

### Accessories for INDUSTRIAL networking

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# **ETHERLINE®**

**Data communication systems** for ETHERNET-Technology



### **Accessories for INDUSTRIAL networking**

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### Data communication systems for ETHERNET-Technology

Accessories for INDUSTRIAL networking

LAN cables for structured industrial cabling

## ETHERLINE® Cat.5e

#### Fixed installation



#### Benefits

- Very low installation cost due to the use of Ethernet cables
- Screened against interference

#### Application range

- 10/100 Mbit/s for Industrial Ethernet
- Seamless communication from the sensor/ actuator level to the Internet
- Industrial use
- Suitable for fixed installation in dry and damp rooms

#### Product features

 High-quality, double screening ensures high transmission reliability in areas with electromagnetic interference

- PUR outer sheath is highly resistant to mineral oils and abrasion
- Halogen-free and flame-retardant FRNC outer sheath

#### Approvals



#### Design

- Solid conductor
- Core insulation made of foam skin
- S/FTP: copper braid as overall screening and pair screening with aluminium compound foil
- Outer sheath as either PUR or LSZH
- Colour: water blue (RAL 5021)
- 2 or 4-pair version

|     | Info Industrial Ethernet cable Cat.5e  |  |  |  |  |  |
|-----|--|--|--|--|--|--|
| ■ T | echnical data  |  |  |  |  |  |
| 4   | Peak operating voltage<br>(not for power applications) 125 V                     |  |  |  |  |  |
|     | Minimum bending radius Fixed installation: see data sheet                        |  |  |  |  |  |
| 4,  | Test voltage<br>Core/core: 1000 V<br>Core/screen: 500 V                          |  |  |  |  |  |
| 0#  | Temperature range During installation: -5 °C to +60 °C Operation: see data sheet |  |  |  |  |  |

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Characteristic impedance 100 Ohm +- 15%

Z∝

| Article number          | Article designation   | Number of pairs and AWG per conductor | Outer diameter (mm) | Copper index (kg/km) | Weight (kg/km) |
|-------------------------|-----------------------|---------------------------------------|---------------------|----------------------|----------------|
| 2-pair version          |                       |                                       |                     |                      |                |
| Halogen-free com        | pound                 |                                       |                     |                      |                |
| 2170280                 | ETHERLINE® H CAT.5e   | 2 x 2 x AWG24/1                       | 5.8                 | 22.0                 | 45             |
| <b>PUR outer sheath</b> | , halogen-free        |                                       |                     |                      |                |
| 2170281                 | ETHERLINE® P CAT.5e   | 2 x 2 x AWG24/1                       | 5.8                 | 22.0                 | 53             |
| 4-pair version          |                       |                                       |                     |                      |                |
| Halogen-free com        | pound                 |                                       |                     |                      |                |
| 2170296                 | ETHERLINE® H CAT.5e   | 4 x 2 x AWG24/1                       | 6.3                 | 32.0                 | 54             |
| 2170298                 | ETHERLINE® H-H CAT.5e | 4 x 2 x AWG24/1                       | 6.0 / 7.5           | 32.0                 | 80             |
| Outer sheath: PUI       | R, halogen-free       |                                       |                     |                      |                |
| 2170297                 | ETHERLINE® P CAT.5e   | 4 x 2 x AWG24/1                       | 6.3                 | 32.0                 | 62             |

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request. Photographs are not to scale and do not represent detailed images of the respective products.

# ETHERLINE® Cat.5e FLEX

#### Flexible use



#### Benefits

- For directly connecting two electric components
- Very low installation cost due to the use of Ethernet cables
- Screened against interference

#### Application range

- Suitable for fixed installation in dry and damp rooms
- 10/100 Mbit/s for Industrial Ethernet
- For flexible applications (7-wire stranded conductor)
- Industrial use

#### ■ Product features

- Premium screening against electromagnetic interference
- Halogen-free outer sheath
- PUR outer sheath is highly resistant to mineral oils and abrasion

#### Design

- Stranded conductor, 7-wire, bare
- Core insulation made of foam skin
- S/FTP: copper braid as overall screening and pair screening with aluminium compound foil
- Outer sheath as either PUR or LSZH
- Colour: water blue (RAL 5021)
- 2 or 4-pair version

| • Ca<br>• Or | Cat.5e     Only for patch cable applications (max. 60 m)                         |  |  |  |  |
|--------------|--|--|--|--|--|
| ■ Tec        | chnical data   |  |  |  |  |
| 4            | Peak operating voltage<br>(not for power applications) 125 V                     |  |  |  |  |
|              | <b>Minimum bending radius</b><br>See data sheet                                  |  |  |  |  |
| 4/5          | Test voltage<br>Core/core: 1000 V<br>Core/screen: 500 V                          |  |  |  |  |
| 0#           | Temperature range During installation: -5 °C to +60 °C Operation: see data sheet |  |  |  |  |
|              | Characteristic impedance   |  |  |  |  |

Industrial Ethernet cable

100 Ohm +- 15%

| Article number        | Article designation      | Number of pairs and AWG per conductor | Outer diameter (mm) | Copper index (kg/km) | Weight (kg/km) |  |  |
|-----------------------|--------------------------|---------------------------------------|---------------------|----------------------|----------------|--|--|
| 2-pair version        |                          |                                       |                     |                      |                |  |  |
| Halogen-free compound |                          |                                       |                     |                      |                |  |  |
| 2170283               | ETHERLINE® H Flex CAT.5e | 2 x 2 x AWG26/7                       | 5.4                 | 19.0                 | 43             |  |  |
| PUR outer sheath,     | halogen-free             |                                       |                     |                      |                |  |  |
| 2170284               | ETHERLINE® P Flex CAT.5e | 2 x 2 x AWG26/7                       | 5.8                 | 19.0                 | 45             |  |  |
| 4-pair version        |                          |                                       |                     |                      |                |  |  |
| Halogen-free compound |                          |                                       |                     |                      |                |  |  |
| 2170299               | ETHERLINE® H Flex CAT.5e | 4 x 2 x AWG26/7                       | 6.1                 | 25.0                 | 48             |  |  |
| Outer sheath: PUR     | , halogen-free           |                                       |                     |                      |                |  |  |
| 2170300               | ETHERLINE® P Flex CAT.5e | 4 x 2 x AWG26/7                       | 6.1                 | 25.0                 | 54             |  |  |

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ACCESSORIES



Data communication systems for ETHERNET-Technology Accessories for INDUSTRIAL networking

LAN cables for structured industrial cabling

# ETHERLINE® Cat.5e FD

# Highly flexible application

- Industrial Ethernet cable
- For highly flexible applications
- Only for patch cable applications (max.

#### Benefits

- · Very low installation cost due to the use of Ethernet cables
- Screened against interference
- Seamless communication from the sensor/ actuator level to the Internet

#### Application range

- 10/100 Mbit/s for Industrial Ethernet
- Industrial use
- Power chain applications
- Dry or damp rooms

#### Product features

- High-quality, double screening ensures high transmission reliability in areas with electromagnetic interference
- PUR outer sheath is highly resistant to mineral oils and abrasion

#### Design

- Braided conductor, 19-wire
- Inner sheath: thermoplastic elastomer, halogen-free
- S/FTP: copper braid as overall screening and pair screening with aluminium compound foil
- PUR outer sheath
- Colour: water blue (RAL 5021)
- 2 or 4-pair version

# Technical data

Peak operating voltage

(not for power applications) 125 V

Minimum bending radius Flexing: 15 x outer diameter Fixed installation: 8 x outer diameter

> Test voltage Core/core: 1000 V

Core/screen: 500 V Temperature range

Flexing: -20 °C to +70 °C Fixed installation: -30°C to +80°C

Characteristic impedance 100 Ohm +- 15%

| Article number | Article designation    | Number of pairs and AWG per conductor | Outer diameter (mm) | Copper index (kg/km) | Weight (kg/km) |
|----------------|------------------------|---------------------------------------|---------------------|----------------------|----------------|
| 2-pair version |                        |                                       |                     |                      |                |
| 2170289        | ETHERLINE® FD P CAT.5e | 2 x 2 x AWG26/19                      | 6.1                 | 20.0                 | 48             |
| 4-pair version |                        |                                       |                     |                      |                |
| 2170489        | ETHERLINE® FD P CAT.5e | 4 x 2 x AWG26/19                      | 6.3                 | 27.0                 | 54             |

LAPP KAREL STUTGART ETHERLINE CATS FO BK

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request. Photographs are not to scale and do not represent detailed images of the respective products

# ETHERLINE® Cat.5 FD BK

The Ethernet cable for installation in events

- Suitable for outdoor use and direct burial
- Usable on the roads
- CAT.5-Performance

#### Benefits

- · Very low installation cost due to the use of Ethernet cables
- Additional application options thanks to suitability for outdoor use, UV-resistant
- Good flexibility easy installation with tight space requirements
- Screened against interference
- Easy to coil for mobile use

#### Application range

• Suitable for the transfer of audio signals (ETHERSOUND), light control signals (DMX over Ethernet), or for computer networking

## Product features

- ETHERLINE® CAT.5 FD BK is a highly flexible, halogen-free, CATEGORY 5 high-speed data transmission cable, which specifically developed for road environments.
- Complies with standards EIA/TIA-568, TSB-36 and ISO/IEC IS 11801

#### Approvals



#### Design

- Bare stranded copper wire, 26AWG (19 x 0.10), (0.14 mm<sup>2</sup>)
- Insulation: foam skin, max. core diameter 1.0 mm
- Twisting: 2 twisted-pair cores, stranding from 4 pairs
- Inner sheath: halogen-free TPE compound Screening: braided tinned-copper wires, coverage of 85% ± 5
- Outer sheath: halogen-free PUR, black

### Technical data



Minimum bending radius 95 mm



Temperature range Flexible use: -5 °C to +50 °C Fixed installation: -40°C to +70°C

#### Article number Number of pairs and AWG per conductor Copper index (kg/km) Weight (kg/km) Outer diameter (mm) CE217489 4x2xAWG26/19

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request Copper price basis: EUR 150/100kg. Refer to Appendix T17 for the definition and calculation of copper-related surcharges

Standard lengths: (100; 500; 1000) m

Packaging size: coil  $\leq$  30 kg or  $\leq$  250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils). Photographs are not to scale and do not represent detailed images of the respective products

■ Similar products

• ETHERLINE® FD P CAT.5

Accessories for INDUSTRIAL networking

LAN cables for structured industrial cabling

## ETHERLINE® Cat.5 ARM

#### **Fixed installation**

LAPP KASEL STUTGART ETHERLINE: YZY ARM TYPE A CATS

# Info

- Industrial Ethernet cable
- With armouring for improved rodent protection

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#### Benefits

- · Very low installation cost due to the use of Ethernet cables
- EMC-optimised
- Rodent-protection

#### Application range

- Can be used for Industrial Ethernet in harsh industrial environments
- 10/100 Mbit/s for Industrial Ethernet

#### Product features

CAT.5-Performance

#### Design

- Solid and bare copper conductor
- Core insulation: PE
- Overlapping plastic tape
- Overall screening with copper braid and plastic-laminated aluminium foil
- Inner sheath made of PVC (green) 2 layer galvanzid steel tape
- Outer sheath made of black polyethylene (PE)

#### Technical data



#### Minimum bending radius

Fixed installation: 10 x cable diameter

Fixed installation: 5 x cable diameter, once



### Test voltage Core/core: 2000 V

Core/screen: 2000 V



#### Temperature range

Operation: -40 °C to +70 °C During installation: -20°C to +60°C



#### Characteristic impedance

100 Ohm +- 15%

| Article number | Article designation  | Number of pairs and AWG per conductor | Outer diameter (mm) | Copper index (kg/km) | Weight (kg/km) |
|----------------|----------------------|---------------------------------------|---------------------|----------------------|----------------|
| 2170496        | ETHERLINE® Cat.5 ARM | 2 x 2 x AWG22/1                       | 9.3                 | 30.4                 | 124            |

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request. Photographs are not to scale and do not represent detailed images of the respective products

# ETHERLINE® Cat.5 FRNC HYBRID

#### Flexible use

LAPP KABEL STUTTGART ETHERLINE® FRNC HYBRID



 HYBRID: cable for data transmission + power supply

#### Benefits

- For use where the combination of a halogenfree outer sheath with properties similar to PUR and enhanced flame-retardance is required
- Application range
- Industrial Ethernet cable
- 10/100 Mbit/s for Industrial Ethernet
- · High-quality, double screening ensures high transmission reliability in areas with electromagnetic interference

#### Design

- Colour: green (based on RAL 6018)
- Cores for Power Supply 4 x 1.5 mm2 (AWG 16)
- Data transfer: braided conductor, 7-wire, bare
- Screening: wrapped with foil and braided copper wires
- Twisting: data pairs and power supply pairs twisted together
- Overlapping plastic tape
- FRNC outer sheath

#### Technical data



#### Minimum bending radius

Fixed installation: 10 x cable diameter

Fixed installation: 5 x cable diameter, once



### Test voltage

See data sheet



Temperature range Operation: -20°C to +70°C



Characteristic impedance 100 Ohm +- 15%

#### Product features

- Flame-retardant according to IEC 60332.1.2
- HYBRID: cable for data transmission + power supply

| Article number | Article designation          | Number of pairs and AWG per conductor | Outer diameter (mm) | Copper index (kg/km) | Weight (kg/km) |
|----------------|------------------------------|---------------------------------------|---------------------|----------------------|----------------|
| 2170887        | ETHERLINE® Cat.5 FRNC HYBRID | 2x2xAWG22/7 + 4x1.5                   | 10.3                | 94.2                 | 153            |

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## Data communication systems for ETHERNET-Technology

Accessories for INDUSTRIAL networking LAN cables for structured industrial cabling

# ETHERLINE® PN Cat.5

**Fixed installation** 



Conductor: AWG22 = PROFINET-compliant CAT.5/5e

#### Benefits

- For Profinet applications
- Screened against interference

#### Application range

for industrial secondary and tertiary cabling according to EN 50173-3 ISO/IEC 24702

### Product features

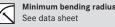
- Fixed installation
- FC: "Fast Connect" cable design

 Flame-retardant according to IEC 60332-1-2 • ETHERLINE® Y FC version: flame-retardant according to IEC 60332-3

#### Design

- Solid and bare copper conductor
- Core insulation: PE
- Star quad
- Overall screening with copper braid and plastic-laminated aluminium foil
- Outer sheath made of PVC

#### Technical data



See data sheet



Test voltage See data sheet



Temperature range See data sheet



Characteristic impedance 100 Ohm +- 15%

| Article number   | Article designation                        | Number of pairs and AWG per conductor | Outer diameter (mm) | Copper index (kg/km) | Weight (kg/km) |  |
|------------------|--|---------------------------------------|---------------------|----------------------|----------------|--|
| 2170891          | ETHERLINE® PN Cat.5e Y                     | 2 x 2 x AWG22/1                       | 6.4                 | 30.4                 | 56             |  |
| FC: "Fast Conne  | ct" cable design                           |                                       |                     |                      |                |  |
| 2170893          | ETHERLINE® Y FC UL/CSA (CMG) CAT.5         | 2 x 2 x AWG22/1                       | 6.5                 | 30.4                 | 70             |  |
| Suitable for out | Suitable for outdoor use and direct burial |                                       |                     |                      |                |  |
| 2170494          | ETHERLINE® PN Cat.5e YY                    | 2 x 2 x AWG22/1                       | 7.8                 | 30.4                 | 62             |  |

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## ETHERLINE® PN FLEX



- for Profinet applications
- **CAT.5-Performance**
- Flexible use

#### Benefits

- Screened against interference
- Conductor: AWG22 = PROFINET-compliant

#### Application range

Product features

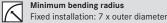
• for industrial secondary and tertiary cabling according to EN 50173-3 ISO/IEC 24702

Flame-retardant according to CSA FT4 UL Vertical-Tray Flame Test

## Design

- Stranded 7-wire bare conductor
- Core insulation: PE
- Inner sheath made of PVC
- Overall screening with copper braid and plastic-laminated aluminium foil
- PVC-based outer sheath
- · Colour: green

## Technical data



Fixed installation: 3 x outer diameter



Test voltage Core/core: 2000 V Core/screen: 2000 V



Operation: -40 °C to +70 °C



| -∞ | 100 Onm + | - 15% |  |
|----|-----------|-------|--|
|    |           |       |  |

| Article number | Article designation           | Number of pairs and AWG per conductor | Outer diameter (mm) | Copper index (kg/km) | Weight (kg/km) |
|----------------|-------------------------------|---------------------------------------|---------------------|----------------------|----------------|
| 2170886        | ETHERLINE® PN Cat.5 Y FLEX FC | 2 x 2 x AWG22/7                       | 6.5                 | 31.3                 | 67             |

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request. Photographs are not to scale and do not represent detailed images of the respective products

- Highly flexible application
- for Profinet applications

### Benefits

- Screened against interference
- Conductor: AWG22 = PROFINET-compliant

#### Application range

- Power chain applications
- Dry or damp rooms
- Industrial use

#### Product features

Arti

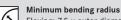
• PUR outer sheath is highly resistant to mineral oils and abrasion

# ETHERLINE® PN Cat.5 FD

#### Flame-retardant according to IEC 60332.1.2

#### Design

- Stranded 7-wire bare conductor
- Inner sheath: thermoplastic copolymer
- Overall screening with copper braid and plastic-laminated aluminium foil
- PUR outer sheath
- Colour: green (based on RAL 6018)



Flexing: 7.5 x outer diameter Fixed installation: 5 x cable diameter, once



Test voltage Core/core: 700 V Core/screen: 700 V



Temperature range Operation: -20°C to +70°C

Characteristic impedance 100 Ohm +- 15%

| ticle number    | Article designation                    | Number of pairs and AWG per conductor | Outer diameter (mm) | Copper index (kg/km) | Weight (kg/km) |
|-----------------|--|---------------------------------------|---------------------|----------------------|----------------|
| r highly flexib | ole applications (7-wire stranded cond | ductor) = type C                      |                     |                      |                |
| 2170894         | ETHERLINE® FD P FC CAT.5               | 2 x 2 x AWG22/7                       | 6.5                 | 31.3                 | 63             |

### **® LAPP GROUP**

#### Accessories for INDUSTRIAL networking

LAN cables for structured industrial cabling

#### New

# ETHERLINE® Y Cat.5e BK 2x2AWG22/7

Data communication systems for ETHERNET-Technology

### LAPP KABEL STUTTGART ETHERLINE" Y CAT. 50 SUN RES

#### Benefits

- UV and weather-resistant in black
- For flexible applications (7-wire stranded conductor) = type B
- FAST ETHERNET = 100 Mbit/s

#### Application range

- Many applications with Industrial Ethernet, e.g. PROFINET type B, i.e. fixed installation and flexible use.
- · Resistant to acids, alkalis and certain oils at room temperature

#### Product features

 PVC compound TM2 acc. to VDE 0281-1 or HD 21.1

#### Approvals



#### Design

- Stranded conductor, 7-wire, bare
- Core insulation: Based on Polyolefin
- Star quad
- Aluminum-coated foil Screening braid made of tinned-copper wires
- PVC outer sheath

| Article number | Article designation                | Number of pairs and AWG per conductor | Outer diameter (mm) | Copper index (kg/km) | Weight (kg/km) |
|----------------|------------------------------------|---------------------------------------|---------------------|----------------------|----------------|
| 2170901        | ETHERLINE® Y CAT.5e BK 2x2xAWG22/7 | 2 x 2 x AWG22/7                       | 6.2                 | 30.4                 | 59             |

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100kg. Refer to Appendix T17 for the definition and calculation of copper-related surcharges

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

PROFINET® is a registered trademark of the PNO (PROFIBUS user organisation)

Photographs are not to scale and do not represent detailed images of the respective products.

# ETHERLINE® TORSION Cat. 5

### LAPP KABEL STUffGART ETHERLINE® TORSION CAT.5



#### Benefits

- This cable is an important supplement to the range of ETHERLINE® Industrial Ethernet cables.
- Cable suitable for high torsion stress. Tested with more than 1 million bending cycles and a right/left movement of 180° per metre.

#### Application range

 Many applications with Industrial Ethernet, e.g. PROFINET, i.e. fixed installation, flexible and highly flexible use as well as TORSION.

#### Approvals



UL AWM (Style 21161)

#### Design

- Stranded conductor, tinned
- AWG 22 (19-wire)
- PE core insulation
- Star guad
- PUR outer sheath, halogen-free

Industrial Ethernet Cable, 2-pair, suitable for torsion stress

### ■ Technical data

Technical data

Peak operating voltage

Minimum bending radius

Core/core: 1000 V

Core/screen: 500 V

Temperature range

Flexing: -10°C to +70°C

Characteristic impedance At 1 - 100 MHz: 100 ± 15 Ohm

Fixed installation: -40°C to +80°C

Flexing: 15 x outer diameter

(not for power applications) 125 V

Fixed installation: 10 x outer diameter

Peak operating voltage max. 100 V (not for power applications)

Minimum bending radius Installation: 5 x outer diameter

Test voltage 700 V

Temperature range -40°C to +80°C

Characteristic impedance At 1 - 100 MHz: 100 ± 15 Ohm

#### Product features

- Flame-retardant according to IEC 60332.1.2
- Outer sheath with high abrasion-resistance

| Article number | Article designation      | Number of pairs and AWG per conductor | Outer diameter (mm) | Copper index (kg/km) | Weight (kg/km) |
|----------------|--------------------------|---------------------------------------|---------------------|----------------------|----------------|
| 2170888        | ETHERLINE® TORSION CAT.5 | 2 x 2 x AWG22/19                      | 6.5                 | 31.3                 | 52             |

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100kg. Refer to Appendix T17 for the definition and calculation of copper-related surcharges

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths Packaging size: coil  $\leq$  30 kg or  $\leq$  250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

PROFINET® is a registered trademark of the PNO (PROFIBUS user organisation)

Photographs are not to scale and do not represent detailed images of the respective products.

- Multipurpose shears A and B refer to page 902
- SMARTSTRIP stripping tool refer to page 907



### Data communication systems for ETHERNET-Technology

Accessories for INDUSTRIAL networking LAN cables for structured industrial cabling





**Industrial Ethernet cable** 

#### Benefits

- Screened against interference
- Cat.6<sub>a</sub> = 500 MHz
- CAT.7 = 600 MHz

#### Application range

- Can be used for Industrial Ethernet in harsh industrial environments
- Can be used in dry or damp rooms

#### Product features

• PUR outer sheath is highly resistant to mineral oils and abrasion

- Robust, halogen-free outer sheath
- PVC outer sheath

#### Technical data



Characteristic impedance 100 ohm at 1 - 100 MHz

# Design

Approvals RoHS ✓

- Solid bare copper wire AWG22
- Core insulation made of polyethylene (PE)
- Overall screening with copper braid and plastic-laminated aluminium foil
- · Colour: green

| Article number | Article designation  | Number of pairs and AWG per conductor | Outer diameter (mm) | Copper index (kg/km) | Weight (kg/km) |
|----------------|----------------------|---------------------------------------|---------------------|----------------------|----------------|
| 2170466        | ETHERLINE® Cat. 6, H | 4 x 2 x AWG22/1                       | 8.7                 | 53.0                 | 99             |
| 2170476        | ETHERLINE® CAT.7 H   | 4 x 2 x AWG22/1                       | 8.7                 | 53.0                 | 99             |
| 2170465        | ETHERLINE®CAT. 6, P  | 4 x 2 x AWG22/1                       | 8.7                 | 53.0                 | 91             |
| 2170475        | ETHERLINE® Cat.7 P   | 4 x 2 x AWG22/1                       | 8.7                 | 53.0                 | 91             |
| 2170464        | ETHERLINE® Cat. 6, Y | 4 x 2 x AWG22/1                       | 8.7                 | 53.0                 | 98             |
| 2170474        | ETHERLINE® Cat.7 Y   | 4 x 2 x AWG22/1                       | 8.7                 | 53.0                 | 98             |

Copper price basis: EUR 150/100kg. Refer to Appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g.  $1 \times 500 \text{ m}$  drum or  $5 \times 100 \text{ m}$  coils). PROFINET\* is a registered trademark of the PNO (PROFIBUS user organisation)

Photographs are not to scale and do not represent detailed images of the respective products.

#### ■ Accessories

DATA STRIP stripping tool refer to page 907

## ETHERLINE® CAT.6 FD



#### Only for patch cable applications (max. 60 m)

CAT.6 for drag chain!

### Benefits

- PUR outer sheath is highly resistant to most oils, abrasion, and UV-radiation
- Premium screening against electromagnetic interference

#### Application range

For use in power chains and moving machinery parts in dry or damp rooms

#### Product features

• Flame-retardant according to IEC 60332.1.2

#### Design

- Stranded conductor, tinned
- AWG 26 (19-wire)
- PP core insulation
- Inner sheath: thermoplastic copolymer
- PUR outer sheath, halogen-free
- Colour: green (based on RAL 6018)

#### Suitable connectors

- Field-Terminable Connector RJ45 CAT.5e FM45 418
- Connector RJ45 Cat.6A fieldmountable 419

### Technical data



Peak operating voltage

max. 100 V (not for power applications)



Minimum bending radius Fixed installation:

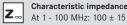
4 x outer diameter Flexing: 7.5 x outer diameter





Temperature range

Fixed installation: -40°C to +80°C Flexing: -30°C to +80°C



At 1 - 100 MHz:  $100 \pm 15$  Ohm

### Approvals



• UL/CSA type CMX (UL 444)

| Article number | Article designation   | Number of pairs and AWG per conductor | Outer diameter (mm) | Copper index (kg/km) | Weight (kg/km) |
|----------------|-----------------------|---------------------------------------|---------------------|----------------------|----------------|
| 2170488        | ETHERLINE® FD P CAT.6 | 4 x 2 x AWG26/19                      | 7.8                 | 31.7                 | 63             |

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100kg. Refer to Appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

**® LAPP GROUP** 

#### Components for building-networking

LAN cables for structured building cabling

New

# **UNITRONIC® LAN 200 - CAT.5e**

LAPP KABEL STUTTGART UNITRONIC® LAN U/UTP 200 MHz Cat.5e

### LAPP KABEL STUffGART UNITRONICS LAN F/UTP 200 MHz Cal.5e



- **EIA = Electronic Industries Association**
- TIA = Telecommunication Industries Association
- TSB = Technical Systems Bulletin

#### Benefits

 LAN cables for structured building cabling according to EN 50173 and ISO/IEC 11801

#### Application range

- Mainly used where the terminal density is very high, e.g. for wiring office, administration and development buildings in the tertiary
- · Cable length in tertiary area (horizontal area, floor) should not exceed a length of 100 m in accordance with the ISO/IEC 11801 and EN 50173 standards (90 m in cable duct + 10 m in working area)

#### Product features

- Transfer of digital and analogue data signals
- The characteristic impedance of this cable is 100 Ohm ±15 %
- IEEE 802.3: 10/100/1000Base-T IEEE 802.5: ISDN; FDDI; ATM

#### Approvals

# RoHS 🗸

- Class D in ISO/IEC 11801 standard corresponds to CAT.5
- LAN CAT.5e cables from Lapp Kabel for "Structured Cabling Systems" meet the requirements in accordance with EIA/TIA-568 and TSB36, as well as ISO/IEC 11801 or EN 50173 (Class D).

#### Design

- U/UTP: no overall or pair shielding
- F/UTP: foil screening as overall screening
- SF/UTP: copper braid and foil screening as overall screening
- Solid conductor
- Outer sheath either as PVC or LSZH

### Technical data



#### Minimum bending radius

during installation: 8 x outer diameter Fixed installation: 4 x outer diameter



#### Temperature range

Operating temperature: -20°C to +60°C During installation: 0 °C to +50 °C



#### Characteristic impedance 100 Ohm +- 15%

| Article number     | Article designation    | Number of pairs and AWG per conductor | Outer diameter (mm) | Copper index (kg/km) | Weight (kg/km) |
|--------------------|------------------------|---------------------------------------|---------------------|----------------------|----------------|
| <b>PVC version</b> |                        |                                       |                     |                      |                |
| 2170125            | 200 U/UTP Cat.5e       | 4 x 2 x AWG24/1                       | 5.6                 | 17.0                 | 32             |
| 2170126            | 200 F/UTP Cat.5e       | 4 x 2 x AWG24/1                       | 6.4                 | 18.0                 | 42             |
| 2170128            | 200 SF/UTP Cat.5e      | 4 x 2 x AWG24/1                       | 6.7                 | 32.0                 | 60             |
| Halogen-free ve    | rsions                 |                                       |                     |                      |                |
| 2170185            | 200 U/UTP Cat.5e LSZH  | 4 x 2 x AWG24/1                       | 5.6                 | 17.0                 |                |
| 2170138            | 200 SF/UTP Cat.5e LSZH | 4 x 2 x AWG24/1                       | 6.7                 | 32.0                 | 61             |

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100kg. Refer to Appendix T17 for the definition and calculation of copper-related surcharges. Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: Coil 100 m; Drum (500; 1000) m

Detailed data sheets are available upon request. Please specify the type/dimensions of the required cable.

Photographs are not to scale and do not represent detailed images of the respective products

#### ■ Accessories

- Connector RJ45 CAT.5 Hirose TM11 refer to page 418
- Connector RJ45 CAT.5 Stewart SS37 refer to page 418
- Field-Terminable Connector RJ45 CAT.5e FM45 refer to page 418
- DATA STRIP stripping tool refer to page 907



### Data communication systems for ETHERNET-Technology

Components for building-networking LAN cables for structured building cabling

New

# **UNITRONIC® LAN 250 - CAT.6**



- EIA =Electronic Industries Association
- TIA = Telecommunication Industries Association
- TSB = Technical Systems Bulletin

# LAPP KABEL STUTGART UNITRONIC® LAN U/UTP 250 MHz Cal.6

LAPP KABEL STUffGART UNITRONICS LAN F/UTP 250 MHz Col.6

#### Benefits

 LAN cables for structured building cabling according to EN 50173 and ISO/IEC 11801

#### Application range

 Mainly used where the terminal density is very high, e.g. for wiring office, administration and development buildings in the tertiary area (floor wiring).

#### Product features

- Transfer of digital and analogue data signals
- LAN Cat.6 cables are specified up to 350 MHz
- $\bullet$  The characteristic impedance of this cable is 100 Ohm  $\pm15~\%$
- IEEE 802.3: 10/100/1000Base-T IEEE 802.5: ISDN; FDDI; ATM

#### Approvals

# RoHS √

- Class E out of the standard ISO/IEC 11801 corresponds to CAT.6
- LAN CAT.6 cables from Lapp Kabel for "Structured Cabling Systems" meet the requirements in accordance with EIA/TIA-568 and TSB36, as well as ISO/IEC 11801 or EN 50173 (Class E - permanent link).

#### Design

- U/UTP: no overall or pair shielding
- F/UTP: foil screening as overall screening
- Solid conductor
- Outer sheath either as PVC or LSZH

## ■ Technical data



Minimum bending radius during installation: 8 x outer diameter Fixed installation: 4 x outer diameter



**Temperature range**Operating temperature: -20°C to +60°C

During installation: 0 °C to +50 °C



Characteristic impedance 100 Ohm +- 15%

| Article number   | Article designation   | Number of pairs and AWG per conductor | Outer diameter (mm) | Copper index (kg/km) |  |  |  |  |  |
|------------------|-----------------------|---------------------------------------|---------------------|----------------------|--|--|--|--|--|
| PVC versions     | PVC versions          |                                       |                     |                      |  |  |  |  |  |
| 2170186          | 250 U/UTP Cat.6       | 4 x 2 x AWG24/1                       | 6.5                 | 18.0                 |  |  |  |  |  |
| Halogen-free ver | Halogen-free versions |                                       |                     |                      |  |  |  |  |  |
| 2170193          | 250 U/UTP Cat.6 LSZH  | 4 x 2 x AWG24/1                       | 6.5                 | 18.0                 |  |  |  |  |  |
| 2170194          | 250 F/UTP Cat.6 LSZH  | 4 x 2 x AWG24/1                       | 7.5                 | 19.0                 |  |  |  |  |  |

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request. Photographs are not to scale and do not represent detailed images of the respective products.

LAN cables for structured building cabling

### New

# UNITRONIC® LAN 500 - Cat.6

LAPP KABEL STUTTGART UNITRONIC" LAN CAT. 6A 4x2xAWG23



### LAPP KABEL STUTTGART UNITRONIC LAN CAT. 6A 4x2xAWG26



EIA = Electronic Industries Association

**® LAPP GROUP** 

- TIA = Telecommunication Industries Association
- TSB = Technical Systems Bulletin

#### Benefits

. LAN cables for structured building cabling according to EN 50173 and ISO/IEC 11801

#### Application range

- Mainly used where the terminal density is very high, e.g. for wiring office, administration and development buildings in the tertiary
- · Cable length in tertiary area (horizontal area, floor) should not exceed a length of 100 m in accordance with the ISO/IEC 11801 and EN 50173 standards (90 m in cable duct + 10 m in working area)

#### Product features

- Transfer of digital and analogue data signals
- The characteristic impedance of this cable is 100 Ohm ±15 %
- IEEE 802.3: 10/100/1000Base-T, 10GBase-T IEEE 802.5: ISDN; FDDI; ATM

#### Approvals

# RoHS V

- Class E₁ out of the standard ISO/IEC 11801 corresponds to Cat.6,
- LAN Cat.6 a cables from Lapp Kabel for "Structured Cabling Systems" meet the requirements in accordance with EIA/TIA-568 and TSB36, as well as ISO/IEC 11801 or EN 50173 (Class E<sub>4</sub> - permanent link).

#### Design

- U/FTP: aluminium compound foil as pair screening
- F/FTP: aluminium compound foil as overall screening and pair screening
- S/FTP: copper braid as overall screening and pair screening with aluminium compound foil
- Solid conductor
- Outer sheath either as PVC or LSZH

# Technical data



#### Minimum bending radius

during installation: 8 x outer diameter Fixed installation: 4 x outer diameter



#### Temperature range

Operating temperature: -20°C to +60°C During installation: 0 °C to +50 °C



#### Characteristic impedance 100 Ohm +- 15%

| Article number     | Article designation   | Number of pairs and AWG per conductor | Outer diameter (mm) | Copper index (kg/km) | Weight (kg/km) |
|--------------------|-----------------------|---------------------------------------|---------------------|----------------------|----------------|
| <b>PVC version</b> |                       |                                       |                     |                      |                |
| 2170143            | 500 S/FTP Cat.6       | 4 x 2 x AWG23/1                       | 7.7                 | 27.0                 | 53             |
| Halogen-free ve    | rsions                |                                       |                     |                      |                |
| 2170195            | 500 U/FTP Cat.6, LSZH | 4 x 2 x AWG23/1                       | 7.4                 | 21.0                 |                |
| 2170196            | 500 F/FTP Cat.6 LSZH  | 4 x 2 x AWG23/1                       | 7.6                 | 22.0                 |                |

Copper price basis: EUR 150/100kg. Refer to Appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: Coil 100 m; Drum (500; 1000) m

CAT.6a is available as a draft

Detailed data sheets are available upon request. Please specify the type/dimensions of the required cable.

Photographs are not to scale and do not represent detailed images of the respective products.

### ■ Accessories

- Connector RJ45 CAT.6 Hirose TM21 refer to page 419
- DATA STRIP stripping tool refer to page 907

**APPENDIX** 

Data communication systems for ETHERNET-Technology Components for building-networking LAN cables for structured building cabling

New

# UNITRONIC® LAN 1000 S/FTP Cat.7



- **EIA = Electronic Industries Association**
- TIA = Telecommunication Industries **Association**
- TSB = Technical Systems Bulletin

**® LAPP GROUP** 



#### Benefits

 LAN cables for structured building cabling according to EN 50173 and ISO/IEC 11801

#### Application range

- Mainly used where the terminal density is very high, e.g. for wiring office, administration and development buildings in the tertiary area (floor wiring).
- Cable length in tertiary area (horizontal area, floor) should not exceed a length of 100 m in accordance with the ISO/IEC 11801 and EN 50173 standards (90 m in cable duct + 10 m in working area)

#### Product features

- Transfer of digital and analogue data signals
- The characteristic impedance of this cable is 100 Ohm  $\pm$  15 %
- IEEE 802.3: 10/100/1000Base-T, 10GBase-T IEEE 802.5: ISDN; FDDI; ATM; cable sharing IEEE 802.3at: suitable for PoE

#### Approvals

# RoHS 🗸

 Class F in the ISO/IEC 11801 standard corresponds to CAT.7

#### Design

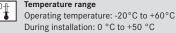
- S/FTP: copper braid as overall screening and pair screening with aluminium compound foil
- Solid conductor
- Outer sheath: halogen-free, flame-retardant compound

#### Technical data



#### Minimum bending radius during installation: 8 x outer diameter

Fixed installation: 4 x outer diameter



Characteristic impedance 100 Ohm +- 15%

| Article number        | Article designation     | Number of pairs and AWG per conductor | Outer diameter (mm) | Copper index (kg/km) | Weight (kg/km) |  |  |  |
|-----------------------|-------------------------|---------------------------------------|---------------------|----------------------|----------------|--|--|--|
| Halogen-free versions |                         |                                       |                     |                      |                |  |  |  |
| 2170614               | 1000 S/FTP Cat.7 LSZH   | 4 x 2 x AWG23/1                       | 7.7                 | 27.0                 | 78             |  |  |  |
| 2170634               | 1000 S/FTP Cat.7 duplex | 2 x (4 x 2 x AWG23/1)                 | 7.7 x 15.4          | 54.0                 | 156            |  |  |  |

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100kg. Refer to Appendix T17 for the definition and calculation of copper-related surcharges

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: Coil 100 m; Drum (500; 1000) m

Detailed data sheets are available upon request. Please specify the type/dimensions of the required cable.

### Data communication systems for ETHERNET-Technology

Components for building-networking

LAN cables for structured building cabling

#### New

# UNITRONIC® LAN 1200 S/FTP Cat.7

LAPP KABEL STUTTGART UNITRONIC® LAN S/FTP 1200 MHz Cat.7A



#### Benefits

 LAN cables for structured building cabling according to EN 50173 and ISO/IEC 11801

#### Application range

- Mainly used where the terminal density is very high, e.g. for wiring office, administration and development buildings in the tertiary area (floor wiring).
- Cable length in tertiary area (horizontal area, floor) should not exceed a length of 100 m in accordance with the ISO/IEC 11801 and EN 50173 standards (90 m in cable duct + 10 m in working area)

#### Product features

- Transfer of digital and analogue data signals
- The cable is specified for up to 1.2 GHz
- The characteristic impedance of this cable is 100 Ohm ±15 %
- IEEE 802.3: 10/100/1000Base-T, 10GBase-T IEEE 802.5: ISDN; FDDI; ATM; cable sharing IEEE 802.3at: suitable for PoE

#### Approvals

## RoHS 🗸

- LAN Cat.7<sub>△</sub> cables from Lapp Kabel for "Structured Cabling Systems" meet the requirements in accordance with EIA/TIA-568 and TSB36 as well as ISO/IEC 11801 or EN 50173 (Class  $F_A$  - permanent link).
- Exceeds the requirements of EN 50173 and ISO/IEC 11801 standards

- Solid bare copper wire AWG22
- Pair screen made of aluminium-lined plastic foil, overall screening made of tinned-copper braiding
- · Outer sheath: halogen-free, flame-retardant compound



Complies with the EN 50173 and ISO/ IEC 11801 standards

**® LAPP GROUP** 

#### Technical data



Minimum bending radius during installation: 8 x outer diameter Fixed installation: 4 x outer diameter



Temperature range

Operating temperature: -20  $^{\circ}\text{C}$  to +60  $^{\circ}\text{C}$ During installation: 0 °C to +50 °C

Complies with the EN 50173 and ISO/

during installation: 8 x outer diameter

Fixed installation: 4 x outer diameter

During installation: 0 °C to +50 °C

Operating temperature: -20°C to +60°C

IEC 11801 standards

Temperature range

100 Ohm +- 15%

Minimum bending radius

Characteristic impedance

Technical data



Characteristic impedance 100 Ohm +- 15%

- Cellular polyolefin core insulation, max. core diameter 1.6 mm
- Colour: yellow (RAL 7032)

| Article number | Article designation     | Number of pairs and AWG per conductor | Outer diameter (mm) | Copper index (kg/km) | Weight (kg/km) |
|----------------|-------------------------|---------------------------------------|---------------------|----------------------|----------------|
| 2170615        | 1200 S/FTP Cat. 7, LSZH | 4 x 2 x AWG22/1                       | 8.1                 | 34.0                 | 80             |

Copper price basis: EUR 150/100kg. Refer to Appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Packaging size: Drum

Detailed data sheets are available upon request. Please specify the type/dimensions of the required cable.

Photographs are not to scale and do not represent detailed images of the respective products

- Multipurpose shears A and B refer to page 902
- DATA STRIP stripping tool refer to page 907

### New

# UNITRONIC® LAN 1500 S/FTP Cat.7

LAPP KABEL STUTTGART UNITRONIC® LAN S/FTP 1500 MHz Cat.7A



 LAN cables for structured building cabling according to EN 50173 and ISO/IEC 11801

### Application range

 Mainly used where the terminal density is very high, e.g. for wiring office, administration and development buildings in the tertiary area (floor wiring).

## Product features

- Transfer of digital and analogue data signals
- Cable is specified for up to 1.5 GHz
- The characteristic impedance of this cable is 100 Ohm ±15 %
- IEEE 802.3: 10/100/1000Base-T, 10GBase-T IEEE 802.5: ISDN; FDDI; ATM; cable sharing IEEE 802.3at: suitable for PoE, VoIP

#### Approvals

- LAN Cat.7 cables from Lapp Kabel for "Structured Cabling Systems" meet the requirements in accordance with EIA/TIA-568 and TSB36 as well as ISO/IEC 11801 or EN 50173 (Class F, - permanent link).
- Exceeds the requirements of EN 50173 and ISO/IEC 11801 standards

#### Design

- Solid bare copper wire AWG22
- · Cellular polyolefin core insulation, max. core diameter 1.6 mm
- Pair screen made of aluminium-lined plastic foil, overall screening made of tinned-copper braiding
- Outer sheath: halogen-free, flame-retardant compound
- Colour: yellow (RAL 7032)

| Article number | Article designation  | on   | Number of pairs and AWG per conductor | Outer diameter (mm) | Copper index (kg/km) |
|----------------|----------------------|------|---------------------------------------|---------------------|----------------------|
| 2170199        | 1500 S/FTP Cat. 7, L | LSZH | 4 x 2 x AWG22/1                       | 8.5                 | 42.0                 |

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request. Photographs are not to scale and do not represent detailed images of the respective products



LAN cables for structured building cabling

New

# **UNITRONIC® LAN OUTDOOR**



 Data cable for primary, secondary and tertiary cabling with PE outer sheath for outdoor applications

#### Benefits

- Suitable for outdoor use and direct burial
- UV and water-resistant
- LAN cables for structured building cabling according to EN 50173 and ISO/IEC 11801

#### Application range

- For outdoor use
- Cable length in tertiary area (horizontal area, floor) should not exceed a length of 100 m in accordance with the ISO/IEC 11801 and EN 50173 standards (90 m in cable duct + 10 m in working area)

#### Product features

- Transfer of digital and analogue data signals
- $\bullet$  The characteristic impedance of this cable is 100 Ohm  $\pm\,15~\%$
- IEEE 802.3: 10/100/1000Base-T, 10GBase-T IEEE 802.5: ISDN; FDDI; ATM; cable sharing IEEE 802.3at: suitable for PoE

#### Approvals

 LAN Cat.7 cables from Lapp Kabel for "Structured Cabling Systems" meet the requirements in accordance with EIA/TIA-568 and TSB36, as well as ISO/IEC 11801 or EN 50173 (Class F - permanent link).

LAPP KABEL STUffGART UNITRONIC" LAN 1000 MHz S/FTP CAT.7 PE 4x2x23AWG/1

#### Design

- S/FTP: copper braid as overall screening and pair screening with aluminium compound foil
- Solid conductor
- Core insulation: foamed polyolefin
- PE outer sheath
- Colour: black (RAL 9005)

#### ■ Technical data



### Minimum bending radius

During installation: 10 x outer diameter Fixed installation: 4 x outer diameter



# Temperature range Operation: up to +60 °C

During installation: -15 °C to +60 °C



Characteristic impedance 100 Ohm +- 15%

| Article number             | Article designation  | Number of pairs and AWG per conductor | Outer diameter (mm) | Copper index (kg/km) | Weight (kg/km) |  |  |  |
|----------------------------|--|---------------------------------------|---------------------|----------------------|----------------|--|--|--|
| Suitable for direct burial |  |                                       |                     |                      |                |  |  |  |
| 2170198                    | 1000 S/FTP Cat.7 (L)PE   | 4 x 2 x AWG23/1                       | 10.0                | 34.0                 | 72             |  |  |  |
| Suitable for dire          | Suitable for direct routing underground, not transversely waterproof |                                       |                     |                      |                |  |  |  |
| 2170197                    | 1000 S/FTP Cat.7 PE  | 4 x 2 x AWG23/1                       | 9.6                 | 34.0                 | 75             |  |  |  |

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request. Photographs are not to scale and do not represent detailed images of the respective products.

New

# UNITRONIC® LAN FLEX

Flexible use



Only for patch cable applications (max. 60 m)

#### LAPP KABEL STUTGART UNITRONIC\* LAN 200 MHz F/UTP CAT.5e Y 4x2x26AWG/7

#### Benefits

- For directly connecting two electric components
- Easy to assemble

#### Application range

- Indoor applications
- LAN connections
- Control cabinet wiring

#### Product features

Good flexibility - easy installation with tight space requirements

#### Design

- F/UTP: foil screening as overall screening
- SF/UTP: copper braid and foil screening as overall screening
- S/FTP: copper braid as overall screening and pair screening with aluminium compound foil
- Outer sheath either as PVC or LSZH

| ■ Technical data |   |  |
|------------------|---|--|
|                  | Minimum bending radius<br>during installation: 8 x outer diameter<br>Fixed installation: 4 x outer diameter |  |
| Z                | Characteristic impedance  |  |

| Article number   | Article designation    | Number of pairs and AWG per conductor | Outer diameter (mm) | Copper index (kg/km) | Weight (kg/km) |
|------------------|------------------------|---------------------------------------|---------------------|----------------------|----------------|
| PVC versions     |                        |                                       |                     |                      |                |
| 2170127          | 200 F/UTP Cat.5e       | 4 x 2 x AWG26/7                       | 5.6                 | 13.0                 | 30             |
| 2170129          | 200 SF/UTP Cat.5e      | 4 x 2 x AWG26/7                       | 6.0                 | 22.0                 | 41             |
| 2170144          | 600 S/FTP CAT7 Y       | 4 x 2 x AWG26/7                       | 6.5                 | 22.0                 | 40             |
| Halogen-free ver | sions                  |                                       |                     |                      |                |
| 2170137          | 200 F/UTP Cat.5e LSZH  | 4 x 2 x AWG26/7                       | 5.6                 | 13.0                 | 31             |
| 2170139          | 200 SF/UTP Cat.5e LSZH | 4 x 2 x AWG26/7                       | 6.0                 | 22.0                 | 42             |

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request. Photographs are not to scale and do not represent detailed images of the respective products.

Ethernet patch cable

# Patchcable RJ45 CAT.5e





#### Product features

- FTP patch cable CAT.5e
- Foil screening, 300 MHz, grey, FRNC, with Hirose TM 11 connector, also available in different colours, allocation according to TIA/
- S-FTP patch cable CAT.5e
- Foil and braid screening, 300 MHz, grey, FRNC, with Hirose TM 11 connector, also available in different colours, allocation according to TIA/EIA 568B

#### Approvals

**® LAPP GROUP** 



| Article number          | Article designation                | Colour | Length (m) | PU       |
|-------------------------|------------------------------------|--------|------------|----------|
| FTP patch cable CAT.5e  |                                    |        |            |          |
| CE6547                  | Patchcable RJ45 CAT.5e FTP 0.5m    | grey   | 0.5        | 5 pieces |
| CE6548                  | Patchcable RJ45 CAT.5e FTP 1.0m    | grey   | 1.0        | 5 pieces |
| CE6549                  | Patchcable RJ45 CAT.5e FTP 1.5m    | grey   | 1.5        | 5 pieces |
| CE6550                  | Patchcable RJ45 CAT.5e FTP 2.0m    | grey   | 2.0        | 5 pieces |
| CE6551                  | Patchcable RJ45 CAT.5e FTP 3.0m    | grey   | 3.0        | 5 pieces |
| CE6552                  | Patchcable RJ45 CAT.5e FTP 5.0m    | grey   | 5.0        | 5 pieces |
| CE6553                  | Patchcable RJ45 CAT.5e FTP 7.5m    | grey   | 7.5        | 5 pieces |
| CE6554                  | Patchcable RJ45 CAT.5e FTP 10.0m   | grey   | 10.0       | 5 pieces |
| CE6555                  | Patchcable RJ45 CAT.5e FTP 15.0m   | grey   | 15.0       | 1 piece  |
| CE6556                  | Patchcable RJ45 CAT.5e FTP 20.0m   | grey   | 20.0       | 1 piece  |
| S-FTP patch cable CAT.5 | e                                  |        |            |          |
| CE6647                  | Patchcable RJ45 CAT.5e S-FTP 0.5m  | grey   | 0.5        | 5 pieces |
| CE6648                  | Patchcable RJ45 CAT.5e S-FTP 1.0m  | grey   | 1.0        | 5 pieces |
| CE6649                  | Patchcable RJ45 CAT.5e S-FTP 1.5m  | grey   | 1.5        | 5 pieces |
| CE6650                  | Patchcable RJ45 CAT.5e S-FTP 2.0m  | grey   | 2.0        | 5 pieces |
| CE6651                  | Patchcable RJ45 CAT.5e S-FTP 3.0m  | grey   | 3.0        | 5 pieces |
| CE6652                  | Patchcable RJ45 CAT.5e S-FTP 5.0m  | grey   | 5.0        | 5 pieces |
| CE6653                  | Patchcable RJ45 CAT.5e S-FTP 7.5m  | grey   | 7.5        | 5 pieces |
| CE6654                  | Patchcable RJ45 CAT.5e S-FTP 10.0m | grey   | 10.0       | 5 pieces |
| CE6655                  | Patchcable RJ45 CAT.5e S-FTP 15.0m | grey   | 15.0       | 1 piece  |
| CE6656                  | Patchcable RJ45 CAT.5e S-FTP 20.0m | grey   | 20.0       | 1 piece  |

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request. Other colours are available upon request.

Photographs are not to scale and do not represent detailed images of the respective products.

# Patchcable RJ45 CAT.6 S-STP



#### ■ Product features

- PiMF 500 MHz, with Hirose TM21 connector
- Halogen-free
- Configuration is in accordance with TIA/EIA
- Colour: grey; other colours are available upon request

Approvals



| Article number  | Article designation               | Colour | Length (m) | PU       |
|-----------------|-----------------------------------|--------|------------|----------|
|                 |                                   |        |            |          |
| S-STP patch cab | le CAT.6                          |        |            |          |
| CE6847          | Patchcable RJ45 CAT.6 S-STP 0.5m  | grey   | 0.5        | 5 pieces |
| CE6848          | Patchcable RJ45 CAT.6 S-STP 1.0m  | grey   | 1.0        | 5 pieces |
| CE6849          | Patchcable RJ45 CAT.6 S-STP 1.5m  | grey   | 1.5        | 5 pieces |
| CE6850          | Patchcable RJ45 CAT.6 S-STP 2.0m  | grey   | 2.0        | 5 pieces |
| CE6851          | Patchcable RJ45 CAT.6 S-STP 3.0m  | grey   | 3.0        | 5 pieces |
| CE6852          | Patchcable RJ45 CAT.6 S-STP 5.0m  | grey   | 5.0        | 5 pieces |
| CE6853          | Patchcable RJ45 CAT.6 S-STP 7.5m  | grey   | 7.5        | 5 pieces |
| CE6854          | Patchcable RJ45 CAT.6 S-STP 10.0m | grey   | 10.0       | 5 pieces |
| CE6855          | Patchcable RJ45 CAT.6 S-STP 15.0m | grey   | 15.0       | 1 piece  |
| CE6856          | Patchcable RJ45 CAT.6 S-STP 20.0m | grey   | 20.0       | 1 piece  |

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request. Other colours are available upon request.



Components for building-networking Ethernet patch cable

# LANmark-6 RJ45 Patchcord

### Product features

- 10Gigabit Ethernet
- The patchcord fully complies to Category 6, maximising the channel performance and exceeding the requirements of ISO/IEC 11801:2002 as part of a LANmark-6 wiring of Class E. This offers an improved data transmission rates and enables the inclusion of consolidation points for maximum system flexibility.
- Halogen-free, flame-retardant sheath with lower smoke development
- Screened version





| Article number | Article designation            | Colour | Length (m) | PU      |  |
|----------------|--------------------------------|--------|------------|---------|--|
| LANmark-6 RJ45 | LANmark-6 RJ45 Patchcord       |        |            |         |  |
| CE6147         | LANmark-6 RJ45 Patchcord 0.5m  | orange | 0.5        | 1 piece |  |
| CE6148         | LANmark-6 RJ45 Patchcord 1.0m  | orange | 1.0        | 1 piece |  |
| CE6149         | LANmark-6 RJ45 Patchcord 1.5m  | orange | 1.5        | 1 piece |  |
| CE6150         | LANmark-6 RJ45 Patchcord 2.0m  | orange | 2.0        | 1 piece |  |
| CE6151         | LANmark-6 RJ45 Patchcord 3.0m  | orange | 3.0        | 1 piece |  |
| CE6152         | LANmark-6 RJ45 Patchcord 5.0m  | orange | 5.0        | 1 piece |  |
| CE6154         | LANmark-6 RJ45 Patchcord 10.0m | orange | 10.0       | 1 piece |  |
| CE6155         | LANmark-6 RJ45 Patchcord 15.0m | orange | 15.0       | 1 piece |  |

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request. Photographs are not to scale and do not represent detailed images of the respective products.

## LANmark-7 GG45 Patchcord

#### Product features

- The LANmark-7 Patchcable with two fourpaired, non-switched CAT.7 connectors makes it possible to operate one GG45 Permanent Link in 600 MHz mode.
- Screened version
- 2 x GG45 4-pair, backward-incompatible plug
- Low smoke zero halogen (LSZH)





| Article number | Article designation            | Colour | Length (m) | PU      |
|----------------|--------------------------------|--------|------------|---------|
| LANmark-7 RJ45 | Patchcord GG45                 |        |            |         |
| 60641          | LANmark-7 GG45 Patchcord 1.0m  | orange | 1.0        | 1 piece |
| 60642          | LANmark-7 GG45 Patchcord 2.0m  | orange | 2.0        | 1 piece |
| 60643          | LANmark-7 GG45 Patchcord 3.0m  | orange | 3.0        | 1 piece |
| 60644          | LANmark-7 GG45 Patchcord 5.0m  | orange | 5.0        | 1 piece |
| 60645          | LANmark-7 GG45 Patchcord 10.0m | orange | 10.0       | 1 piece |

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

# S-FTP Patchcable Crossover RJ45 CAT.5e



#### Product features

 For interconnecting two computers without the use of a central active component (hub, switch...).

- Foil and braid screening, 150 MHz
- Halogen-free
- Hirose TM 11 connector
- Outer sheath and anti-kink sleeve colour: red

| Approvals     |  |
|---------------|--|
| <u>RoHS √</u> |  |

| Article number  | Article designation                          | Colour | Length (m) | PU       |
|-----------------|--|--------|------------|----------|
| Crossover patch | n cable                                      |        |            |          |
| CE6660          | Crossover Patchcable RJ45 CAT.5e S-FTP 2.0m  | red    | 2.0        | 5 pieces |
| CE6661          | Crossover Patchcable RJ45 CAT.5e S-FTP 3.0m  | red    | 3.0        | 5 pieces |
| CE6662          | Crossover Patchcable RJ45 CAT.5e S-FTP 5.0m  | red    | 5.0        | 5 pieces |
| CE6664          | Crossover Patchcable RJ45 CAT.5e S-FTP 10.0m | red    | 10.0       | 5 pieces |

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request. Photographs are not to scale and do not represent detailed images of the respective products.

RJ45 Ethernet connector

# Connector RJ45 CAT.5 Hirose TM 11



#### Product features

- Screened version
- Suitable for stranded conductors (AWG26)
- Included: bend protection and guide plate
- Anti-kink protection: beige
- Max. outer sheath diameter: 5.8 mm

| Approva       |
|---------------|
| <b>RoHS</b> ✓ |

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| Article number | Article designation              | PU        |
|----------------|----------------------------------|-----------|
| CE6321         | Connector RJ45 CAT.5 Hirose TM11 | 50 pieces |

Hirose is a registered trademark of the HIROSE ELECTRIC Group

Other colours are available upon request

Photographs are not to scale and do not represent detailed images of the respective products.

#### ■ Accessories

• Crimping tool RJ45 Hirose refer to page 420

# Connector RJ45 CAT.5 Stewart SS37



#### ■ Product features

- Screened version
- Suitable for stranded conductors (AWG26)
- Included: bend protection and guide plate
- · Anti-kink protection: light grey
- Max. outer sheath diameter: 5.72 mm

| Approval | S |
|----------|---|
| RoHS √   |   |

Approvals

RoHS V

| Article number | Article designation               | PU        |
|----------------|-----------------------------------|-----------|
| CE6323         | Connector RI45 CAT.5 Stewart SS37 | 50 pieces |

Stewart is a registered trademark of Bel Fuse Inc.

Other colours are available upon request.

Photographs are not to scale and do not represent detailed images of the respective products.

### ■ Accessories

• Crimping tool RJ45 Stewart refer to page 420

# Field-Terminable Connector RJ45 CAT.5e FM45



### Product features

- Screened version
- FM45 is a tool-free switchable, field-terminable RJ45 Connector with IDC contacting and CAT.5e performance. The 8-pin connection is tension and vibration-resistant, and can be re-switched. The connecting block can accommodate both screened and unscreened cable of up to 8 mm diameter.
- Suitable for AWG 23 26, AWG 22 possible with restrictions
- IDC/piercing terminal according to 60352-4
- Suitable for solid and stranded conductors
- · Suitable for use in industrial applications
- Protection rating: IP20

| Article number | Article designation                         | PU      |
|----------------|---|---------|
|                |   |         |
| 21700540       | Field-Terminable Connector RJ45 CAT.5e FM45 | 1 piece |

**ETHERLINE®** 



Data communication systems for ETHERNET-Technology Components for building-networking

RJ45 Ethernet connector

# Connector RJ45 CAT.6 Hirose TM21

#### Product features

- Channel Class E up to 250 MHz (CAT.6)
- Fully screened
- Conductor: Ø 0.5 mm solid wire: AWG 24 & 26; guide plate for 1.1 mm diameter wire; cable outer diameter: 6.6 mm
- Easy to handle
- Included: bend protection and guide plate
- Anti-kink protection: beige
- Suitable for solid and stranded conductors





| Article number | Article designation              | PU        |
|----------------|----------------------------------|-----------|
|                |                                  |           |
| CE6324         | Connector RJ45 CAT.6 Hirose TM21 | 50 pieces |

Hirose is a registered trademark of the HIROSE ELECTRIC Group

Other colours are available upon request.

Photographs are not to scale and do not represent detailed images of the respective products

#### ■ Accessories

Crimping tool RJ45 Hirose refer to page 420



# Connector RJ45 Cat.6<sub>A</sub> fieldmountable

#### Product features

- Field assembly Industrial Ethernet connector, RJ45 according to IEC 60603-7-51
- Qualified for 10 Gigabit Ethernet
- Housing: zinc die-casting, grey
- By a multi-level relief setting the connector can accomodate a cable diameter from 5,0 mm up to 9,0 mm
- Suitable for stranded cores with AWG27/7 -22/7 and for solid conductors with AWG24/1-22/1
- Suitable for use in industrial applications
- Available with colour code T568A or T568B



| Article number | Article designation            | PU        |
|----------------|--------------------------------|-----------|
| 21700600       | EPIC® DATA ED-IE-AX-6, A-20-FC | 10 pieces |
| 21700601       | EPIC® DATA ED-IE-AX-6 -B-20-FC | 10 pieces |

Crimping tools for RJ45 connectors

# **Crimping tool RJ45 Hirose**



#### Product features

- Crimping tool for RJ45 connector Hirose TM11 and TM21
- Crimping tool for RJ45 connector Hirose TM11 and TM21
- Crimping tool for RJ45 connector CAT.6 Hirose TM21

| Approvals |
|-----------|
| RoHS 🗸    |

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| Article number | Article designation                        | PU      |
|----------------|--|---------|
| CE5091         | Crimping tool RJ45 Hirose TM11/TM21 8-pole | 1 piece |

Hirose is a registered trademark of the HIROSE ELECTRIC Group

Photographs are not to scale and do not represent detailed images of the respective products.

#### **■** Accessories

- Connector RJ45 CAT.5 Hirose TM11 refer to page 418
- Connector RJ45 CAT.6 Hirose TM21 refer to page 419

# **Crimping tool RJ45 Stewart**



#### Product features

- Crimping tool for RJ45 connector CAT.5 Stewart SS37
- Crimping tool for RJ45 connector CAT.5 Stewart SS37
- Crimping tool for RJ plug 4, 6, 6-DEC and 8-pin

| Approvals |  |
|-----------|--|
| RoHS V    |  |

| Article num | er Article designation                     | PU      |
|-------------|--|---------|
| CE509       | Crimping tool RJ45 Stewart SS37 8-pole     | 1 piece |
| CE509       | Crimping tool RJ 4-, 6-, 6-DEC- and 8-pole | 1 piece |

Stewart is a registered trademark of Bel Fuse Inc.

Photographs are not to scale and do not represent detailed images of the respective products.

#### Accessories

• Connector RJ45 CAT.5 Stewart SS37 refer to page 418



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# **LANmark-5 EVO SnapIn Connector**

#### Product features

- CAT.5e socket screened incl. EMC cover
- Suitable for AWG 22, 23 and 24
- Colour-coded in accordance with EIA/TIA 568A and B
- Fast and optimised termination of all 8 cores
- Suitable for modular components
- All services of CAT.5/Class D according to EN 50173:2002 and ISO/IEC 11801:2002 are supported:
- 10BaseT
- Fast Ethernet
- Gigabit Ethernet
- 155 ATM, 622 ATM, 1.2 ATM

#### Approvals





| Article number | Article designation            | PU        |
|----------------|--------------------------------|-----------|
| 61103          | LANmark-5 EVO SnapIn Connector | 24 pieces |
|                |                                |           |

Photographs are not to scale and do not represent detailed images of the respective products.

#### ■ Similar products

- LANmark-5 EVO Snapln Connector AWG26 refer to page 421
- LANmark-7 GG45 SnapIn Connector refer to page 422

#### ■ Accessories

- Comfort Tool refer to page 422
- Easy Termination Tool refer to page 422

# LANmark-5 EVO SnapIn Connector AWG26

#### Product features

- Especially suited to stranded conductors (Consolidation Point) AWG26 and 27
- Colour-coded in accordance with EIA/TIA 568A and B
- Fast and optimised termination of all 8 cores
- Suitable for modular components
- All services of CAT.5/Class D according to EN 50173:2002 and ISO/IEC 11801:2002 are supported:
- 10BaseT
- Fast Ethernet
- Gigabit Ethernet
- 155 ATM, 622 ATM, 1.2 ATM

#### Approvals





| Article number | Article designation                  | PU        |
|----------------|--------------------------------------|-----------|
| 61102          | LANmark-5 EVO SnapIn Connector AWG26 | 24 pieces |

Photographs are not to scale and do not represent detailed images of the respective products.

# **LANmark-6 EVO SnapIn Connector**

#### Product features

- CAT.6 socket screened incl. EMC cover
- Suitable for AWG 22, 23 and 24
- Colour-coded in accordance with EIA/TIA 568A and B
- Fast and optimised termination of all 8 cores
- Suitable for modular components
- All services of CAT.6/Class E according to EN 50173:2002 and ISO/IEC 11801:2002 are supported:
- 10BaseT
- Fast Ethernet
- Gigabit Ethernet
- 155 ATM, 622 ATM, 1.2 ATM

#### Approvals





|  | Article number | Article designation            | PU        |
|--|----------------|--------------------------------|-----------|
|  | 62104          | LANmark-6 EVO SnapIn Connector | 24 pieces |

Photographs are not to scale and do not represent detailed images of the respective products.

# **LANmark-6 EVO SnapIn Connector AWG26**

#### Product features

- CAT.6 socket screened incl. EMC cover
- Colour-coded in accordance with EIA/TIA 568A and B
- Colour-coded in accordance with EIA/TIA 568A and B
- Fast and optimised termination of all 8 cores
- Suitable for modular components
- All services of CAT.6/Class E according to EN 50173:2002 and ISO/IEC 11801:2002 are supported:

#### 10BaseT

- Fast Ethernet
- Gigabit Ethernet
- 155 ATM, 622 ATM, 1.2 ATM

#### Approvals





| Article number | Article designation                  | PU        |
|----------------|--------------------------------------|-----------|
| 62105          | LANmark-6 EVO SnapIn Connector AWG26 | 24 pieces |

Modular connection systems

# **LANmark-6 EVO SnapIn Connector 10G**



#### ■ Product features

- Suitable for AWG 22, 23 and 24
- Colour-coded in accordance with EIA/TIA 568A and B
- Fast and optimised termination of all 8 cores
- Suitable for modular components
- All services of CAT.6/Class E according to EN 50173:2002 and ISO/IEC 11801:2002, as well as for 10 Gigabit Ethernet according to IEEE 802.3an draft 1.11, are supported:
- 10BaseT
- Fast Ethernet
- Gigabit Ethernet
- 10Gigabit Ethernet
- 155 ATM, 622 ATM, 1.2 ATM

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### Approvals



| Article number | Article designation                | PU        |
|----------------|------------------------------------|-----------|
| 62106          | LANmark-6 EVO SnapIn Connector 10G | 24 pieces |

Photographs are not to scale and do not represent detailed images of the respective products.

# **LANmark-7 GG45 SnapIn Connector**



### ■ Product features

- CAT.7 GG45 socket screened incl. EMC cover
- Suitable for AWG 22, 23 and 24
- Colour-coded in accordance with EIA/TIA 568A and B
- Fast and optimised termination of all 8 cores
- Suitable for modular components
- All applications defined for CAT.5 / 6 and 7 are supported:
- 10BaseT
- Fast Ethernet
- Gigabit Ethernet
- 10Gigabit Ethernet
- 155 ATM, 622 ATM, 1.2 ATM

# Approvals



| Article number | Article designation             | PU        |
|----------------|---------------------------------|-----------|
| 63103          | LANmark-7 GG45 SnapIn Connector | 24 pieces |

Photographs are not to scale and do not represent detailed images of the respective products.

# **Comfort Tool**



#### Product features

- This tool is recommended for quick, easy and reliable installation of SnapIn connectors. All 8 cores are terminated in one simple step.
- The marking on the pliers defines the correct stripping dimension.

#### Approvals



| Article number | Article designation | PU      |
|----------------|---------------------|---------|
| 60501          | Comfort Tool        | 1 piece |

Photographs are not to scale and do not represent detailed images of the respective products.

# **Easy Termination Tool**



### ■ Product features

- Precise and fast removal of pair screening in PiMF cables.
- All foils are removed at exactly the same length, ensuring that the distances of the four foil screens match the available space on the CC45
- The integrated holder for the wire manager simplifies insertion of the cores. Simple handling for quick and reproducible stripping results
- An application sheet is included. The piercing terminals are adjustable and replaceable.



| Article number | Article designation   | PU      |
|----------------|-----------------------|---------|
| 60503          | Easy Termination Tool | 1 piece |

Caution! The Easy Termination Tools are meant for GG45 installation.



Data communication systems for ETHERNET-Technology

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Modular connection systems

# **Patchpanel Modular fix mounting**

#### Product features

- 19" modular patch panel, for fixed installation
- 24 connections with integrated dust-protection caps
- Compatible with all Snap-In Connectors
- Stable metal structure
- Printed numbering system

| Dimensions: | 19" - | · 1RU - 85 mm | ı |
|-------------|-------|---------------|---|
|-------------|-------|---------------|---|

• Colour: grey-white (RAL 9002)







| Article numb | r Article designation           | PU      |
|--------------|---------------------------------|---------|
| 60024        | Patchpanel Modular fix mounting | 1 piece |

Delivered without snap-in connectors!

Photographs are not to scale and do not represent detailed images of the respective products.

# Patchpanel Modular extendable

#### Product features

- 19" modular patch panel, extendable
- Front screen can be pulled out and swivelled at an angle of 45°, allowing simple and fast installation, as well as simple maintenance (sliding mechanism)
- 24 connections with integrated dust-protection caps
- Compatible with all Snap-In Connectors
- Stable metal structure
- Flexible label for the numbering system
- Dimensions: 19" 1RU 125 mm
- Colour: grey-white (RAL 9002)
- Approvals





| Article nur | Article designation           | PU      |
|-------------|-------------------------------|---------|
| 601         | Patchpanel Modular extendable | 1 piece |

Delivered without snap-in connectors!

Photographs are not to scale and do not represent detailed images of the respective products

# **Patchpanel Modular Mini Surface-Mounted**

#### Product features

- Compatible with all Snap-In Connectors
- 12 connections with integrated dust-protection caps
- Compatible with all Snap-In Connectors
- Feed-through possibilities from the front and bottom: two pre-manufactured openings on the back and one pre-manufactured opening in the lower panel permit more flexible feedthrough of the cable
- Holes for cable ties for securing the cable
- For use with desktop equipment, in false floors or in cable ducts
- Printed numbering system
- Dimensions (WxHxD): 200 x 40 x 230 mm
- Colour: grey-white (RAL 9002)





Delivered without snap-in connectors!

Photographs are not to scale and do not represent detailed images of the respective products.

# **Patchpanel Modular rail mounting**

#### Product features

- Compatible with all Snap-In Connectors
- 6 connections with integrated dust-protection caps
- Compatible with all Snap-In Connectors
- Robust powder-coated metal housing for tophat rail and wall-mounting
- Strain relief of the cables through strain relief rail, 1 x M20, 1 x PG16 or 1 x PG11 gland
- Dimensions (WxHxD): 50 x 150 x 104 mm
- Protection rating: IP20
- Colour: black

Approvals





| Article number | Article designation              | PU      |
|----------------|----------------------------------|---------|
| 60055          | Patchpanel Modular rail mounting | 1 piece |
|                |                                  |         |

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# **Outlet Snap-In front module**



#### Suitable Housings

 Surface-Mounted Case (84x84 mm) and coverplate Page 424

#### ■ Product features

- Kit consisting of back module with Snap-In front module
- The modular housing fits into a wide range of international 45 x 45 cover frames, cable ducts, etc.
- The Snap-In connectors are inserted into the front module using a simple click-in mechanism, and the front module is also mounted into the housing without the use of any tools.
- Compatible with all Snap-In Connectors



 Click, instead of screw-in (tool-free assembly)

- Suitable for both copper and fibre-optic modules
- 2 connectors with integrated dust-protection caps
- Angled outlet
- Colour: pure white (RAL 9010)
- Optional accessory: cover frame with integrated mounting ring

#### Approvals



| Article number | Article designation             | PU      |
|----------------|---------------------------------|---------|
| 60622          | Flush-Mounted Outlet 45 Modular | 1 piece |
| 60722          | Flush-Mounted Outlet 50 Modular | 1 piece |

Delivered without snap-in connectors!

Photographs are not to scale and do not represent detailed images of the respective products.

#### ■ Accessories

• Surface-Mounted Case (84x84 mm) and coverplate refer to page 424

# Surface-Mounted Case (84x84 mm) and coverplate



#### Product features

- Surface-mounted housing with integrated flush-mounted cover frame
- Cover frame with integrated mounting ring (2-part)
- Used in areas where concealed installation is not possible or undesirable
- Suitable for data outlet LSA+ CAT.6 (case 50)
- Cover frame also usable for flush-mounted outlet
- Dimensions: 84 x 84 mm
- Height: 40 mm (incl. frame)
- Colour: pure white (RAL 9010)



| Article number | Article designation                 | PU      |
|----------------|-------------------------------------|---------|
| Surface-mounte |                                     |         |
| 60632          | Surface-Mounted Case 45             | 1 piece |
| 60732          | Surface-Mounted Case 50             | 1 piece |
|                | h integrated mounting ring (2-part) |         |
| 60652          | Surface-Mounted Masking Frame 45    | 1 piece |
| 60852          | Surface-Mounted Masking Frame 50    | 1 piece |



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Components for building-networking

Modular connection systems

# **Keystone Clips for EVO SnapIn Connectors**

#### Product features

- Red keystone clips for LANmark EVO SnapIn with keystone format (wall thickness 1.5 -1.75 mm)
- Suitable for EVO SnapIn Connectors
- Not suitable for GG45 connectors





| 61203 Keystone Clips for EVO SnapIn Connectors | 24 pieces |
|--|-----------|

Photographs are not to scale and do not represent detailed images of the respective products.

# **Keystone Clips for Snapln Connectors**

#### Product features

- Keystone clips for LANmark SnapIn with keystone format
- Suitable for GG45 Connectors
- Not suitable for EVO SnapIn Connectors





| Article number | Article designation                  | PU        |
|----------------|--------------------------------------|-----------|
| 61201          | Keystone Clips for SnapIn Connectors | 24 pieces |

Photographs are not to scale and do not represent detailed images of the respective products.

# **SnapIn rail mount Adapter**

#### Product features

- Plastic housing including CAT.6 Snapln Connector
- Suitable for use in industrial applications
- Angled outlet at 45°
- Several adapters can be connected in series
- Covers packed in pairs (right/left)
- Side cover for SnapIn rail adapter (60797)
- Colour: pure white (RAL 9010)





| Article number | Article designation       | PU        |
|----------------|---------------------------|-----------|
| 60795          | Snapln rail mount Adapter | 12 pieces |

LSA+ connection systems

# Flush-Mounted Outlet LSA+



#### Suitable Housings

 Surface-Mounted Case (84x84 mm) and coverplate Page 424

# RoH5 V

Approvals

RoHS V

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#### Product features

- Flush-mounted outlet 80 x 80 LSA+ CAT.6
- 2x RJ45 angled outlet
- Colour-coded in accordance with EIA/TIA 568A and B
- Suitable for cable types (AWG 22, 23 and 24)
- Colour: pure white (RAL 9010)

| Article | number | Article designation                   | PU      |
|---------|--------|---------------------------------------|---------|
|         |        |                                       |         |
|         | 62722  | Flush-Mounted Outlet 80x80 LSA+ CAT.6 | 1 piece |

Photographs are not to scale and do not represent detailed images of the respective products.

### **Data Binder LSA+**



#### ■ Product features

- A data connector allows installation cables to be easily extended and damaged cables to be replaced, without having to reinstall the entire cable network.
- A data connector allows installation cables to be easily extended and damaged cables to be replaced, without having to reinstall the entire cable network.
- Cable inlet 7.5 mm
- Screw-adjustable strain relief
- Adhesive strips for fastening

| Article number | Article designation    | PU      |
|----------------|------------------------|---------|
| CE6382         | Data Binder LSA+ CAT.6 | 1 piece |

Photographs are not to scale and do not represent detailed images of the respective products.

# **Punch down tool LSA+**



### ■ Product features

- LSA+ punch-down tool for setting the individual cores on the data outlets or patch panel.
- Cores are set properly in the terminal strip and cut off at the same time.

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| Article number | Article designation  | PU      |  |  |  |
|----------------|----------------------|---------|--|--|--|
|                |                      |         |  |  |  |
| CE5076         | Punch down tool LSA+ | 1 piece |  |  |  |