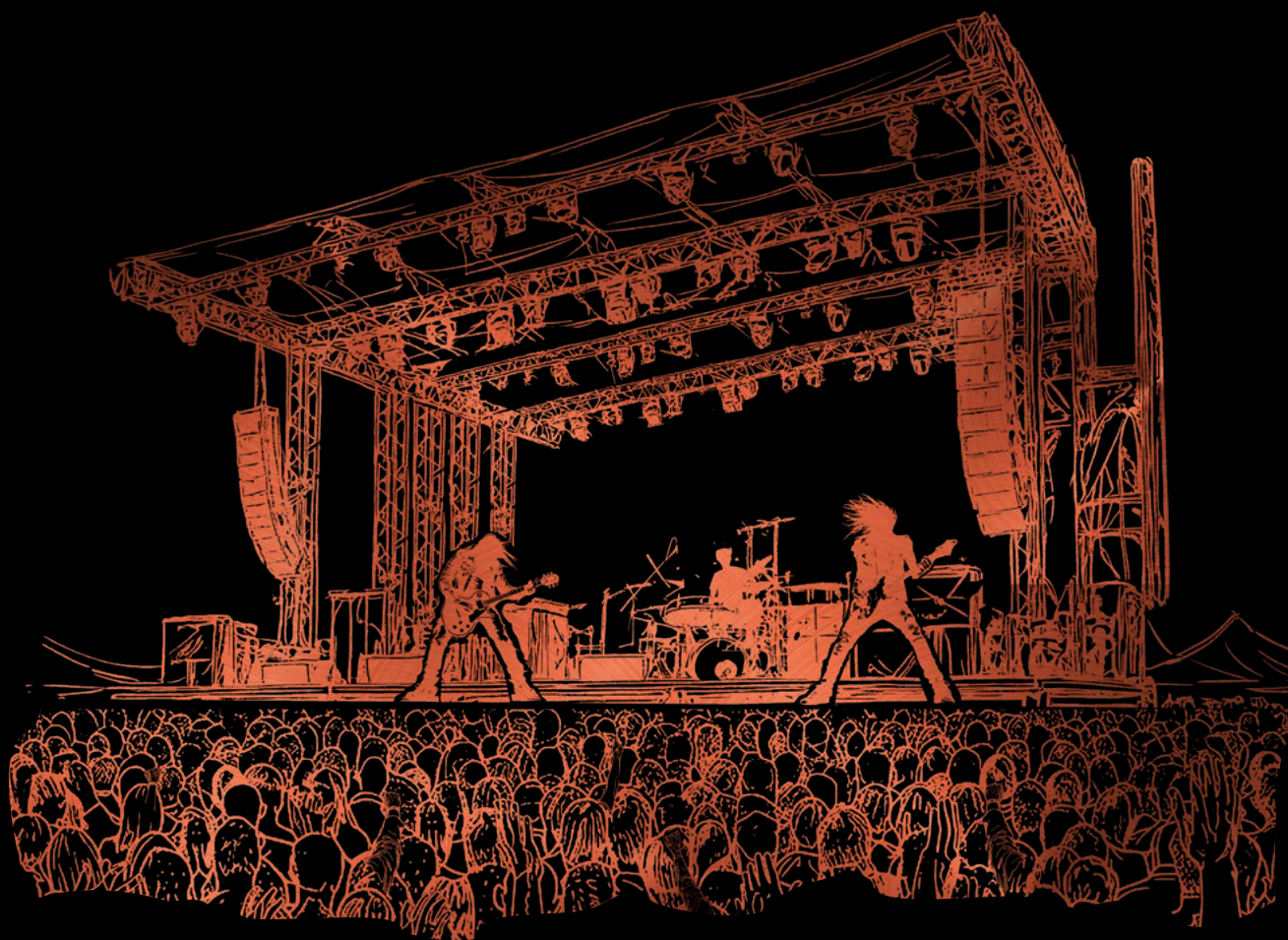


Solutions for Event and Media Technology

# HELUEVENT

Ed. 1.1 // EN



Always stay electrified.



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# Reliable Connections for Event & Media Technology

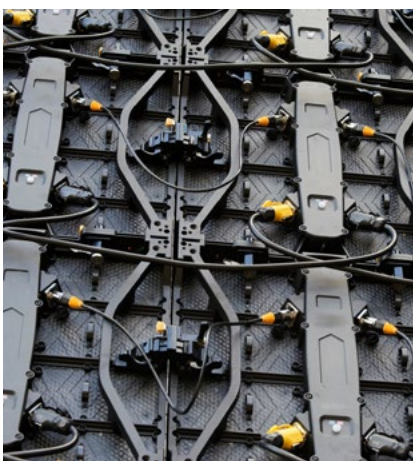
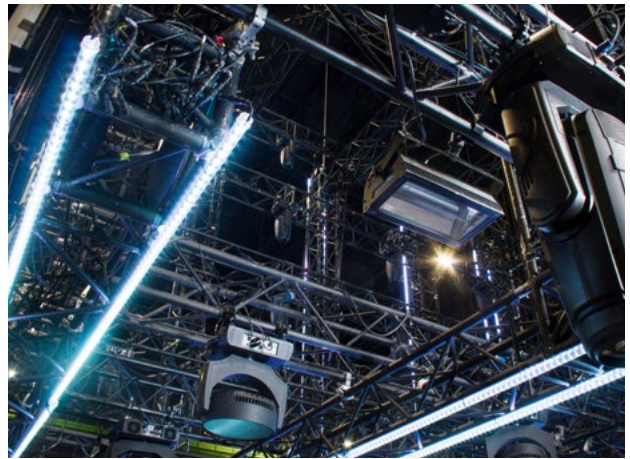
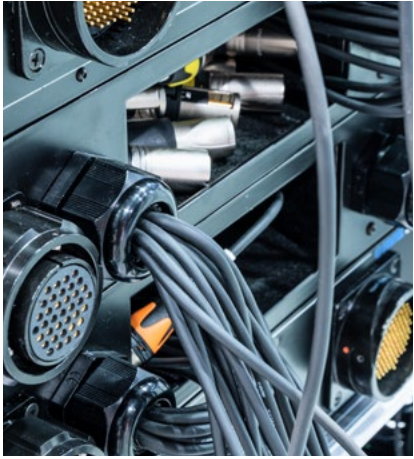
Stable and safe electrical connections are essential in event and media technology. Whether on concert stages, in TV studios, at trade shows, or in theatres, cables and wires ensure the smooth transmission of power, data, and signals. To achieve this, the highest requirements must be met. This entails flexibility for moving applications, resilience to mechanical loads, resistance to weathering effects, and reliable screening to protect against disruptions.

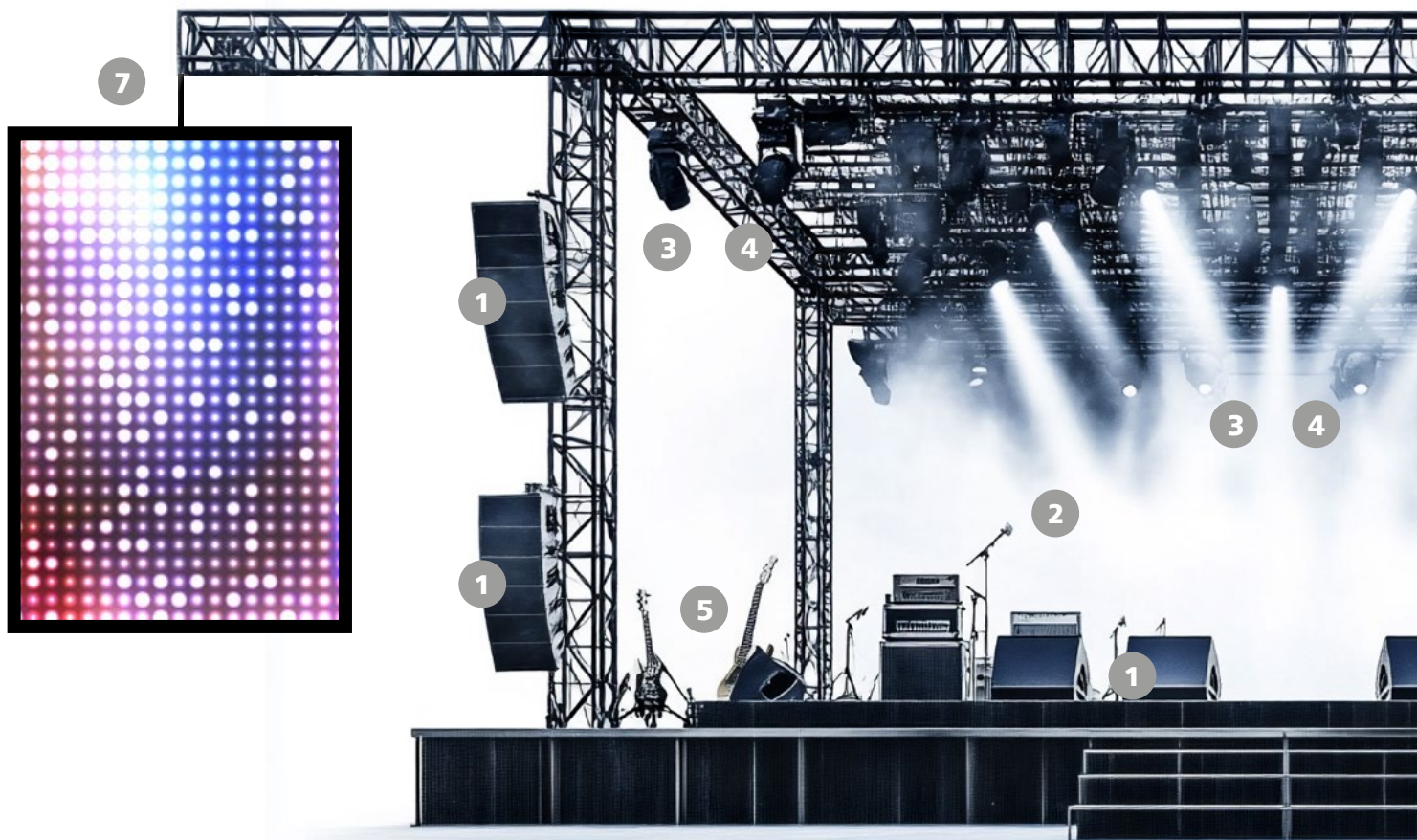
HELU is a globally leading supplier of electrical connection technology and has been an experienced and competent partner to the event and media industry for many years. Our portfolio contains solutions for every application.

Speaker cables guarantee the lossless transmission of signals for powerful sounds while optimally screened microphone cables ensure interference-free tones. Audio and video cables allow for the high-integrity transmission of signals for professional sound and image systems, while load and connection cables ensure the reliable supply of energy for stage and studio technology.

This brochure features a clear overview of our wide-ranging portfolio of solutions for event and media technology, including our cables, wires, plugs, assemblies, tools, and accessories. Together, we can find the ideal solution for your needs!







# The right solution for every application

These are some of the areas of stage technology where our electrical connectivity solutions are used.

## 1 Speaker cables

Cables for professional sound systems

## 2 Microphone cables

Cables for microphones

## 3 DMX cables

Cables for lighting systems

## 4 DMX+POWER cables

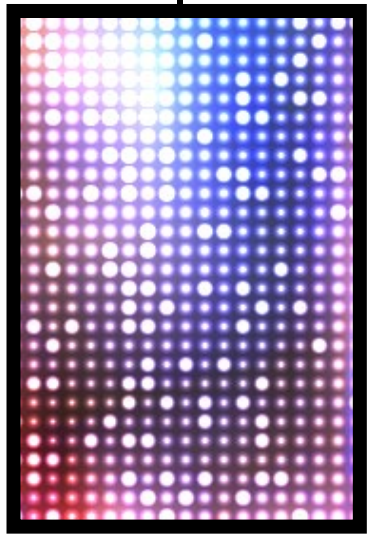
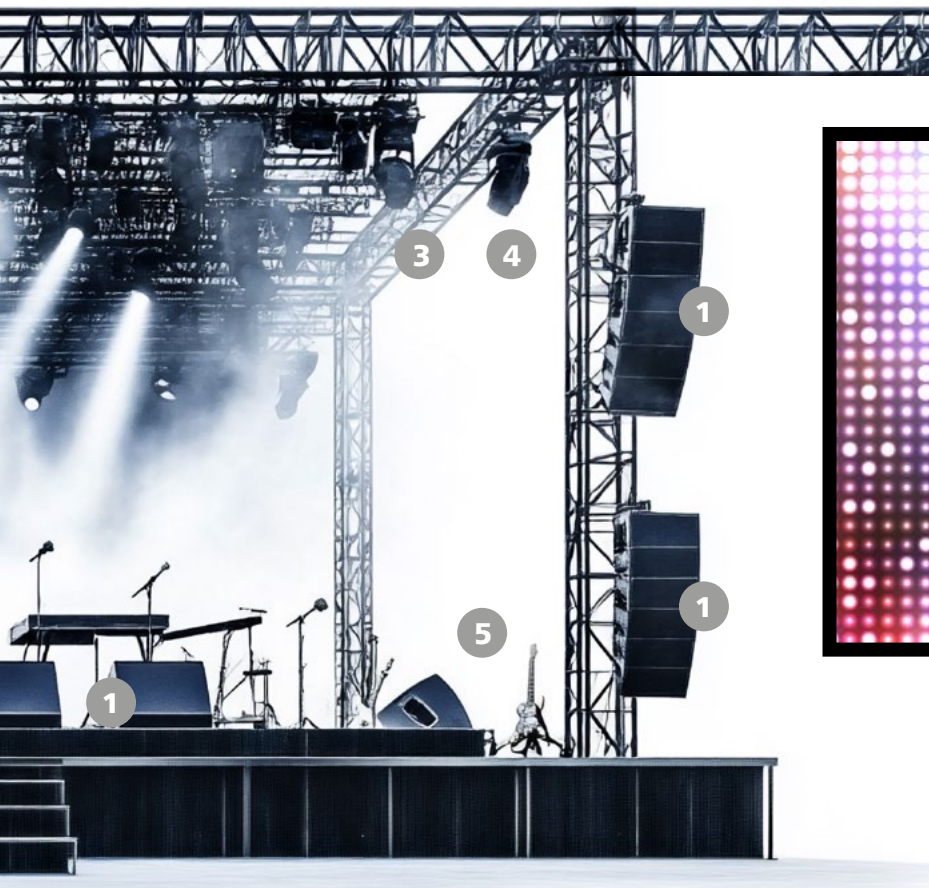
Cables for lighting systems with additional power supply

## 5 Instrument cables

Cables for musical instruments

## 6 Audio cables AES/EBU

Cables for mixers/sound engineers



**7 A: Load cables / B: TITANEX® / C: Broadcast**

Cables for power supply and lighting technology

**8 Video cables**

Cables for image transmission, video surveillance



# Our Solutions for Event and Media Technology

For further information, variations, and dimensions, see our data sheets at: [helu.com/999999en](https://helu.com/999999en) (replace the **red numbers** with the part no. you're looking for)

## 1 SPEAKER CABLES

### Speaker cables ROUND

(Standard dimensions 2x1.5 / 2x2.5 / 2x4 / 4x2.5 / 4x4 / 8x2.5 / 8x4 mm<sup>2</sup>)

#### HELUSOUND 450 EXTREME FLEX-PVC, 2 x 1.5 mm<sup>2</sup> - extremely flexible

Bare Cu wire 84 x 0.15 mm, extra-finely stranded cl. 6  
Core insulation: PVC  
Outer sheath: PVC, sheath colour: black, OD: approx. 6.6 mm

**Part no. 11017574**



#### Applications:

- For cabling sound systems, professional PA systems, and HiFi systems
- Indoor, stage, mobile, studio, HiFi

#### HELUSOUND 400-PVC, 2 x 1.5 mm<sup>2</sup> - highly flexible

Bare Cu wire 84 x 0.15 mm, extra-finely stranded cl. 6  
Core insulation: PVC  
Outer sheath: PVC, sheath colour: black, OD: approx. 6.6 mm

**Part no. 400089**



#### Applications:

- See part no. 11017574

#### HELUSOUND 500-PUR, 2 x 1.5 mm<sup>2</sup> - extremely robust

Bare Cu wire 84 x 0.15 mm, extra-finely stranded cl. 6  
Core insulation: PVC  
Outer sheath: PUR, sheath colour: black, OD: approx. 6.6 mm  
Abrasion and cut resistant

**Part no. 400109**



#### Applications:

- For cabling sound systems, professional PA systems, and HiFi systems
- Outdoors, indoors, stages, mobile, studio

#### HELUSOUND 600 Halogen free-FRNC, 2 x 1.5 mm<sup>2</sup>

Bare Cu wire 28 x 0.25 mm, finely stranded cl. 5  
Core insulation: FRNC  
Outer sheath: FRNC, sheath colour: black, OD: approx. 6.6 mm

**Part no. 400116**



#### Applications:

- For cabling sound systems, professional PA systems, and HiFi systems
- Permanent installations, public facilities
- For increased safety requirements in the event of fire

### Speaker cables TWIN

(Standard dimensions 2x0.5 / 2x0.75 / 2x1.5 / 2x2.5 / 2x4 / 2x6 / 2x10 mm<sup>2</sup>)

#### TWIN PVC 2 x 0.5 mm<sup>2</sup> – easily separable

Bare Cu wire 16 x 0.20 mm  
Core insulation: PVC, sheath colour: transparent/red  
Dimensions: approx. 2.1 x 4.7 mm  
Also avail. in black/red

**Part no. 40180**



#### Applications:

- Wiring electrical devices, constructing prototypes, permanent installation

## 2 MICROPHONE CABLES

### 2 x 0.22 mm<sup>2</sup> PVC

Bare Cu wire 28 x 0.10 mm

Core insulation: PE

Bare, spiral Cu screen

Outer sheath: PVC, sheath colour: black, OD: approx. 6.0 mm

**Part no. 400038**



#### Application:

- Professional studio and stage operation short distances

### 2 x 0.34 mm<sup>2</sup> PVC

Bare Cu wire 19 x 0.15 mm

Core insulation: PE

Bare, braided Cu screen

Outer sheath: PVC, sheath colour: black, OD: approx. 6.5 mm

**Part no. 400040**



#### Application:

- Professional studio and stage operation as well as medium-distance, permanent installation

### 2 x 0.50 mm<sup>2</sup> PVC

Bare Cu wire 28 x 0.15 mm

Core insulation: PE

Non-woven Al insulation + tinned, spiral Cu screen

Outer sheath: PVC, sheath colour: black, OD: approx. 6.7 mm

**Part no. 400080**



#### Application:

- Professional studio and stage operation long distances

### 4 x 0.22 mm<sup>2</sup> PVC

Bare Cu wire 28 x 0.10 mm, star quad

Core insulation: PE

Tinned Cu drain wire 7 x 0.15 mm

Tinned, braided Cu screen

Outer sheath: PVC, sheath colour: black, OD: approx. 6.1 mm

**Part no. 400041**



#### Application:

- Professional studio and microphone technology
- Stereo applications

### 2 x 0.22 mm<sup>2</sup> FRNC, halogen free

Bare Cu wire 28 x 0.10 mm

Core insulation: PE

Bare, spiral Cu screen

Outer sheath: FRNC, sheath colour: black, OD: approx. 6.0 mm

**Part no. 400249**



#### Application:

- Professional studio and stage operation short distances
- Permanent installation in public buildings

### 2 x 0.50 mm<sup>2</sup> FRNC, halogen free

Bare Cu wire 28 x 0.15 mm

Core insulation: PE

Non-woven Al insulation + tinned, spiral Cu screen

Outer sheath: FRNC, sheath colour: black, OD: approx. 6.7 mm

**Part no. 400250**



#### Application:

- Professional studio and stage operation long distances
- Permanent installation in public buildings

### 4 x 0.22 mm<sup>2</sup> FRNC, halogen free

Bare Cu wire 28 x 0.10 mm, star quad

Core insulation: PE

Tinned Cu drain wire 7 x 0.15 mm

Tinned, braided Cu screen

Outer sheath: FRNC, sheath colour: black, OD: approx. 6.1 mm

**Part no. 400248**



#### Application:

- Professional studio and microphone technology, for stereo applications
- Permanent installation in public buildings

### 3 DMX CABLES AES/EBU 110 OHM

#### 2 x 0.22 mm<sup>2</sup> PVC

Tinned Cu wire 7 x 0.20 mm  
Core insulation: Foam-Skin-PE  
Al/PL foil + bare, spiral Cu screen  
Drain wire: 7 x 0.20 mm tinned Cu  
Outer sheath: PVC, sheath colour: blue, OD: approx. 5.0 mm

**Part no. 400031**



#### Application:

- Professional lighting system control
- Patching in studio technology
- Microphone technology

#### 2 x 0.34 mm<sup>2</sup> PVC

Bare Cu wire 19 x 0.15 mm  
Core insulation: Foam-Skin-PE  
Non-woven Al insulation + bare, spiral Cu screen  
Outer sheath: PVC, sheath colour: black, OD: approx. 6.4 mm

**Part no. 400032**



#### Application:

- Professional lighting system control
- Connecting digital audio amplifiers
- For indoor and outdoor use

#### 4 x 0.34 mm<sup>2</sup> PVC

Bare Cu wire 7 x 0.25 mm, star quad  
Core insulation: PE  
Al/PL foil + tinned, braided Cu screen  
Outer sheath: PVC, sheath colour: black, OD: approx. 7.0 mm

**Part no. 400033**



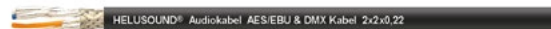
#### Application:

- Professional lighting system control with feedback function
- For controlling all kinds of digital devices
- For indoor and outdoor use

#### 2 x 2 x 0.22 mm<sup>2</sup> PVC

Bare Cu wire 7 x 0.20 mm  
Core insulation: Foam-Skin-PE  
Drain wire: 7 x 0.20 mm tinned Cu  
Foil-screened pairs, tinned, braided Cu screen  
Outer sheath: PVC, sheath colour: black, OD: approx. 8.0 mm

**Part no. 400034**



#### Application:

- For controlling all kinds of digital devices with feedback function
- For indoor and outdoor use

#### 2 x 0.34 mm<sup>2</sup> FRNC, halogen free

Bare Cu wire 19 x 0.15 mm  
Core insulation: Foam-Skin-PE  
Non-woven Al insulation + bare, spiral Cu screen  
Outer sheath: FRNC, sheath colour: black, OD: approx. 5.6 mm

**Part no. 400278**



#### Application:

- Professional lighting system control
- Connecting digital audio amplifiers
- Permanent installation in public buildings

#### 4 x 0.34 mm<sup>2</sup> FRNC, halogen free

Bare Cu wire 7 x 0.25 mm  
Core insulation: PE  
Al/PL foil + tinned, braided Cu screen  
Outer sheath: FRNC, sheath colour: black, OD: approx. 7.0 mm

**Part no. 400279**



#### Application:

- See part no. 400278

#### 2 x 2 x 0.22 mm<sup>2</sup> FRNC, halogen free

Bare Cu wire 7 x 0.20 mm  
Core insulation: Foam-Skin-PE  
Drain wire: 7 x 0.20 mm tinned Cu  
Foil-screened pairs, tinned, braided Cu screen  
Outer sheath: FRNC, sheath colour: black, OD: approx. 8.0 mm

**Part no. 400280**



#### Application:

- For controlling all kinds of digital devices with feedback function
- Permanent installation in public buildings

## 4 HYBRID DMX + POWER CABLES

### 1 x 2 x 0.24 + 2 x 1.0 mm<sup>2</sup> PVC (1x DMX)

Power cores: Bare Cu wire approx. 32 x 0.20 mm  
Core insulation: PVC  
DMX element: 7 x 0.20 mm bare Cu  
Core insulation: Foamed polyolefin  
Al/PL foil screen + tinned, braided Cu screen, without sheath  
Outer sheath: PVC, sheath colour: black, OD: approx. 7.4 mm

**Part no. 400081**



#### Application:

- Professional DMX lighting control of 110 Ohm format digital signals, as well as power supply in one cable
- Compact, flexible, easy to handle
- For indoor and outdoor use

### 1 x 2 x 0.25 + 3G1.5 mm<sup>2</sup> PVC (1x DMX)

Power element: Bare Cu wire approx. 48 x 0.20 mm  
Core insulation: PVC  
Core colours: blue, brown, green/yellow  
Element sheath: PVC, sheath colour: black  
Element diameter: approx. 6.7 mm  
DMX element: 14 x 0.15 mm bare Cu  
Core insulation: Foam-Skin-PE, core colours: red, white  
Non-woven foil + tinned, braided Cu screen  
Drain wire: 7 x 0.20 mm tinned Cu  
Element sheath: PVC, sheath colour: black  
Element diameter: approx. 4.3 mm  
Outer sheath: PVC, sheath colour: black, OD: approx. 13.2 mm

**Part no. 400151**



#### Application:

- Lighting control and power supply (3G1.5 mm<sup>2</sup>) combined in one cable
- Lighting system control and mixers (110 Ohm characteristic impedance)
- DMX cable also for use in transmitting audio signals and as microphone cables or as supply cables for active speaker systems
- For indoor and outdoor use

### 1 x 2 x 0.25 + 3G2.5 mm<sup>2</sup> PVC (1x DMX)

Power element: Bare Cu wire approx. 50 x 0.25 mm  
Core insulation: PVC  
Core colours: blue, brown, green/yellow  
Element sheath: PVC, sheath colour: black  
Element diameter: Approx. 7.7 mm  
DMX element: 14 x 0.15 mm bare CU  
Core insulation: Foam-Skin-PE, core colours: red, white  
Non-woven foil + tinned, braided Cu screen  
Drain wire: 7 x 0.20 mm tinned Cu  
Element sheath: PVC, sheath colour: black  
Element diameter: Approx. 4.3 mm  
Outer sheath: PVC, sheath colour: black, OD: approx. 14.5 mm

**Part no. 11025369**



#### Application:

- See part no. 400151

### 2 x 2 x 0.22 + 3G2.5 mm<sup>2</sup> PVC (2x DMX)

Power element: Bare Cu wire approx. 50 x 0.25 mm  
Core insulation: PVC  
Core colours: blue, brown, green/yellow  
Element sheath: PVC, sheath colour: black  
Element diameter: Approx. 8.3 mm  
DMX element: 14 x 0.15 mm bare Cu  
Core insulation: Foam-Skin-PE, core colours: red, white  
Non-woven foil + tinned, braided Cu screen  
Drain wire: 7 x 0.20 mm tinned Cu  
Element sheath: PVC, sheath colour: black  
Element diameter: Approx. 4.3 mm  
Outer sheath: PVC, sheath colour: black, OD: approx. 17.8 mm

**Part no. 400217**



#### Application:

- See part no. 400151

## 5 INSTRUMENT CABLES

### 1 x 0.22 mm<sup>2</sup> PVC

Bare Cu wire 28 x 0.10 mm, Core insulation: Foam-Skin-PE, semiconducting PVC layer above, Bare, spiral Cu screen  
Outer sheath: PVC, sheath colour: black, OD: approx. 5.9 mm

**Part no. 400036**



#### Application:

- Synthesiser, keyboards, guitars in professional stage and studio operation

### 1 x 0.38 mm<sup>2</sup> PVC

Bare Cu wire 48 x 0.10 mm, Core insulation: Foam-Skin-PE, semiconducting PVC layer above, Bare, spiral Cu screen  
Outer sheath: PVC, sheath colour: black, OD: approx. 7.0 mm

**Part no. 400037**



#### Application:

- See part no. 400036

## 6 DIGITAL AES/EBU AUDIO CABLES 110 OHM

### 2 x 0.22 mm<sup>2</sup> PVC (single pair)

Bare Cu wire 7 x 0.20 mm, Core insulation: PE,  
2 Cores to pair + drain wire 7 x 0.20 mm bare Cu  
Bare, spiral Cu screen  
Outer sheath: PVC, sheath colour: black, OD: approx. 5.0 mm

**Part no. 400021**



#### Application:

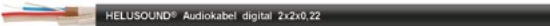
- Transmission of large data volumes of digital and analogue audio signals
- Connecting audio amplifiers, digital mixers, DAT recorders

### 2 x 2 x 0.22 mm<sup>2</sup> (multi pair)

Bare Cu wire 7 x 0.20 mm, Core insulation: Foam-Skin-PE,  
2 Cores to pair + drain wire 7 x 0.20 mm bare Cu  
Pair screening: Al/PL foil, pair sheathing: PVC  
Overall screen: Al/PL foil  
Outer sheath: PVC, sheath colour: black, OD: approx. 9.9 mm

**Part no. 400025**

(also available with 4/6/8/12 pairs)



#### Application:

- Transmission of digital audio signals
- Permanent and studio installations

### 2x2x0,25 mm<sup>2</sup> FRNC, halogen free (multi pair)

Bare Cu wire 32 x 0.10 mm, Core insulation: Foam-Skin-PE,  
2 Cores to pair + drain wire 7 x 0.20 mm bare Cu  
Pair screening: Al/PL foil, pair sheathing: LSZH, Ø: approx. 3.8 mm  
Overall screen: Al/PL foil + tinned, braided Cu screen  
Outer sheath: FRNC, sheath colour: blue, OD: approx. 10.0 mm

**Part no. 400171**

(also available with 4/8/12 pairs)



#### Application:

- Transmission of digital audio signals
- Permanent installation in public buildings, theatres, museums, stadiums, cruise ships

### 2x2x0,25 mm<sup>2</sup> FRNC, halogen free (multi pair), black

Version with sheath colour: black

**Part no. 11027649**

(also available with 4/8/12 pairs)

#### Application:

- see Part no. 400171

## 7 A: LOAD CABLES 300/500 V

### 14G1.5 mm<sup>2</sup> PVC

Bare Cu wire 84 x 0.15 mm extra-finely stranded, cl. 6  
Core insulation: PVC, numbered in black + green/yellow  
Outer sheath: PVC, sheath colour: black, OD: approx. 13.4 mm

#### Part no. 400143

(also available as 18G1.5, 14G2.5, 18G2.5 mm<sup>2</sup>)



#### Application:

- Average mechanical loads in professional stage and lighting technology and other load circuits

## 7 B: RUBBER TUBE CABLE TITANEX® H07RN-F

### TITANEX® H07RN-F 3G1.5 mm<sup>2</sup>

Bare Cu wire approx. 30 x 0.25 mm  
Core insulation: cross-linked elastomer  
Outer sheath: cross-linked elastomer  
Sheath colour: black, OD: approx. 9.2–11.9 mm

#### Part no. 705900



#### Application:

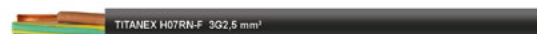
- Network power line for electrical devices
- Average mechanical loads
- Mechanical engineering and agricultural devices
- Public spaces and temporary events, festivals

### TITANEX® H07RN-F 3G2.5 mm<sup>2</sup>

Bare Cu wire approx. 50 x 0.25 mm  
Core insulation: cross-linked elastomer  
Outer sheath: cross-linked elastomer  
Sheath colour: black, OD: approx. 10.9–14.0 mm

#### Part no. 707170

(Addl. diameters available)



#### Application:

- See part no. 705900

## 7 C: CAT.7 PUR BROADCAST

### S/FTP 4 x 2 x AWG 26/7 PUR

halogen-free, resistant to: UV-radiation  
Copper wire bare, AWG sizes  
Core insulation: Foam-PE  
Core identification: colour-coded, pairs:  
No. 1: white / blue  
No. 2: white / orange  
No. 3: white / green  
No. 4: white / brown  
Screen-element: pairs, plastic-coated aluminium foil (St)  
Screen: braided screen of tinned copper wires,  
approx. coverage 46%  
Protective tape  
Outer sheath: PUR, sheath colour: black, OD: approx. 7.1 mm

#### Part no. 11029360



#### Application:

- Studio and broadcast, Music Industry
- Highly flexible
- Indoor and outdoor installation
- Audio over IP (AoIP), Cat-Core, Ethersound
- Video-Ethernet
- ANSI/TIA 568B; POE Tpye 1-4
- IEEE 802.3: 10Base-T; 100Base-T; 1000Base-T; IEEE 802.5
- 16MB; ISDN; FDDI; ATM

**0.6/2.8 (mini) PVC, green**

Solid, bare Cu 0.6 mm, insulation: Foam-Skin-PE, Ø: 2.8 mm  
 Al-foil screen + tinned, braided Cu, opt. coating 90%  
 Outer sheath: PVC, sheath colour: green, OD: approx. 4.5 mm  
 Capacity: 54 pF/m, velocity factor: 0.78 (v/c)  
 Screening effectiveness: 90 dB

**Part no. 400241****Application:**

- Studio and broadcasting, video surveillance
- Large transmission capacities

**0.6/2.8 (mini) FRNC Dca, green, halogen-free****Part no. 11029145****0.8/3.7 (series RG 59) PVC, green**

Solid, bare Cu 0.8 mm, insulation: Foam-Skin-PE, Ø: 3.7 mm  
 Al-foil screen + tinned, braided Cu, opt. coating 90%  
 Outer sheath: PVC, sheath colour: green, OD: approx. 5.9 mm  
 Capacity: 55 pF/m, velocity factor: 0.78 (v/c)  
 Screening effectiveness: 90 dB

**Part no. 400242****Application:**

- See part no. 400241

**0.8/3.7 (series RG 59) FRNC Dca, green, halogen-free****Part no. 11029146****1.0/4.8 (series RG 6) PVC, green**

Solid, bare Cu 1.0 mm, insulation: Foam-Skin-PE, Ø: 4.8 mm  
 Al-foil screen + tinned, braided Cu, opt. coating 90%  
 Outer sheath: PVC, sheath colour: green, OD: approx. 7.0 mm  
 Capacity: 55 pF/m, velocity factor: 0.78 (v/c)  
 Screening effectiveness: 90 dB

**Part no. 400243****Application:**

- See part no. 400241

**1.0/4.8 (series RG 6) FRNC Dca, green, halogen-free****Part no. 11029147****1.6/7.3 (series RG 11) PVC, green**

Solid, bare Cu 1.6 mm, insulation: Foam-Skin-PE, Ø: 7.3 mm  
 Al-foil screen + tinned, braided Cu, opt. coating 90%  
 Outer sheath: PVC, sheath colour: green, OD: approx. 10.3 mm  
 Capacity: 56 pF/m, velocity factor: 0.78 (v/c)  
 Screening effectiveness: 90 dB

**Part no. 400244****Application:**

- See part no. 400241

**1.6/7.3 (series RG 11) FRNC Dca, green, halogen-free****Part no. 11029148****Video + Power System Cables (dual construction)****0.8/3.7 + 2 x 0.75 mm<sup>2</sup> (series RG 59) PVC, black**

Solid, bare Cu 0.8 mm, insulation: Foam-Skin-PE, Ø: 3.7 mm  
 Al-foil screen + tinned, braided Cu, opt. coating 90%  
 Element sheath: PVC, sheath colour: black, OD: approx. 6.1 mm  
 Control cores: bare Cu cl. 5, insulation: black + red PVC  
 Overall diameter: approx. 12.6 x 6.1 mm  
 Capacity: 55 pF/m, velocity factor: 0.78 (v/c)  
 Screening effectiveness: 90 dB

**Part no. 400245****Application:**

- Studio and broadcasting, video surveillance
- Large transmission capacities
- With parallel power supply

# PLUGS

## XLR



Part no.	Part name	Description
11025765	NC3FXX	XLR 3-pin socket, nickel-plated housing, silver-plated contacts
<b>11025766</b>	NC3FXX-BAG	XLR 3-pin socket, black chrome housing, silver-plated contacts
<b>11025767</b>	NC3MXX	XLR 3-pin plug, nickel-plated housing, silver-plated contacts
<b>11025768</b>	NC3MXX-BAG	XLR 3-pin plug, black chrome housing, silver-plated contacts
11025769	NC5FXX-BAG	XLR 5-pin socket, black chrome housing, silver-plated contacts
11025770	NC5MXX-BAG	XLR 5-pin plug, black chrome housing, silver-plated contacts
11025771	NC5FX1-TOP	XLR 5-pin socket, TOP series (TRUE OUTDOOR PROTECTION), IP65, gold-plated contacts
11025772	NC5MX1-TOP	XLR 5-pin plug, TOP series (TRUE OUTDOOR PROTECTION), IP65, gold-plated contacts

## speakON®



Part no.	Part name	Description
<b>11025773</b>	NL2FXX-W-S	speakON® 2-pin socket, screw terminals, tension-relief collet, for cable Ø 6-12 mm
<b>11025774</b>	NL4FXX-W-S	speakON® 4-pin socket, screw terminals, tension-relief collet, for cable Ø 6-12 mm
<b>11025775</b>	NL4FXX-W-L	speakON® 4-pin socket, screw terminals, tension-relief collet, for cable Ø 10-16 mm

## Jacks



Part no.	Part name	Description
<b>11025784</b>	NP2X	6.35 mm, 2-pin jack plug, nickel housing, nickel-plated contacts
<b>11025785</b>	NP2X-B	6.35 mm, 2-pin jack plug, black housing, gold-plated contacts
<b>11025786</b>	NP2X-BAG	6.35 mm, 2-pin jack plug, black housing, nickel-plated contacts
<b>11025787</b>	NP2XX-SILENT	6.35 mm, 2-pin jack plug, SILENT PLUG, black/red housing, gold-plated contacts
11025788	NP2RX-AU-SILENT	6.35 mm, 2-pin jack plug, 90° angle, SILENT PLUG, red/black housing, gold-plated contacts
<b>11025789</b>	NP2RX-BAG	6.35 mm, 2-pin jack plug, 90° angle, black housing, nickel-plated contacts
<b>11025790</b>	NP3X	6.35 mm, 3-pin jack plug, nickel housing, nickel-plated contacts

## powerCON®

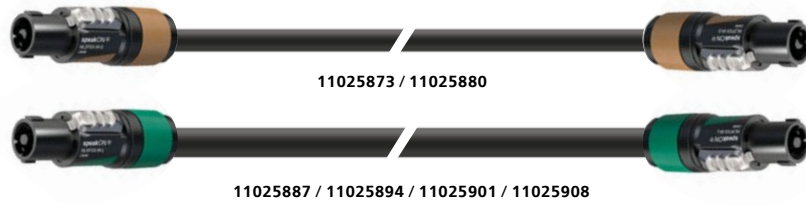


Part no.	Part name	Description
11025776*	NAC3FX-W-TOP*	TRUE1 TOP socket, with locking mechanism, screw connection, 16A, Ø 6-12 mm, for outdoor use, IP65
11028981	NAC3F-TRUE1-S	
11025777*	NAC3FX-W-TOP-L*	TRUE1 TOP socket, with locking mechanism, screw connection, 16A, Ø 10-16 mm, for outdoor use, IP65
11028982	NAC3F-TRUE1-L	
11025778*	NAC3MX-W-TOP*	TRUE1 TOP plug, with locking mechanism, screw connection, 16A, Ø 6-12 mm, for outdoor use, IP65
11028983	NAC3M-TRUE1-S	
11025779*	NAC3MX-W-TOP-L*	TRUE1 TOP plug, with locking mechanism, screw connection, 16A, Ø 10-16 mm, for outdoor use, IP65
11028984	NAC3M-TRUE1-L	
<b>11025780</b>	NAC3FXXA-W-S	Plug, blue, power in, Ø 6-12 mm, lockable, 16A, IP20
<b>11025781</b>	NAC3FXXA-W-L	Plug, blue, power in, Ø 10-16 mm, lockable, 16A, IP20
<b>11025782</b>	NAC3FXXB-W-S	Plug, grey, for power out, Ø 6-12 mm, lockable, 16A, IP20
<b>11025783</b>	NAC3FXXB-W-L	Plug, grey, for power out, Ø 10-16 mm, lockable, 16A, IP20

\* Discontinued part, replaced by: NAC3F-TRUE1 / NAC3M-TRUE1

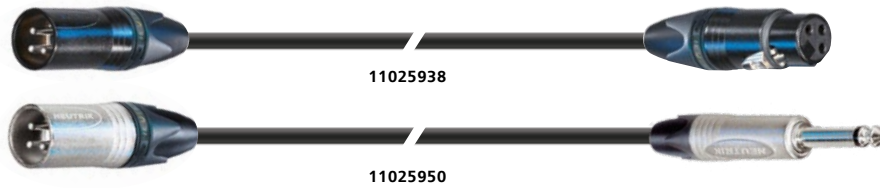
# ASSEMBLIES

\* Incl. transp. heat-shrink tubing for individual labelling on both sides.



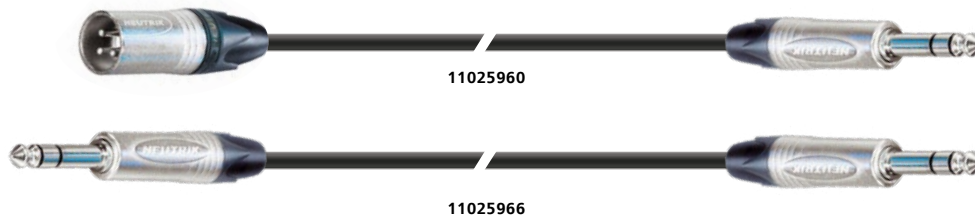
## Speaker Cables & speakON®

Part no.	Cable	Plug 1	Plug 2	Lengths
11025873	2 x 1.5 mm <sup>2</sup>	NL2FXX-W-S	NL2FXX-W-S	1 m/2.5 m/5 m/10 m/15 m/20 m/25 m
11025880	2 x 2.5 mm <sup>2</sup>	NL2FXX-W-S	NL2FXX-W-S	1 m/2.5 m/5 m/10 m/15 m/20 m/25 m
11025887	2 x 2.5 mm <sup>2</sup>	NL4FXX-W-S	NL4FXX-W-S	1 m/2.5 m/5 m/10 m/15 m/20 m/25 m
11025894	2 x 4.0 mm <sup>2</sup>	NL4FXX-W-S	NL4FXX-W-S	1 m/2.5 m/5 m/10 m/15 m/20 m/25 m
11025901	4 x 2.5 mm <sup>2</sup>	NL4FXX-W-S	NL4FXX-W-S	1 m/2.5 m/5 m/10 m/15 m/20 m/25 m
11025908	4 x 4.0 mm <sup>2</sup>	NL4FXX-W-S	NL4FXX-W-S	1 m/2.5 m/5 m/10 m/15 m/20 m/25 m



## Microphone Cable & XLR/Jack (2-pin)

Part no.	Cable	Plug 1	Plug 2	Lengths
11025938	2 x 0.22 mm <sup>2</sup>	XLR plug NC3MXX-BAG	XLR socket NC3FXX-BAG	0.5 m/1 m/2.5 m/5 m/7.5 m/10 m/15 m/20 m
11025946	2 x 0.22 mm <sup>2</sup>	XLR socket NC3FXX	jack NP2X	1.5 m/3 m/5 m/10 m
11025950	2 x 0.22 mm <sup>2</sup>	XLR plug NC3MXX	jack NP2X	1.5 m/3 m/5 m/10 m



## Microphone Cable & XLR/Jack (3-pin)

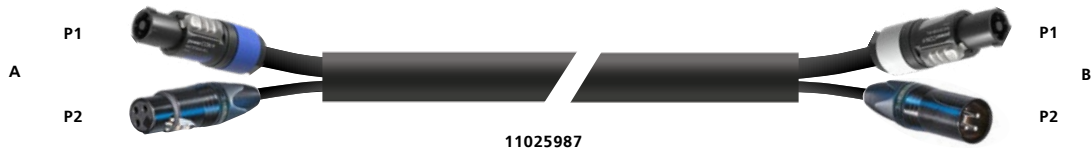
Part no.	Cable	Plug 1	Plug 2	Lengths
11025954	2 x 0.22 mm <sup>2</sup>	XLR socket NC3FXX	jack NP3X	0.5 m/1 m/1.5 m/3 m/5 m/10 m
11025960	2 x 0.22 mm <sup>2</sup>	XLR plug NC3MXX	jack NP3X	0.5 m/1 m/1.5 m/3 m/5 m/10 m
11025966	2 x 0.22 mm <sup>2</sup>	jack NP3X	jack NP3X	0.5 m/1 m/1.5 m/3 m/5 m/10 m



11025915

## DMX Cable & XLR

Part no.	Cable	Plug 1	Plug 2	Lengths
11025915	2 x 0.34mm <sup>2</sup>	XLR 3P socket NC3FXX-BAG	XLR 3P plug NC3MXX-BAG	2.5 m/5 m/10 m/20 m/50 m
11025920	2 x 0.34mm <sup>2</sup>	XLR 5P socket NC5FXX-BAG	XLR 5P plug NC5MXX-BAG	2.5 m/5 m/10 m/20 m/50 m
11025925	4 x 0.34mm <sup>2</sup>	XLR 5P socket NC5FXX-BAG	XLR 5P plug NC5MXX-BAG	2.5 m/5 m/10 m/20 m/50 m
11025930	2 x 0.34 mm <sup>2</sup>	XLR 3P plug NC3MXX-BAG	XLR 5P socket NC5FXX-BAG	0.1 m/1 m/2.5 m/5 m
11025934	2 x 0.34 mm <sup>2</sup>	XLR 5P plug NC5MXX-BAG	XLR 3P socket NC3FXX-BAG	0.1 m/1 m/2.5 m/5 m



11025987

## DMX + Power Cable & XLR / powerCON®

Part no.	Side A - Plug 1	Side A - Plug 2	Side B - Plug 1	Side B - Plug 2	Lengths
<b>DMX 1x2x0.25 + Power 3G2.5 QMM Cable</b>					
11025987	NC3FXX-BAG	NAC3FXXA-W-S	NC3MXX-BAG	NAC3FXXB-W-S	1.5 m/3 m/5 m/10 m
11025991	NC5FXX-BAG	NAC3FXXA-W-S	NC5MXX-BAG	NAC3FXXB-W-S	1.5 m/3 m/5 m/10 m
11025995	NC3FXX-BAG	NAC3F-TRUE1-S	NC3MXX-BAG	NAC3M-TRUE1-S	1.5 m/3 m/5 m/10 m
11025999	NC5FXX-BAG	NAC3F-TRUE1-S	NC5MXX-BAG	NAC3M-TRUE1-S	1.5 m/3 m/5 m/10 m
11026003	NC5FX1-TOP	NAC3F-TRUE1-S	NC5MX1-TOP	NAC3M-TRUE1-S	1.5 m/3 m/5 m/10 m
<b>DMX 1x2x0.25 + Power 3G1.5 QMM Cable</b>					
11026007	NC3FXX-BAG	NAC3FXXA-W-S	NC3MXX-BAG	NAC3FXXB-W-S	1.5 m/3 m/5 m/10 m
11026011	NC5FXX-BAG	NAC3FXXA-W-S	NC5MXX-BAG	NAC3FXXB-W-S	1.5 m/3 m/5 m/10 m
11026015	NC3FXX-BAG	NAC3F-TRUE1-S	NC3MXX-BAG	NAC3M-TRUE1-S	1.5 m/3 m/5 m/10 m
11026019	NC5FXX-BAG	NAC3F-TRUE1-S	NC5MXX-BAG	NAC3M-TRUE1-S	1.5 m/3 m/5 m/10 m
11026023	NC5FX1-TOP	NAC3F-TRUE1-S	NC5MX1-TOP	NAC3M-TRUE1-S	1.5 m/3 m/5 m/10 m



11025972



11025980

## Instrument Cables & Jacks

Part no.	Cable	Plug 1	Plug 2	Lengths
11025972	1 x 0.38 mm <sup>2</sup>	jack NP2X-B	jack NP2X-B	1.5 m/3 m/4.5 m/6 m/9 m
11025977	1 x 0.38 mm <sup>2</sup>	jack NP2X-B	jack NP2XX-SILENT	3 m/6 m/9 m
11025980	1 x 0.38 mm <sup>2</sup>	jack NP2X-BAG	jack NP2RX-BAG 90°	3 m/4.5 m/6 m/9 m
11025984	1 x 0.38 mm <sup>2</sup>	jack NP2X-B	jack NP2RX-AU-SILENT 90°	3 m/6 m/9 m



11026027



11026030

## Titanex® Load Cables & powerCON®

Part no.	Cable application	Plug 1	Plug 2	Lengths
<b>3G1.5 QMM</b>				
11026027	Indoor IP20	NAC3FXXA-W	open end	1.5m /3m /5m
11026030	Indoor IP20	NAC3FXXA-W	NAC3FXXB-W	1.5m/3m/5m/10m
11026034	Outdoor	NAC3F-TRUE1	open end	1.5m/3m/5m/10m
11026038	Outdoor	NAC3F-TRUE1	NAC3M-TRUE1	1.5m/3m/5m/10m
<b>3G2.5 QMM</b>				
11026042	Indoor IP20	NAC3FXXA-W	open end	1.5m/3m/5m
11026045	Indoor IP20	NAC3FXXA-W	NAC3FXXB-W	1.5m/3m/5m/10m
11026049	Outdoor	NAC3F-TRUE1	open end	1.5m/3m/5m/10m
11026053	Outdoor	NAC3F-TRUE1	NAC3M-TRUE1	1.5m/3m/5m/10m



11026058



11026079

## Data Cable CAT.6A PUR Black & etherCON®

Part no.	Cable	etherCON® Plug 1	etherCON® Plug 2	Lengths
11026057	CAT.6A PUR bk	nickel Indoor IP20 NE8MX-1+RJ45	same as plug 1	0.5 m/1 m/2 m/3 m/5 m/7.5 m/10 m/15 m/20 m/30 m
11026067	CAT.6A PUR bk	RJ45, Indoor IP20 RJ45+black bushing	same as plug 1	0.5 m/1 m/2 m/3 m/5 m/7.5 m/10 m/15 m/20 m/30 m
11026077	CAT.6A PUR bk	black Outdoor IP65 NE8MX-B-TOP+RJ45	same as plug 1	0.5 m/1 m/2 m/3 m/5 m/7.5 m/10 m/15 m/20 m/30 m



## Ultraflex Highspeed Cables & HDMI 2.0

Part no.	Cable	Plug 1	Plug 2	Outer diameter	Lengths
11025635	Multimedia Ultraflex	HDMI 2.0	HDMI 2.0	approx. 7.8 mm	0,5m
11025636	Multimedia Ultraflex	HDMI 2.0	HDMI 2.0	approx. 7.8 mm	1m
11025637	Multimedia Ultraflex	HDMI 2.0	HDMI 2.0	approx. 7.8 mm	2m
11025638	Multimedia Ultraflex	HDMI 2.0	HDMI 2.0	approx. 7.8 mm	3m
11025639	Multimedia Ultraflex	HDMI 2.0	HDMI 2.0	approx. 7.8 mm	5m
11025640	Multimedia Ultraflex	HDMI 2.0	HDMI 2.0	approx. 8.0 mm	7,5m
11025641	Multimedia Ultraflex	HDMI 2.0	HDMI 2.0	approx. 8.0 mm	10m
11025642	Multimedia Ultraflex	HDMI 2.0	HDMI 2.0	approx. 9.0 mm	15m
11025643	Multimedia Ultraflex	HDMI 2.0	HDMI 2.0	approx. 9.0 mm	20m

# ACCESSORIES

## Defender III cable bridge

### Base module

With plastic closure to protect cables, 3 channels  
L: approx. 100 cm, W: approx. 60 cm, H: approx. 7.3 cm  
Load cap.: approx. 5 tonnes (20 x 20 cm)

**Part no. 11026102**



### End piece for base module

Reduces risk of tripping

**Part no. 11026103**

## Drum unwinder HELUTOOL 250 pocket

For easily unwinding cable drums  
Carrying cap.: approx. 190 kg  
Diameter: approx. 250 mm

**Part no. 903716**



## Drum unwinder HELUTOOL 190

For easily unwinding cable drums  
Carrying cap.: approx. 380 kg  
Diameter: approx. 500 mm

**Part no. 93529**

## Drum unwinder TROMBOI 500, shaftless

For drums of varying diameters  
Compact design with loading ramp  
Robust, welded-steel construction  
Ball-bearing axes  
Carrying cap.: approx. 140 kg  
Drum Ø min. – max.: 150 - 700 mm  
Drum width: max 520 mm

**Part no. 904760**



### Heat-shrink tubing, colour, coil (2:1)

Replace "x" with the following number to receive the desired colour:

0=white, 1=blue, 2=yellow, 3=red, 4=transparent, 5=green/yellow, 6=brown, 7=orange, 8=grey, 9=green



Part no.	Description	Inner Ø before shrinking	Inner Ø after shrinking
9236x	Polyolefin heat-shrink tubing, wall thick. 0.6 mm, contents: 10 m	6.4 mm	3.2 mm
9237x	Polyolefin heat-shrink tubing, wall thick. 0.6 mm, contents: 10 m	9.5 mm	4.7 mm
9238x	Polyolefin heat-shrink tubing, wall thick. 0.6 mm, contents: 10 m	12.7 mm	6.4 mm
9239x	Polyolefin heat-shrink tubing, wall thick. 0.8 mm, contents: 10 m	19.1 mm	9.5 mm
9240x	Polyolefin heat-shrink tubing, wall thick. 0.9 mm, contents: 10 m	25.4 mm	12.7 mm

### Fibre tape, matt, black

Ideal for use in event engineering and on stages for bundling, securing, protecting, and identifying. Very rip resistant lengthwise (64 N/10 mm) easy to tear in transverse direction. Operating temperature: -30°C – +80°C



Part no.	Description	Thickness	Width	Length
11026088	Fibre tape matt black	0.31 mm	19 mm	10 m
11026089	Fibre tape matt black	0.31 mm	19 mm	50 m
11026090	Fibre tape matt black	0.31 mm	50 mm	50 m



## More accessories for cable protection

### Ferrules

Uninsulated ferrules prevent stripped wires from splaying. Perfect for assembling speaker cables with speakON® plugs.



Part no.	Description	Length
91376	Nominal cross-sec.: 1.5 mm <sup>2</sup> (1000 pc./unit)	10.0 mm
93097	Nominal cross-sec.: 2.5 mm <sup>2</sup> (1000 pc./unit)	10.0 mm
94000	Nominal cross-sec.: 4.0 mm <sup>2</sup> (1000 pc./unit)	12.0 mm

## More cable ferrules



### Velcro cable ties

Material: KLL: polyamide fleece, KLÖ: PE dual lock tape.  
Halogen free. Especially suited for sensitive cables and wires that must be bundled or secured in a way that prevents kinking or crushing. Reusable (up to 10,000 uses).



Part no.	Description	Dimensions
93730	KLL velcro cable ties with stamped hole on a roll, black, bundle Ø 45 mm, 1000 pc./unit	150 x 20 mm
93731	KLL velcro cable ties with stamped hole on a roll, black, bundle Ø 60 mm, 750 pc./unit	200 x 20 mm
93732	KLL velcro cable ties with stamped hole on a roll, black, bundle Ø 100 mm, 450 pc./unit	330 x 20 mm
93735	KLÖ velcro cable ties with plastic eyelet in polybags, black, bundle Ø 55 mm, 10 pc.	195 x 25 mm
93736	KLÖ velcro cable ties with plastic eyelet in polybags, black, bundle Ø 70 mm, 10 pc.	240 x 25 mm
93737	KLÖ velcro cable ties with plastic eyelet in polybags, black, bundle Ø 110 mm, 10 pc.	360 x 25 mm

### Cable ties, black, with plastic lug

Material: polyamide (PA) 6.6, halogen free, weather resistant. Temperature range: -40°C to +85°C, short-term exposure up to +105°C. For bundling and securing. Suitable for use outdoors. 100 pc./unit



Part no.	Description	Dimensions width x length
905525	T-WS 25/100 BK, black, bundle Ø 22 mm	2.5 x 100 mm
905527	T-WS 25/140 BK, black, bundle Ø 35 mm	2.5 x 145 mm
905529	T-WS 35/150 BK, black, bundle Ø 35 mm	3.5 x 150 mm
905530	T-WS 35/190 BK, black, bundle Ø 50 mm	3.5 x 198 mm
905533	T-WS 46/200 BK, black, bundle Ø 55 mm	4.7 x 210 mm
905537	T-WS 47/300 BK, black, bundle Ø 85 mm	4.7 x 305 mm
906682	T-WS 46/390 BK, black, bundle Ø 110 mm	4.7 x 390 mm
905541	T-WS 76/460 BK, black, bundle Ø 125 mm	7.6 x 460 mm
906684	T-WS 76/760 BK, black, bundle Ø 225 mm	7.6 x 760 mm

## More accessories for tying, bundling, and securing



# TOOLS

## Helutool HKS 1 cable shears

For cutting and stripping finely stranded Cu and Al conductors.  
Blade made of special stainless steel according to EN10020  
Fine toothing on the blade prevents the cable from slipping.  
Integrated cutter for cables up to 50 mm<sup>2</sup>  
Incl. case

**Part no. 908229**



## Multistrip 10 cable stripper

For PVC, rubber, etc. cables with single- and multi-conductors  
Cable stripper adjustable to 10 mm  
Robust metal clamp  
Ergonomic two-component handle

**Part no. 904731**



## HAZ16 ADE hexagonal crimping pliers

Crimping area: 0.08–16.0 mm<sup>2</sup>  
For insulated ADI ferrules and DUO ferrules  
Material: high-strength special steel  
Burnished surface  
Press width: 18 mm  
Length: 215 mm

**Part no. 909930**



## Helutool HAM 29 stripping tool

Diameter range: 4.5–29.0 mm  
Cut depth: 0.10–3.00 mm  
Features a quick-clamping system  
Suitable for soft and hard cable insulation types  
Blade is specially cut for the clean removal of the outer sheath. Round, profile, and spiral cuts possible  
Cut depth adjustable in increments

**Part no. 1102249**



**More tools**

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# Glossary

## **AES/EBU**

The informal name of a digital audio standard created jointly by the AES (Audio Engineering Society) and the EBU (European Broadcasting Union) organisations. The standard defines the transmission characteristics of digital signals to simplify communication between devices. The connection cable serves to transmit digital stereo and mono audio signals. Primarily for professional recording studios For coaxial cables, BNC connectors are used, and for symmetrical cables, XLR plugs are used.

## **Analogue**

An analog signal is a physically measurable quantity (such as a voltage) that varies in frequency and amplitude and is used to transmit information. Analog cables transmit analog signals in the low-frequency range. They are used in audio applications to connect instruments, microphones, speakers, and other components.

## **Attenuation**

The reduction of the strength of a signal between to cross-sectional areas of a fibre. It is dependent on the wavelength. Primary causes: diffusion, absorption. It is measured in "dB", calculated as  $10\log P(L1)/P(L2)$ .

## **Attenuation constant**

Also known as the attenuation coefficient, this is the attenuation of a cable with regard to its length while stationary (unit: dB/km or dB/100).

## **Cable core**

The entirety of the braided elements present inside the cable, as well as all of the elements encasing them.

## **Cable screen**

Conductive cable or wire cover that protects the individual cores or the entire braided structure against external electromagnetic influences.

## **Cable sheath**

The cable sheath generally consists of polyethylene (PE), polyvinyl chloride (PVC), or halogen-free materials (H) which protect the cable's core from environmental factors.

## **Coaxial cables**

Concentric conductor pair consisting of an inner conductor and an outer conductor which completely envelops the inner conductor. The inner and outer conductors are insulated from one another using a homogeneous material or a combination of a solid supporting body and a gas.

## **Conductors**

Conductors carry electrical charges and therefore consist of electrically conductive material (metal). Conductors are typically round.

## **Conductor resistance**

Conductor resistance is determined by the quality of the copper used and the diameter of the conductor. It increases linearly with the length of the cable and is decisive for attenuation.

## **Corrosiveness**

The production of corrosive gases and acids when cables and wires are burned. Non-corrosive cables should be used in indoor installations. Halogen-free cables are typically non-corrosive.

## **Digital**

Digital signals have multiple informational parameter, e.g., 8, 16, 32, or 64, which, in serial signals, are transmitted one after the other chronologically, and, in parallel signals, are transmitted in parallel. The 1/0-coded representation of information such as digits and letters, or the bit patterns of analogue signals (sounds, images, videos, measured values, etc.) generated by sampling and quantisation. In media technology, digital signals in the AES/EBU, S/PDIF and DMX standards are transmitted using digital cables. This digital cable connects scanners, lighting consoles, studio equipment, and other HiFi components.

## **DMX (DMX cable)**

DMX stands for Digital Multiplex. In lighting technology, DMX cables are used to control dimming, spotlights, and effects processors.

## **EMC**

Electromagnetic compatibility This is an electric installation's ability to function properly within its electromagnetic environment without improperly influencing the other installations within it, or allowing itself to be influenced.

## **Ethercon**

Ethercon is a robust and lockable Ethernet connector from Neutrik which is designed for network applications for professional audio and stage lighting systems such as Audio-over-Ethernet and Audio-over-IP, as well as for transmitting data to large LED displays. The design is an adaptation of the XLR plug.

## **FRNC**

Flame retardant (FR) and non-corrosive (NC).

## **Halogen-free**

No halides (e.g. chlorine) used. Halogen-free cables are used in areas with elevated fire protection requirements relating to personal safety (public buildings) or with high concentrations of valuable materials. In the case of fire, they do not release any corrosive gases and the amounts of toxic gases released are significantly lower than with PVC materials.

**HD-SDI**

The standard known as HD Serial Digital Interface (HD-SDI) is described in the SMPTE 292M. Despite this standard being known as the 1.5-Gbit/s interface, the bitrates supported by HD-SDI are actually 1.485 Gbit/s and 1.485/1.001 Gbit/s. HD-SDI is used to transmit uncompressed image signals for HD, digital intermediate, and digital cinema in studio and production environments. All HD-SDI connections are able to transmit picture, sound, and metadata.

**Hybrid cable**

Consists of at least two different types of cables (e.g., power and audio cables) enclosed within one sheath.

**Impedance**

Impedance of the electrical two-port network; it is composed of the ohmic resistance and the reactance, the frequency-dependent resistances and capacitances. The impedance is determined by the physical dimensions of the inner conductor, dielectric, and screen.

**Indoor cable**

Cables for applications within buildings. Not suitable for outdoor installations.

**Interference**

Disruption, impairment, reduced functionality

**Jack**

Plug for the transmission of low voltages. This is often used in the audio sector, e.g., for instruments such as electric guitars. They are available in 2-pin (TS = tip, sleeve) and 3-pin (TRS = tip, ring, sleeve) designs. Conventional sizes are 6.35 mm and 3.5 mm (mini jack).

**LED**

An LED is a semiconductor light source that emits light when current flows through it.

**Load multicores (load cables)**

Electronic cable that contains multiple electricity-carrying cores for multiple power connections within a single cable. These are used in, e.g., the cabling of spotlights in professional stage and lighting engineering.

**LSOH**

Low smoke (LS) and halogen free (OH).

**Multicore (multipair)**

Electrical cable which contains multiple signal or power cores.

**Multipair cable**

Electrical cable which consists of multiple groups of twisted-pair conductors.

**Outdoor cable**

Cables that are constructed to meet the demands of underground and pipe installations are sufficient.

**Patch cable**

Flexible connection cable for connecting two components, e.g., in a wiring closet.

**Polyethylene (PE)**

Saturated hydrocarbon polymer of repeating ethylene units, variable density. With its excellent dielectric properties, e.g., low density, high toughness and elongation, very good electrical insulation behaviour, low water absorption, and being practically insoluble in almost all organic solvents, it is indispensable as an insulation material in the cable industry.

**Polyurethane (PUR)**

Thermoplastic polyurethanes have similar properties to polyamides but, unlike them, they absorb hardly any water, have excellent mechanical properties, are impact resistant, notch resistant, and highly flexible at low temperatures, and have good abrasion resistance.

**Polyvinyl chloride (PVC)**

Polyvinyl chloride is a thermoplastic manufactured for the cable industry using the suspension polymerisation process (PVC-S). It is an odourless, granulated, white powder. It is electrolyte-free and therefore exhibits very good dielectric properties.

**Powercon**

Neutrik mains connector for powering single-phase AC equipment up to 20 A. Primarily used in stage engineering. Live, neutral, and earth conductors are protected against accidental contact, and are locked against unintentional disconnection.

**Screen**

The screens can be arranged in cables and leads around individual elements in the cable or lead assembly, or around the entire stranded assembly. The construction of the screen always depends on the intended use of the product. They mostly have the task of keeping external electrical influences away from conductors and cables, and preventing the emission of these fields (transfer impedance). The screening can consist of braids, wrappings, metal foils, laminated foils, or steel wire armour.

**Screening attenuation**

Measure of the reduction or attenuation of the electromagnetic field strength at a point in space, caused by the insertion of an electromagnetic screen between the field source and this point, usually expressed in dB.

### **SDI**

The SMPTE group developed the SDI (Serial Digital Interface) digital video interface standard. This serial interface uses one channel to send all bits of the data word and the associated data. Due to their high data rate, serial digital signals must be processed before transmission. SDI is a digital video transmission technology widely used in broadcasting, live events, and other professional environments. It uses two coaxial cables to transmit a digital signal over fibre optic at speeds from 270 Mbit/s to 12 Gbit/s.

### **SpeakON**

Connector from Neutrik, used almost as a standard for the transmission of loudspeaker signals. They have larger contact areas compared to the XLR or jack connectors used previously and feature touch-proof contacts. They are available with 2, 4, and 8 pins.

### **Star quad**

Stranding element consisting of four twisted pairs, where each pair of opposing cores forms a transmission path (leg).

### **Symmetrical transmission (balanced)**

A method for transmitting signals over longer distances with maximum tolerance to interference. The transmission occurs not with just a single signal conductor, but with a pair of similar signal conductors possessing identical electrical characteristics. The actual signal is transmitted on one conductor, and a reference signal, known to the receiver, is transmitted inverted on the other conductor. Interference is summed out and cancelled. Symmetrical cables are typically used with XLR connectors in professional audio engineering.

### **Unbalanced transmission (unbalanced, asymmetrical)**

In unbalanced transmission, the conductors have different electrical properties. Signal transmission occurs through only one conductor with respect to a reference, usually the screen. An induced interference arrives differently at both cores at the signal receiver, resulting in a distorted signal. Unbalanced transmission is found in semi-professional audio applications in conjunction with RCA or jack connectors.

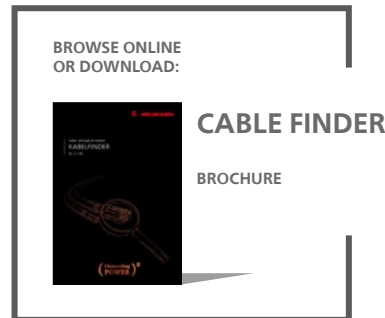
### **XLR**

XLR connectors are frequently used in professional stage and lighting technology for the transmission of DMX control signals. They are also used in professional studio technology, for microphone and loudspeaker cables.

# Glossary

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