

Data sheet

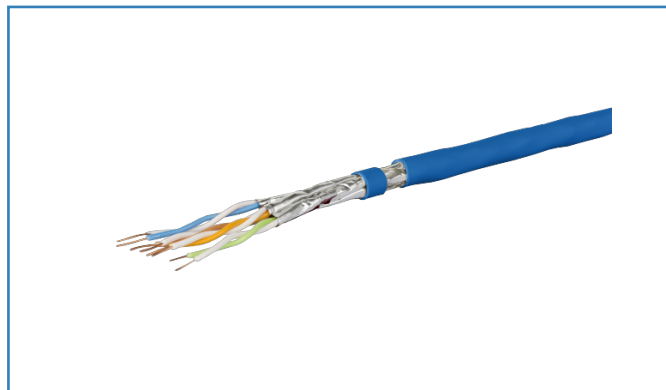
MC GC1000 plus23 Cat.7 S/FTP 4P LSHF, class E_{ca}

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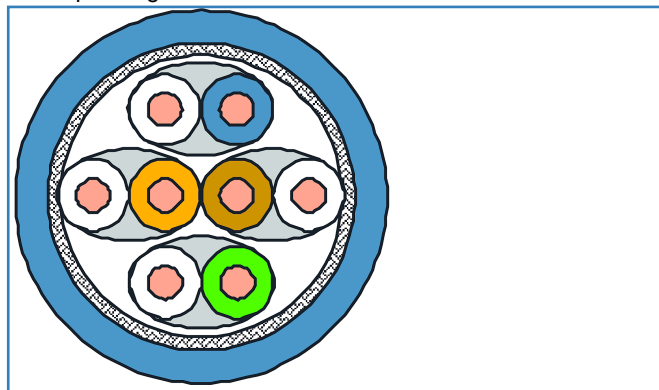
P/N
130842703214M
EAN 4250184175261

2017-20-11

Illustrations



Principle diagram



See enlarged drawings at the end of document



Product specification

- 10 GBit installation cable, simplex
- installation cable Cat.7 AWG 23 S/FTP with wires shielded in pairs
- 4 pairs (PiMF)
- pair shield: plastic foil with aluminum coating
- overall shield: tinned copper braid
- outer diameter 7.3 mm
- color of the cable jacket: blue
- coupling attenuation 80 dB
- applicable standards: EN 50173-1:2011-09; ISO/IEC 11801 Ed.2.2:2011-06; EN 50288-4-1 and IEC 61156-5
- cable jacket: LSHF (LSOH)
- flame-retardant to IEC 60332-1; IEC 60754-2 and IEC 61034
- fire behaviour: Class E_{ca} (classification acc. to EN 13501-6)

Shipping Units:

| | |
|------------------|---------|
| sold by meter | on drum |
| 1640 ft (500 m) | on drum |
| 3280 ft (1000 m) | on drum |



Technical Data

General Data

| | |
|-----------------------------|--|
| Design | Installation cables |
| Shielding | shielded |
| Transmission technology | Copper |
| Cable Type | S/FTP |
| Number of twisting elements | 4 |
| Twisting element | Pair |
| Color coding fiber/ wire(s) | white/orange, orange, white/green, green, white/brown, brown, white/blue, blue |
| Color | blue |
| Weight | 54.50 kg/km |

Transmission characteristics

| | |
|---------------------------------|--------------|
| Category (ISO) | 7 |
| PoE | IEEE 802.3af |
| PoE plus | IEEE 802.3at |
| Transmission rate up to 10 GBit | IEEE 802.3an |
| Transmission values (nominal) | see table |

Connections/interfaces

| | |
|--|-----------|
| Termination data, solid wire (min. - max.) | |
| Conductor cross section, solid wire | AWG 23/1 |
| Conductor diameter, solid wire (bare copper) | 0.56 mm |
| Conductor diameter, solid wire (bare copper) | 0.022 in. |
| Core diameter (min. - max.) | |
| Core diameter (conductor with insulation) | 1.38 mm |
| Core diameter (conductor with insulation) | 0.054 in. |
| Cable sheath diameter (min. - max.) | |
| Cable sheath diameter | 7.3 mm |
| Cable sheath diameter | 0.287 in. |
| Copper index | 26 kg/km |



Technical Data

Electrical characteristics

| | |
|---|-------------------|
| Loop resistance | max. 165 Ohm/km |
| Transfer impedance 1 MHz | max. 12 mOhm/m |
| Transfer impedance 10 MHz | max. 10 mOhm/m |
| Transfer impedance 30 MHz | max. 30 mOhm/m |
| Characteristic impedance 1-100 MHz | 100+/-5 Ohm |
| Characteristic impedance 100-250 MHz | 100+/-10 Ohm |
| Characteristic impedance 250-600 MHz | 100+/-15 Ohm |
| Resistance unbalance | max. 2 % |
| Coupling attenuation | 80 dB |
| Capacitance at 800 Hz | Nom. 43 nF/km |
| Capacitance unbalance pair to ground | max. 1500 pF/km |
| Nominal velocity of propagation | ca.79 % |
| Signal propagation delay | max. 427 ns/100 m |
| Delay skew | max. 12 ns/100 m |
| Dielectric strength conductor-conductor (primarily) | 1000 V DC |
| Dielectric strength conductor-conductor (secondary) | 1000 V DC |
| Dielectric strength conductor-shield | 1000 V DC |
| Segregation classification | D |

Mechanical characteristics

| | |
|-----------------------------|---------------|
| Tensile force | 110 N |
| Fire load | 0.170 kWh/m |
| Fire load | 590 MJ/km |
| Bending radius without load | min. 40 mm |
| Bending radius without load | min. 1.57 in. |
| Bending radius with load | min. 80 mm |
| Bending radius with load | min. 3.15 in. |

Materials and material properties

| | |
|---------------------------------|-----------------------|
| Material - Conductor | Cu (copper) |
| Material - Conductor Insulation | Foam-Skin Polyethylen |
| Material - Cable jacket | LSHF (LSOH) |
| Material - Pair shield | plastic film |
| Material - Pair shield finish | Al (Aluminium) |
| Material - Main shield | Cu (copper) braid |



Technical Data

Materials and material properties

| | |
|-------------------------------|----------|
| Material - Main shield finish | Sn (tin) |
| Flame retardancy | yes |

Environmental conditions

| | |
|-------------------------------|-------------|
| Temperature (min. - max.) | |
| Temperature - Storage °C | -20 - 60 °C |
| Temperature - Storage °F | -4 - 140 °F |
| Temperature - Operating °C | -20 - 60 °C |
| Temperature - Operating °F | -4 - 140 °F |
| Temperature - Installation °C | 0 - 50 °C |
| Temperature - Installation °F | 32 - 122 °F |

Approvals

| | |
|------|-----------|
| RoHS | compliant |
|------|-----------|

The product meets the following standards

| | |
|--|---|
| Generic cabling systems | |
| General requirements | ISO/IEC 11801 Ed.2.2:2011-06 DIN EN 50173-1:2011-09 |
| Multi-element metallic cables used in analogue and digital communication and control | DIN EN 50288-4-1 |
| Common test methods for cables under fire conditions | |
| Fire behaviour - class | fire behaviour: Class E _{ca} (classification acc. to EN 13501-6) |
| Test for vertical flame propagation for a single insulated wire or cable | IEC 60332-1 |
| Measurement of smoke density of cables burning | IEC 61034 |
| Determination of acidity (by measuring the pH value) and conductivity | IEC 60754-2 |

Classifications

| | |
|----------|----------|
| ETIM 5.0 | EC000830 |
| ETIM 6.0 | EC000830 |



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Technical Data

Packing details

Type of packaging

meter / drum



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Accessories

| P/N | Designation |
|-------------|-----------------------|
| 140302-01-E | Jokari dismantle tool |



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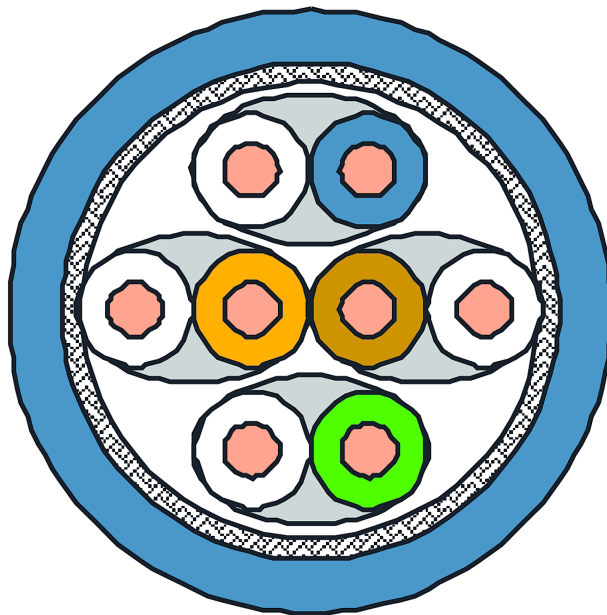
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Principle diagram



Transmission values (nominal) as per Cat. 7 (at 20°C)

| FREQ MHz | Attenuation (dB/100 m) | NEXT dB | PS-NEXT dB | ACR (dB/100 m) | PS-ACR (dB/100 m) | ELFEXT (dB/100 m) | PS-ELFEXT (dB/100 m) | Return loss dB |
|-------------|---------------------------|------------|---------------|-------------------|----------------------|----------------------|-------------------------|-------------------|
| 1.0 | 1.8 | 100 | 97 | 98 | 95 | 105 | 102 | - |
| 4.0 | 3.4 | 100 | 97 | 97 | 94 | 105 | 102 | 27 |
| 10.0 | 5.4 | 100 | 97 | 95 | 92 | 97 | 94 | 30 |
| 16.0 | 6.8 | 100 | 97 | 93 | 90 | 93 | 90 | 30 |
| 20.0 | 7.7 | 100 | 97 | 92 | 89 | 91 | 88 | 30 |
| 31.2 | 9.6 | 100 | 97 | 90 | 87 | 87 | 84 | 30 |
| 62.5 | 13.7 | 100 | 97 | 86 | 83 | 81 | 78 | 30 |
| 100.0 | 17.4 | 100 | 97 | 83 | 80 | 77 | 74 | 30 |
| 125.0 | 19.5 | 95 | 92 | 75 | 72 | 75 | 72 | 26 |
| 155.5 | 21.9 | 94 | 91 | 72 | 69 | 73 | 70 | 26 |
| 175.0 | 23.3 | 93 | 90 | 70 | 67 | 72 | 69 | 25 |
| 200.0 | 25.0 | 92 | 89 | 67 | 64 | 71 | 68 | 25 |
| 250.0 | 28.1 | 90 | 87 | 62 | 59 | 69 | 66 | 24 |
| 300.0 | 30.9 | 89 | 86 | 58 | 55 | 67 | 64 | 24 |
| 450.0 | 38.3 | 87 | 84 | 48 | 45 | 64 | 61 | 23 |
| 600.0 | 44.8 | 85 | 82 | 40 | 37 | 61 | 58 | 22 |
| 750.0 | 52.0 | 83 | 80 | 31 | 28 | 59 | 56 | 21 |
| 900.0 | 59.4 | 82 | 79 | 23 | 20 | 58 | 55 | 20 |
| 1000.0 | 63.1 | 80 | 77 | 17 | 14 | 57 | 54 | 20 |

