Outer Ø app. mm	Cop. weight kg / km	BU/WH	WH/BU	D-BU/WH	WH/OG	WH/RD	BK/OG	D-BU/OG	RD/WH	WH/D-BU	YE/BN	OG/BU
app. RAL			-	-	-	-	-	-	-	-	-	-	-
Part no. 0,5 / 22	2,5	5,2	65479	65480	65481	65482	65483	65484	65485	65486	65487	65488	65489
Part no. 0,75 / 20	2,65	7,2	65490	65491	65492	65493	65494	65495	65496	65497	65498	65502	65503
Part no. 1 / 18	2,8	9,6	65504	65505	65506	65507	65508	65509	65510	65511	65512	65514	65515

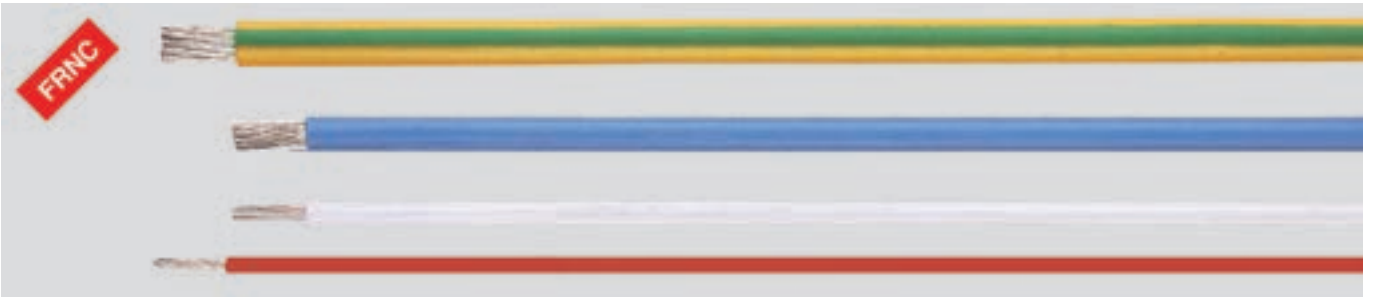
Two colour, barrel (with various capacity)

Cross-sec. mm² / AWG-no.	Outer Ø app. mm	Cop. weight kg / km	BU/WH	WH/BU	D-BU/WH	WH/OG	WH/RD	BK/OG	D-BU/OG	RD/WH	WH/D-BU	YE/BN	OG/BU
app. RAL			-	-	-	-	-	-	-	-	-	-	-
Part no. 1,5 / 16	3,05	14,4	65516	65517	65518	65519	65520	65521	65522	65523	65524	65525	65526
Part no. 2,5 / 14	3,6	24,0	65527	65528	65529	65530	65531	65532	65533	65534	65535	65536	65537
Part no. 4 / 12	4,1	38,0	65538	65539	65540	65541	65542	65543	65544	65545	65546	65547	65548

Dimensions and specifications may be changed without prior notice. (RN06)

HELUTHERM® 145

flexible, cross-linked, halogen-free



Technical data

- Halogen-free single cores with increased heat resistance
- **Temperature range**
  flexing -35°C to +120°C
  fixed installation -55°C to +145°C
- **Nominal voltage**
  up to 1 mm² = U_0/U 300/500 V
  from 1,5 mm² = U_0/U 450/ 750 V
  at fixed and protected installation
  from 1,5 mm² = U_0/U 600/1000 V
- **Test voltage**
  3500 V
- **Minimum bending radius**
  flexing 12,5x core Ø
  fixed installation 4x core Ø
- **Caloric load values**
  see "Technical Informations"
- **Approval**
  Germanischer Lloyd

Cable structure

- Tinned copper conductor, to DIN VDE 0295 cl.5, fine wire, BS 6360 cl.5, IEC 60228 cl.5
- Core insulation of polyolefin-copolymer cross-linked and halogen-free
- Core identification, see table below

Tests

- Flame test (unit flame test) acc. to DIN VDE 0482-332-3-22, BS 4066 Teil 3, DIN EN 60332-3-22, IEC 60332-3-22 (previously DIN VDE 0472 part 804 test method C)
- Flame test (cable) acc. to DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2 (equivalent DIN VDE 0472 part 804 test method B)
- Corrosiveness of combustion gases acc. to DIN VDE 0482 part 267, DIN EN 50267-2-2, IEC 60754-2 (equivalent DIN VDE 0472 part 813)
- Halogen-free acc. to DIN VDE 0482 part 267, DIN EN 50267-2-1, IEC 60754-1 (equivalent DIN VDE 0472 part 815)
- Smoke density acc. to DIN VDE 0482 part 1034-1+2, DIN EN 61034-1+2, IEC 61034-1+2, BS 7622 part 1+2 (previously DIN VDE 0472 part 816)

Properties

- Lower propagation of fire
- Low development of smoke and fumes
- Good abrasion and notch resistance
- Good resistance to oils and weathering
- Resistant to UV radiation and ozone
- Resistant to soldering temperatures
- Thermal class B
- These single-core cables are resistant to melting, even when in contact with a soldering iron at temperatures of between 300°C and 380°C, because of the cross-linking for the insulation material
- Due to the high temperature profile the cross section of conductor can under certain circumstances be reduced, hereby enabling a saving in space requirement and weight
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Application

These temperature resistant single-core cables are used for the internal wiring of lighting fixtures, heaters, electrical machinery, switching systems and distributors in equipment and plant and machinery, suitable for laying in tubes on and under plaster, in closed installation ducts, as well as for traffic systems and outdoor applications. These cables are not approved for direct routing on racks, gutters or tanks. These halogen-free single core cables are characterised by their amazingly high long-time resistance to temperature and feature among the leading halogen-free, flame resistant products in the world. These single core cables significantly contribute to safety and the environment.

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

Cross-sec. mm²	**Outer Ø app. mm**	**Cop. weight kg / km**	**Weight app. kg / km**	BK	GN-YE	BU	BN	RD	WH	GY	VT	YE	GN	D-BU	OG	BEIGE	2-col.
Part no. 0,25	1,6	2,4	4,0	50999	50998	51070	51071	51072	51073	51074	51075	51076	51078	51079	51077	51164	51165
Part no. 0,34	1,7	3,2	5,0	51167	51166	51168	51169	51170	51171	51172	51173	51174	51176	51177	51175	51178	51179
Part no. 0,5	1,9	4,8	7,0	51281	51280	51282	51283	51284	51285	51286	51287	51288	51290	51291	51289	51292	51293
Part no. 0,75	2,2	7,2	11,0	51295	51294	51296	51297	51298	51299	51300	51301	51302	51304	51305	51303	51306	51307
Part no. 1	2,5	9,6	14,0	51309	51308	51310	51311	51312	51313	51314	51315	51316	51318	51319	51317	51320	51321
Part no. 1,5	2,9	14,4	20,0	51323	51322	51324	51325	51326	51327	51328	51329	51330	51332	51333	51331	51334	51335
Part no. 2,5	3,5	24,0	30,0	51337	51336	51338	51339	51340	51341	51342	51343	51344	51346	51347	51345	51348	51349
Part no. 4	4,3	38,0	47,0	51351	51350	51352	51353	51354	51355	51356	51357	51358	51360	51361	51359	51362	51363
Part no. 6	5,0	58,0	72,0	51365	51364	51366	51367	51368	51369	51370	51371	51372	51374	51375	51373	51376	51377
Part no. 10	6,3	96,0	120,0	51379	51378	51380	51381	51382	51383	51384	51385	51386	51388	51389	51387	51390	51391

Continuation ▸

HELUTHERM® 145

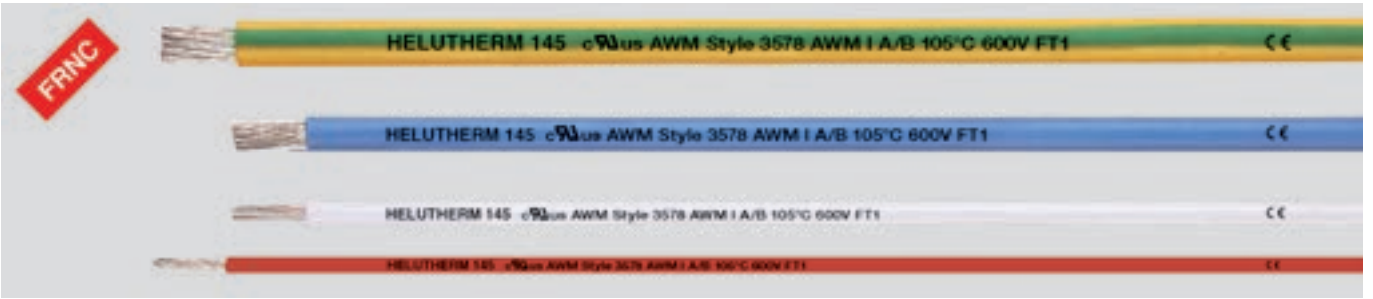
flexible, cross-linked, halogen-free

Cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	BK	GN-YE	BU	BN	RD	WH	GY	VT	YE	GN	D-BU	OG	BEIGE	2-col.
Part no. 16	7,3	154,0	182,0	51420	51419	51421	51422	51423	51424	51425	51426	51427	51429	51430	51428	51431	51432
Part no. 25	9,6	240,0	272,0	51434	51433	51435	51436	51437	51438	51439	51440	51441	51443	51444	51442	51445	51446
Part no. 35	10,8	336,0	371,0	51448	51447	51449	51450	51451	51452	51453	51454	51455	51457	51458	51456	51459	51460
Part no. 50	12,6	480,0	530,0	51462	51461	51463	51464	51465	51466	51467	51468	51469	51471	51472	51470	51473	51474
Part no. 70	14,6	672,0	730,0	51476	51475	51477	51478	51479	51480	51481	51482	51483	51485	51486	51484	51487	51488
Part no. 95	16,5	912,0	964,0	51490	51489	51491	51492	51493	51494	51495	51496	51497	51499	51500	51498	51501	51502
Part no. 120	18,0	1152,0	1235,0	51504	51503	51505	51506	51507	51508	51509	51510	51511	51513	51514	51512	51515	51516
Part no. 150	20,0	1440,0	1523,0	51518	51517	51519	51520	51521	51522	51523	51524	51525	51527	51528	51526	51529	51530
Part no. 185	22,2	1776,0	1850,0	51532	51531	51533	51534	51535	51536	51537	51538	51539	51541	51542	51540	51543	51544
Part no. 240	24,5	2304,0	2432,0	51546	51545	51547	51548	51549	51550	51551	51552	51553	51555	51556	51554	51557	51558

Dimensions and specifications may be changed without prior notice. (RK01)

HELUTHERM® 145

600 V, flexible single core, cross-linked, halogen-free



Technical data

- Halogen-free single cores with increased heat resistance acc. to UL Style 3578 CSA C22.2 No. 210
- **Temperature range**
  flexing -35°C to +120°C
  fixed installation -55°C to +145°C
  UL/CSA
  flexing -35°C to +105°C
  fixed installation -55°C to +105°C
- **Nominal voltage**
  600 V
- **Test voltage**
  3000 V
- **Minimum bending radius**
  flexing 12,5x core Ø
  fixed installation 4x core Ø
- **Caloric load values**
  see "Technical Informations"
- **Power ratings table**
  see "Technical Informations"
- **Approval**
  Germanischer Lloyd

Cable structure

- Tinned Cu wires, acc. to DIN VDE 0295 cl.5, BS 6360 cl.5 and IEC 60228 cl.5
- Core insulation of cross-linked polyolefin-copolymer
- Core identification, see table below

Tests

- Flame test acc. to DIN VDE 0482-332-3-22, BS 4066 part 3, DIN EN 60332-3-22, IEC 60332-3-22 (previously DIN VDE 0472 part 804 test method C)
- Corrosiveness of combustion gases acc. to DIN VDE 0482 part 267, DIN EN 50267-2-2, IEC 60754-2 (equivalent DIN VDE 0472 part 813)
- Halogen-free acc. to DIN VDE 0482 part 267, DIN EN 50267-2-1, IEC 60754-1 (equivalent DIN VDE 0472 part 815)
- Smoke density acc. to DIN VDE 0482 part 1034-1+2, DIN EN 61034-1+2, IEC 61034-1+2, BS 7622 part 1+2 (previously DIN VDE 0472 part 816)

Properties

- Halogen-free
- Lower propagation of fire
- Low development of smoke and fumes
- Good abrasion and notch resistance
- Good resistance to oils and weathering
- Resistant to UV radiation and ozone
- Resistant to soldering temperatures
- Resistant to melting, even when in contact with a soldering iron at temperatures of between 300°C and 380°C, because of the cross-linking for the insulation material
- Due to the high temperature profile the cross section of conductor can under certain circumstances be reduced, hereby enabling a saving in space requirement and weight
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Application

These temperature resistant single-core cables are used for the internal wiring of lighting fixtures, heaters, electrical machinery, switching systems and distributors in equipment and plant and machinery, suitable for installation on, in and beneath plaster, in closed installation ducts, as well as for traffic systems and outdoor applications. These cables are not approved for direct routing on racks, gutters or tanks. These halogen-free single core cables are characterised by their amazingly high long-time resistance to temperature and feature among the leading halogen-free, flame resistant products in the world.

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

Cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	BK	GN-YE	BU	BN	RD	WH	GY	VT	YE	PK	GN	OG	BEIGE	2-col.
Part no. 0,25	2,3	2,4	7,0	59473	59472	59474	59475	59476	59477	59478	59479	59480	59483	59482	59481	59484	59485
Part no. 0,5	2,6	4,8	11,0	59487	59486	59488	59489	59490	59491	59492	59493	59494	59497	59496	59495	59498	59499
Part no. 0,75	2,8	7,2	14,0	59501	59500	59502	59503	59504	59505	59506	59507	59508	59511	59510	59509	59512	59513
Part no. 1	2,9	9,6	17,0	59515	59514	59516	59517	59518	59519	59520	59521	59522	59525	59524	59523	59526	59527
Part no. 1,5	3,1	14,4	22,0	59529	59528	59530	59531	59532	59533	59534	59535	59536	59539	59538	59537	59540	59541
Part no. 2,5	3,6	24,0	33,0	59543	59542	59544	59545	59546	59547	59548	59549	59550	59553	59552	59551	59554	59555
Part no. 4	4,3	38,4	53,0	59557	59556	59558	59559	59560	59561	59562	59563	59564	59567	59566	59565	59568	59569
Part no. 6	5,0	57,6	78,0	59571	59570	59572	59573	59574	59575	59576	59577	59578	59581	59580	59579	59582	59583
Part no. 10	6,4	96,0	136,0	59585	59584	59586	59587	59588	59589	59590	59591	59592	59595	59594	59593	59596	59597
Part no. 16	7,5	154,0	203,0	59599	59598	59600	59601	59602	59603	59604	59605	59606	59609	59608	59607	59610	59611
Part no. 25	9,6	240,0	300,0	59613	59612	59614	59615	59616	59617	59618	59619	59620	59623	59622	59621	59624	59625
Part no. 35	10,8	336,0	405,0	59627	59626	59628	59629	59630	59631	59632	59633	59634	59637	59636	59635	59638	59639
Part no. 50	12,6	480,0	580,0	59641	59640	59642	59643	59644	59645	59646	59647	59648	59651	59650	59649	59652	59653

Dimensions and specifications may be changed without prior notice. (RN06)

THHN / THWN

90°C, 600 V, UL listed, PVC + nylon single core

Technical data

- PVC + Nylon insulated single cores to UL Std.83 and UL Std.1063 (MTW)
- **Temperature range**
  THHN dry environments: 90°C
  THWN wet environments: 75°C
- **Nominal voltage**
  600 V
- **Minimum bending radius**
  8x core Ø
- **Test voltage** (Spark test)
  AWG 14 to AWG 10 = 7,5 kV
  AWG 8 to AWG 2/0 = 10 kV
  AWG 3/0 to AWG 4/0 = 12,5 kV
  kcmil 250 to kcmil 500 = 15 kV
  kcmil 600 to kcmil 1000 = 17,5 kV

Cable structure

- Bare copper conductor, with AWG dimensions
- Core insulation of PVC and Nylon-sheath
- Core identification coloured

Properties

Resistant against

- Oils
- Gasoline
- Water
- Acids
- Ozone
- Lyes
- Sunlight
- Abrasion

Note

- 1 kcmil = 1000 circ mils = 0,5067 mm².
- Please complete the part number for these cables by adding the suffix for the colour required as per the list:
  0 = green
  1 = black
  2 = blue
  3 = brown
  4 = red
  5 = white
  6 = grey
  7 = yellow
  8 = orange
  9 = pink

Application

For the electronical installation of machine tools and the relative control. THWN = Thermoplastic PVC-insulated building wire, Heat resistant 75°C, for Wet and dry locations, flame retardant. THHN = Thermoplastic PVC-insulated building wire, Nylon sheath, 90°C, 600 V, for dry and damp locations.
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	Cross-section mm²	AWG-No.	Cond. make-up n x wire Ø	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
6320x	2,08	14	19 x 0,38	3,0	20,7	25,0
6321x	3,32	12	19 x 0,48	3,4	33,0	37,0
6322x	5,26	10	19 x 0,6	4,3	51,6	60,0
6323x	8,35	8	19 x 0,75	5,5	80,6	95,0
6324x	13,39	6	19 x 0,96	6,6	125,0	143,0
6325x	21,14	4	19 x 1,19	8,4	201,0	229,0
6326x	26,65	3	19 x 1,336	9,1	253,0	282,0
6327x	33,61	2	19 x 1,5	10,0	317,0	349,0
6328x	42,38	1	19 x 1,686	11,4	399,0	449,0
6329x	53,47	1/0	19 x 1,89	12,4	500,0	557,0
6330x	67,4	2/0	19 x 2,126	13,7	631,0	691,0
6331x	84,97	3/0	19 x 2,387	15,0	792,0	861,0
6332x	107,17	4/0	19 x 2,68	16,5	996,0	1069,0

Part no.	Cross-section mm²	AWG-No.	Cond. make-up n x wire Ø	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
63331	127	250 kcmil	37 x 2,088	18,29	1178,0	1277,0
63341	152	300 kcmil	37 x 2,286	19,56	1410,0	1515,0
63351	178	350 kcmil	37 x 2,47	21,08	1645,0	1753,0
63361	203	400 kcmil	37 x 2,7	22,35	1902,0	1998,0
63371	254	500 kcmil	37 x 2,95	24,13	2345,0	2466,0
63381	304	600 kcmil	61 x 2,52	26,75	2920,0	3000,0
63391	380	750 kcmil	61 x 2,82	29,36	3658,0	3713,0
63401	507	1000 kcmil	61 x 3,25	33,27	4858,0	4870,0

Command Cable UL (LiYY)

Style 2464, 300 V, 80°C

Technical data

- Special PVC command cable, approved to UL Style 2464, cores
  for AWG 26-20 to UL Style 1061/1729
  for AWG 18-16 to UL Style 1007/1569
- **Temperature range**
  flexing -10°C to +80°C
  fixed installation -20°C to +80°C
- **Nominal voltage**
  300 V
- **Test voltage**
  1500 V
- **Breakdown voltage**
  min. 3000 V
- **Minimum bending radius**
  flexing 15x cable Ø
  fixed installation 7,5x cable Ø

Cable structure

- Tinned copper conductor, fine wire,
  AWG 26-20 to ASTM-B 174-95 class J-M,
  AWG 18-16 to ASTM-B 286
  Conductor make-up to:
  0,14 mm² = 7x0,162 mm
  0,23 mm² = 7x0,202 mm
  0,34 mm² = 7x0,254 mm
  0,56 mm² = 7x0,32 mm
  0,82 mm² = 19x0,235 mm
  1,30 mm² = 19x0,31 mm
- Core insulation of special PVC class 43 respectively semirigid acc. to UL Std.1581 tab.50.182 and 50.183
- Core identification to DIN 47100 or international colour code
- Cores stranded in layers with optimal lay length
- Outer sheath of special PVC class 43 acc. to UL Std.1581 tab.50.182
- Sheath colour:
  black (international colour code)
  grey (DIN 47100 - preferred type)

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- **To a large extent resistant to**
  Oil
  Solvents
  Acids
  Lyes

Tests

- PVC flame retardant acc. to UL VW-1, CSA FT1

Note

- AWG sizes are approximate equivalent values. The actual cross section is in mm².
- Screened analogue type:
  command cable UL (LiYCY)

Application

As a flexible connector and connecting cable, as control, signal and measuring line of machine tools, conveyor belts and plant construction, air conditioning systems, in foundries and steel mills.

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

Part no. Sheath colour grey	Part no. Sheath colour black	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
83137	83045	2 x 0,14	26	3,6	3,6	13,0
83138	83046	3 x 0,14	26	3,8	4,0	15,0
83139	83047	4 x 0,14	26	4,0	5,4	18,0
83140	83048	6 x 0,14	26	4,6	8,1	25,0
83141	83049	10 x 0,14	26	5,6	13,4	38,0
83142	83050	12 x 0,14	26	5,8	16,2	46,0
83143	83055	16 x 0,14	26	6,3	21,5	56,0
83144	83056	18 x 0,14	26	6,6	34,4	62,0
83145	83057	24 x 0,14	26	7,5	32,4	82,0
83146	83058	27 x 0,14	26	7,6	36,3	97,0
83147	83059	30 x 0,14	26	8,0	40,4	110,0
83153	83130	2 x 0,23	24	3,8	4,6	16,0
83154	83131	3 x 0,23	24	4,0	7,1	19,0
83155	83132	4 x 0,23	24	4,3	9,4	23,0
83156	83133	6 x 0,23	24	4,9	14,2	32,0
83157	83134	10 x 0,23	24	6,0	23,8	55,0
83158	83135	12 x 0,23	24	6,2	28,5	60,0
83159	83136	16 x 0,23	24	6,8	38,1	75,0
83160	83371	18 x 0,23	24	7,1	43,1	82,0
83161	83372	24 x 0,23	24	8,1	59,7	116,0
83162	83373	27 x 0,23	24	8,4	64,7	140,0
83163	83374	30 x 0,23	24	8,9	71,9	150,0
83169	83375	2 x 0,34	22	4,1	6,5	25,0
83170	83376	3 x 0,34	22	4,3	9,8	30,0
83171	83377	4 x 0,34	22	4,6	13,0	45,0
83172	83378	6 x 0,34	22	5,4	19,6	60,0
83173	83379	10 x 0,34	22	6,6	32,5	80,0
83174	83380	12 x 0,34	22	6,8	39,1	105,0
83175	83381	16 x 0,34	22	7,5	52,0	130,0
83176	83382	18 x 0,34	22	8,1	59,0	140,0
83177	83383	24 x 0,34	22	9,4	79,0	190,0
83178	83384	27 x 0,34	22	9,7	88,0	207,0
83179	83385	30 x 0,34	22	10,2	97,8	225,0

Part no. Sheath colour grey	Part no. Sheath colour black	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
83185	83386	2 x 0,56	20	4,6	9,8	30,0
83186	83387	3 x 0,56	20	4,8	14,6	33,0
83187	83388	4 x 0,56	20	5,2	19,4	41,0
83188	83389	6 x 0,56	20	6,1	29,0	65,0
83189	83390	10 x 0,56	20	7,6	48,2	102,0
83190	83391	12 x 0,56	20	7,8	58,2	120,0
83191	83392	16 x 0,56	20	8,7	77,3	152,0
83192	83393	18 x 0,56	20	9,3	87,0	168,0
83193	83394	24 x 0,56	20	10,9	116,3	224,0
83194	83395	27 x 0,56	20	11,2	129,8	260,0
83195	83396	30 x 0,56	20	11,8	144,6	300,0
83201	83397	2 x 0,82	18	6,1	15,2	50,0
83202	83398	3 x 0,82	18	6,4	23,2	62,0
83203	83399	4 x 0,82	18	6,9	31,3	72,0
83204	83474	6 x 0,82	18	8,1	47,0	100,0
83205	83475	10 x 0,82	18	10,4	78,2	180,0
83206	83476	12 x 0,82	18	10,9	94,0	182,0
83207	83477	16 x 0,82	18	12,2	125,1	240,0
83208	83478	18 x 0,82	18	13,0	141,1	270,0
83209	83479	24 x 0,82	18	15,2	188,2	370,0
83210	83480	27 x 0,82	18	15,8	212,0	400,0
83211	83481	30 x 0,82	18	16,3	235,6	470,0
83217	83482	2 x 1,3	16	6,6	24,4	70,0
83218	83483	3 x 1,3	16	7,0	37,1	90,0
83219	83484	4 x 1,3	16	7,6	49,4	110,0
83220	83491	6 x 1,3	16	9,2	74,2	160,0
83221	83492	10 x 1,3	16	11,8	124,0	250,0
83222	83493	12 x 1,3	16	12,2	149,0	300,0
83223	83494	16 x 1,3	16	13,7	198,7	400,0
83224	83495	18 x 1,3	16	14,6	224,0	450,0
83225	83496	24 x 1,3	16	17,0	298,4	650,0
83226	83497	27 x 1,3	16	17,6	336,0	680,0
83227	83498	30 x 1,3	16	18,6	373,6	750,0

Dimensions and specifications may be changed without prior notice. (RN02)

Command Cable UL (LiYCY)

Style 2464, 300 V, 80°C, EMC-preferred type

Technical data

- Special PVC command cable, approved to UL Style 2464, cores
  for AWG 26-20 to UL Style 1061/1729
  for AWG 18-16 to UL Style 1007/1569
- **Temperature range**
  flexing -10°C to +80°C
  fixed installation -20°C to +80°C
- **Nominal voltage**
  300 V
- **Test voltage**
  1500 V
- **Breakdown voltage**
  min. 3000 V
- **Minimum bending radius**
  flexing 15x cable Ø
  fixed installation 7,5x cable Ø
- **Coupling resistance**
  max. 250 Ohm/km

Cable structure

- Tinned copper conductor, fine wire,
  AWG 26-20 to ASTM-B 174-95 class J-M,
  AWG 18-16 to ASTM-B 286
  Conductor make-up to:
  0,14 mm² = 7x0,162 mm
  0,23 mm² = 7x0,202 mm
  0,34 mm² = 7x0,254 mm
  0,56 mm² = 7x0,32 mm
  0,82 mm² = 19x0,235 mm
  1,30 mm² = 19x0,31 mm
- Core insulation of special PVC class 43 respectively semirigid acc. to UL Std. 1581 tab.50.182 and 50.183
- Colour coded to DIN 47100 or international colour code
- Cores stranded in layers with optimal lay length
- Seperator-foil
- Drain wire
- Tinned copper wire braiding, approx. 85% coverage
- Outer sheath of PVC class 43 acc. to UL Std.1581 tab.50.182
- Sheath colour:
  black (international colour code)
  grey (DIN 47100 - preferred type)

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- **To a large extent resistant to**
  Oil
  Solvents
  Acids
  Lyes

Tests

- PVC flame retardant acc. to UL VW-1, CSA FT1

Note

- AWG sizes are approximate equivalent values. The actual cross section is in mm².
- Unscreened analogue types:
  command cable UL (LiYY)

Application

As a flexible interconnecting cable for electronics, control and command technology, as well as in measurement, signal, and pulse technology. Fast and inexpensive contacting by cutting and clamping technology.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

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

Part no. Sheath colour grey	Part no. Sheath colour black	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
83254	83976	2 x 0,14	26	3,9	12,6	20,0
83255	83977	3 x 0,14	26	4,2	13,7	25,0
83256	83978	4 x 0,14	26	4,4	14,9	28,0
83257	83979	6 x 0,14	26	5,0	18,9	30,0
83258	83980	10 x 0,14	26	6,1	29,5	50,0
83259	83981	12 x 0,14	26	6,3	31,4	53,0
83260	83982	16 x 0,14	26	6,8	43,9	60,0
83261	83983	18 x 0,14	26	7,1	52,1	70,0
83262	83984	24 x 0,14	26	8,0	62,8	100,0
83263	83985	27 x 0,14	26	8,4	66,3	105,0
83264	83986	30 x 0,14	26	8,6	70,4	110,0

Part no. Sheath colour grey	Part no. Sheath colour black	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
83270	83987	2 x 0,23	24	4,3	16,1	20,0
83271	83988	3 x 0,23	24	4,5	18,9	25,0
83272	83989	4 x 0,23	24	4,8	23,0	30,0
83273	83990	6 x 0,23	24	5,4	32,8	40,0
83274	83991	10 x 0,23	24	6,5	50,9	60,0
83275	83992	12 x 0,23	24	6,7	59,1	70,0
83276	83993	16 x 0,23	24	7,4	68,4	90,0
83277	83994	18 x 0,23	24	7,7	79,5	123,0
83278	83995	24 x 0,23	24	8,8	97,3	131,0
83279	83996	27 x 0,23	24	9,0	122,0	160,0
83280	83997	30 x 0,23	24	9,3	132,0	170,0

Continuation ▸

Command Cable UL (LiYCY)

Style 2464, 300 V, 80°C, EMC-preferred type

Part no. Sheath colour grey	Part no. Sheath colour black	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
83286	65044	2 x 0,34	22	4,6	18,1	40,0
83287	65045	3 x 0,34	22	4,8	22,2	50,0
83288	65046	4 x 0,34	22	5,1	28,7	60,0
83289	65047	6 x 0,34	22	6,0	45,4	80,0
83290	65048	10 x 0,34	22	7,3	66,1	130,0
83291	65049	12 x 0,34	22	7,5	70,8	140,0
83292	65050	16 x 0,34	22	8,2	88,4	160,0
83293	65051	18 x 0,34	22	8,7	104,1	170,0
83294	65052	24 x 0,34	22	9,9	129,0	220,0
83295	65053	27 x 0,34	22	10,4	138,4	250,0
83296	65054	30 x 0,34	22	10,9	159,0	280,0
83302	65055	2 x 0,56	20	5,1	29,4	50,0
83303	65056	3 x 0,56	20	5,3	39,7	55,0
83304	65057	4 x 0,56	20	5,6	46,1	61,0
83305	65058	6 x 0,56	20	6,6	66,8	90,0
83306	65059	10 x 0,56	20	8,1	93,1	133,0
83307	65060	12 x 0,56	20	8,4	117,4	151,0
83308	65061	16 x 0,56	20	9,5	130,4	190,0
83309	65062	18 x 0,56	20	9,9	151,4	216,0
83310	65063	24 x 0,56	20	11,5	237,0	339,0
83311	65064	27 x 0,56	20	12,0	257,4	374,0
83312	65065	30 x 0,56	20	12,4	297,0	397,0

Part no. Sheath colour grey	Part no. Sheath colour black	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
83318	65066	2 x 0,82	18	6,5	39,1	60,0
83319	65067	3 x 0,82	18	6,8	50,0	75,0
83320	65068	4 x 0,82	18	7,4	59,1	90,0
83321	65069	6 x 0,82	18	8,8	89,1	125,0
83322	65070	10 x 0,82	18	10,9	141,4	180,0
83323	65071	12 x 0,82	18	11,2	152,8	220,0
83324	65072	16 x 0,82	18	12,9	184,1	290,0
83325	65073	18 x 0,82	18	13,5	207,2	300,0
83326	65074	24 x 0,82	18	15,6	272,6	450,0
83327	65075	27 x 0,82	18	15,9	289,1	470,0
83328	65076	30 x 0,82	18	16,6	317,4	490,0
83334	65077	2 x 1,3	16	6,9	59,1	90,0
83335	65078	3 x 1,3	16	7,3	74,1	160,0
83336	65079	4 x 1,3	16	7,9	96,4	200,0
83337	65080	6 x 1,3	16	9,6	137,4	290,0
83338	65081	10 x 1,3	16	12,4	191,7	450,0
83339	65082	12 x 1,3	16	12,8	251,7	600,0
83340	65083	16 x 1,3	16	12,8	276,1	650,0
83341	65084	18 x 1,3	16	15,5	364,1	680,0
83342	65085	24 x 1,3	16	18,1	442,4	900,0
83343	65086	27 x 1,3	16	18,7	494,7	990,0
83344	65087	30 x 1,3	16	19,5	521,4	1050,0

Dimensions and specifications may be changed without prior notice. (RN02)

Command Cable UL (LiYY-TP)

Style 2464, 300 V, 80°C

Technical data

- Special PVC command cable approved to UL Style 2464, cores acc. to UL Style 1061/1729
- **Temperature range**
  flexing -10°C to +80°C
  fixed installation -20°C to +80°C
- **Nominal voltage**
  300 V
- **Test voltage**
  1500 V
- **Breakdown voltage**
  min. 3000 V
- **Insulation resistance**
  min. 100 MOhm x km
- **Minimum bending radius**
  flexing 15x cable Ø
  fixed installation 7,5x cable Ø

Cable structure

- Tinned copper conductor, fine wire, acc. to ASTM-B 174-95 class J-M
  Conductor make-up to:
  0,14 mm² = 7x0,162 mm
  0,23 mm² = 7x0,202 mm
  0,34 mm² = 7x0,254 mm
  0,56 mm² = 7x0,32 mm
- Core insulation of special PVC class 43 respectively semirigid acc. to UL Std.1581 tab.50.182 and 50183
- Core identification (pair) to DIN 47100, with colour repetition from pair no. 23 or international colour code
- Cores stranded in pairs with optimal lay length
- Pairs stranded in layers with optimal lay length
- Seperator-foil
- Outer sheath of special PVC class 43 acc. to UL Std.1581 tab.50.182
- Sheath colour:
  black (international colour code)
  grey (DIN 47100 - preferred type)

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- **To a large extent resistant to**
  Oil
  Solvents
  Acids
  Lyes

Tests

- PVC flame retardant acc. to UL VW-1, CSA FT1

Note

- AWG sizes are approximate equivalent values. The actual cross section is in mm².
- Screened analogue type:
  command cable UL (LiYCY-TP)

Application

Twisted pair control cable for use in tool making machinery conveyor system and production lines, in industrial plants and in air conditioning as well as in the steel producing industries.

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

Part no. Sheath colour grey	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
83904	1 x 2 x 0,14	26	3,6	2,7	20,0
83905	2 x 2 x 0,14	26	5,1	5,4	24,0
83906	3 x 2 x 0,14	26	5,3	8,1	30,0
83907	4 x 2 x 0,14	26	5,8	10,8	38,0
83908	5 x 2 x 0,14	26	6,2	13,6	44,0
83909	6 x 2 x 0,14	26	6,8	16,2	51,0
83910	7 x 2 x 0,14	26	6,8	19,0	57,0
83911	8 x 2 x 0,14	26	7,3	21,7	64,0
83912	10 x 2 x 0,14	26	7,4	26,7	76,0
83913	12 x 2 x 0,14	26	9,1	32,6	93,0
83914	14 x 2 x 0,14	26	9,8	37,4	103,0
83915	15 x 2 x 0,14	26	10,6	40,7	109,0
83916	16 x 2 x 0,14	26	10,6	43,4	112,0
83917	18 x 2 x 0,14	26	11,1	48,5	119,0
83918	20 x 2 x 0,14	26	11,9	54,2	130,0
83919	22 x 2 x 0,14	26	12,4	59,3	150,0
83920	24 x 2 x 0,14	26	13,1	64,7	169,0
83921	25 x 2 x 0,14	26	13,4	67,2	178,0
83922	1 x 2 x 0,23	24	3,8	4,8	32,0
83923	2 x 2 x 0,23	24	5,3	9,7	36,0
83924	3 x 2 x 0,23	24	5,7	14,7	48,0
83925	4 x 2 x 0,23	24	6,2	19,6	56,0
83926	5 x 2 x 0,23	24	6,6	24,6	71,0
83927	6 x 2 x 0,23	24	7,2	29,3	80,0
83928	7 x 2 x 0,23	24	7,2	34,1	89,0
83929	8 x 2 x 0,23	24	7,8	39,1	98,0
83930	10 x 2 x 0,23	24	9,2	48,9	111,0
83931	12 x 2 x 0,23	24	9,7	59,4	135,0
83932	14 x 2 x 0,23	24	10,2	68,7	160,0

Part no. Sheath colour black	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
65214	1 x 2 x 0,14	26	3,6	2,7	20,0
65215	2 x 2 x 0,14	26	5,1	5,4	24,0
65216	3 x 2 x 0,14	26	5,3	8,1	30,0
65217	4 x 2 x 0,14	26	5,8	10,8	38,0
65218	5 x 2 x 0,14	26	6,2	13,6	44,0
65219	6 x 2 x 0,14	26	6,8	16,2	51,0
65220	7 x 2 x 0,14	26	6,8	19,0	57,0
65221	8 x 2 x 0,14	26	7,3	21,7	64,0
65222	10 x 2 x 0,14	26	7,4	26,7	76,0
65223	12 x 2 x 0,14	26	9,1	32,6	93,0
65224	14 x 2 x 0,14	26	9,8	37,4	103,0
65225	15 x 2 x 0,14	26	10,6	40,7	109,0
65226	16 x 2 x 0,14	26	10,6	43,4	112,0
65227	18 x 2 x 0,14	26	11,1	48,5	119,0
65228	20 x 2 x 0,14	26	11,9	54,2	130,0
65229	22 x 2 x 0,14	26	12,4	59,3	150,0
65230	24 x 2 x 0,14	26	13,1	64,7	169,0
65231	25 x 2 x 0,14	26	13,4	67,2	178,0
65232	1 x 2 x 0,23	24	3,8	4,8	32,0
65233	2 x 2 x 0,23	24	5,3	9,7	36,0
65234	3 x 2 x 0,23	24	5,7	14,7	48,0
65235	4 x 2 x 0,23	24	2,0	19,6	56,0
65236	5 x 2 x 0,23	24	6,0	24,6	56,0
65237	6 x 2 x 0,23	24	7,2	29,3	80,0
65238	7 x 2 x 0,23	24	7,2	34,1	89,0
65239	8 x 2 x 0,23	24	7,8	39,1	98,0
65240	10 x 2 x 0,23	24	9,2	48,9	111,0
65241	12 x 2 x 0,23	24	9,7	59,4	135,0
65242	14 x 2 x 0,23	24	10,2	68,7	160,0

Continuation ▸

Command Cable UL (LiYY-TP)

Style 2464, 300 V, 80°C

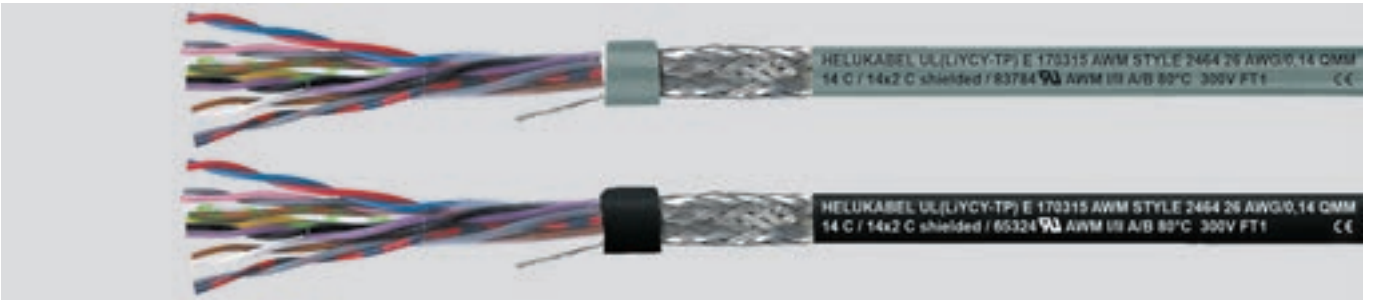
Part no. Sheath colour grey	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
83933	15 x 2 x 0,23	24	10,9	73,7	171,0
83934	16 x 2 x 0,23	24	10,9	79,1	185,0
83935	18 x 2 x 0,23	24	11,5	88,9	209,0
83936	20 x 2 x 0,23	24	12,2	98,4	230,0
83937	22 x 2 x 0,23	24	13,0	108,6	248,0
83938	24 x 2 x 0,23	24	13,7	117,9	279,0
83939	25 x 2 x 0,23	24	14,2	123,5	292,0
83940	1 x 2 x 0,34	22	4,2	6,5	38,0
83941	2 x 2 x 0,34	22	5,9	13,0	44,0
83942	3 x 2 x 0,34	22	6,3	19,5	60,0
83943	4 x 2 x 0,34	22	7,0	26,1	79,0
83944	5 x 2 x 0,34	22	7,6	32,6	92,0
83945	6 x 2 x 0,34	22	8,2	39,2	119,0
83946	7 x 2 x 0,34	22	8,2	45,7	128,0
83947	8 x 2 x 0,34	22	9,0	52,3	139,0
83948	10 x 2 x 0,34	22	10,7	65,3	171,0
83949	12 x 2 x 0,34	22	11,3	78,4	194,0
83950	14 x 2 x 0,34	22	12,1	91,5	222,0
83951	15 x 2 x 0,34	22	12,7	97,8	231,0
83952	16 x 2 x 0,34	22	12,7	104,6	240,0
83953	18 x 2 x 0,34	22	13,6	117,8	264,0
83954	20 x 2 x 0,34	22	14,4	130,7	291,0
83955	22 x 2 x 0,34	22	15,1	143,6	300,0
83956	24 x 2 x 0,34	22	16,2	156,8	359,0
83957	25 x 2 x 0,34	22	16,7	163,3	381,0
83958	1 x 2 x 0,56	20	4,6	10,8	60,0
83959	2 x 2 x 0,56	20	6,5	21,5	80,0
83960	3 x 2 x 0,56	20	7,1	32,3	94,0
83961	4 x 2 x 0,56	20	7,8	43,1	104,0
83962	5 x 2 x 0,56	20	8,6	53,8	130,0
83963	6 x 2 x 0,56	20	9,6	64,6	151,0
83964	7 x 2 x 0,56	20	9,6	75,3	174,0
83965	8 x 2 x 0,56	20	12,2	86,1	262,0
83966	10 x 2 x 0,56	20	12,5	107,7	298,0
83967	12 x 2 x 0,56	20	13,1	129,1	302,0
83968	14 x 2 x 0,56	20	13,8	150,6	327,0
83969	15 x 2 x 0,56	20	14,7	161,3	370,0
83970	16 x 2 x 0,56	20	14,7	172,1	402,0
83971	18 x 2 x 0,56	20	15,7	193,6	480,0
83972	20 x 2 x 0,56	20	16,7	215,1	551,0
83973	22 x 2 x 0,56	20	17,2	236,6	621,0
83974	24 x 2 x 0,56	20	18,6	258,0	703,0
83975	25 x 2 x 0,56	20	19,2	268,9	721,0

Part no. Sheath colour black	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
65243	15 x 2 x 0,23	24	10,9	73,7	171,0
65244	16 x 2 x 0,23	24	10,9	79,1	185,0
65245	18 x 2 x 0,23	24	11,5	88,9	209,0
65246	20 x 2 x 0,23	24	12,2	98,4	230,0
65247	22 x 2 x 0,23	24	13,0	108,6	248,0
65248	24 x 2 x 0,23	24	13,7	117,9	279,0
65249	25 x 2 x 0,23	24	14,2	123,5	292,0
65250	1 x 2 x 0,34	22	4,2	6,5	38,0
65251	2 x 2 x 0,34	22	5,9	13,0	44,0
65252	3 x 2 x 0,34	22	6,3	19,5	60,0
65253	4 x 2 x 0,34	22	7,0	26,1	79,0
65254	5 x 2 x 0,34	22	7,6	32,6	92,0
65255	6 x 2 x 0,34	22	8,2	39,2	119,0
65256	7 x 2 x 0,34	22	8,2	45,7	128,0
65257	8 x 2 x 0,34	22	9,0	52,3	139,0
65258	10 x 2 x 0,34	22	10,7	65,3	171,0
65259	12 x 2 x 0,34	22	11,3	78,4	194,0
65260	14 x 2 x 0,34	22	12,1	91,5	222,0
65261	15 x 2 x 0,34	22	12,7	97,8	231,0
65262	16 x 2 x 0,34	22	12,7	104,6	240,0
65263	18 x 2 x 0,34	22	13,6	117,8	264,0
65264	20 x 2 x 0,34	22	14,4	130,7	291,0
65265	22 x 2 x 0,34	22	15,1	143,6	300,0
65266	24 x 2 x 0,34	22	16,2	156,8	359,0
65267	25 x 2 x 0,34	22	16,7	163,3	381,0
65268	1 x 2 x 0,56	20	4,6	10,8	60,0
65269	2 x 2 x 0,56	20	6,5	21,5	80,0
65270	3 x 2 x 0,56	20	7,1	32,3	94,0
65271	4 x 2 x 0,56	20	7,8	43,1	104,0
65272	5 x 2 x 0,56	20	8,6	53,8	130,0
65273	6 x 2 x 0,56	20	9,6	64,6	151,0
65274	7 x 2 x 0,56	20	9,6	75,3	174,0
65275	8 x 2 x 0,56	20	12,1	86,1	262,0
65276	10 x 2 x 0,56	20	12,5	107,7	298,0
65277	12 x 2 x 0,56	20	13,1	129,1	302,0
65278	14 x 2 x 0,56	20	13,8	150,6	327,0
65279	15 x 2 x 0,56	20	14,7	161,3	370,0
65280	16 x 2 x 0,56	20	14,7	172,1	402,0
65281	18 x 2 x 0,56	20	15,7	193,6	480,0
65282	20 x 2 x 0,56	20	16,7	215,1	551,0
65283	22 x 2 x 0,56	20	17,2	236,6	621,0
65284	24 x 2 x 0,56	20	18,6	258,0	703,0
65285	25 x 2 x 0,56	20	19,2	268,9	721,0

Dimensions and specifications may be changed without prior notice. (RN02)

Command Cable UL (LiYCY-TP)

Style 2464, 300 V, 80°C, Cu-screened, EMC-preferred type



Technical data

- Special PVC command cable approved to UL Style 2464, cores acc. to UL Style 1061/1729
- **Temperature range**
  flexing -10°C to +80°C
  fixed installation -20°C to +80°C
- **Nominal voltage**
  300 V
- **Test voltage**
  1500 V
- **Breakdown voltage**
  min. 3000 V
- **Insulation resistance**
  min. 100 MOhm x km
- **Minimum bending radius**
  flexing 15x cable Ø
  fixed installation 7,5x cable Ø
- **Coupling resistance**
  max. 250 Ohm/km

Cable structure

- Tinned copper conductor, fine wire, acc. to ASTM-B 174-95 class J-M
  Conductor make-up to:
  0,14 mm² = 7x0,162 mm
  0,23 mm² = 7x0,202 mm
  0,34 mm² = 7x0,254 mm
  0,56 mm² = 7x0,32 mm
- Core insulation of special PVC class 43 respectively semirigid acc. to UL Std.1581 tab.50.182 and 50183
- Core identification (pair) to DIN 47100 with colour repetition from pair no. 23 and above or international colour code
- Cores stranded in pairs with optimal lay length
- Pairs stranded in layers with optimal lay length
- Seperator-foil
- Drain wire
- Tinned copper wire braiding, approx. 85% coverage
- Outer sheath of special PVC class 43 acc. to UL Std.1581 tab.50.182
- Sheath colour:
  black (international colour code)
  grey (DIN 47100 - preferred type)

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- **To a large extent resistant to**
  Oil
  Solvents
  Acids
  Lyes

Tests

- PVC flame retardant acc. to UL VW-1, CSA FT1

Note

- AWG sizes are approximate equivalent values. The actual cross section is in mm².
- Uncreened analogue type:
  command cable UL (LiYY-TP)

Application

Flexible, screened, twisted pair control and measuring cable; for machine tools, conveyor belts, plant construction, AC technology, steel production.
In order to enhance EMC properties, a large contact area on both sides of the copper braiding is recommended.
EMC = Electromagnetic compatibility
To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no. Sheath colour grey	Sheath colour black	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
83774	65314	1 x 2 x 0,14	26	4,0	15,7	32,0
83775	65315	2 x 2 x 0,14	26	5,6	19,5	39,0
83776	65316	3 x 2 x 0,14	26	5,8	23,7	47,0
83777	65317	4 x 2 x 0,14	26	6,3	26,9	55,0
83778	65318	5 x 2 x 0,14	26	6,7	31,2	68,0
83779	65319	6 x 2 x 0,14	26	7,3	49,7	86,0
83780	65320	7 x 2 x 0,14	26	7,3	52,0	92,0
83781	65321	8 x 2 x 0,14	26	7,8	53,9	97,0
83782	65322	10 x 2 x 0,14	26	9,1	59,6	111,0
83783	65323	12 x 2 x 0,14	26	9,8	67,1	141,0
83784	65324	14 x 2 x 0,14	26	10,5	75,2	150,0
83785	65325	15 x 2 x 0,14	26	11,1	77,3	154,0
83786	65326	16 x 2 x 0,14	26	11,1	80,4	155,0
83787	65327	18 x 2 x 0,14	26	11,8	84,2	170,0
83788	65328	20 x 2 x 0,14	26	12,4	98,2	183,0
83789	65329	22 x 2 x 0,14	26	13,1	104,1	207,0
83790	65330	24 x 2 x 0,14	26	13,6	112,0	228,0
83791	65331	25 x 2 x 0,14	26	15,1	114,4	239,0

Part no. Sheath colour grey	Sheath colour black	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
83792	65332	1 x 2 x 0,23	24	4,2	16,4	46,0
83793	65333	2 x 2 x 0,23	24	5,9	27,4	53,0
83794	65334	3 x 2 x 0,23	24	6,2	31,7	65,0
83795	65335	4 x 2 x 0,23	24	6,7	37,4	79,0
83796	65336	5 x 2 x 0,23	24	7,2	54,7	98,0
83797	65337	6 x 2 x 0,23	24	7,7	65,6	114,0
83798	65338	7 x 2 x 0,23	24	7,7	60,2	121,0
83799	65339	8 x 2 x 0,23	24	8,4	74,1	129,0
83800	65340	10 x 2 x 0,23	24	9,9	109,3	152,0
83801	65341	12 x 2 x 0,23	24	10,2	115,8	189,0
83802	65342	14 x 2 x 0,23	24	10,9	120,7	213,0
83803	65343	15 x 2 x 0,23	24	11,4	132,4	225,0
83804	65344	16 x 2 x 0,23	24	11,4	141,6	227,0
83805	65345	18 x 2 x 0,23	24	12,2	146,6	238,0
83806	65346	20 x 2 x 0,23	24	12,7	160,6	270,0
83807	65347	22 x 2 x 0,23	24	13,5	170,8	300,0
83808	65348	24 x 2 x 0,23	24	14,5	229,7	321,0
83809	65349	25 x 2 x 0,23	24	14,8	231,4	340,0

Continuation ▸

Command Cable UL (LiYCY-TP)

Style 2464, 300 V, 80°C, Cu-screened, EMC-preferred type

Part no. Sheath colour grey	Sheath colour black	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
83810	65350	1 x 2 x 0,34	22	4,6	17,0	58,0
83811	65351	2 x 2 x 0,34	22	6,4	36,7	65,0
83812	65352	3 x 2 x 0,34	22	6,9	44,6	78,0
83813	65353	4 x 2 x 0,34	22	7,5	54,1	88,0
83814	65354	5 x 2 x 0,34	22	8,1	63,4	110,0
83815	65355	6 x 2 x 0,34	22	8,8	73,4	126,0
83816	65356	7 x 2 x 0,34	22	8,8	79,4	140,0
83817	65357	8 x 2 x 0,34	22	9,7	88,4	148,0
83818	65358	10 x 2 x 0,34	22	11,5	107,0	184,0
83819	65359	12 x 2 x 0,34	22	12,0	122,4	210,0
83820	65360	14 x 2 x 0,34	22	12,6	138,2	241,0
83821	65361	15 x 2 x 0,34	22	13,4	154,3	245,0
83822	65362	16 x 2 x 0,34	22	13,4	161,4	251,0
83823	65363	18 x 2 x 0,34	22	14,4	197,9	275,0
83824	65364	20 x 2 x 0,34	22	15,0	211,4	300,0
83825	65365	22 x 2 x 0,34	22	15,9	217,6	320,0
83826	65366	24 x 2 x 0,34	22	17,0	230,4	371,0
83827	65367	25 x 2 x 0,34	22	17,3	237,0	402,0

Part no. Sheath colour grey	Sheath colour black	No.pairs x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
83828	65368	1 x 2 x 0,56	20	5,0	26,0	70,0
83829	65369	2 x 2 x 0,56	20	7,0	56,1	89,0
83830	65370	3 x 2 x 0,56	20	7,6	71,7	102,0
83831	65371	4 x 2 x 0,56	20	8,3	92,4	119,0
83832	65372	5 x 2 x 0,56	20	9,1	107,4	140,0
83833	65373	6 x 2 x 0,56	20	10,1	122,4	162,0
83834	65374	7 x 2 x 0,56	20	10,1	131,7	198,0
83835	65375	8 x 2 x 0,56	20	12,7	144,3	272,0
83836	65376	10 x 2 x 0,56	20	13,2	179,6	307,0
83837	65377	12 x 2 x 0,56	20	13,6	201,7	318,0
83838	65378	14 x 2 x 0,56	20	14,4	221,4	342,0
83839	65379	15 x 2 x 0,56	20	15,5	231,6	381,0
83840	65380	16 x 2 x 0,56	20	15,5	257,1	417,0
83841	65381	18 x 2 x 0,56	20	16,3	282,4	494,0
83842	65382	20 x 2 x 0,56	20	17,1	306,7	570,0
83843	65383	22 x 2 x 0,56	20	18,0	321,8	643,0
83844	65384	24 x 2 x 0,56	20	19,4	342,4	724,0
83845	65385	25 x 2 x 0,56	20	19,8	361,2	740,0

Dimensions and specifications may be changed without prior notice. (RN02)

SUPERTRONIC® -PURö

special cable for drag chains, meter marking

Technical data

- Special PUR drag chain cables adapted to DIN VDE 0285-525-2-51 / DIN EN 50525-2-51
- Very high flexible due to special construction
- **Temperature range**
  flexing -5°C to +70°C
  fixed installation -40°C to +70°C
- **Nominal voltage**
  350 V
- **Test voltage**
  1500 V
- **Breakdown voltage**
  min. 3000 V
- **Insulation resistance**
  min. 20 MOhm x km
- **Minimum bending radius**
  flexing 5x cable Ø
  fixed installation 3x cable Ø
- **Radiation resistance**
  up to 100x10^6 cJ/kg (up to 100 Mrad)

Cable structure

- Bare copper conductor, extra fine wire, acc. to DIN VDE 0295 cl.6, col. 4 and 5 IEC 60228 cl.6
- **Oil resistant** PVC core insulation TI2, adapted to DIN VDE 0207-363-3 / DIN EN 50363-3, for better sliding abilities
- Core identification to DIN 47100, coloured
- Cores stranded in layers with optimal lay length
- Core wrapping with textile tape
- Outer sheath of special **full-polyurethane** TMPU to DIN VDE 0207-363-10-2 / DIN EN 50363-10-2
- Sheath colour: grey (RAL 7001), surface mat
- With meter marking

Properties

- **Features**
  High flexibility at low temperature, high abrasion resistance, break and cut-resistant, tear resistant
- **Resistant to**
  UV-radiation, Oxygen, Ozone, Hydrolyse, Oil.
- **Conditional resistant to**
  Microbes, Hydraulic liquidity, Alkalis, Lye.
- The PUR outer sheath is extremely robust with high tear, abrasion and oil-resistance.
- Adhesion-low
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Note

- AWG sizes are approximate equivalent values. The actual cross section is in mm².

Application

Perfect for use with cable trays. This highly flexible PUR control cable is ideal for use wherever frequent high flexing motion is required, e. g. in robotics or all moving parts. The long working life of this cable makes it both efficient and economic. For applications which go beyond standard solutions (for example for composting appliances or high shelf conveyors with extremely high processing speeds etc.) we recommend for our especially developed enquiry sheet for energy guiding systems. Before installation in cable trays please read the instructions. Further technical details see selection table for drag chain cables, see chapter "Technical Infromations".

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

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
49583	2 x 0,14	3,5	2,8	22,0	26
49584	3 x 0,14	3,7	4,1	24,0	26
49585	4 x 0,14	3,9	5,6	29,0	26
49586	5 x 0,14	4,2	7,0	33,0	26
49587	7 x 0,14	4,9	9,8	47,0	26
49588	10 x 0,14	6,2	14,0	59,0	26
49589	12 x 0,14	6,4	16,8	67,0	26
49590	14 x 0,14	6,6	19,6	74,0	26
49591	18 x 0,14	7,3	25,2	86,0	26
49592	24 x 0,14	8,5	33,6	115,0	26
49593	25 x 0,14	8,6	35,0	120,0	26
49594	2 x 0,25	4,1	5,0	27,0	24
49595	3 x 0,25	4,3	7,5	33,0	24
49596	4 x 0,25	4,8	10,0	40,0	24
49597	5 x 0,25	5,2	12,5	48,0	24
49598	7 x 0,25	6,2	17,5	60,0	24
49599	10 x 0,25	7,4	25,0	79,0	24

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
49600	12 x 0,25	7,6	30,1	91,0	24
49601	14 x 0,25	7,9	35,0	102,0	24
49602	18 x 0,25	8,9	45,0	125,0	24
49603	24 x 0,25	10,0	60,0	163,0	24
49604	25 x 0,25	10,6	62,5	170,0	24
49605	2 x 0,34	4,5	6,8	32,0	22
49606	3 x 0,34	4,9	10,2	40,0	22
49607	4 x 0,34	5,3	13,6	55,0	22
49608	5 x 0,34	5,8	17,0	60,0	22
49609	7 x 0,34	6,9	23,8	80,0	22
49610	10 x 0,34	8,4	34,0	112,0	22
49611	12 x 0,34	8,6	40,8	127,0	22
49612	14 x 0,34	9,0	47,6	142,0	22
49613	18 x 0,34	10,1	61,2	175,0	22
49614	24 x 0,34	12,0	81,5	229,0	22
49615	25 x 0,34	12,2	85,0	238,0	22

Dimensions and specifications may be changed without prior notice. (RC03)

SUPERTRONIC® -C-PURö

special cable for drag chains, halogen-free, EMC-preferred type, meter marking

Technical data

- Special PUR drag chain cables, screened, adapted to DIN VDE 0285-525-2-51 / DIN EN 50525-2-51
- **Temperature range**
  flexing -30°C to +70°C
  fixed installation -40°C to +70°C
- **Nominal voltage**
  0,14 mm² 350 V
  0,25 and 0,34 mm² 500 V
- **Test voltage**
  0,14 mm² 800 V
  0,25 and 0,34 mm² 1200 V
- **Insulation resistance**
  min. 100 MOhm x km
- **Capacitance**
  core/core < 80 nF/km
- **Minimum bending radius**
  flexing 7,5x cable Ø
  fixed installation 4x cable Ø
- **Radiation resistance**
  up to 100x10⁶ cJ/kg (up to 100 Mrad)

Cable structure

- Bare copper conductors, extra fine wire, acc. to DIN VDE 0295 cl.6, col.4 and 5, IEC 60228 cl.6
- Core insulation of PP
- Core identification to DIN 47100, coloured
- Cores stranded in layers with optimal lay length
- Core wrapping with textile tape
- Tinned copper braided screen, approx. 85% coverage.
- Outer sheath of special **full-polyurethane** TMPU to DIN VDE 0207-363-10-2 / DIN EN 50363-10-2
- Sheath colour: grey (RAL 7001), surface mat
- With meter marking

Properties

- **Features**
  High flexibility at low temperature, high abrasion resistance, break and cut-resistant, tear resistant
- **Resistant to**
  UV-radiation, Oxygen, Ozone, Hydrolyse, Oil
- **Conditional resistant to**
  Microbes, Hydraulic liquidity, Alkalis, Lye
- The PUR outer sheath is extremely robust with high tear, abrasion and oil-resistance
- Adhesion-low
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Note

- AWG sizes are approximate equivalent values. The actual cross section is in mm².

Application

Used for installation in dry, moist and wet environments as well as for outdoors, for free movement without forced motion and for flexible routing without forced motion, for proven use as drag-chain cables. Suitable as a highly flexible control cable for fast hoisting and bending stresses in machinery and tooling construction, in robotics engineering and for continuously moving machinery parts. The long working life of this cable makes it both efficient and economic. The copper braided screening offers effective protection from both internal and external interference. For applications which go beyond standard solutions (for example for composting appliances or high shelf conveyors with extremely high processing speeds etc.) we recommend for our especially developed enquiry sheet for energy guiding systems. Before installation in cable trays please read the instructions. Further technical details see selection table for drag chain cables, see chapter "Technical Infromations".

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

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

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
49653	2 x 0,14	4,1	11,2	32,0	26
49654	3 x 0,14	4,3	14,1	35,0	26
49655	4 x 0,14	4,5	15,5	40,0	26
49656	5 x 0,14	4,8	18,3	45,0	26
49657	7 x 0,14	5,7	27,8	66,0	26
49658	10 x 0,14	6,7	39,3	86,0	26
49659	12 x 0,14	6,9	42,1	94,0	26
49660	14 x 0,14	7,1	45,3	102,0	26
49661	18 x 0,14	7,8	54,1	118,0	26
49662	24 x 0,14	9,0	66,3	149,0	26
49663	25 x 0,14	9,1	68,4	156,0	26
49664	2 x 0,25	4,6	14,9	38,0	24
49665	3 x 0,25	4,8	18,8	44,0	24
49666	4 x 0,25	5,3	21,3	51,0	24
49667	5 x 0,25	5,7	31,0	68,0	24
49668	7 x 0,25	6,7	39,6	82,0	24
49669	10 x 0,25	8,2	53,9	110,0	24

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
49670	12 x 0,25	8,4	59,1	124,0	24
49671	14 x 0,25	8,7	64,2	135,0	24
49672	18 x 0,25	9,5	78,4	160,0	24
49673	24 x 0,25	11,0	89,9	202,0	24
49674	25 x 0,25	11,1	101,0	211,0	24
49675	2 x 0,34	5,0	18,1	45,0	22
49676	3 x 0,34	5,4	28,7	60,0	22
49677	4 x 0,34	6,2	35,7	76,0	22
49678	5 x 0,34	6,7	39,1	82,0	22
49679	7 x 0,34	7,6	52,7	110,0	22
49680	10 x 0,34	9,2	67,4	148,0	22
49681	12 x 0,34	9,4	76,4	166,0	22
49682	14 x 0,34	10,0	85,5	185,0	22
49683	18 x 0,34	10,9	99,7	216,0	22
49684	24 x 0,34	12,6	147,1	300,0	22
49685	25 x 0,34	12,8	155,0	313,0	22

Dimensions and specifications may be changed without prior notice. (RC03)

SUPERTRONIC® -330 PURö

cable for drag chains, halogen-free, meter marking

Technical data

- Special PUR sheathed cable
- **Temperature range**
  flexing -30°C to +80°C
  fixed installation -40°C to +80°C
- **Nominal voltage**
  300 V
- **Test voltage**
  core/core 1500 V
- **Insulation resistance**
  min. 100 MOhm x km
- **Capacitance**
  core/core 60 nF/km
- **Minimum bending radius**
  flexing 5x cable Ø
  fixed installation 3x cable Ø
- **Radiation resistance**
  up to 100x10^6 cJ/kg (up to 100 Mrad)

Cable structure

- Bare copper conductor, extra fine wire, acc. to DIN VDE 0295 cl.6, col. 4, BS 6360 cl.6
- Core insulation of PP
- Core identification to DIN 47100, coloured
- Cores stranded in layers with optimal lay length
- Wrapping over the outer layer
- Outer sheath of special **full-polyurethane** compound type TMPU to DIN VDE 0282 part 10, Annex A and acc. to UL Std.1581 tab.50227
- Sheath colour: grey (RAL 7001)
- With meter marking

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- Low adhesion
- High flexibility at low temperatures
- High abrasion resistance
- Tear and cut-resistant
- Notch resistant
- **Resistant to**
  UV-radiation, Oxygen, Ozone, Hydrolysis, Oil
- **Partially resistant to**
  Microbial attack, Hydraulic fluids, Coolant emulsion, Alkalis

Tests

- PUR outer sheath, flame retardant acc. to DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2 (equivalent DIN VDE 0472 part 804 test method B)

Note

- AWG sizes are approximate equivalent values. The actual cross section is in mm².

Application

For installation in dry, moist and wet rooms and outdoors with free movement without tensile stress or forced movements, impressively proven in drag chain application. A highly flexible PUR control cable, suitable for frequent and quick lifting and bending stresses in machine engineering and construction, in robot technology and on permanently moving machine components. Long service life guarantees reliable function and high cost-efficiency. For applications which go beyond standard solutions (for example for composting appliances or high shelf conveyors with extremely high processing speeds etc.) we recommend for our especially developed enquiry sheet for energy guiding systems. Before installation in cable trays please read the instructions. Further technical details see selection table for drag chain cables, see chapter "Technical Infromations". Attractive for export-oriented mechanical engineering.

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

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
49764	2 x 0,14	26	3,9	2,8	22,0
49765	3 x 0,14	26	4,0	4,1	24,0
49766	4 x 0,14	26	4,3	5,6	29,0
49767	5 x 0,14	26	4,7	7,0	33,0
49768	7 x 0,14	26	5,3	9,8	47,0
49769	10 x 0,14	26	6,1	14,0	57,0
49770	12 x 0,14	26	6,2	16,8	63,0
49771	14 x 0,14	26	6,5	19,6	72,0
49772	18 x 0,14	26	7,2	25,2	80,0
49773	24 x 0,14	26	8,2	33,6	110,0
49774	25 x 0,14	26	8,6	35,0	115,0
49775	2 x 0,25	24	4,3	5,0	26,0
49776	3 x 0,25	24	4,5	7,5	30,0
49777	4 x 0,25	24	4,8	10,0	39,0
49778	5 x 0,25	24	5,2	12,5	44,0
49779	7 x 0,25	24	6,0	17,5	52,0
49780	10 x 0,25	24	6,9	25,0	70,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
49781	12 x 0,25	24	7,1	30,1	84,0
49782	14 x 0,25	24	7,4	35,0	97,0
49783	18 x 0,25	24	8,2	45,0	114,0
49784	24 x 0,25	24	9,6	60,0	157,0
49785	25 x 0,25	24	10,1	62,5	160,0
49786	2 x 0,34	22	4,6	6,8	31,0
49787	3 x 0,34	22	4,8	10,2	38,0
49788	4 x 0,34	22	5,2	13,6	51,0
49789	5 x 0,34	22	5,6	17,0	54,0
49790	7 x 0,34	22	6,5	23,8	77,0
49791	10 x 0,34	22	7,5	34,0	104,0
49792	12 x 0,34	22	7,7	40,8	122,0
49793	14 x 0,34	22	8,1	47,6	140,0
49794	18 x 0,34	22	9,2	61,2	162,0
49795	24 x 0,34	22	10,7	81,5	204,0
49796	25 x 0,34	22	11,2	85,0	229,0

Dimensions and specifications may be changed without prior notice. (RN05)

SUPERTRONIC® -330 C-PURö

cable for drag chains, halogen-free, EMC-preferred type, meter marking

Technical data

- Special PUR sheathed cable, screened
- **Temperature range**
  flexing -30°C to +80°C
  fixed installation -40°C to +80°C
- **Nominal voltage**
  300 V
- **Test voltage**
  core/core 1500 V
  core/screen 1000 V
- **Insulation resistance**
  min. 100 MOhm x km
- **Capacitance**
  core/core 60 nF/km
- **Minimum bending radius**
  flexing 7,5x cable Ø
  fixed installation 4x cable Ø
- **Radiation resistance**
  up to 100x10⁶ cJ/kg (up to 100 Mrad)
- **Coupling resistance**
  max. 250 Ohm/km

Cable structure

- Bare copper conductor, extra fine wire, acc. to DIN VDE 0295 cl.6, col. 4, BS 6360 cl.6
- Core insulation of PP
- Core identification to DIN 47100 coloured
- Cores stranded in layers with optimal lay length
- Wrapping over the outer layer
- Braided screen of tinned Cu wires, coverage approx. 85%
- Core wrapping with fleece
- Outer sheath of special **full polyurethane** compound type TMPU to DIN VDE 0207-363-10-2 / DIN EN 50363-10-2 and acc. to UL Std.1581 tab.50227
- Sheath colour: grey (RAL 7001)
- With meter marking

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- Low-adhesion
- High flexibility at low temperatures
- High abrasion resistance
- Tear and cut-resistant
- Notch resistant
- **Resistant to**
  UV-radiation, Oxygen, Ozone, Hydrolysis, Oil
- **Partially resistant to**
  Microbial attack, Hydraulic fluid, Coolant emulsion, Alkalis

Tests

- PUR outer sheath, flame retardant acc. to DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2 (equivalent DIN VDE 0472 part 804 test method B)

Note

- AWG sizes are approximate equivalent values. The actual cross section is in mm².

Application

Especially suited for drag chain installation in dry, moist and wet environments and outdoors with flexible movement and without tensile stress or forced movements. A highly flexible PVC control cable suitable for frequent and fast lifting and bending stresses in machines and tool building, robot systems and on constantly moving machine components. Long service lives guarantee reliable function and good cost efficiency. The dense screening assures interference-free transmission of all signals and impulses. An ideal interference-free control cable for the above applications. For applications which go beyond standard solutions (for example for composting appliances or high shelf conveyors with extremely high processing speeds etc.) we recommend for our especially developed enquiry sheet for energy guiding systems. Before installation in cable trays please read the instructions. Further technical details see selection table for drag chain cables, see lead text.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

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

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
49797	2 x 0,14	26	4,4	11,2	32,0
49798	3 x 0,14	26	4,5	14,1	35,0
49799	4 x 0,14	26	4,8	15,5	40,0
49800	5 x 0,14	26	5,0	18,3	45,0
49801	7 x 0,14	26	5,8	27,8	66,0
49802	10 x 0,14	26	6,7	39,3	86,0
49803	12 x 0,14	26	6,8	42,1	94,0
49804	14 x 0,14	26	7,1	45,3	102,0
49805	18 x 0,14	26	7,8	54,1	118,0
49806	24 x 0,14	26	8,8	66,3	149,0
49807	25 x 0,14	26	9,2	68,4	156,0
49808	2 x 0,25	24	4,8	14,9	38,0
49809	3 x 0,25	24	5,0	18,8	44,0
49810	4 x 0,25	24	5,3	21,3	51,0
49811	5 x 0,25	24	5,7	31,0	68,0
49812	7 x 0,25	24	6,6	39,6	82,0
49813	10 x 0,25	24	7,5	53,9	110,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
49814	12 x 0,25	24	7,7	59,1	124,0
49815	14 x 0,25	24	8,0	64,2	135,0
49816	18 x 0,25	24	8,8	78,4	150,0
49817	24 x 0,25	24	10,2	89,9	194,0
49818	25 x 0,25	24	10,7	101,0	204,0
49819	2 x 0,34	22	5,1	18,1	45,0
49820	3 x 0,34	22	5,3	28,7	60,0
49821	4 x 0,34	22	5,7	35,7	76,0
49822	5 x 0,34	22	6,1	39,1	82,0
49823	7 x 0,34	22	7,1	52,7	110,0
49824	10 x 0,34	22	8,1	67,4	148,0
49825	12 x 0,34	22	8,3	76,4	166,0
49826	14 x 0,34	22	8,7	85,5	185,0
49827	18 x 0,34	22	9,8	99,7	216,0
49828	24 x 0,34	22	11,3	147,1	291,0
49829	25 x 0,34	22	11,8	155,0	305,0

Dimensions and specifications may be changed without prior notice. (RN05)

SUPER-PAAR-TRONIC-C-PUR®

cable for drag chains, halogen-free, EMC-preferred type, meter marking

Technical data

- Special drag chain cable, twisted in pairs, adapted to DIN VDE 0812
- **Temperature range**
  flexing -30°C to +70°C
  fixed installation -40°C to +70°C
- **Nominal voltage**
  350 V
- **Test voltage**
  1500 V
- **Insulation resistance**
  min. 100 MOhm x km
- **Mutual capacitance**
  approx. 135 nF/km
- **Minimum bending radius**
  flexing
  at 0,25 mm²: 7,5x cable Ø
  at 0,5 - 1 mm²: 10x cable Ø
  fixed installation
  at 0,25 mm²: 4x cable Ø
  at 0,5 - 1 mm²: 5x cable Ø
- **Coupling resistance**
  max. 250 Ohm/km
- **Radiation resistance**
  up to 100x10⁶ cJ/kg (up to 100 Mrad)

Cable structure

- Bare copper conductors, extra fine wire acc. to DIN VDE 0295 cl.6, col. 4, BS 6360 cl.6 and IEC 60228 cl.6
- Core insulation of PP
- Core identification to DIN 47100
- Cores twisted in pairs, the pairs torsion-free stranded in layers
- Special fleece over outer layer
- Tinned copper screened braiding, approx. 85% coverage
- Outer sheath of **full-polyurethane** compound type TMPU to DIN VDE 0207-363-10-2 / DN EN 50363-10-2
- Sheath colour: grey (RAL 7001)
- With meter marking

Properties

- Very good oil resistant
- Resistant to weather, ozone, hydrolysis- and UV-radiation
- Chemical resistant to solvents, acids, lyes and hydraulic liquidity
- Guaranteed permanent application in multi-shift operation under extreme high bending stress
- High resistant to mechanical strain
- High property of alternating bending strength
- Long life durabilities through low friction-resistance by using the PP-core insulation where the core are stranded in layers
- High tensile strength-, abrasion- and impact resistant at low temperature
- Adhesion-low
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Note

- AWG sizes are approximate equivalent values. The actual cross section is in mm².

Application

These pair stranded and overall screened special cables for drag chains offer the operational possibilities where the outer electrical influences at high frequence cause interference of impulse transmission, are applied for permanent flexible operations in machineries, machine tools, robot technics, for movable automated machinery parts and multi-shift-operation as a transmission-cable. These highly flexible data cables are developed according to the newest state of technology improvement and with its sliding abilities by using the PP-core insulation and adhesion-low and cut-resistant PUR-outer sheath, guaranteed an optimum life durabilities and highly economic. For applications which go beyond standard solutions (for example for composting appliances or high shelf conveyors with extremely high processing speeds etc.) we recommend for our especially developed enquiry sheet for energy guiding systems. Before installation in cable trays please read the instructions. Further technical details see selection table for drag chain cables, see chapter "Technical infromations".

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

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

Part no.	No.pairs x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
19101	1 x 2 x 0,25	4,9	14,0	28,0	24
19102	2 x 2 x 0,25	6,8	32,0	61,0	24
19103	3 x 2 x 0,25	7,2	38,4	73,0	24
19104	4 x 2 x 0,25	7,7	43,2	90,0	24
19105	5 x 2 x 0,25	8,6	51,5	105,0	24
19106	6 x 2 x 0,25	9,2	71,8	133,0	24
19107	8 x 2 x 0,25	10,6	74,4	156,0	24
19108	10 x 2 x 0,25	11,7	90,0	188,0	24
19109	14 x 2 x 0,25	12,7	111,2	220,0	24
19119	1 x 2 x 0,5	5,7	22,0	47,0	20
19120	2 x 2 x 0,5	8,2	50,0	100,0	20
19121	3 x 2 x 0,5	8,8	71,8	131,0	20
19122	4 x 2 x 0,5	9,6	74,4	149,0	20
19123	5 x 2 x 0,5	10,6	84,5	169,0	20
19124	6 x 2 x 0,5	11,5	99,6	196,0	20
19125	8 x 2 x 0,5	13,4	144,3	285,0	20

Part no.	No.pairs x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
19126	10 x 2 x 0,5	14,9	176,0	344,0	20
19127	14 x 2 x 0,5	16,5	215,4	401,0	20
19128	1 x 2 x 0,75	6,5	34,0	61,0	19
19129	2 x 2 x 0,75	9,3	60,0	113,0	19
19130	3 x 2 x 0,75	9,8	85,7	158,0	19
19131	4 x 2 x 0,75	10,6	93,6	173,0	19
19132	5 x 2 x 0,75	11,7	113,0	203,0	19
19133	6 x 2 x 0,75	12,7	130,4	231,0	19
19134	8 x 2 x 0,75	14,9	192,2	343,0	19
19135	10 x 2 x 0,75	16,6	258,0	467,0	19
19136	14 x 2 x 0,75	18,2	316,6	546,0	19
19137	1 x 2 x 1	6,9	42,0	71,0	18
19138	2 x 2 x 1	9,9	73,0	130,0	18
19139	3 x 2 x 1	10,5	93,6	170,0	18
19140	4 x 2 x 1	11,6	117,8	204,0	18
19141	5 x 2 x 1	12,8	139,0	238,0	18

Dimensions and specifications may be changed without prior notice. (RC03)

SUPER-PAAR-TRONIC 340-C-PUR

cable for drag chains, halogen-free, EMC-preferred type, meter marking

Technical data

- Special drag chain cable, stranded in pairs
- **Temperature range**
  flexing -30°C to +80°C
  fixed installation -40°C to +80°C
- **Nominal voltage**
  300 V
- **Test voltage**
  core/core 1500 V
  core/screen 1000 V
- **Insulation resistance**
  min. 100 MOhm x km
- **Mutual capacitance**
  core/core approx. 60 nF/km
- **Minimum bending radius**
  for permanent bending
  flexing
  at 0,25 mm²: 7,5x cable Ø
  at 0,5 - 1 mm²: 10x cable Ø
  fixed installation
  at 0,25 mm²: 4x cable Ø
  at 0,5 - 1 mm²: 5x cable Ø
- **Coupling resistance**
  max. 250 Ohm/km
- **Radiation resistance**
  up to 100x10⁶ cJ/kg (up to 100 Mrad)

Cable structure

- Bare copper conductor, extra fine wire, acc. to DIN VDE 0295 cl.6, col. 4, BS 6360 cl.6 and IEC 60228 cl.6
- Core insulation of PP
- Core identification to DIN 47100
- Cores stranded in pairs, pairs stranded torsion-free in layers with optimal lay length
- Wrapping over the outer layer
- Braided screen of tinned Cu wires, coverage approx. 85%
- Core wrapping with fleece
- Outer sheath of **full polyurethane** compound type TMPU to DIN VDE 0207-363-10-2 / DIN EN 50363-10-2 and acc. to UL Std.1581 tab.50.227
- Sheath colour: grey (RAL 7001)
- With meter marking

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- Halogen-free
- Weather, ozone and UV resistant
- Chemical resistance to solvents, acids, alkalis and hydraulic fluids

Tests

- PUR outer sheath, flame retardant acc. to DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2 (equivalent DIN VDE 0472 part 804 test method B)
- Oil resistance acc. to DIN VDE 0473-811-404/ DIN EN 60811-404

Note

- AWG sizes are approximate equivalent values. The actual cross section is in mm².

Advantages

- Very high resistance to mechanical stresses
- Very good alternating bending strength
- High tear, abrasion and impact resistance, even at low temperatures

Application

Stranded in pairs, these fully-screened special drag chain cables can also be used where external, high-frequency interference influences pulse transfer. They are used for permanently flexible stresses in machine and tool building, in robot technology, on constantly moving machine components and for extended use in multi-shift operations. Developed to state-of-the-art technology, these highly flexible data cable, with a cut resistant and low-adhesion PUR outer sheath guaranteeing optimal service life and extremely good cost efficiency. This two-approvals single-core cable is preferred for use in export-oriented mechanical engineering, in machine tools, production lines and systems engineering. Guaranteed extended use in multi-shift operations with extremely high bending stresses. For applications which go beyond standard solutions we recommend for our especially developed enquiry sheet for energy guiding systems. Before installation in cable trays please read the instructions. Further technical details see selection table for drag chain cables, see chapter "Technical Infromations".

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

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

Part no.	No.pairs x no.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
49830	1 x 2 x 0,25	24	4,8	14,0	26,0
49831	2 x 2 x 0,25	24	6,7	32,0	61,0
49832	3 x 2 x 0,25	24	7,1	38,4	70,0
49833	4 x 2 x 0,25	24	7,6	43,2	82,0
49834	5 x 2 x 0,25	24	8,3	51,5	99,0
49835	6 x 2 x 0,25	24	9,0	71,8	126,0
49836	8 x 2 x 0,25	24	10,5	74,4	147,0
49837	10 x 2 x 0,25	24	11,9	90,0	179,0
49838	14 x 2 x 0,25	24	12,7	111,2	210,0
49839	1 x 2 x 0,34	22	5,1	20,0	35,0
49840	2 x 2 x 0,34	22	7,2	41,0	80,0
49841	3 x 2 x 0,34	22	7,6	52,2	100,0
49842	4 x 2 x 0,34	22	8,3	59,1	118,0
49843	5 x 2 x 0,34	22	9,0	67,0	134,0
49844	6 x 2 x 0,34	22	9,9	86,4	162,0
49845	8 x 2 x 0,34	22	11,9	107,5	214,0
49846	10 x 2 x 0,34	22	13,9	131,0	270,0
49847	14 x 2 x 0,34	22	14,1	150,0	304,0
49848	1 x 2 x 0,5	20	5,8	22,5	47,0
49849	2 x 2 x 0,5	20	8,4	53,0	100,0
49850	3 x 2 x 0,5	20	9,0	72,8	131,0
49851	4 x 2 x 0,5	20	10,0	75,6	149,0
49852	5 x 2 x 0,5	20	11,0	85,7	169,0
49853	6 x 2 x 0,5	20	11,8	103,0	181,0
49854	8 x 2 x 0,5	20	14,2	148,4	274,0
49855	10 x 2 x 0,5	20	16,5	180,0	332,0
49856	14 x 2 x 0,5	20	16,9	218,3	390,0
49857	1 x 2 x 0,75	19	6,2	35,2	56,0
49858	2 x 2 x 0,75	19	9,2	61,4	102,0
49859	3 x 2 x 0,75	19	9,8	87,1	144,0
49860	4 x 2 x 0,75	19	11,2	95,2	160,0
49861	5 x 2 x 0,75	19	12,2	115,0	193,0
49862	6 x 2 x 0,75	19	13,2	137,1	216,0
49863	8 x 2 x 0,75	19	15,6	184,4	327,0
49864	10 x 2 x 0,75	19	18,4	259,8	451,0
49865	14 x 2 x 0,75	19	18,9	318,4	521,0
49866	1 x 2 x 1	18	6,7	42,0	64,0
49867	2 x 2 x 1	18	10,0	73,0	120,0
49868	3 x 2 x 1	18	10,8	93,6	160,0
49869	4 x 2 x 1	18	11,7	117,8	184,0
49870	5 x 2 x 1	18	13,2	139,0	217,0

Dimensions and specifications may be changed without prior notice. (RN05)

TRAYCONTROL® 300

flexible, oil resistant, NFPA 79

Technical data

- Flexible PVC data and control cable
- **Temperature range**
  -25°C to +105°C
- **Nominal voltage**
  300 V
- **Test voltage**
  2000 V
- **Minimum bending radius**
  flexing 6x cable Ø
- **Radiation resistance**
  up to 80x10⁶ cJ/kg (up to 80 Mrad)

Cable structure

- Tinned copper conductor, fine wire with AWG dimensions
- Outer sheath of special PVC (AWG 22 -AWG 16 with transparent nylon skin)
- Core identification to international colour code
- Cores stranded in layers with optimal lay length
- Separator
- Outer sheath of special PVC
- Sheath colour: grey (RAL 7001)
- With length marking in feet

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Self-extinguishing and flame retardant acc. to CSA FT4
- **UL (AWG 22 - AWG 16):**
  PLTC-ER, ITC-ER, Type CM, NFPA 79, OIL RES I & II, Class I Div. 2, NEC Art. 501, 725, 760 & 800, AWM 2517
- **UL (AWG 24 - AWG 28):**
  CM, AWM 2517, rated OIL RES I & II, NEC Art. 725, 760 & 800, NFPA 79
- **CSA**:
  CSA CMG FT4, AWM I/II A/B FT4

Note

Advantages

- Highly flexible easy to install
- Oil resistant to OIL RES I & II

Available on request

- PUR or TPE outer sheath
- Sheath colour to suit customer requirements

Application

HELUKABEL® TRAYCONTROL® 300 is a multi-core PVC data and control cable. Cross-sections with PLTC-ER and ITC-ER approval suitable for open, unprotected installation in cable trays to the machine; their outstanding oil resistance (OIL RES I & II) makes them ideally suited as connecting and joining cables and also for control, signal and measuring systems in industrial plants. The flexible cable structure facilitates installation inside and outside of machines and switch cabinets. Applications: tool machines, control panels, control and instrumentation technology, production automation, cable ducts, renewable energies.

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

Part no.	Cross-section mm²	No.cores x AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
62625	0,093	2 x 28	3,8	1,8	12,0
62626	0,093	3 x 28	3,9	3,0	18,0
62627	0,093	4 x 28	4,2	4,0	21,0
62628	0,093	6 x 28	4,7	5,0	27,0
62629	0,093	8 x 28	5,0	7,0	30,0
62630	0,093	10 x 28	5,6	9,0	30,0
62631	0,093	15 x 28	6,2	13,0	43,0
62632	0,093	20 x 28	6,8	18,0	54,0
62633	0,093	25 x 28	7,6	22,0	63,0
62634	0,093	30 x 28	8,0	27,0	73,0
62635	0,093	40 x 28	8,8	36,0	89,0
62636	0,093	50 x 28	9,8	45,0	109,0
62637	0,154	2 x 26	4,0	3,0	18,0
62638	0,154	3 x 26	4,2	4,0	21,0
62639	0,154	4 x 26	4,4	6,0	24,0
62640	0,154	6 x 26	5,0	9,0	30,0
62641	0,154	8 x 26	5,3	12,0	34,0
62642	0,154	10 x 26	6,0	15,0	42,0
62643	0,154	15 x 26	6,7	22,0	52,0
62644	0,154	20 x 26	7,5	30,0	67,0
62645	0,154	25 x 26	8,2	37,0	80,0
62646	0,154	30 x 26	8,6	44,0	92,0
62647	0,154	40 x 26	9,5	59,0	116,0
62648	0,154	50 x 26	11,1	74,0	145,0
62649	0,241	2 x 24	4,3	5,0	19,0
62650	0,241	3 x 24	4,5	7,0	22,0
62651	0,241	4 x 24	4,8	9,0	27,0
62652	0,241	6 x 24	5,5	14,0	33,0
62653	0,241	8 x 24	5,8	18,0	42,0
62654	0,241	10 x 24	6,6	23,2	49,0

Part no.	Cross-section mm²	No.cores x AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
62655	0,241	15 x 24	7,7	35,0	69,0
62656	0,241	20 x 24	8,4	46,3	86,0
62657	0,241	25 x 24	9,1	58,0	103,0
62658	0,241	30 x 24	9,6	69,4	131,0
62659	0,241	40 x 24	11,2	92,6	173,0
62660	0,241	50 x 24	12,4	115,7	219,0
62661	0,382	2 x 22	6,5	7,0	22,0
62662	0,382	3 x 22	6,7	11,0	28,0
62663	0,382	4 x 22	7,2	14,7	32,0
62664	0,382	6 x 22	8,3	22,0	46,0
62665	0,382	8 x 22	8,8	29,4	54,0
62666	0,382	10 x 22	10,1	37,0	66,0
62667	0,382	15 x 22	11,4	55,0	90,0
62668	0,382	20 x 22	12,5	73,0	115,0
62669	0,382	25 x 22	14,6	92,0	141,0
62670	0,382	30 x 22	15,4	110,0	176,0
62671	0,382	40 x 22	17,0	147,0	234,0
62672	0,382	50 x 22	19,0	183,0	293,0
62673	0,616	2 x 20	6,9	11,9	57,0
62674	0,616	3 x 20	7,2	17,8	60,0
62675	0,616	4 x 20	7,8	23,7	73,0
62676	0,616	6 x 20	9,0	36,0	97,0
62677	0,616	8 x 20	9,6	47,4	133,0
62678	0,616	10 x 20	11,0	59,0	143,0
62679	0,616	15 x 20	12,5	89,0	177,0
62680	0,616	20 x 20	14,6	118,0	261,0
62681	0,616	25 x 20	16,0	148,0	353,0
62682	0,616	30 x 20	16,8	178,0	419,0
62683	0,616	40 x 20	18,7	237,0	562,0
62684	0,616	50 x 20	21,0	296,0	699,0

Continuation ▸

TRAYCONTROL® 300

flexible, oil resistant, NFPA 79

Part no.	Cross-section mm²	No.cores x AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
62685	0,963	2 x 18	7,4	18,5	61,0
62686	0,963	3 x 18	7,7	28,0	64,0
62687	0,963	4 x 18	8,3	37,0	77,0
62688	0,963	6 x 18	9,7	56,0	101,0
62689	0,963	8 x 18	10,4	74,0	142,0
62690	0,963	10 x 18	11,9	92,0	195,0
62691	0,963	15 x 18	13,5	139,0	247,0
62692	0,963	20 x 18	15,8	185,0	328,0
62693	0,963	25 x 18	17,4	231,0	407,0
62694	0,963	30 x 18	18,3	277,0	539,0
62695	0,963	40 x 18	20,4	370,0	717,0
62696	0,963	50 x 18	23,9	462,0	894,0

Part no.	Cross-section mm²	No.cores x AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
62697	1,31	2 x 16	7,9	25,0	83,0
62698	1,31	3 x 16	8,3	38,0	91,0
62699	1,31	4 x 16	8,9	50,0	109,0
62700	1,31	6 x 16	10,3	76,0	162,0
62702	1,31	8 x 16	11,2	101,0	243,0
62703	1,31	10 x 16	12,9	126,0	267,0
62704	1,31	15 x 16	15,4	189,0	364,0
62705	1,31	20 x 16	17,2	252,0	493,0
62706	1,31	25 x 16	18,8	314,0	608,0
62707	1,31	30 x 16	19,9	377,0	729,0
62708	1,31	40 x 16	23,3	503,0	967,0
62709	1,31	50 x 16	26,1	629,0	1214,0

Dimensions and specifications may be changed without prior notice. (RN02)

TRAYCONTROL® 300-C

flexible, oil resistant, screened, EMC-preferred type, NFPA 79

Technical data

- Flexible screened PVC data and control cable
- **Temperature range** -25°C to +105°C
- **Nominal voltage** 300 V
- **Test voltage** 2000 V
- **Minimum bending radius** flexing 6x cable Ø
- **Coupling resistance** max. 250 Ohm/km
- **Radiation resistance** up to 80x10⁶ cJ/kg (up to 80 Mrad)

Cable structure

- Tinned copper conductor, fine wire with AWG dimensions
- Core insulation of special PVC (AWG 22 - AWG 16 with transparent nylon skin)
- Core identification to international colour code
- Cores stranded in layers with optimal lay length
- 1. Screen with special aluminium foil
- Drain wire
- 2. Tinned copper braided screen, approx. 85% coverage
- Separator
- Outer sheath of special PVC
- Sheath colour: grey (RAL 7001)
- With length marking in feet

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Self-extinguishing and flame retardant acc. to CSA FT4
- **UL (AWG 22 - AWG 16)**: PLTC-ER, ITC-ER, Type CM, NFPA 79, OIL RES I & II, Class I Div. 2, NEC Art. 501, 725, 760 & 800, AWM 2517
- **UL (AWG 24 - AWG 28)**: CM, AWM 2517, rated OIL RES I & II, NEC Art. 725, 760 & 800, NFPA 79
- **CSA**: CSA CMG FT4, AWM I/II A/B FT4

Note

Advantages

- Highly flexible, easy to install
- Oil resistant to OIL RES I & II

Available on request

- PUR or TPE outer sheath
- Sheath colour to suit customer requirement

Application

HELUKABEL® TRAYCONTROL® 300-C is a screened, multi-core PVC data and control cable. Cross-sections with PLTC-ER and ITC-ER approval suitable for open, unprotected installation in cable trays to the machine; their outstanding oil resistance (OIL RES I & II) makes them ideally suited as connecting and joining cables and also for control, signal and measuring systems in industrial plants. The flexible cable structure facilitates installation inside and outside of machines and switch cabinets. The double-screening with aluminium foil (100% coverage) and copper braid (approx. 85% coverage) guarantee superior EMC protection. Applications: tool machines, control panels, measuring devices, production automation, cable ducts, renewable energies.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

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

Part no.	Cross-section mm²	No.cores x AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
62710	0,093	2 x 28	4,2	6,0	16,0
62711	0,093	3 x 28	4,3	7,0	22,0
62712	0,093	4 x 28	4,6	9,0	27,0
62713	0,093	6 x 28	5,0	12,0	34,0
62714	0,093	8 x 28	5,5	15,0	37,0
62715	0,093	10 x 28	6,0	18,0	43,0
62716	0,093	15 x 28	6,7	24,0	52,0
62717	0,093	20 x 28	7,5	30,0	67,0
62718	0,093	25 x 28	8,1	37,0	79,0
62719	0,093	30 x 28	8,5	43,0	88,0
62720	0,093	40 x 28	9,3	54,0	112,0
62721	0,093	50 x 28	10,7	67,0	131,0
62722	0,154	2 x 26	4,4	9,0	24,0
62723	0,154	3 x 26	4,5	10,0	27,0
62724	0,154	4 x 26	4,8	12,0	31,0
62725	0,154	6 x 26	5,5	16,0	39,0
62726	0,154	8 x 26	5,8	19,0	43,0
62727	0,154	10 x 26	6,5	24,0	51,0
62728	0,154	15 x 26	7,4	31,0	66,0
62729	0,154	20 x 26	8,0	40,0	79,0
62730	0,154	25 x 26	8,7	49,0	92,0
62731	0,154	30 x 26	9,1	57,0	110,0
62732	0,154	40 x 26	10,5	72,0	136,0
62733	0,154	50 x 26	11,6	88,0	165,0

Part no.	Cross-section mm²	No.cores x AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
62734	0,241	2 x 24	4,7	15,0	30,0
62735	0,241	3 x 24	4,9	16,0	33,0
62736	0,241	4 x 24	5,3	19,0	37,0
62737	0,241	6 x 24	6,2	27,0	48,0
62738	0,241	8 x 24	6,6	31,0	57,0
62739	0,241	10 x 24	7,3	39,0	67,0
62740	0,241	15 x 24	8,2	51,0	85,0
62741	0,241	20 x 24	8,8	64,0	106,0
62742	0,241	25 x 24	9,6	77,0	128,0
62743	0,241	30 x 24	10,6	92,0	155,0
62744	0,241	40 x 24	11,6	118,0	206,0
62745	0,241	50 x 24	12,9	148,0	249,0
62746	0,382	2 x 22	6,9	19,0	34,0
62747	0,382	3 x 22	7,2	22,0	40,0
62748	0,382	4 x 22	7,7	27,0	46,0
62749	0,382	6 x 22	8,8	34,0	60,0
62750	0,382	8 x 22	9,3	45,0	72,0
62751	0,382	10 x 22	10,6	69,0	85,0
62752	0,382	15 x 22	11,9	77,0	115,0
62753	0,382	20 x 22	13,0	92,0	140,0
62754	0,382	25 x 22	15,0	121,0	176,0
62755	0,382	30 x 22	15,9	139,0	210,0
62756	0,382	40 x 22	17,7	177,0	273,0
62757	0,382	50 x 22	19,7	215,0	331,0

Continuation ▸

TRAYCONTROL® 300-C

flexible, oil resistant, screened, EMC-preferred type, NFPA 79

Part no.	Cross-section mm²	No.cores x AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
62758	0,616	2 x 20	7,4	28,0	73,0
62759	0,616	3 x 20	7,7	34,0	77,0
62760	0,616	4 x 20	8,3	40,0	91,0
62761	0,616	6 x 20	9,4	54,0	118,0
62762	0,616	8 x 20	10,1	70,0	158,0
62763	0,616	10 x 20	11,5	83,0	173,0
62764	0,616	15 x 20	13,0	119,0	218,0
62765	0,616	20 x 20	15,1	130,0	298,0
62766	0,616	25 x 20	16,5	186,0	401,0
62767	0,616	30 x 20	17,5	224,0	477,0
62768	0,616	40 x 20	19,0	288,0	623,0
62769	0,616	50 x 20	22,6	337,0	752,0
62770	0,963	2 x 18	7,8	37,0	80,0
62771	0,963	3 x 18	8,2	49,0	86,0
62772	0,963	4 x 18	8,8	58,0	101,0
62773	0,963	6 x 18	10,1	82,0	130,0
62774	0,963	8 x 18	10,8	100,0	168,0
62775	0,963	10 x 18	12,4	124,0	226,0

Part no.	Cross-section mm²	No.cores x AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
62776	0,963	15 x 18	14,9	180,0	295,0
62777	0,963	20 x 18	16,3	234,0	386,0
62778	0,963	25 x 18	18,0	277,0	462,0
62779	0,963	30 x 18	18,9	323,0	590,0
62780	0,963	40 x 18	21,2	416,0	773,0
62781	0,963	50 x 18	24,7	508,0	958,0
62782	1,31	2 x 16	8,4	51,0	110,0
62783	1,31	3 x 16	8,7	63,0	116,0
62784	1,31	4 x 16	9,4	76,0	139,0
62785	1,31	6 x 16	10,9	104,0	195,0
62786	1,31	8 x 16	11,7	134,0	283,0
62787	1,31	10 x 16	13,4	168,0	316,0
62788	1,31	15 x 16	16,0	234,0	410,0
62789	1,31	20 x 16	17,8	301,0	551,0
62790	1,31	25 x 16	19,5	367,0	675,0
62791	1,31	30 x 16	20,6	428,0	794,0
62792	1,31	40 x 16	24,0	550,0	1033,0
62793	1,31	50 x 16	26,8	669,0	1274,0

Dimensions and specifications may be changed without prior notice. (RN02)

TRAYCONTROL® 300 TP

twisted pair, flexible, oil resistant, NFPA 79

Technical data

- Flexible PVC data and control cable
- **Temperature range**
  -25°C to +105°C
- **Nominal voltage**
  300 V
- **Test voltage**
  2000 V
- **Minimum bending radius**
  flexing 6x cable Ø
- **Radiation resistance**
  up to 80x10⁶ cJ/kg (up to 80 Mrad)

Cable structure

- Tinned copper conductor, fine wire stranded, with AWG dimensions
- Core insulation of special PVC (AWG 22 - AWG 18 with transparent nylon skin)
- Core identification (pair) acc. to international colour code
- Cores stranded in pairs with optimal lay length
- Pairs stranded in layers with optimal lay length
- Separator
- Outer sheath of special PVC
- Sheath colour: grey (RAL 7001)
- With length marking in feet

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Self-extinguishing and flame retardant acc. to CSA FT4
- **UL (AWG 22 - AWG 18)**:
  PLTC-ER, ITC-ER, Type CM, NFPA 79, OIL RES I & II, Class I Div. 2, NEC Art. 501, 725, 760 & 800, AWM 2517
- **UL (AWG 24 - AWG 26)**:
  CM, AWM 2517, rated OIL RES I & II, NEC Art. 725, 760 & 800, NFPA 79
- **CSA**:
  CSA CMG FT4, AWM I/II A/B FT4

Note

Advantages

- Highly flexible, easy to install
- Oil resistant to OIL RES I & II

Available on request

- PUR or TPE outer sheath
- Sheath colour to suit customer requirement

Application

HELUKABEL® TRAYCONTROL® 300 TP is a twisteded pair data and control cable. Cross-sections with PLTC-ER and ITC-ER approval for open, unprotected installation in cable trays to the machine; their outstanding oil resistance (OIL RES I & II) makes them ideally suited as connecting and joining cables and also for control, signal and measuring systems in industrial plants. The flexible cable structure facilitates installation inside and outside of machines and switch cabinets. Applications: tool machines, control panels, measuring devices, production automation, cable ducts, renewable energies.
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	Cross-section mm²	No.pairs x No.cores x AWG-no.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
62794	0,154	1 x 2 x 26	4,0	3,0	20,0
62795	0,154	2 x 2 x 26	5,2	5,0	24,0
62796	0,154	3 x 2 x 26	5,5	8,0	30,0
62797	0,154	4 x 2 x 26	5,9	11,0	38,0
62798	0,154	5 x 2 x 26	6,4	14,0	44,0
62799	0,154	6 x 2 x 26	6,9	16,0	51,0
62800	0,154	7 x 2 x 26	6,9	19,0	57,0
61928	0,154	8 x 2 x 26	7,6	22,0	64,0
61929	0,154	10 x 2 x 26	8,7	27,0	76,0
61930	0,154	12 x 2 x 26	9,0	33,0	93,0
61931	0,154	14 x 2 x 26	9,4	38,0	103,0
61932	0,154	15 x 2 x 26	10,4	41,0	109,0
61933	0,154	16 x 2 x 26	10,4	43,0	112,0
61934	0,154	18 x 2 x 26	11,0	49,0	119,0
61935	0,154	20 x 2 x 26	11,4	54,0	130,0
61936	0,154	22 x 2 x 26	11,9	59,0	150,0
61937	0,154	24 x 2 x 26	12,5	65,0	169,0
61938	0,154	25 x 2 x 26	12,5	67,0	178,0

Part no.	Cross-section mm²	No.pairs x No.cores x AWG-no.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
61939	0,241	1 x 2 x 24	4,3	5,0	32,0
61940	0,241	2 x 2 x 24	5,7	10,0	36,0
61941	0,241	3 x 2 x 24	6,0	15,0	48,0
61942	0,241	4 x 2 x 24	6,5	20,0	56,0
61943	0,241	5 x 2 x 24	7,0	25,0	71,0
61944	0,241	6 x 2 x 24	7,8	29,0	80,0
61945	0,241	7 x 2 x 24	7,8	34,0	89,0
61946	0,241	8 x 2 x 24	8,4	39,0	98,0
61947	0,241	10 x 2 x 24	9,7	49,0	111,0
61948	0,241	12 x 2 x 24	10,6	59,0	135,0
61949	0,241	14 x 2 x 24	11,0	69,0	160,0
61950	0,241	15 x 2 x 24	11,6	74,0	171,0
61951	0,241	16 x 2 x 24	11,6	79,0	185,0
61952	0,241	18 x 2 x 24	12,2	89,0	209,0
61953	0,241	20 x 2 x 24	12,8	98,0	230,0
61954	0,241	22 x 2 x 24	13,3	109,0	248,0
61955	0,241	24 x 2 x 24	14,0	118,0	279,0
61956	0,241	25 x 2 x 24	14,0	124,0	292,0

Continuation ►

TRAYCONTROL® 300 TP

twisted pair, flexible, oil resistant, NFPA 79

Part no.	Cross-section mm²	No.pairs x No.cores x AWG-no.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
61957	0,382	1 x 2 x 22	6,5	7,0	38,0
61958	0,382	2 x 2 x 22	8,8	13,0	44,0
61959	0,382	3 x 2 x 22	9,2	20,0	60,0
61960	0,382	4 x 2 x 22	10,0	29,0	79,0
61961	0,382	5 x 2 x 22	10,9	33,0	92,0
61962	0,382	6 x 2 x 22	11,8	39,0	119,0
61963	0,382	7 x 2 x 22	11,8	46,0	128,0
61964	0,382	8 x 2 x 22	12,7	52,0	139,0
61965	0,382	10 x 2 x 22	15,6	65,0	171,0
61966	0,382	12 x 2 x 22	16,1	78,0	194,0
61967	0,382	14 x 2 x 22	16,9	92,0	222,0
61968	0,382	15 x 2 x 22	17,8	98,0	231,0
61969	0,382	16 x 2 x 22	17,8	105,0	240,0
61970	0,382	18 x 2 x 22	18,6	118,0	264,0
61971	0,382	20 x 2 x 22	19,6	131,0	291,0
61972	0,382	22 x 2 x 22	20,5	144,0	300,0
61973	0,382	24 x 2 x 22	22,7	157,0	359,0
61974	0,382	25 x 2 x 22	22,7	163,0	381,0
61975	0,616	1 x 2 x 20	6,9	11,0	60,0
61976	0,616	2 x 2 x 20	9,6	22,0	80,0
61977	0,616	3 x 2 x 20	10,1	32,0	94,0
61978	0,616	4 x 2 x 20	10,9	43,0	104,0
61979	0,616	5 x 2 x 20	11,9	54,0	130,0
61980	0,616	6 x 2 x 20	12,9	65,0	151,0
61981	0,616	7 x 2 x 20	12,9	75,0	174,0
61982	0,616	8 x 2 x 20	14,8	86,0	262,0
61983	0,616	10 x 2 x 20	15,9	108,0	298,0
61984	0,616	12 x 2 x 20	17,7	129,0	302,0
61985	0,616	14 x 2 x 20	18,5	151,0	327,0
61986	0,616	15 x 2 x 20	19,5	161,0	370,0
61987	0,616	16 x 2 x 20	19,5	172,0	402,0
61988	0,616	18 x 2 x 20	20,5	194,0	480,0
61989	0,616	20 x 2 x 20	22,0	215,0	551,0
61990	0,616	22 x 2 x 20	23,1	237,0	621,0
61991	0,616	24 x 2 x 20	24,4	258,0	703,0
61992	0,616	25 x 2 x 20	24,4	269,0	721,0
61993	0,963	1 x 2 x 18	7,4	18,0	61,0
61994	0,963	2 x 2 x 18	10,3	36,0	77,0
61995	0,963	3 x 2 x 18	10,8	54,0	103,0
61996	0,963	6 x 2 x 18	14,9	107,0	216,0
61997	0,963	9 x 2 x 18	17,2	162,0	328,0
61998	0,963	15 x 2 x 18	21,3	271,0	542,0

Dimensions and specifications may be changed without prior notice. (RN02)

TRAYCONTROL® 300-C TP

twisted pair, flexible, screened, oil resistant, EMC-preferred type, NFPA 79

Technical data

- Flexible screened PVC data and control cable
- **Temperature range** -25°C to +105°C
- **Nominal voltage** 300 V
- **Test voltage** 2000 V
- **Minimum bending radius** flexing 6x cable Ø
- **Coupling resistance** max. 250 Ohm/km
- **Radiation resistance** up to 80x10⁶ cJ/kg (up to 80 Mrad)

Cable structure

- Tinned copper conductor, fine wire stranded, with AWG dimensions
- Core insulation of special PVC (AWG 22 - AWG 18 with transparent nylon skin)
- Core identification (pair) acc. to international colour code
- Cores stranded in pairs with optimal lay length
- Pairs stranded in layers with optimal lay length
- 1. Screening with special aluminium foil
- Drain wire
- 2. Tinned copper braided screen, approx. 85% coverage
- Separator
- Outer sheath of special PVC
- Sheath colour: grey (RAL 7001)
- With length marking in feet

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Self-extinguishing and flame retardant acc. to CSA FT4
- **UL (AWG 22 - AWG 18)**: PLTC-ER, ITC-ER, CM, NFPA 79, OIL RES I & II, Class I Div. 2, NEC Art. 501, 725, 760 & 800, AWM 2517
- **UL (AWG 24 - AWG 26)**: CM, AWM 2517, rated OIL RES I & II, NEC Art. 725, 760 & 800, NFPA 79
- **CSA**: CSA CMG FT4, AWM I/II A/B FT4

Note

Advantages

- Highly flexible, easy to install
- Oil resistant to OIL RES I & II

Available on request

- PUR or TPE outer sheath
- Sheath colour to suit customer requirement

Application

HELUKABEL® TRAYCONTROL® 300-C TP is a screened, twisted pair data and control cable. Cross-sections with PLTC-ER and ITC-ER approval suitable for open, unprotected installation in cable trays to the machine; their outstanding oil resistance (OIL RES I & II) makes them ideally suited as connecting and joining cables and also for control, signal and measuring systems in industrial plants. The flexible cable structure facilitates installation inside and outside of machines and switch cabinets. The double-screening with aluminium foil (100% coverage) and copper braid (approx. 85% coverage) guarantee superior EMC protection. Applications: tool machines, control panels, measuring devices, production automation, cable ducts, renewable energies.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

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

Part no.	Cross-section mm²	No.pairs x No.cores x AWG-no.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
61999	0,154	1 x 2 x 26	4,4	16,0	32,0
59760	0,154	2 x 2 x 26	5,6	20,0	39,0
59761	0,154	3 x 2 x 26	5,9	24,0	47,0
59762	0,154	4 x 2 x 26	6,3	27,0	55,0
59763	0,154	5 x 2 x 26	6,8	31,0	68,0
59764	0,154	6 x 2 x 26	7,5	50,0	86,0
59765	0,154	7 x 2 x 26	7,5	52,0	92,0
59766	0,154	8 x 2 x 26	8,0	54,0	97,0
59767	0,154	10 x 2 x 26	9,1	60,0	111,0
59768	0,154	12 x 2 x 26	9,4	67,0	141,0
59769	0,154	14 x 2 x 26	10,4	75,0	150,0
59770	0,154	15 x 2 x 26	10,8	77,0	154,0
59771	0,154	16 x 2 x 26	10,8	80,0	155,0
59772	0,154	18 x 2 x 26	11,3	84,0	170,0
59773	0,154	20 x 2 x 26	11,8	98,0	183,0
59774	0,154	22 x 2 x 26	12,3	104,0	207,0
59775	0,154	24 x 2 x 26	13,0	112,0	228,0
59776	0,154	25 x 2 x 26	13,0	114,0	239,0

Part no.	Cross-section mm²	No.pairs x No.cores x AWG-no.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
59777	0,241	1 x 2 x 24	4,6	16,0	46,0
59778	0,241	2 x 2 x 24	6,2	27,0	53,0
59779	0,241	3 x 2 x 24	6,5	32,0	65,0
59780	0,241	4 x 2 x 24	7,2	37,0	79,0
59781	0,241	5 x 2 x 24	7,8	55,0	98,0
59782	0,241	6 x 2 x 24	8,3	66,0	114,0
59783	0,241	7 x 2 x 24	8,3	60,0	121,0
59784	0,241	8 x 2 x 24	8,9	74,0	129,0
59785	0,241	10 x 2 x 24	10,8	109,0	152,0
59786	0,241	12 x 2 x 24	11,0	116,0	189,0
59787	0,241	14 x 2 x 24	11,5	121,0	213,0
59788	0,241	15 x 2 x 24	12,1	132,0	225,0
59789	0,241	16 x 2 x 24	12,1	142,0	227,0
59790	0,241	18 x 2 x 24	12,6	147,0	238,0
59791	0,241	20 x 2 x 24	13,2	161,0	270,0
59792	0,241	22 x 2 x 24	13,8	171,0	300,0
59793	0,241	24 x 2 x 24	14,5	230,0	321,0
59794	0,241	25 x 2 x 24	14,5	231,0	340,0

Continuation ▸

TRAYCONTROL® 300-C TP

twisted pair, flexible, screened, oil resistant, EMC-preferred type, NFPA 79

Part no.	Cross-section mm²	No.pairs x No.cores x AWG-no.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
59795	0,382	1 x 2 x 22	6,9	17,0	58,0
59796	0,382	2 x 2 x 22	9,3	37,0	65,0
59797	0,382	3 x 2 x 22	9,7	45,0	79,0
59798	0,382	4 x 2 x 22	10,5	54,0	88,0
59799	0,382	5 x 2 x 22	11,4	63,0	110,0
59800	0,382	6 x 2 x 22	12,3	73,0	126,0
59801	0,382	7 x 2 x 22	12,3	79,0	140,0
59802	0,382	8 x 2 x 22	13,2	88,0	148,0
59803	0,382	10 x 2 x 22	15,9	107,0	184,0
59804	0,382	12 x 2 x 22	16,6	122,0	210,0
59805	0,382	14 x 2 x 22	17,4	138,0	241,0
59806	0,382	15 x 2 x 22	18,2	154,0	245,0
59807	0,382	16 x 2 x 22	18,2	161,0	251,0
59808	0,382	18 x 2 x 22	19,1	198,0	275,0
59809	0,382	20 x 2 x 22	20,1	211,0	300,0
59810	0,382	22 x 2 x 22	21,0	218,0	320,0
59811	0,382	24 x 2 x 22	23,1	230,0	371,0
59812	0,382	25 x 2 x 22	23,1	239,0	402,0
59813	0,616	1 x 2 x 20	7,4	26,0	70,0
59814	0,616	2 x 2 x 20	10,0	56,0	89,0
59815	0,616	3 x 2 x 20	10,5	72,0	102,0
59816	0,616	4 x 2 x 20	11,4	92,0	119,0
59817	0,616	5 x 2 x 20	12,4	107,0	140,0
59818	0,616	6 x 2 x 20	13,4	122,0	162,0
59819	0,616	7 x 2 x 20	13,4	132,0	198,0
59820	0,616	8 x 2 x 20	15,3	144,0	272,0
59821	0,616	10 x 2 x 20	16,4	180,0	307,0
59822	0,616	12 x 2 x 20	18,3	202,0	318,0
59823	0,616	14 x 2 x 20	19,2	221,0	342,0
59824	0,616	15 x 2 x 20	20,1	232,0	381,0
59825	0,616	16 x 2 x 20	20,1	257,0	417,0
59826	0,616	18 x 2 x 20	21,2	282,0	494,0
59827	0,616	20 x 2 x 20	22,7	307,0	570,0
59828	0,616	22 x 2 x 20	23,8	322,0	643,0
59829	0,616	24 x 2 x 20	25,0	342,0	724,0
59830	0,616	25 x 2 x 20	25,0	361,0	740,0
59831	0,963	1 x 2 x 18	7,8	28,0	104,0
59832	0,963	2 x 2 x 18	10,8	57,0	121,0
59833	0,963	3 x 2 x 18	11,3	75,0	150,0
59834	0,963	6 x 2 x 18	15,4	139,0	328,0
59835	0,963	9 x 2 x 18	17,9	212,0	490,0
59836	0,963	15 x 2 x 18	21,9	358,0	811,0

Dimensions and specifications may be changed without prior notice. (RN02)

TRAYCONTROL® 500

flexible, oil-resistant, open installation TC-ER, PLTC-ER, ITC-ER, NFPA 79

Technical data

- PVC control cable acc. to UL Std.1277 and UL Std.2277
- **Temperature range**
  flexing -5°C to +90°C
  fixed installation -40°C to +90°C
- **Nominal voltage**
  TC 600 V
  AWM 1000 V
  WTTC 1000 V
- **Test voltage**
  3000 V
- **Minimum bending radius**
  flexing 4x cable Ø
- **Insulation resistance**
  min. 20 MOhm x km
- **Radiation resistance**
  up to 80x10^6 cJ/kg (up to 80 Mrad)

Cable structure

- Bare copper conductor, fine wire with AWG dimensions
- Core insulation of special PVC with transparent nylon skin
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Separator
- Outer sheath of special PVC
- Sheath colour: grey (RAL 7001)
- With length marking in feet

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Self-extinguishing and flame retardant acc. to CSA FT4
- **UL:**
  TC-ER, PLTC-ER (AWG 18 - AWG 12), ITC-ER (AWG 18 - AWG 12), MTW, NFPA 79, WTTC 1000 V, DP-1, OIL RES I & II, 90°C dry / 75°C wet, Class 1 Div. 2 per NEC Art. 336, 392, 501, crush impact test acc. to UL 1277
  CSA:
  c(UL) CIC-TC FT4, CSA AWM I/II A/B FT4

Note

Advantages

- Highly flexible, easy to install

Available on request

- With blue cores (DC)
- With red cores (AC)
- Black or TPE outer sheath

Application

HELUKABEL® TRAYCONTROL® 500 is a flexible, oil-resistant control cable. The special combination of TC-ER, PLTC-ER and ITC-ER allows this cable to be used as a connecting cable for industrial plant and machinery in accordance with NFPA 79. Approved for open, unprotected installation in cable trays to the machine. Its outstanding oil resistance (OIL RES I & II) guarantees a long service life for industrial applications in dry, damp and wet environments. Recommended applications: production lines, bottling plants, machine construction, switch cabinets, conveyor systems, packaging machines, automotive industry.

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

Part no.	Cross-section mm²	No.cores x AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
63079	0,507	2 x 20	6,6	9,8	58,0
63080	0,507	3 x 20	7,0	14,6	61,0
63081	0,507	4 x 20	7,5	19,5	76,0
63082	0,507	5 x 20	8,1	24,4	89,0
63083	0,507	7 x 20	8,7	34,1	120,0
63084	0,507	9 x 20	9,8	43,8	201,0
63085	0,507	12 x 20	10,1	58,4	250,0
63086	0,507	18 x 20	12,9	87,6	295,0
63087	0,507	25 x 20	15,7	121,7	362,0
63088	0,963	2 x 18	7,3	18,5	68,0
63089	0,963	3 x 18	7,6	27,8	88,0
63090	0,963	4 x 18	8,2	37,0	98,0
63091	0,963	5 x 18	8,9	46,3	116,0
63092	0,963	7 x 18	9,6	64,8	149,0
63093	0,963	9 x 18	11,0	83,2	186,0
63094	0,963	10 x 18	11,6	92,5	199,0
63095	0,963	12 x 18	12,2	111,0	245,0
63096	0,963	15 x 18	13,5	138,7	292,0

Part no.	Cross-section mm²	No.cores x AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
63097	0,963	16 x 18	13,6	147,9	306,0
63098	0,963	18 x 18	15,0	166,4	366,0
63099	0,963	19 x 18	15,1	175,7	384,0
63100	0,963	25 x 18	17,4	231,2	451,0
63101	0,963	27 x 18	17,7	249,6	521,0
63102	0,963	34 x 18	19,7	314,4	625,0
63103	0,963	37 x 18	20,1	342,0	684,0
63104	0,963	41 x 18	21,0	379,0	744,0
63105	0,963	50 x 18	24,0	462,3	933,0
63106	0,963	61 x 18	25,2	564,0	1095,0
63107	1,31	2 x 16	7,8	25,2	80,0
63108	1,31	3 x 16	8,2	37,8	86,0
63109	1,31	4 x 16	8,8	50,3	115,0
63110	1,31	5 x 16	9,6	62,9	126,0
63112	1,31	6 x 16	10,2	75,5	164,0
63113	1,31	7 x 16	10,5	88,0	171,0
63114	1,31	8 x 16	11,1	100,7	201,0
63115	1,31	9 x 16	12,0	113,2	237,0

Continuation ►

TRAYCONTROL® 500

flexible, oil-resistant, open installation TC-ER, PLTC-ER, ITC-ER, NFPA 79

Part no.	Cross-section mm²	No.cores x AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
63116	1,31	10 x 16	12,4	125,8	259,0
63117	1,31	12 x 16	13,6	151,0	301,0
63118	1,31	14 x 16	14,5	176,1	365,0
63119	1,31	15 x 16	15,2	188,7	379,0
63120	1,31	16 x 16	16,0	201,3	405,0
63121	1,31	18 x 16	16,4	226,4	443,0
63122	1,31	19 x 16	16,6	239,0	458,0
63123	1,31	20 x 16	17,2	251,6	491,0
63124	1,31	25 x 16	18,9	314,5	564,0
63125	1,31	27 x 16	19,3	339,6	629,0
63126	1,31	30 x 16	20,0	377,3	701,0
63127	1,31	34 x 16	22,5	427,6	775,0
63128	1,31	40 x 16	23,5	503,1	946,0
63129	1,31	41 x 16	24,0	515,7	967,0
63130	1,31	50 x 16	26,1	628,8	1137,0
63131	1,31	61 x 16	27,5	767,2	1345,0
63132	2,08	2 x 14	8,9	40,0	100,0
63133	2,08	3 x 14	9,2	60,0	112,0
63111	2,08	4 x 14	10,1	80,0	141,0
63164	2,08	5 x 14	10,9	100,0	152,0
63165	2,08	6 x 14	11,5	120,0	205,0
63166	2,08	7 x 14	12,0	140,0	216,0
63167	2,08	9 x 14	14,7	180,0	312,0
63168	2,08	10 x 14	15,8	200,0	378,0
63169	2,08	12 x 14	16,4	240,0	434,0
63170	2,08	16 x 14	18,0	320,0	550,0
63171	2,08	18 x 14	18,9	359,0	616,0
63172	2,08	19 x 14	19,0	380,0	634,0
63173	2,08	25 x 14	23,0	500,0	817,0
63174	3,31	2 x 12	9,7	63,0	132,0
63175	3,31	3 x 12	10,2	95,0	177,0
63176	3,31	4 x 12	11,2	127,0	201,0
63177	3,31	5 x 12	12,3	159,0	274,0
63178	3,31	6 x 12	13,6	191,0	315,0
63179	3,31	7 x 12	13,9	222,0	353,0
63180	3,31	9 x 12	16,4	286,0	476,0
63181	3,31	12 x 12	18,3	381,0	613,0
63182	3,31	16 x 12	19,8	508,0	783,0
63183	3,31	19 x 12	22,3	604,0	918,0
63184	3,31	20 x 12	23,1	636,0	961,0
63185	3,31	25 x 12	25,8	794,0	1236,0
63186	5,26	2 x 10	12,2	101,0	213,0
63187	5,26	3 x 10	12,9	151,5	283,0
63188	5,26	4 x 10	15,0	202,0	387,0
63189	5,26	5 x 10	16,3	252,5	473,0
63190	5,26	7 x 10	17,7	353,5	607,0
63191	5,26	9 x 10	20,6	454,5	771,0
63192	5,26	12 x 10	24,1	606,0	1061,0
63193	5,26	19 x 10	27,2	959,5	1528,0
63194	8,37	3 x 8	17,0	241,1	420,0
63195	8,37	4 x 8	19,2	321,4	662,0
63196	8,37	5 x 8	21,0	401,8	784,0
63197	13,3	3 x 6	19,5	383,1	701,0
63198	13,3	4 x 6	22,4	510,7	908,0
63199	13,3	5 x 6	24,5	638,4	1149,0
62802	21,2	3 x 4	24,4	610,6	1061,0
62803	21,2	4 x 4	27,0	814,1	1366,0
62804	21,2	5 x 4	29,9	1017,6	1631,0
62805	33,6	3 x 2	28,2	967,7	1480,0
62806	33,6	4 x 2	31,4	1290,3	1922,0
62807	33,6	5 x 2	34,6	1612,8	2363,0
62808	42,3	4 x 1	35,6	1624,0	2397,0
62809	52,9	4 x 1/0	38,7	2031,0	2938,0
62810	67,3	4 x 2/0	42,1	2584,0	3559,0
62811	84,4	4 x 3/0	49,4	3256,0	4181,0
62812	106,7	4 x 4/0	52,0	4097,0	5747,0

Dimensions and specifications may be changed without prior notice. (RN01)

TRAYCONTROL® 500-C

flexible, oil-resistant, screened, open installation TC-ER, PLTC-ER, ITC-ER, NFPA 79, EMC-preferred type

Technical data

- PVC control cable acc. to UL Std.1277 and UL Std.2277
- **Temperature range**
  flexing -5°C to +90°C
  fixed installation -40°C to +90°C
- **Nominal voltage**
  TC 600 V
  AWM 1000 V
  WTTC 1000 V
- **Test voltage**
  3000 V
- **Coupling resistance**
  max. 250 Ohm/km
- **Minimum bending radius**
  flexing 6x cable Ø
- **Insulation resistance**
  min. 20 MOhm x km
- **Radiation resistance**
  up to 80x10⁶ cJ/kg (up to 80 Mrad)

Cable structure

- Bare copper conductor, fine wire with AWG dimensions
- Core insulation of special PVC with transparent nylon skin
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Separating foil
- Braided screening of tinned copper wires, coverage approx. 85%
- Separator
- Outer sheath of special PVC
- Sheath colour: grey (RAL 7001)
- With length marking in feet

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Self-extinguishing and flame retardant acc. to CSA FT4
- **UL**:
  TC-ER, PLTC-ER (AWG 18 - AWG 12), ITC-ER (AWG 18 - AWG 12), MTW, NFPA 79, WTTC 1000 V, DP-1, OIL RES I & II, 90°C dry / 75°C wet, Class 1 Div. 2 per NEC Art 336, 392, 501, crush impact test acc. to UL 1277
- **CSA**:
  c(UL) CIC-TC FT4, CSA AWM I/II A/B FT4

Note

Advantages

- Highly flexible, easy to install

Available on request

- With blue cores (DC)
- With red cores (AC)
- Black or TPE outer sheath

Application

HELUKABEL® TRAYCONTROL® 500-C is a flexible, screened and oil-resistant control cable. The special combination of TC-ER, PLTC-ER and ITC-ER allows this cable to be used as a connecting cable for industrial plant and machinery in accordance with NFPA 79. Approved for open, unprotected installation in cable trays to the machine. Its outstanding oil resistance (OIL RES I & II) guarantees a long service life for industrial applications in dry, damp and wet environments. Recommended applications: production lines, bottling plants, machine construction, switch cabinets, conveyor systems, packaging machines, automotive industry.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

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

Part no.	Cross-section mm²	No.cores x AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
62813	0,507	2 x 20	7,0	35,0	95,0
62814	0,507	3 x 20	7,6	42,0	115,0
62815	0,507	7 x 20	9,4	69,0	164,0
62816	0,507	12 x 20	11,0	108,0	266,0
62817	0,507	25 x 20	16,1	240,0	435,0
62818	0,963	2 x 18	8,1	50,0	110,0
62819	0,963	3 x 18	8,2	60,0	118,0
62820	0,963	4 x 18	8,8	71,0	136,0
62821	0,963	5 x 18	9,4	88,0	148,0
62822	0,963	7 x 18	10,1	111,0	192,0
62823	0,963	9 x 18	11,4	140,0	244,0
62824	0,963	10 x 18	12,0	150,0	283,0
62825	0,963	12 x 18	12,9	184,0	329,0
62826	0,963	15 x 18	14,8	207,0	377,0
62827	0,963	18 x 18	15,7	260,0	435,0

Part no.	Cross-section mm²	No.cores x AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
62828	0,963	19 x 18	15,7	280,0	443,0
62829	0,963	25 x 18	17,7	349,0	571,0
62830	1,31	3 x 16	8,9	74,0	144,0
62831	1,31	4 x 16	9,6	90,0	172,0
62832	1,31	5 x 16	10,3	104,0	188,0
62833	1,31	6 x 16	10,5	120,0	203,0
62834	1,31	7 x 16	11,3	134,0	244,0
62835	1,31	9 x 16	12,6	165,0	308,0
62836	1,31	10 x 16	12,9	180,0	346,0
62837	1,31	12 x 16	15,1	244,0	423,0
62838	1,31	15 x 16	16,4	270,0	441,0
62839	1,31	18 x 16	17,3	319,0	512,0
62840	1,31	19 x 16	17,6	327,0	503,0
62841	1,31	20 x 16	17,5	340,0	524,0
62842	1,31	25 x 16	19,6	434,0	704,0

Continuation ▸

TRAYCONTROL® 500-C

flexible, oil-resistant, screened, open installation TC-ER, PLTC-ER, ITC-ER, NFPA 79, EMC-preferred type

Part no.	Cross-section mm²	No.cores x AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
62843	2,08	3 x 14	9,8	112,0	179,0
62844	2,08	4 x 14	10,7	121,0	222,0
62845	2,08	5 x 14	11,6	150,0	266,0
62846	2,08	7 x 14	12,5	200,0	326,0
62847	2,08	9 x 14	15,0	240,0	435,0
62848	2,08	10 x 14	16,3	264,0	427,0
62849	2,08	12 x 14	16,9	350,0	592,0
62850	2,08	15 x 14	18,3	409,0	635,0
62851	2,08	18 x 14	19,5	471,0	780,0
62852	2,08	19 x 14	19,7	505,0	799,0
62853	2,08	25 x 14	23,3	652,0	1042,0
62854	3,31	3 x 12	11,4	137,0	237,0
62855	3,31	4 x 12	12,2	169,0	314,0
62856	3,31	5 x 12	13,4	201,0	386,0
62857	3,31	6 x 12	14,6	236,0	425,0
62858	3,31	7 x 12	15,5	262,0	496,0
62859	3,31	9 x 12	17,7	334,0	740,0
62860	3,31	12 x 12	19,7	434,0	887,0
62861	3,31	15 x 12	21,0	531,0	903,0
62862	3,31	19 x 12	23,1	720,0	1123,0
62863	3,31	20 x 12	25,0	764,0	1490,0
62864	3,31	25 x 12	27,1	914,0	1865,0
62865	5,26	3 x 10	14,1	240,0	389,0
62866	5,26	4 x 10	15,5	305,0	549,0
62867	5,26	5 x 10	16,8	399,0	610,0
62868	5,26	7 x 10	18,2	505,0	851,0
62869	5,26	9 x 10	20,9	704,0	1132,0
62870	5,26	12 x 10	24,4	940,0	1523,0
62871	5,26	19 x 10	27,5	1210,0	1952,0
62872	8,37	4 x 8	19,9	535,0	852,0
62873	13,3	4 x 6	23,3	740,0	1202,0
62874	21,2	4 x 4	28,6	1140,0	1971,0
62875	33,6	4 x 2	33,2	1576,0	2887,0

Dimensions and specifications may be changed without prior notice. (RN01)

JZ-604 TC TRAY CABLE

PVC power cable, open installation TC-ER, NFPA 79, 90°C, 600 V, meter marking

Technical data

- PVC power cable to UL Std.1277 TRAY CABLE
- **Multinorm**
  also conforms to the following standards: AWM-Style 2587 to UL Std.758 and CSA C22.2 No 210 I/II A/B 90C 600 V
- **Temperature range**
  dry environment
  flexing -5°C to +90°C
  fixed installation -25°C to +90°C
  wet environment
  flexing -5°C to +75°C
  fixed installation -25°C to +75°C
- **Nominal voltage**
  UL 600 V
- **Test voltage**
  3000 V
- **Breakdown voltage**
  min. 6000 V
- **Minimum bending radius**
  7,5x cable Ø
- **Radiation resistance**
  up to 80x10^6 cJ/kg (up to 80 Mrad)

Cable structure

- Bare copper, fine wire conductors, acc. to DIN VDE 0295 cl.5, BS 6360 cl.5 and IEC 60228 cl.5
- Core insulation of special PVC class 12 B acc. to tab. 50.155 UL Std.1581, type TFF acc. to UL Std.62 (AWG 20 - AWG 16)
  type THHW acc. to UL Std.83 (≥ AWG 14)
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Outer sheath of special PVC acc. to UL Std.1277 tab.11.2
- Sheath colour: black (RAL 9005)
- With meter marking

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- UV resistant

Tests

- Self-extinguishing and flame retardant acc. to CSA FT4
- UL OIL RES I
- Class 1 Div. 2 per NEC Art. 336, 392, 501

Note

- G = with GN-YE conductor
  x = without GN-YE conductor (OZ)
- AWG sizes are approximate equivalent values. The actual cross section is in mm².
- Screened analogue type:
  JZ-604-FCY TC TRAY CABLE
  JZ-604-YCY TC TRAY CABLE

Application

USA NFPA 79 conformant flexible power cables up to 600 V, for all machinery in tool and plant constuction, suitable for installation in dry, humid and damp environments, in the open and in pipes. For underground installation and for open, unprotected installation from the cable rack to machines and industrial plants.

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

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
69661	2 x 1	18	8,0	19,2	96,0
69662	3 G 1	18	8,4	29,0	112,0
69663	4 G 1	18	9,2	39,0	134,0
69664	5 G 1	18	10,0	48,0	162,0
69665	7 G 1	18	11,7	67,0	212,0
69666	9 G 1	18	12,6	84,0	260,0
69667	10 G 1	18	14,3	96,0	297,0
69668	12 G 1	18	14,7	115,0	374,0
69669	18 G 1	18	17,1	173,0	501,0
69670	25 G 1	18	20,3	240,0	677,0
69671	34 G 1	18	23,7	326,0	976,0
69672	50 G 1	18	27,8	480,0	1268,0
69673	2 x 1,5	16	8,4	29,0	112,0
69674	3 G 1,5	16	8,8	43,0	129,0
69675	4 G 1,5	16	9,6	58,0	155,0
69676	5 G 1,5	16	10,5	72,0	189,0
69677	7 G 1,5	16	12,3	101,0	246,0
69678	8 G 1,5	16	13,3	115,0	265,0
69679	9 G 1,5	16	13,3	130,0	317,0
69680	10 G 1,5	16	15,1	144,0	332,0
69681	12 G 1,5	16	15,6	173,0	384,0
69682	16 G 1,5	16	17,2	230,0	540,0
69683	18 G 1,5	16	18,2	259,0	604,0
69684	25 G 1,5	16	22,7	360,0	885,0
69685	34 G 1,5	16	25,3	489,0	1099,0
69686	41 G 1,5	16	27,0	590,0	1315,0
69687	50 G 1,5	16	27,3	720,0	1524,0
69688	61 G 1,5	16	29,4	878,0	1927,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
69689	2 x 2,5	14	9,4	48,0	148,0
69690	3 G 2,5	14	9,9	72,0	174,0
69691	4 G 2,5	14	10,8	96,0	218,0
69692	5 G 2,5	14	11,8	120,0	257,0
69693	7 G 2,5	14	14,7	168,0	383,0
69694	8 G 2,5	14	16,0	192,0	441,0
69695	9 G 2,5	14	16,0	216,0	468,0
69696	10 G 2,5	14	17,1	240,0	507,0
69697	12 G 2,5	14	17,7	288,0	571,0
69698	18 G 2,5	14	20,8	432,0	857,0
69699	25 G 2,5	14	25,8	600,0	1267,0
69700	3 G 4	12	11,0	115,0	236,0
69701	4 G 4	12	12,0	154,0	289,0
69702	5 G 4	12	13,2	192,0	345,0
69703	7 G 4	12	16,5	269,0	521,0
69704	9 G 4	12	17,8	346,0	710,0
69705	12 G 4	12	19,9	461,0	803,0
69706	18 G 4	12	24,2	691,0	1220,0
69707	3 G 6	10	12,5	173,0	311,0
69708	4 G 6	10	14,5	230,0	413,0
69709	5 G 6	10	15,8	288,0	482,0
69710	7 G 6	10	17,3	403,0	677,0
69711	3 G 10	8	17,2	288,0	582,0
69712	4 G 10	8	18,9	384,0	738,0
69713	5 G 10	8	20,8	480,0	919,0
69714	7 G 10	8	23,7	672,0	1202,0

Continuation ▸

JZ-604 TC TRAY CABLE

PVC power cable, open installation TC-ER, NFPA 79, 90°C, 600 V, meter marking

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
69715	3 G 16	6	21,0	461,0	937,0
69716	4 G 16	6	23,9	614,0	1225,0
69717	5 G 16	6	26,3	768,0	1508,0
69718	7 G 16	6	28,8	1075,0	1755,0
69719	3 G 25	4	24,9	720,0	1388,0
69720	4 G 25	4	27,4	960,0	1706,0
69721	5 G 25	4	30,3	1200,0	2036,0
69722	7 G 25	4	33,1	1680,0	2650,0
69723	3 G 35	2	27,1	1008,0	1760,0
69724	4 G 35	2	29,8	1344,0	2174,0
69725	5 G 35	2	33,0	1680,0	2716,0
69726	3 G 50	1	33,2	1440,0	2570,0
69727	4 G 50	1	36,7	1920,0	3236,0
69728	5 G 50	1	41,5	2400,0	3969,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
69729	3 G 70	2/0	37,6	2016,0	3304,0
69730	4 G 70	2/0	42,0	2688,0	4154,0
69731	5 G 70	2/0	48,4	3360,0	5427,0
69732	3 G 95	3/0	41,8	2736,0	4230,0
69733	4 G 95	3/0	47,0	3648,0	5562,0
69734	5 G 95	3/0	52,5	4560,0	6945,0
69735	3 G 120	4/0	46,0	3456,0	5490,0
69736	4 G 120	4/0	51,5	4608,0	7032,0
69737	5 G 120	4/0	56,5	5760,0	8488,0
59378	4 G 150	300 kcmil	58,0	5760,0	8000,0
59379	4 G 185	350 kcmil	60,0	7104,0	9000,0

Dimensions and specifications may be changed without prior notice. (RN01)

JZ-604-YCY TC TRAY CABLE

PVC power cable, screened, open installation TC-ER, NFPA 79, 90°C, 600 V, EMC-preferred type, meter marking

Technical data

- PVC power cable, screened to UL Std.1277 TRAY CABLE
- **Multinorm**
  also conforms to the following standards: AWM-Style 2587 to UL Std.758 and CSA C22.2 No 210 I/II A/B 90°C 600 V
- **Temperature range**
  dry environment
  flexing -5°C to +90°C
  fixed installation -25°C to +90°C
  wet environment
  flexing -5°C to +75°C
  fixed installation -25°C to +75°C
- **Nominal voltage**
  UL 600 V
- **Test voltage**
  3000 V
- **Breakdown voltage**
  min. 6000 V
- **Minimum bending radius**
  10x cable Ø
- **Radiation resistance**
  up to 80x10^6 cJ/kg (up to 80 Mrad)
- **Coupling resistance**
  max. 250 Ohm/km

Cable structure

- Bare copper, fine wire conductors, acc. to DIN VDE 0295 cl.5, BS 6360 cl.5 and IEC 60228 cl.5
- Core insulation of special PVC class 12 B to tab.50.155 acc. to UL Std.1581 type THHW acc. to UL Std.83
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- PVC-inner sheath acc. to UL Std.1277 tab.11.2
- Tinned copper braided screening, approx. 85% coverage
- Outer sheath of special PVC acc. to UL Std.1277 tab.11.2,
- Sheath colour: black (RAL 9005)
- With meter marking

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- UV resistant

Tests

- Self-extinguishing and flame retardant acc. to CSA FT4
- UL OIL RES I
- Class 1 Div. 2 per NEC Art. 336, 392, 501

Note

- G = with GN-YE conductor
  x = without GN-YE conductor (OZ)
- AWG sizes are approximate equivalent values. The actual cross section is in mm².
- Unscreened analogue type:
  JZ 604 TC TRAY CABLE

Application

USA NFPA 79 conformant flexible power cables up to 600 V, for all machinery in tool and plant constuction, suitable for installation in dry, humid and damp environments, in the open and in pipes. For underground installation and for open, unprotected installation from the cable rack to machines and industrial plants.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

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

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
69804	3 G 16	6	25,2	653,0	1060,0
69805	4 G 16	6	27,8	807,0	1572,0
69806	5 G 16	6	31,2	940,0	2002,0
69807	7 G 16	6	34,5	1345,0	2604,0
69808	3 G 25	4	29,0	920,0	1955,0
69809	4 G 25	4	32,4	1169,0	2218,0
69810	5 G 25	4	36,4	1420,0	2757,0
69811	7 G 25	4	40,3	1921,0	3523,0
69812	3 G 35	2	32,4	1250,0	2289,0
69813	4 G 35	2	36,2	1680,0	2926,0
69814	5 G 35	2	40,5	2020,0	3545,0
69815	3 G 50	1	40,4	1887,0	3379,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
69816	4 G 50	1	45,5	2370,0	4439,0
69817	5 G 50	1	50,0	2880,0	5312,0
69818	3 G 70	2/0	46,7	2516,0	4557,0
69819	4 G 70	2/0	51,1	3257,0	5632,0
69820	5 G 70	2/0	56,0	4032,0	6681,0
69821	3 G 95	3/0	50,1	3086,0	5612,0
69822	4 G 95	3/0	55,0	4060,0	6820,0
69823	5 G 95	3/0	60,5	5244,0	8172,0
69824	3 G 120	4/0	54,0	4176,0	6711,0
69825	4 G 120	4/0	59,5	5231,0	8256,0
69826	5 G 120	4/0	64,5	6624,0	10233,0

Dimensions and specifications may be changed without prior notice. (RN01)

TRAYCONTROL® 600

flexible, oil resistant, open installation TC-ER, PLTC-ER, ITC-ER, NFPA 79

Technical data

- PVC power cable acc. to UL Std.1277 and UL Std.2277
- **Temperature range**
  UL/CSA TC -40°C to +90°C
  UL/AWM -40°C to +90°C
- **Nominal voltage**
  TC 600 V
  AWM 1000 V
  WTTC 1000 V
- **Test voltage**
  3000 V
- **Minimum bending radius**
  5x cable Ø
- **Insulation resistance**
  min. 20 MOhm x km
- **Radiation resistance**
  up to 80x10^6 cJ/kg (up to 80 Mrad)

Cable structure

- Bare copper conductor, fine wire with AWG dimensions
- Core insulation of special PVC with transparent nylon skin
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Separator
- Outer sheath of special PVC
- Sheath colour: black (RAL 9005)
- With length marking in feet

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- UV resistant

Tests

- Self-extinguishing and flame retardant acc. to CSA FT4
- **UL:**
  TC-ER, PLTC-ER (AWG 18 - AWG 12), ITC-ER (AWG 18 - AWG 12), UL Type WTTC, UL Type MTW, NFPA 79, Oil Res I (Oil Res II also available), 90° C dry / 75° C wet, Class 1 Div. 2 per NEC Art. 336, 392, 501
- **CSA**:
  c(UL) CIC-TC FT4, CSA AWM I/II A/B FT4

Note

Advantages

- TC-ER, Tray Cable Exposed Run
- Simple installation
- Outstanding flexibility

Application

NFPA 79 conformant flexible power cable up to 600 V (WTTC 1000 V), for all machinery in plant construction. Suitable for installation in dry, humid and damp environments, outdoors and pipes. For underground installation and for open, unprotected installation from the cable rack to machines in industrial plants.

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

Part no.	Cross-section mm²	No.cores x AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
62020	0,507	2 x 20	6,6	9,8	60,0
62021	0,507	3 x 20	7,0	14,6	64,0
62022	0,507	4 x 20	7,5	19,5	79,0
62023	0,507	5 x 20	8,1	24,4	92,0
62024	0,507	7 x 20	8,7	34,1	124,0
62025	0,507	9 x 20	9,8	43,8	210,0
62026	0,507	12 x 20	10,1	58,4	263,0
62027	0,507	18 x 20	12,9	87,6	305,0
62028	0,507	25 x 20	15,7	121,7	371,0
62902	0,963	2 x 18	7,3	18,5	68,0
62903	0,963	3 x 18	7,6	27,8	68,0
62904	0,963	4 x 18	8,2	37,0	97,0
62905	0,963	5 x 18	8,9	46,3	116,0
62906	0,963	7 x 18	9,6	64,8	147,0
62907	0,963	9 x 18	11,0	83,2	186,0
62908	0,963	10 x 18	11,6	92,5	199,0
62909	0,963	12 x 18	12,2	111,0	250,0
62910	0,963	15 x 18	13,5	138,7	292,0
62911	0,963	16 x 18	13,6	147,9	306,0
62912	0,963	18 x 18	15,0	166,4	365,0
62913	0,963	19 x 18	15,1	175,7	384,0
62914	0,963	25 x 18	17,4	231,2	480,0
62915	0,963	27 x 18	17,7	249,6	521,0
62916	0,963	34 x 18	19,7	314,4	625,0
62917	0,963	37 x 18	20,1	342,0	684,0
62918	0,963	41 x 18	21,0	379,0	744,0
62919	0,963	50 x 18	24,0	462,3	933,0
62920	0,963	61 x 18	25,2	564,0	1095,0
62921	1,31	2 x 16	7,8	25,2	80,0
62922	1,31	3 x 16	8,2	37,8	86,0

Part no.	Cross-section mm²	No.cores x AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
62923	1,31	4 x 16	8,8	50,3	120,0
62924	1,31	5 x 16	9,6	62,9	130,0
62925	1,31	6 x 16	10,2	75,5	164,0
62926	1,31	7 x 16	10,5	88,0	188,0
62927	1,31	8 x 16	11,1	100,7	201,0
62928	1,31	9 x 16	12,0	113,2	238,0
62929	1,31	10 x 16	12,4	125,8	259,0
62930	1,31	12 x 16	13,6	151,0	301,0
62931	1,31	14 x 16	14,5	176,1	356,0
62932	1,31	15 x 16	15,2	188,7	379,0
62933	1,31	16 x 16	16,0	201,3	405,0
62934	1,31	18 x 16	16,4	226,4	430,0
62935	1,31	19 x 16	16,6	239,0	450,0
62936	1,31	20 x 16	17,2	251,6	481,0
62937	1,31	25 x 16	18,9	314,5	564,0
62938	1,31	27 x 16	19,3	339,6	629,0
62939	1,31	30 x 16	20,0	377,3	701,0
62940	1,31	34 x 16	22,5	427,6	775,0
62941	1,31	40 x 16	23,5	503,1	946,0
62942	1,31	41 x 16	24,0	515,7	967,0
62943	1,31	50 x 16	26,1	628,8	1137,0
62944	1,31	61 x 16	27,5	767,2	1345,0
62945	2,08	2 x 14	8,9	40,0	100,0
62946	2,08	3 x 14	9,2	60,0	117,0
62947	2,08	4 x 14	10,1	80,0	141,0
62948	2,08	5 x 14	10,9	100,0	152,0
62949	2,08	6 x 14	11,5	120,0	216,0
62950	2,08	7 x 14	12,0	140,0	255,0
62951	2,08	9 x 14	14,7	180,0	312,0
62952	2,08	10 x 14	15,8	200,0	378,0

Continuation ▸

TRAYCONTROL® 600

flexible, oil resistant, open installation TC-ER, PLTC-ER, ITC-ER, NFPA 79

Part no.	Cross-section mm²	No.cores x AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
62953	2,08	12 x 14	16,4	240,0	434,0
62954	2,08	16 x 14	18,0	320,0	550,0
62955	2,08	18 x 14	18,9	359,0	616,0
62956	2,08	19 x 14	19,0	380,0	634,0
62957	2,08	25 x 14	23,0	500,0	817,0
62958	3,31	2 x 12	9,7	63,0	132,0
62959	3,31	3 x 12	10,2	95,0	177,0
62960	3,31	4 x 12	11,2	127,0	201,0
62961	3,31	5 x 12	12,3	159,0	274,0
62962	3,31	6 x 12	13,6	191,0	315,0
62963	3,31	7 x 12	13,9	222,0	353,0
62964	3,31	9 x 12	16,4	286,0	476,0
62965	3,31	12 x 12	18,3	381,0	613,0
62966	3,31	16 x 12	19,8	508,0	783,0
62967	3,31	19 x 12	22,3	604,0	918,0
62968	3,31	20 x 12	23,1	636,0	916,0
62969	3,31	25 x 12	25,8	794,0	1286,0
62970	5,26	2 x 10	12,2	101,0	213,0
62971	5,26	3 x 10	12,9	151,5	283,0
62972	5,26	4 x 10	15,0	202,0	387,0
62973	5,26	5 x 10	16,3	252,5	473,0
62974	5,26	7 x 10	17,7	353,5	607,0
62975	5,26	9 x 10	20,6	454,5	771,0
62976	5,26	12 x 10	24,1	606,0	1061,0
62977	5,26	19 x 10	27,2	959,5	1528,0
62978	8,37	4 x 8	19,2	321,4	615,0
62979	8,37	5 x 8	21,0	401,8	768,0
62980	13,3	3 x 6	19,5	383,1	700,0
62981	13,3	4 x 6	22,4	510,7	907,0
62982	13,3	5 x 6	24,5	638,4	1100,0
62983	21,2	3 x 4	24,4	610,6	1061,0
62984	21,2	4 x 4	27,0	814,1	1366,0
62985	21,2	5 x 4	29,9	1017,6	1631,0
62986	33,6	3 x 2	28,2	967,7	1480,0
62987	33,6	4 x 2	31,4	1290,3	1922,0
62988	33,6	5 x 2	34,6	1612,8	2360,0
62989	42,3	4 x 1	35,6	1624,0	2397,0
62990	52,9	4 x 1/0	38,7	2031,0	2938,0
62991	67,3	4 x 2/0	42,1	2584,0	3569,0
62992	84,4	4 x 3/0	49,4	3256,0	4181,0
62993	106,7	4 x 4/0	52,0	4097,0	5747,0
62994	128,4	4 x 250 kcmil	55,8	4931,0	7591,0
62995	181,9	4 x 350 kcmil	64,3	6985,0	8299,0
62996	257,6	4 x 500 kcmil	74,1	9892,0	11549,0

Dimensions and specifications may be changed without prior notice. (RN01)

TRAYCONTROL® 600-C

flexible, oil resistant, screened, open installation (TC-ER), NFPA 79, EMC-preferred type

Technical data

- PVC power cable acc. to UL Std.1277 and UL Std.2277
- **Temperature range**
  UL/CSA TC -40°C to +90°C
  AWM -40°C to +90°C
- **Nominal voltage**
  TC 600 V
  AWM 1000 V
  WTTC 1000 V
- **Test voltage**
  3000 V
- **Coupling resistance**
  max. 250 Ohm/km
- **Minimum bending radius**
  6x cable Ø
- **Insulation resistance**
  min. 20 MOhm x km
- **Radiation resistance**
  up to 80x10^6 cJ/kg (up to 80 Mrad)

Cable structure

- Bare copper conductor, fine wire with AWG dimensions
- Core insulation of special PVC with transparent nylon skin
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Separating foil
- Braided screening of tinned copper wires, coverage approx. 85%
- Separator
- Outer sheath of special PVC
- Sheath colour: black (RAL 9005)
- With length marking in feet

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- UV resistant

Tests

- Self-extinguishing and flame retardant acc. to CSA FT4
- **UL:**
  TC-ER, PLTC-ER (AWG 18 - AWG 12), ITC-ER (AWG 18 - AWG 12), UL Type WTTC, UL Type MTW NFPA 79, Oil Res I (Oil Res II also available), 90°C dry / 75°C wet, Class 1 Div. 2 per NEC Art. 336, 392, 501
- **CSA**:
  c (UL) CIC-TC FT4, CSA AWM I/II A/B FT4

Note

Advantages

- TC-ER, Tray Cable Exposed Run
- Simple installation
- Outstanding flexibility

Application

USA NFPA 79 compliant, screened, flexible power cable to 600 V (WTTC 1000 V), for all tool and plant construction machinery, suitable for installation in dry, damp and wet environments, outdoors and in pipes. For underground installation and for open, unprotected installtion from the cable tray to the machine and industrial plants.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

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

Part no.	Cross-section mm²	No.cores x AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
63049	0,963	3 x 18	8,2	31,0	118,0
63050	0,963	4 x 18	8,8	52,0	136,0
63051	0,963	5 x 18	9,4	62,0	149,0
63052	0,963	7 x 18	10,1	83,0	193,0
63053	0,963	12 x 18	12,9	143,0	328,0
63054	0,963	18 x 18	15,7	207,0	431,0
63055	0,963	25 x 18	17,7	284,0	569,0
62997	1,31	3 x 16	8,9	57,0	144,0
63056	1,31	4 x 16	9,6	72,0	172,0
63057	1,31	5 x 16	10,3	84,0	186,0
63058	1,31	7 x 16	11,3	124,0	243,0
63059	1,31	12 x 16	15,1	199,0	421,0
63060	1,31	18 x 16	17,3	290,0	510,0
63061	1,31	25 x 16	19,6	384,0	704,0
63062	2,08	3 x 14	9,8	85,0	178,0
63063	2,08	4 x 14	10,7	115,0	220,0

Part no.	Cross-section mm²	No.cores x AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
63064	2,08	5 x 14	11,6	139,0	264,0
63065	2,08	7 x 14	12,5	185,0	325,0
63066	2,08	12 x 14	16,9	309,0	591,0
63067	2,08	18 x 14	19,5	448,0	780,0
63068	2,08	25 x 14	23,3	632,0	1041,0
63069	3,31	4 x 12	12,2	179,0	313,0
63070	3,31	5 x 12	13,4	223,0	384,0
63071	3,31	7 x 12	15,5	298,0	492,0
63072	5,26	4 x 10	15,5	256,0	547,0
63073	5,26	5 x 10	16,8	312,0	608,0
63074	5,26	7 x 10	18,2	430,0	850,0
63075	8,37	4 x 8	19,9	426,0	851,0
63076	13,3	4 x 6	23,3	657,0	1197,0
63077	21,2	4 x 4	28,6	1026,0	1970,0
63078	33,6	4 x 2	33,2	1412,0	2874,0

Dimensions and specifications may be changed without prior notice. (RN01)

TRAYCONTROL 610 OIL RES II

WTTC (2277) UL 1277 FT4

TRAY CABLE for open installation (TC-ER), NFPA 79

Technical data

- Special power cable acc. to UL 1277; WTTC (2277)
- **Temperature range**
  UL/CSA TC -40°C to +90°C
  UL/AWM -40°C to +90°C
- **Nominal voltage**
  TC 600 V
  AWM 1000 V
  WTTC 1000 V
- **Test voltage**
  3000 V
- **Minimum bending radius**
  5x cable Ø
- **Insulation resistance**
  min. 20 MOhm x km
- **Radiation resistance**
  up to 80x10⁶ cJ/kg (up to 80 Mrad)

Cable structure

- Bare copper conductors, fine wire stranded to DIN VDE 0295 cl.5, BS 6360 cl.5 and IEC 60228 cl.5 with AWG dimensions
- Core insualtion of special PVC with transparent Nylon skin
- Core identification black with numbers + gnye (JZ)
  G = with GN-YE conductor (JZ)
  X = without ground (OZ)
- Multiconductor conductors stranded
- Separator
- Special compound blend outer sheath
- Sheath colour: black
- With length marking in feet

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- UV resistant

Tests

- Self-extinguishing and flame retardant acc. to CSA FT4
- **UL:**
  Oil Res I/II, Class1,
  Div. 2 per NEC Art. 336, 392, 501
  UL Type 2277 (WTTC), TC-ER,
  PLTC-ER (AWG 18 - AWG 12),
  ITC-ER (AWG 18 - AWG 12), UL 1277 (TC),
  UL Type MTW or Type AWM, NFPA 79,
  90° C dry / 75° C wet
  CSA:
  c(UL) Type TC & CIC FT4,
  CSA AWM I/II A/B FT4

Note

Advantages:

- TC-ER rated
- Meets TC (UL 1277) & WTTC (UL 2277)

Requirements:

- Simple installation
- Outstanding flexibility
- Exeptional abrasion resistance
- Oil Res I/II approved
- Torsion resistant for Wind Power application

For more information, especially on custom cables, please contact us:
wind@helukabel.de

Application

USA NFPA 79 compliant flexible power cables to 600 V (WTTC 1000 V) for all wind energy, tool and plant construction machinery applications. Suitable for installation in dry, damp and wet environments, outdoors and in pipes. For underground installation and for open, unprotected installation from the cable rack to machines and industrial plants.

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

Continuation ►

TRAYCONTROL 610 OIL RES II

WTTC (2277) UL 1277 FT4

TRAY CABLE for open installation (TC-ER), NFPA 79

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
706194	2 G 1	18	7,0	19,0	68,0
706195	3 G 1	18	7,3	29,0	88,0
706196	4 G 1	18	8,0	39,0	98,0
706197	5 G 1	18	8,6	48,0	116,0
706198	7 G 1	18	10,0	67,0	149,0
706199	9 G 1	18	10,7	86,0	186,0
706200	10 G 1	18	11,6	96,0	199,0
706201	12 G 1	18	11,8	115,0	245,0
706202	15 G 1	18	13,2	144,0	292,0
706203	16 G 1	18	13,3	154,0	306,0
706204	18 G 1	18	13,9	173,0	366,0
706205	19 G 1	18	14,7	182,0	384,0
706206	25 G 1	18	17,0	240,0	451,0
706207	27 G 1	18	17,4	259,0	521,0
706208	34 G 1	18	19,3	326,0	625,0
706209	37 G 1	18	19,8	355,0	684,0
706210	41 G 1	18	20,7	384,0	744,0
706211	50 G 1	18	23,5	480,0	933,0
706212	61 G 1	18	24,9	586,0	1095,0
706213	2 G 1,32	16	7,5	25,0	80,0
706214	3 G 1,32	16	8,0	38,0	86,0
706215	4 G 1,32	16	8,9	51,0	115,0
706216	5 G 1,32	16	9,7	63,0	126,0
706217	6 G 1,32	16	10,0	76,0	164,0
706218	7 G 1,32	16	12,0	89,0	171,0
706219	8 G 1,32	16	10,9	101,0	201,0
706220	9 G 1,32	16	11,7	114,0	237,0
706221	10 G 1,32	16	12,4	127,0	259,0
706222	12 G 1,32	16	14,3	152,0	301,0
706223	14 G 1,32	16	14,5	177,0	365,0
706224	15 G 1,32	16	15,0	190,0	379,0
706225	16 G 1,32	16	15,2	203,0	405,0
706226	18 G 1,32	16	16,8	228,0	443,0
706227	19 G 1,32	16	16,0	241,0	458,0
706228	20 G 1,32	16	16,5	253,0	491,0
706229	25 G 1,32	16	18,6	317,0	564,0
706230	27 G 1,32	16	19,0	342,0	629,0
706231	30 G 1,32	16	19,6	380,0	701,0
706232	34 G 1,32	16	20,5	420,0	775,0
706233	40 G 1,32	16	22,9	482,0	946,0
706234	41 G 1,32	16	23,4	513,0	967,0
706235	50 G 1,32	16	25,1	626,0	1137,0
706236	61 G 1,32	16	27,2	762,0	1345,0
706237	2 G 2,08	14	8,6	40,0	100,0
706238	3 G 2,08	14	10,0	60,0	112,0
706239	4 G 2,08	14	10,5	80,0	141,0
706240	5 G 2,08	14	10,9	100,0	152,0
706241	6 G 2,08	14	11,6	120,0	205,0
706242	9 G 2,08	14	13,5	180,0	312,0
706243	10 G 2,08	14	15,5	200,0	378,0
706244	12 G 2,08	14	15,9	240,0	434,0
706245	16 G 2,08	14	17,6	319,0	550,0
706246	18 G 2,08	14	18,3	359,0	616,0
706247	19 G 2,08	14	18,5	380,0	634,0
706248	25 G 2,08	14	21,6	500,0	817,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
706249	2 G 3,31	12	9,5	63,0	132,0
706250	3 G 3,31	12	10,8	95,0	177,0
706251	4 G 3,31	12	12,0	127,0	201,0
706252	5 G 3,31	12	13,6	159,0	274,0
706253	6 G 3,31	12	13,0	191,0	315,0
706254	7 G 3,31	12	15,9	222,0	353,0
706255	9 G 3,31	12	15,9	286,0	476,0
706256	12 G 3,31	12	17,8	381,0	613,0
706257	16 G 3,31	12	19,8	508,0	783,0
706258	19 G 3,31	12	20,8	604,0	918,0
706259	20 G 3,31	12	21,9	636,0	961,0
706260	25 G 3,31	12	25,3	794,0	1236,0
706261	2 G 6	10	11,9	115,0	213,0
706262	3 G 6	10	13,1	173,0	283,0
706263	4 G 6	10	14,7	230,0	387,0
706264	5 G 6	10	16,3	288,0	473,0
706265	7 G 6	10	19,6	403,0	607,0
706266	9 G 6	10	20,4	518,0	771,0
706267	12 G 6	10	23,9	691,0	1061,0
706268	19 G 6	10	27,9	1094,0	1528,0
706269	4 G 10	8	17,4	384,0	662,0
706270	5 G 10	8	20,1	480,0	784,0
706271	3 G 16	6	18,5	461,0	701,0
706272	4 G 16	6	20,7	614,0	908,0
706273	5 G 16	6	25,8	768,0	1149,0
706274	3 G 25	4	24,3	720,0	1060,0
706275	4 G 25	4	26,5	960,0	1366,0
706276	5 G 25	4	28,2	1200,0	1631,0
706277	3 G 35	2	27,9	1008,0	1480,0
706278	4 G 35	2	31,4	1344,0	1922,0
706279	5 G 35	2	35,4	1680,0	2363,0
706280	4 G 42,3	1	34,1	360,0	2397,0
706281	4 G 52,9	1/0	37,9	441,0	2938,0
706282	4 G 67,3	2/0	41,3	584,0	3559,0
706283	4 G 84,8	3/0	48,6	741,0	4181,0
706284	4 G 106,7	4/0	51,2	932,0	5747,0
706285	4 G 128,4	250 kcmil	55,0	4931,0	7591,0
706286	4 G 181,9	350 kcmil	63,5	6985,0	8299,0
706287	4 G 257,6	500 kcmil	73,7	9892,0	10549,0

Dimensions and specifications may be changed without prior notice.

MULTIFLEX 600

highly flexible, oil resistant, open installation TC-ER, PLTC-ER, NFPA 79

Technical data

- Highly flexible PVC control cable acc. to UL Std.1277
- **Temperature range**
  flexing -5°C to +90°C
  fixed installation -40°C to +90°C
- **Nominal voltage**
  TC 600 V
  WTTC 1000 V
- **Test voltage**
  3000 V
- **Minimum bending radius**
  flexing 7,5x cable Ø
- **Insulation resistance**
  min. 20 MOhm x km
- **Radiation resistance**
  up to 80x10^6 cJ/kg (up to 80 Mrad)

Cable structure

- Bare copper conductor, extra fine wire stranded, with AWG dimensions
- Core insulation of special PVC with transparent nylon skin
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Separator
- Outer sheath of special PVC
- Sheath colour: black (RAL 9005)
- With length marking in feet

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- UV resistant

Tests

- Self-extinguishing and flame retardant acc. to CSA FT4
- **UL**:
  TC-ER, PLTC-ER (AWG 18 - AWG 12), ITC-ER (AWG 18 - AWG 12), MTW, NFPA 79, WTTC 1000 V, DP-1, OIL RES I&II, 90°C dry / 75°C wet, Class 1 Div. 2 per NEC Art 336, 392, 501, crush impact test acc. to UL 1277
- **CSA**:
  c(UL) CIC-TC FT4, CSA AWM I/II A/B FT4

Note

Advantages

- Highly flexible, simple installation

Available on request

- With blue cores (DC)
- With red cores (AC)
- Grey or TPE outer sheath

Application

HELUKABEL® MULTIFLEX 600 is a highly flexible, oil resistant control cable. The special combination of TC-ER, PLTC-ER and ITC-ER allows this cable to be used as a connecting cable for industrial plant and machinery in accordance with NFPA 79. Approved for open, unprotected installation in cable trays to the machine. Its outstanding oil resistance (OIL RES I & II) guarantees a long service life; for industrial applications in dry, damp and wet environments. Recommended applications: production lines, bottling plants, machine construction, switch cabinets, conveyor systems, packaging machines, automotive industry. Please observe applicable installation regulations for use in energy supply chains.

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

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
62502	2 x 0,5	20	6,9	10,0	53,0
62503	3 G 0,5	20	7,3	14,0	61,0
62504	4 G 0,5	20	8,0	19,0	72,0
62505	5 G 0,5	20	8,6	24,0	85,0
62506	7 G 0,5	20	9,9	34,0	110,0
62507	12 G 0,5	20	11,4	58,0	158,0
62508	18 G 0,5	20	14,2	86,0	241,0
62509	25 G 0,5	20	17,0	120,0	316,0
62510	34 G 0,5	20	18,9	163,0	439,0
62511	3 G 0,75	18	7,8	22,0	75,0
62512	4 G 0,75	18	8,6	29,0	91,0
62513	5 G 0,75	18	9,3	36,0	103,0
62514	7 G 0,75	18	10,8	50,0	136,0
62515	12 G 0,75	18	12,4	86,0	228,0
62516	15 G 0,75	18	13,8	108,0	273,0
62517	18 G 0,75	18	15,4	130,0	311,0
62518	25 G 0,75	18	18,5	180,0	498,0
62519	34 G 0,75	18	20,5	245,0	550,0
62520	36 G 0,75	18	20,6	259,0	570,0
62521	42 G 0,75	18	22,3	302,0	600,0
62522	3 G 1,5	16	8,6	43,0	100,0
62523	4 G 1,5	16	9,5	58,0	122,0
62524	5 G 1,5	16	10,3	72,0	148,0
62525	7 G 1,5	16	12,0	101,0	197,0
62526	9 G 1,5	16	14,2	130,0	244,0
62527	12 G 1,5	16	14,7	173,0	328,0
62528	18 G 1,5	16	17,2	259,0	459,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
62529	25 G 1,5	16	20,8	360,0	665,0
62530	34 G 1,5	16	23,0	490,0	1084,0
62531	41 G 1,5	16	25,1	590,0	1260,0
62532	50 G 1,5	16	27,7	720,0	1521,0
62533	60 G 1,5	16	29,5	864,0	1885,0
62534	3 G 2,5	14	9,8	72,0	160,0
63136	4 G 2,5	14	10,6	96,0	173,0
62535	5 G 2,5	14	11,9	120,0	268,0
62536	7 G 2,5	14	13,6	168,0	307,0
62537	9 G 2,5	14	16,1	216,0	437,0
62538	12 G 2,5	14	16,9	288,0	572,0
62539	18 G 2,5	14	20,1	432,0	800,0
62540	25 G 2,5	14	25,1	600,0	1100,0
62541	3 G 4	12	11,3	115,0	221,0
62542	4 G 4	12	12,4	154,0	247,0
62543	5 G 4	12	13,8	192,0	318,0
62544	7 G 4	12	16,9	269,0	438,0
62545	4 G 6	10	15,3	230,0	383,0
62546	5 G 6	10	16,6	288,0	481,0
62547	7 G 6	10	18,2	403,0	800,0
62548	4 G 10	8	19,7	384,0	671,0
62549	5 G 10	8	22,0	480,0	990,0
62550	4 G 16	6	23,7	614,0	951,0
62551	5 G 16	6	26,1	768,0	1500,0
62552	4 G 25	4	34,0	960,0	1700,0
62554	4 G 35	2	37,0	1344,0	2300,0

Dimensions and specifications may be changed without prior notice. (RN01)

MULTIFLEX 600-C

highly flexible, oil resistant, screened, EMC-preferred type, open installation TC-ER, PLTC-ER, NFPA 79

Technical data

- Highly flexible PVC control cable acc. to UL Std.1277
- **Temperature range**
  flexing -5°C to +90°C
  fixed installation -40°C to +90°C
- **Nominal voltage**
  TC 600 V
  WTTC 1000 V
- **Test voltage**
  3000 V
- **Coupling resistance**
  max. 250 Ohm/km
- **Minimum bending radius**
  flexing 10x cable Ø
- **Insulation resistance**
  min. 20 MOhm x km
- **Radiation resistance**
  up to 80x10^6 cJ/kg (up to 80 Mrad)

Cable structure

- Bare copper conductor, extra fine wire stranded, with AWG dimensions
- Core insulation of special PVC with transparent nylon skin
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Separating foil
- Braided screening of tinned copper wires, coverage approx. 85%
- Separator
- Outer sheath of special PVC
- Sheath colour: black (RAL 9005)
- With length marking in feet

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- UV resistant

Tests

- Self-extinguishing and flame retardant acc. to CSA FT4
- **UL**:
  TC-ER, PLTC-ER (AWG 18 - AWG 12), ITC-ER (AWG 18 - AWG 12), MTW, NFPA 79, WTTC 1000 V, DP-1, OIL RES I&II, 90°C dry / 75°C wet, Class 1 Div. 2 per NEC Art 336, 392, 501, crush impact test acc. to UL 1277
- **CSA**:
  c(UL) CIC-TC FT4, CSA AWM I/II A/B FT4

Note

Advantages

- Highly flexible, simple installation

Available on request

- With blue cores (DC)
- With red cores (AC)
- Grey or TPE outer sheath

Application

HELUKABEL® MULTIFLEX 600-C is a highly flexible, oil resistant control cable. The special combination of TC-ER, PLTC-ER and ITC-ER allows this cable to be used as a connecting cable for industrial plant and machinery in accordance with NFPA 79. Approved for open, unprotected installation in cable trays to the machine. Its outstanding oil resistance (OIL RES I & II) guarantees a long service life; for industrial applications in dry, damp and wet environments. Recommended applications: Production lines, bottling plants, machine construction, switch cabinets, conveyor systems, packaging machines, automotive industry. For the use in energy drag chains please note the installation guidelines.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

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

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
62556	2 x 0,5	20	7,7	30,0	80,0
62557	3 G 0,5	20	8,0	37,0	85,0
62558	4 G 0,5	20	8,7	46,0	100,0
62559	5 G 0,5	20	9,3	54,0	113,0
62560	7 G 0,5	20	10,7	70,0	152,0
62561	12 G 0,5	20	12,3	112,0	210,0
62562	18 G 0,5	20	15,1	153,0	304,0
62563	25 G 0,5	20	18,1	225,0	408,0
62564	34 G 0,5	20	19,8	267,0	530,0
62565	3 G 0,75	18	8,5	55,0	101,0
62566	4 G 0,75	18	9,3	69,0	127,0
62567	5 G 0,75	18	10,0	82,0	148,0
62568	7 G 0,75	18	11,6	119,0	186,0
62569	12 G 0,75	18	14,1	178,0	286,0
62570	15 G 0,75	18	15,2	175,0	455,0
62571	18 G 0,75	18	16,3	252,0	383,0
62572	25 G 0,75	18	19,6	362,0	514,0
62573	34 G 0,75	18	21,9	473,0	685,0
62574	3 G 1,5	16	9,3	75,0	131,0
62575	4 G 1,5	16	10,2	93,0	165,0
62576	5 G 1,5	16	11,0	113,0	195,0
62577	7 G 1,5	16	12,9	162,0	250,0
62578	9 G 1,5	16	15,2	193,0	340,0
62579	12 G 1,5	16	15,6	249,0	393,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
62580	18 G 1,5	16	18,4	376,0	559,0
62581	25 G 1,5	16	23,1	510,0	788,0
62582	34 G 1,5	16	25,8	674,0	1203,0
62583	3 G 2,5	14	10,3	141,0	218,0
62584	4 G 2,5	14	11,5	149,0	222,0
62585	5 G 2,5	14	12,4	195,0	350,0
62586	7 G 2,5	14	15,4	243,0	373,0
62587	9 G 2,5	14	16,8	312,0	479,0
62588	12 G 2,5	14	18,5	368,0	730,0
62589	18 G 2,5	14	22,4	639,0	1140,0
62590	25 G 2,5	14	25,5	796,0	1530,0
62591	3 G 4	12	11,7	180,0	296,0
62592	4 G 4	12	13,3	221,0	305,0
62593	5 G 4	12	14,7	330,0	450,0
62594	7 G 4	12	17,8	363,0	536,0
62595	4 G 6	10	16,1	314,0	469,0
62596	5 G 6	10	17,5	441,0	772,0
62597	7 G 6	10	20,6	505,0	1028,0
62598	4 G 10	8	21,9	526,0	790,0
62599	5 G 10	8	24,1	610,0	1096,0
62600	4 G 16	6	24,8	730,0	1621,0
62602	5 G 16	6	27,2	1050,0	1759,0
62603	4 G 25	4	33,1	1450,0	2100,0
62605	4 G 35	2	37,8	1840,0	2550,0

TOPFLEX ® 600 VFD

EMC-preferred type, flexible motor power supply cable, oil resistant, NFPA 79

Technical data

- PVC motor supply cable acc. to UL Std.1277 and UL Std.2277
- **Temperature range**
  -25°C to +90°C
- **Nominal voltage**
  TC 600 V
  WTTC 1000 V
- **Test voltage**
  4000 V
- **Minimum bending radius**
  flexing 6x cable Ø
- **Coupling resistance**
  max. 250 Ohm/km

Cable structure

- Tinned copper conductor, fine wire with AWG dimensions
- Special PVC core insulation with transparent nylon skin
- Black cores with continuous white numbering
- GN-YE conductor in the outer layer
- Cores stranded in layers with optimal lay length
- Fleece
- 1. Screening with special aluminium foil
  2. Screening with braid of tinned copper wires, optimal coverage approx. 85%
- Separator
- Special PVC outer sheath
- Sheath colour: black (RAL 9005) or orange (RAL 2003)
- With length marking in feet

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- UV resistant

Tests

- Self-extinguishing and flame retardant acc. to CSA FT4
- **UL:**
  TC-ER, WTTC 1000 V, MTW, NFPA 79, PLTC-ER (AWG 18 - AWG 12), ITC-ER (AWG 18 - AWG 12) OIL RES I & II, 90°C dry / 75°C wet, -40°C Cold Bend Test, Class 1 Div. 2 per NEC Art. 336, 392, 501
  CSA:
  c (UL) CIC-TC FT4, AWM I/II A/B FT4

Note

- VFD = Variable Frequency Drive

Application

Flexible, extremely oil resistant motor supply cable for modern servomotors; the double screening with special aluminium foil (100% coverage) and tinned copper braid (approx. 85% coverage) provides effective protection against electrical disturbance and the resultant failures. NFPA 79 approved for open, unprotected installation on cable trays and from cable trays to the machine. The special PVC sheath is extremely resistant to oil, coolants and solvents and hence the perfect solution for industrial applications with open installation, installation in pipes and in the ground.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

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

Sheath colour black

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
63139	4 x 0,963	18	9,9	52,0	164,0
63140	4 x 1,31	16	11,4	72,0	183,0
63137	4 x 2,08	14	12,5	118,0	197,0
63141	4 x 3,31	12	14,0	182,0	267,0
63142	4 x 5,26	10	17,1	256,0	402,0
63143	4 x 8,37	8	22,3	417,0	668,0
63144	4 x 13,31	6	25,4	651,0	918,0
63145	4 x 21,21	4	30,1	910,0	1363,0
63146	4 x 33,6	2	35,3	1411,0	1994,0

Sheath colour orange

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
63147	4 x 0,963	18	9,9	52,0	164,0
63148	4 x 1,31	16	11,4	72,0	183,0
63149	4 x 2,08	14	12,5	118,0	197,0
63150	4 x 3,31	12	14,0	182,0	267,0
63151	4 x 5,26	10	17,1	182,0	267,0
63152	4 x 8,37	8	22,3	417,0	668,0
63153	4 x 13,31	6	25,4	651,0	918,0
63154	4 x 21,21	4	30,1	910,0	1363,0
63155	4 x 33,6	2	35,3	1411,0	1994,0

Dimensions and specifications may be changed without prior notice. (RN07)

TOPFLEX ® 650 VFD

EMC-preferred type, flexible motor power supply cable with control cores, oil resistant, NFPA 79

Technical data

- TPE motor supply cable acc. to UL Std.1277 and UL Std.2277
- **Temperature range**
  flexing -25°C to +105°C
- **Nominal voltage**
  TC 600 V
  WTTC 1000 V
- **Test voltage**
  power supply cores 4000 V
  control cores 2000 V
- **Minimum bending radius**
  flexing 6x cable Ø
- **Coupling resistance**
  max. 250 Ohm/km

Cable structure

- Tinned copper conductor, fine wire with AWG dimensions
- Special PVC core insulation with transparent nylon skin
- Black supply cores with continuous white numbering
- 2 black control cores numbered 5+6
- GN-YE conductor in the outer layer
- Control cores screened in pairs with plastic-coated aluminium foil, tinned drain wire
- Control cores stranded in pairs and laid up in layers with optimal lay length with the power supply cores
- 1. Screening with plastic-coated aluminium foil
  2. Screening from tinned copper braid, optimal coverage approx. 85%
- Separator
- Special TPE outer sheath
- Sheath colour: black (RAL 9005) or orange (RAL 2003)
- With length marking in feet

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- UV resistant

Tests

- Self-extinguishing and flame retardant acc. to CSA FT4
- **UL:**
  TC-ER, WTTC 1000 V, MTW, NFPA 79, PLTC-ER (AWG 18 - AWG 12), ITC-ER (AWG 18 - AWG 12) OIL RES I & II, 90°C dry / 75°C wet, -40°C Cold Bend Test, Class 1 Div. 2 per NEC Art. 336, 392, 501
  CSA:
  c (UL) CIC-TC FT4, AWM I/II A/B FT4

Note

- VFD = Variable Frequency Drive

Application

Flexible, extremely oil resistant motor supply cable for modern servomotors; the double screening with special aluminium foil (100% coverage) and tinned copper braid (approx. 85% coverage) provides effective protection against electrical disturbance and the resultant failures. NFPA 79 approved for open, unprotected installation on cable trays and from cable trays to the machine. The special TPE sheath is extremely resistant to oil, coolants and solvents and hence the perfect solution for industrial applications with open installation, installation in pipes and in the ground.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

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

Sheath colour: black

Part no.	No. cores x AWG-No.	Cross-section mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
63156	4x AWG 16 +2x AWG 18	1,31/ 0,963	13,0	88,0	259,0
63157	4x AWG 14 +2x AWG 18	2,08/ 0,963	14,0	133,0	370,0
63138	4x AWG 14 +2x AWG 14	2,08/ 2,08	14,0	159,0	399,0
63158	4x AWG 12 +2x AWG 18	3,31/ 0,963	15,3	197,0	435,0
63159	4x AWG 12 +2x AWG 14	3,31/ 2,08	15,7	224,0	466,0
63160	4x AWG 10 +2x AWG 14	5,26/ 2,08	18,2	301,0	703,0
63161	4x AWG 8 +2x AWG 14	8,37/ 2,08	24,1	457,0	901,0
63162	4x AWG 6 +2x AWG 14	13,31/ 2,08	27,4	615,0	1275,0
63163	4x AWG 4 +2x AWG 14	21,21/ 2,08	33,4	1450,0	1861,0

Sheath colour: orange

Part no.	No. cores x AWG-No.	Cross-section mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
62876	4x AWG 16 +2x AWG 18	1,31/ 0,963	13,0	88,0	259,0
62877	4x AWG 14 +2x AWG 18	2,08/ 0,963	14,0	133,0	370,0
62878	4x AWG 14 +2x AWG 14	2,08/ 2,08	14,0	159,0	399,0
62879	4x AWG 12 +2x AWG 18	3,31/ 0,963	15,3	197,0	435,0
62880	4x AWG 12 +2x AWG 14	3,31/ 2,08	15,7	224,0	466,0
62881	4x AWG 10 +2x AWG 14	5,26/ 2,08	18,2	301,0	703,0
62882	4x AWG 8 +2x AWG 14	8,37/ 2,08	24,1	457,0	901,0
62883	4x AWG 6 +2x AWG 14	13,31/ 2,08	27,4	615,0	1275,0
62884	4x AWG 4 +2x AWG 14	21,21/ 2,08	33,4	1450,0	1861,0

BUS Cables

CAN Bus fixed installed 105°C

PVC

Type
Cable structure

Industrial Area
2x2xAWG 24/19 mm² (stranded)

Inner conductor diameter:	Copper, bare (AWG 24/ 19)
Core insulation:	XLPE ray cross-linking
Core colours:	wh/bn, gn/ye
Stranding element:	Double core
Separator:	Polyester foil over stranded bundle
Total shielding:	Cu braid, tinned
Outer sheath material:	PUR
Cable external diameter:	app. 8,4 mm ± 0,3 mm
Outer sheath colour:	Violet similar to RAL 4001

Electrical data

Characteristic impedance:	120 Ohm ± 10 %
Conductor resistance, max.:	87,2 Ohm/km
Insulation resistance, min.:	1 GOhm x km
Loop resistance:	174 Ohm/km max.
Mutual capacitance:	42 nF/km nom.
Nominal voltage:	600 V
Test voltage:	2,5 kV

Technical data

Weight:	app. 80 kg/km
bending radius, repeated:	126 mm
Operating temperature range min.:	-40°C
Operating temperature range max.:	+105°C *
Caloric load, approx. value:	1,31 MJ/m
Copper weight:	40,00 kg/km

Norms

Applicable standards:	CAN Bus acc. to ISO 11898-2 Halogen-free acc. to 60754-1 Flame-retardant acc. to IEC 60332-1-2
UL Style:	UL/CSA 21223 80°C, 600V

Application

HELUKABEL® CAN Bus for fixed installation up to 105°C in difficult industrial environments with demanding temperature requirements thanks to cross-linking of the conductor insulation. Thanks to use a PUR sheath, this version is also halogen-free. For cable lengths up to max. 40m (observe CAN specifications).

Part no.

801982, CAN BUS

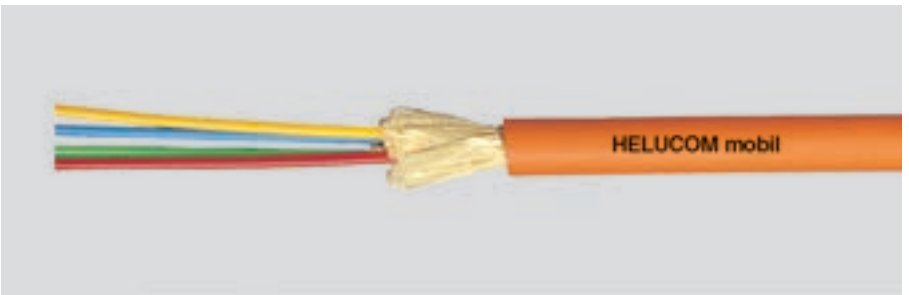
Dimensions and specifications may be changed without prior notice.

Fibre Optic Cable flexible

WK - mobile

HELUCOM

A-V(ZN)11Y



Cable structure

Core type: Tight buffer
Strain relief elements: Aramide
Outer sheath colour: Orange

Temperature range

Laying, min.: +5°C
Laying, max.: +50°C
Operating, min.: -30°C
Operating, max.: +70°C

Other data

Max. tensile force: 650 N
Max. transverse pressure: 40 N / cm
Longitudinally water-tight acc. to IEC 60794-1-2-F5
UV-resistant
Resistant to hammer impact acc. to IEC 60794-1-2-E4
Bending cycles acc. to IEC 60794-1-2-E6: 500.000
Oil-resistant

Designation	Number of fibres	Fibre type	Fibre category	Outer Ø app. mm	Outer sheath material	Min. stat. bending radius mm	Flame proof	halogen-free	UL	Weight kg / km	**Part no.**
Fibre-optic cable	2	Multimode G50/125	OM2	5,0	PUR	75	yes	yes	no	20	**80382**
Fibre-optic cable	2	Multimode G62.5/125	OM1	5,0	PUR	75	yes	yes	no	20	**80363**
Fibre-optic cable	4	Multimode G50/125	OM2	5,8	PUR	90	yes	yes	no	31	**80534**
Fibre-optic cable	4	Multimode G62.5/125	OM1	5,8	PUR	90	yes	yes	no	31	**81036**
Fibre-optic cable	4	Single-mode E9/125	ITU-T G.652	5,8	PUR	90	yes	yes	no	31	**801727**
Fibre-optic cable	8	Multimode G50/125	OM2	7,0	PUR	105	yes	yes	no	47	**81037**
Fibre-optic cable	8	Multimode G62.5/125	OM1	7,0	PUR	105	yes	yes	no	47	**81038**

Dimensions and specifications may be changed without prior notice.

Application

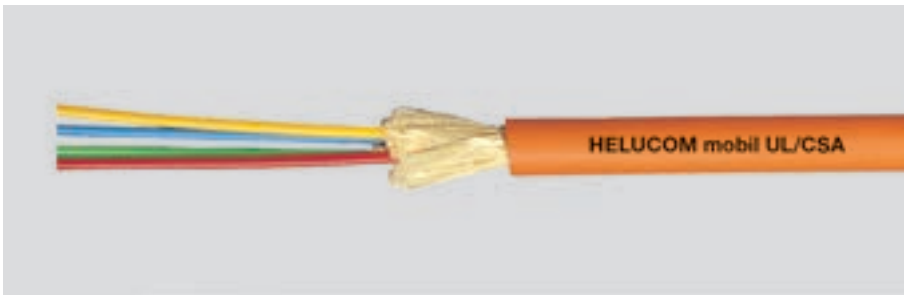
These HELUCOM® cables were designed as mobile field cables. They are easily wound up on a drum and are very tension-proof. As the outer sheath is tightly anchored on the aramid braiding, it is especially suitable for mobile use. The advantage of these cables is evident especially where mobile fibre-optic lines are to be installed, such as for drag chains, TV transmission, supervision of protected areas, etc.

Fibre Optic Cable flexible

WK - UL/CSA

HELUCOM® WK

A-V(ZN)YY



Cable structure

Core type: Tight buffer
Strain relief elements: Aramide
Outer sheath colour: Orange

Temperature range

Laying, min.: 0°C
Laying, max.: +50°C
Operating, min.: -30°C
Operating, max.: +80°C

Other data

Max. tensile force: 1200 N
Max. transverse pressure: 44 N / cm
Longitudinally water-tight acc. to IEC 60794-1-2-F5
Applicable UL standards: OFNG UL 1685
Applicable CSA standards: FT4
UV-resistant
Bending cycles acc. to IEC 60794-1-2-E6: 9.000
Oil-resistant

Designation	Number of fibres	Fibre type	Fibre category	Outer Ø app. mm	Outer sheath material	Inner sheath material	Min. stat. bending radius mm	Flame proof	halogen-free	UL	Weight kg / km	**Part no.**
Fibre-optic cable	4	Multimode G50/125	OM2	7,0	PVC	PVC	75	yes	no	yes	50	**802792**
Fibre-optic cable	4	Multimode G62.5/125	OM1	7,0	PVC	PVC	75	yes	no	yes	50	**803934**
Fibre-optic cable	4	Single-mode E9/125	ITU-T G.652	7,0	PVC	PVC	75	yes	no	yes	50	**803935**

Dimensions and specifications may be changed without prior notice.

Application

These HELUCOM® cables were designed as mobile field cables. They are easily wound up on a drum and are very tension-proof. As the outer sheath is tightly anchored on the aramid braiding, it is especially suitable for mobile use. The advantage of these cables is obvious especially where mobile fibre-optic lines have to be installed, such as windturbine projects, TV transmission, supervision of protected areas, etc. This series with PVC jacket is certified according the **UL/CSA standard OFNG/ FT4**.

Fibre Optic Breakout Cable robust, flexible

HCS UL/CSA

HELUCOM

I-V(ZN)YY

Cable structure

Core type: Composite buffered
Strain relief elements: Aramide
Outer sheath material: PVC
Outer sheath colour: Black

Temperature range

Laying, min.: -20°C
Laying, max.: +75°C
Operating, min.: -30°C
Operating, max.: +85°C

Other data

Flame-resistance acc. to IEC 60332-1 and IEC 60332-3
Applicable UL standards: OFNG UL 1685
Applicable CSA standards: FT4
UV-resistant
Oil-resistant

Designation	Number of fibres	Fibre type	Fibre category	Number of fibres per core	Outer Ø app. mm	Max. tensile force N	Min. stat. bending radius mm	Max. transverse pressure N / cm	Caloric load app. MJ / m	Weight kg / km	**Part no.**
I-V(ZN)YY	2	HCS 200/230	Other	1	7,5	800	100,0	300	1,40	68,0	**801733**

Dimensions and specifications may be changed without prior notice.

Application

This HELUCOM® HCS fibre cable is suitable for fixed and normal flexible installations. Possible applications are normal and heavy-duty mechanical requirements for example in industrial environments. Because of a special PVC jacket this construction is certified by UL (FT1 and FT4). With the tight buffer construction, direct plug manufacturing, even on site, poses no problems. With a HCS fibre transmission lengths of up to 300m can be achieved.

Fibre Optic Breakout Cable robust, flexible

HCS

HELUCOM®

I-V(ZN)Y11Y

Cable structure

Core type: Composite buffered
Strain relief elements: Aramide
Outer sheath material: PUR
Outer sheath colour: Red

Temperature range

Laying, min.: -5°C
Laying, max.: +50°C
Operating, min.: -20°C
Operating, max.: +70°C

Other data

Oil-resistant

Designation	Number of fibres	Fibre type	Fibre category	Number of fibres per core	Outer Ø app. mm	Max. tensile force N	Min. stat. bending radius mm	Max. transverse pressure N / cm	Caloric load app. MJ / m	Weight kg / km	**Part no.**
I-V(ZN)Y11Y	2	HCS 200/230	Other	1	7,0	800	50,0	150	1,014	43,0	**800980**

Dimensions and specifications may be changed without prior notice.

Application

This HELUCOM® HCS fibre cable is suitable for fixed installation. Possible applications are normal and heavy-duty mechanical requirements for example in industrial environments. With the tight buffer construction, direct plug manufacturing, even on site, poses no problems. With a HCS fibre transmission lengths of up to 300m can be achieved.

Plastic Fibre Cable PROFInet

POF/PA

I-V4Y(ZN)Y (type B), I-V4Y(ZN)11Y (type C)

Cable structure

Fibre type: POF 980/1000
Fibre cladding: PA

Optical characteristic

Refractive index core: 1,492
Refractive index cladding: 1,419
Numerical aperture: 0,5
Attenuation see table

Temperature range

Laying, min.: -10°C
Laying, max.: +50°C
Operating, min.: -30°C
Operating, max.: +70°C

Designation	Outer sheath material	Sheath colour	Outer Ø app. mm	Max. tensile force N	Min. stat. bending radius mm	Fibre attenuation	Oil-resistant	Acc. to DESINA®	Weight kg / km	**Part no.**
I-V4Y(ZN)Y 2P980/1000µm, fixed installation	PVC	Green	7,8	100	100,0	160A1	yes	no	59,0	**805686**
I-V4Y(ZN)11Y 2P980/1000 green, drag chain	PUR	Green	8,0	200	120,0	230A1	yes	no	60,0	**805838**

Dimensions and specifications may be changed without prior notice.

Application

Signal lines as plastic optical fibre. The use of these transmission systems significantly reduces the number of different cables in a planned bus installation in machine tools operations. Furthermore, possible EMC problems are prevented by the metal-free construction. The main fields of these cables are in machine construction and automobile industry. Installations for example in fixed installed rough areas (type B) or in drag chains (type C) are possible. The types on this page are especially constructed for communication within PROFInet systems.

Plastic Fibre Cable PROFIBUS

POF/PA

HELUCOM®

I-V4Y(ZN)Y

Cable structure

Fibre type: POF 980/1000
Fibre cladding: PA

Optical characteristic

Refractive index core: 1,492
Refractive index cladding: 1,419
Numerical aperture: 0,5
Attenuation see table

Temperature range

Laying, min.: -10°C
Laying, max.: +50°C
Operating, min.: -30°C
Operating, max.: +70°C

Designation	Outer sheath material	Sheath colour	Outer Ø app. mm	Max. tensile force N	Min. stat. bending radius mm	Fibre attenuation	Oil-resistant	Acc. to DESINA®	Weight kg / km	**Part no.**
I-V4Y(ZN)Y 2P980/1000µm, fixed installation	PVC	Violet	7,8	100	100,0	160A1	yes	yes	59,0	**801280**

Dimensions and specifications may be changed without prior notice.

Application

Signal lines as plastic optical fibre. The use of these transmission systems significantly reduces the number of different cables in a planned bus installation in machine tools operations. Furthermore, possible EMC problems are prevented by the metal-free construction. The main application of these cables are in machine construction and automobile industry. The type on this page is especially constructed for communication within PROFIBUS systems.

Plastic Fibre cable industry

POF/PE

HELUCOM®

I-V2Y, I-V2Y(ZN)11Y

Cable structure

Fibre type: POF 980/1000
Fibre cladding: PE

Optical characteristic

Refractive index core: 1,492
Refractive index cladding: 1,419
Numerical aperture: 0,5
Attenuation see table

Temperature range

Laying, min.: -20°C
Laying, max.: +80°C
Operating, min.: -20°C
Operating, max.: +80°C

Designation	Outer sheath material	Sheath colour	Outer Ø app. mm	Max. tensile force N	Min. stat. bending radius mm	Fibre attenuation	Oil-resistant	Acc. to DESINA®	Weight kg / km	**Part no.**
I-V2Y 1P 980/1000	PE	Black	2,2	70	25,0	160A1	no	no	4,0	**80532**
I-V2Y 2P 980/1000	PE	Black	2,2 x 4,4	140	25,0	160A1	no	no	8,0	**80388**
I-V2Y(ZN)11Y 1P 980/1000, high flexible	PUR	Violet	5,8	400	30,0	230A1	yes	yes	30,0	**81611**
I-V2Y(ZN)11Y 2P 980/1000, high flexible	PUR	Violet	6,0	400	31,0	230A1	yes	yes	36,0	**80629**
I-V2Y(ZN)11Y 2P 980/1000, fixed installation	PUR	Violet	6,0	400	31,0	230A1	yes	yes	36,0	**81882**
I-V2Y(ZN)11Y 4P 980/1000, high flexible	PUR	Violet	7,1	400	45,0	230A1	yes	yes	65,0	**80630**
I-V2Y(ZN)11Y 2P 980/1000 + 2x1mm² Cu	PUR	Red	7,8	200	70,0	230A1	yes	no	60,0	**82032**
I-V2Y(ZN)11Y 2P 980/1000 + 3x1,5mm² Cu	PUR	Red	11,0	200	70,0	230A1	yes	no	132,0	**82033**

Dimensions and specifications may be changed without prior notice.

Application

HELUCOM® plastic-fibre cables are used in mechanical engineering, both in mobile and fixed applications. With different constructions, such as PUR outer sheaths, special strain relief components, hybrid construction with copper cores for power supply or only raw fibre cables, any possible fields of application are covered. Due to their solidity and their simple adjustability on site, the plastic-fibres (PMMA) are particularly suitable for applications where trouble-free data transmission in necessary under heavy-duty conditions.

Fibre Optic Indoor/Outdoor Cable

acc. DIN VDE 0888

HELUCOM

A/I-DQ(ZN)BH, central

Cable structure

Core type: Loose tube
Strain relief elements: Glass yarns
Type of armouring: Glass yarns
Outer sheath material: FRNC
Outer sheath colour: Black

Temperature range

Laying, min.: -5°C
Laying, max.: +50°C
Operating, min.: -20°C
Operating, max.: +60°C

Other data

Corrosiveness acc. to EN50267-2-3
Halogen-free acc. to 60754-2
Flame-resistance acc. to IEC 60332-1-2
Smoke density acc. to IEC 61034
Longitudinally water-tight acc. to IEC 60794-1-2-F5
UV-resistant

Designation	No. of fibres	Fibre type	Fibre category	Number of fibres per core	Outer Ø app. mm	Max. tensile force N	Min. stat. bending radius mm	Caloric load app. MJ / m	Max. transverse pressure N / cm	Weight kg / km	**Part no.**
A/I-DQ(ZN)BH	4	Multimode G50/125	OM2	4	10,0	2500	150,0	1,50	300	75,0	**80270**
A/I-DQ(ZN)BH	4	Multimode G62.5/125	OM1	4	10,0	2500	150,0	1,50	300	75,0	**80276**
A/I-DQ(ZN)BH	4	Single-mode E9/125	ITU-T G.652	4	10,0	2500	150,0	1,50	300	75,0	**80264**
A/I-DQ(ZN)BH	6	Multimode G50/125	OM2	6	10,0	2500	150,0	1,50	300	75,0	**80271**
A/I-DQ(ZN)BH	6	Multimode G62.5/125	OM1	6	10,0	2500	150,0	1,50	300	75,0	**80265**
A/I-DQ(ZN)BH	6	Single-mode E9/125	ITU-T G.652	6	10,0	2500	150,0	1,50	300	75,0	**80272**
A/I-DQ(ZN)BH	8	Multimode G50/125	OM2	8	10,0	2500	150,0	1,50	300	75,0	**80273**
A/I-DQ(ZN)BH	8	Multimode G62.5/125	OM1	8	10,0	2500	150,0	1,50	300	75,0	**80274**
A/I-DQ(ZN)BH	8	Single-mode E9/125	ITU-T G.652	8	10,0	2500	150,0	1,50	300	75,0	**80275**
A/I-DQ(ZN)BH	12	Multimode G50/125	OM2	12	10,0	2500	150,0	1,50	300	75,0	**80681**
A/I-DQ(ZN)BH	12	Multimode G62.5/125	OM1	12	10,0	2500	150,0	1,50	300	75,0	**80278**
A/I-DQ(ZN)BH	12	Single-mode E9/125	ITU-T G.652	12	10,0	2500	150,0	1,50	300	75,0	**80279**
A/I-DQ(ZN)BH	16	Multimode G50/125	OM2	16	10,0	2500	150,0	1,50	300	85,0	**80280**
A/I-DQ(ZN)BH	16	Multimode G62.5/125	OM1	16	10,0	2500	150,0	1,50	300	85,0	**80281**
A/I-DQ(ZN)BH	16	Single-mode E9/125	ITU-T G.652	16	10,0	2500	150,0	1,50	300	85,0	**80851**
A/I-DQ(ZN)BH	24	Multimode G50/125	OM2	24	10,0	2500	150,0	1,50	300	85,0	**80725**
A/I-DQ(ZN)BH	24	Multimode G62.5/125	OM1	24	10,0	2500	150,0	1,50	300	85,0	**82431**

Dimensions and specifications may be changed without prior notice.

Application

These HELUCOM® fibre-optic cables are available either as central bundle core cable or as stranded versions. They are suitable for indoor and outdoor cabling of buildings and facilities. They are used in particular if the installation is to be done in one piece from the inside to the outside without additional use of couplings. With their black UV-resistant outer sheath and the non-metallic rodent protection, they are perfectly suited for outdoor use. The halogen-free outer sheath makes installation inhouse possible without any problems.

Fibre Optic Outdoor Cable

acc. DIN VDE 0888

HELUCOM® pact

A-DQ(ZN)B2Y, central

Cable structure

Core type: Loose tube
Strain relief elements: Glass yarns
Type of armouring: Glass yarns
Outer sheath material: PE
Outer sheath colour: Black

Temperature range

Laying, min.: -5°C
Laying, max.: +50°C
Operating, min.: -20°C
Operating, max.: +60°C

Other data

Corrosiveness acc. to EN50267-2-3
Halogen-free acc. to 60754-2
Longitudinally water-tight acc. to IEC 60794-1-2-F5
UV-resistant

Designation	No. of fibres	Fibre type	Fibre category	Number of fibres per core	Outer Ø app. mm	Max. tensile force N	Min. stat. bending radius mm	Caloric load app. MJ / m	Max. transverse pressure N / cm	Weight kg / km	**Part no.**
A-DQ(ZN)B2Y	2	Multimode G50/125	OM2	2	7,5	1500	150,0	1,60	300	40,0	**800754**
A-DQ(ZN)B2Y	2	Multimode G62.5/125	OM1	2	7,5	1500	150,0	1,60	300	40,0	**802131**
A-DQ(ZN)B2Y	2	Single-mode E9/125	ITU-T G.652	2	7,5	1500	150,0	1,60	300	40,0	**802137**
A-DQ(ZN)B2Y	4	Multimode G50/125	OM2	4	7,5	1500	150,0	1,60	300	40,0	**800755**
A-DQ(ZN)B2Y	4	Multimode G62.5/125	OM1	4	7,5	1500	150,0	1,60	300	40,0	**802132**
A-DQ(ZN)B2Y	4	Single-mode E9/125	ITU-T G.652	4	7,5	1500	150,0	1,60	300	40,0	**802138**
A-DQ(ZN)B2Y	6	Multimode G50/125	OM2	6	7,5	1500	150,0	1,60	300	40,0	**800756**
A-DQ(ZN)B2Y	6	Multimode G62.5/125	OM1	6	7,5	1500	150,0	1,60	300	40,0	**802133**
A-DQ(ZN)B2Y	6	Single-mode E9/125	ITU-T G.652	6	7,5	1500	150,0	1,60	300	40,0	**802139**
A-DQ(ZN)B2Y	8	Multimode G50/125	OM2	8	7,5	1500	150,0	1,60	300	40,0	**800757**
A-DQ(ZN)B2Y	8	Multimode G62.5/125	OM1	8	7,5	1500	150,0	1,60	300	40,0	**802134**
A-DQ(ZN)B2Y	8	Single-mode E9/125	ITU-T G.652	8	7,5	1500	150,0	1,60	300	40,0	**802140**
A-DQ(ZN)B2Y	12	Multimode G50/125	OM2	12	7,5	1500	150,0	1,60	300	40,0	**800759**
A-DQ(ZN)B2Y	12	Multimode G62.5/125	OM1	12	7,5	1500	150,0	1,60	300	40,0	**802135**
A-DQ(ZN)B2Y	12	Single-mode E9/125	ITU-T G.652	12	7,5	1500	150,0	1,60	300	40,0	**802141**
A-DQ(ZN)B2Y	24	Multimode G50/125	OM2	24	8,5	1500	170,0	1,90	300	60,0	**800762**
A-DQ(ZN)B2Y	24	Multimode G62.5/125	OM1	24	8,5	1500	170,0	1,90	300	60,0	**802136**
A-DQ(ZN)B2Y	24	Single-mode E9/125	ITU-T G.652	24	8,5	1500	170,0	1,90	300	60,0	**802142**

Dimensions and specifications may be changed without prior notice.

Application

These HELUCOM® pact fibre-optic cables are characterized by a design that is particularly easy to mount and is rodent-protected. Around a central grooved cable, there is a composite of glass yarns and swelling fleece with characteristics that ensure rodent protection, strain relief, and waterproofing in longitudinal direction of the cable. In addition, these cables are designed grease-free. Wiping the jelly off is therefore unnecessary. This construction is particularly used in underground, tubes and channel areas, where normal tensile stresses and/or transverse compressions occur and rodent infestation is to be expected.

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