

# Data sheet

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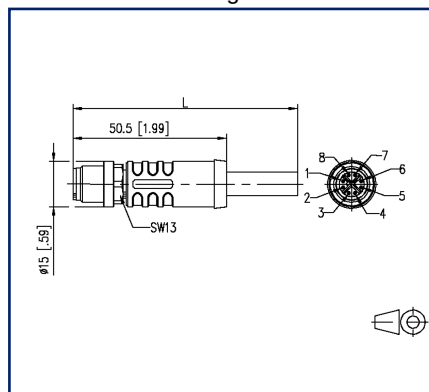
**M12 Industrial Ethernet cable, X-coded, 2.0 m,  
M12 plug straight - free line end, drag chain, PUR**

**P/N**  
**142M6X10020**  
**EAN 4250184199199**  
2026/09/03  
Version: W

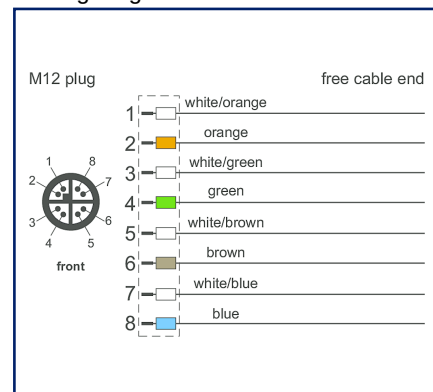
## Illustrations



Dimensional drawing



Wiring diagram



See enlarged drawings at the end of document

## Product specification

PROFINET 4x 2x AWG26/19 Type C highly flexible high-speed data cable of transmission category Cat 6. The cable is halogen-free, flame-retardant, oil-resistant and resistant to abrasion due to the PUR outer jacket. It is ideally suited for use in industrial environments. High-quality shielding ensures high transmission reliability of the data in electromagnetically stressed areas. Suitable for flexible applications, especially in drag chains or on continuously moving machine parts in dry and humid rooms. Special properties: flame-retardant, recyclable, LABS-free, RoHS-compliant, ozone-resistant, UV-resistant, suitable for drag chains, halogen-free, oil-resistant, high flexibility.

- Standard variants: 1.0 m, 2.0 m, 5.0 m, 10.0 m.
- Other cable lengths on request.



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## Technical Data

| General Data                        |                                                        |
|-------------------------------------|--------------------------------------------------------|
| Fields of application               | Industrial Ethernet<br>harsh environment               |
| Design                              | Ethernet-Connection cable                              |
| Shielding                           | shielded                                               |
| Transmission technology             | Copper                                                 |
| Cable Type                          | SF/UTP                                                 |
| Number of twisting elements         | 4                                                      |
| Twisting element                    | Pair                                                   |
| Wiring                              | 1 - 1                                                  |
| Color coding fiber/ wire(s)         | white, orange, white, green, white, brown, white, blue |
| Color                               | green                                                  |
| Dimensions                          |                                                        |
| Dimension - Interface 1 (L x W x H) | 50.5 mm x 15 mm x 15 mm                                |
| Dimension - Interface 1 (L x W x H) | 1.988 in. x 0.591 in. x 0.591 in.                      |
| Cable length (m)                    | 2 m                                                    |
| Cable length (ft)                   | 6.56 ft                                                |

| Transmission characteristics |                |
|------------------------------|----------------|
| Category (ISO)               | 6 <sub>A</sub> |

| Connections/interfaces                          |               |
|-------------------------------------------------|---------------|
| Connector technology interface 1                | M12-plug      |
| Connector technology interface 2                | free line end |
| Coding interface 1                              | X-coded       |
| Number of positions/contacts interface 1        | 8             |
| Termination data, stranded wire (min. - max.)   |               |
| Conductor cross section, stranded wire          | AWG 26/19     |
| Conductor diameter, stranded wire (bare copper) | 0.55 mm       |
| Conductor diameter, stranded wire (bare copper) | 0.022 in.     |

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### Connections/interfaces

Core diameter (min. - max.)

|                                           |         |
|-------------------------------------------|---------|
| Core diameter (conductor with insulation) | 0.98 mm |
|-------------------------------------------|---------|

|                                           |           |
|-------------------------------------------|-----------|
| Core diameter (conductor with insulation) | 0.039 in. |
|-------------------------------------------|-----------|

Cable sheath diameter (min. - max.)

|                       |      |
|-----------------------|------|
| Cable sheath diameter | 7.80 |
|-----------------------|------|

|                       |       |
|-----------------------|-------|
| Cable sheath diameter | 0.307 |
|-----------------------|-------|

### Electrical characteristics

|                           |                |
|---------------------------|----------------|
| Current carrying capacity | 0.5 A at 40 °C |
|---------------------------|----------------|

|               |         |
|---------------|---------|
| Rated voltage | 60 V DC |
|---------------|---------|

|                       |               |
|-----------------------|---------------|
| Insulation resistance | min. 100 MOhm |
|-----------------------|---------------|

|                           |                |
|---------------------------|----------------|
| Transfer impedance 10 MHz | max. 30 mOhm/m |
|---------------------------|----------------|

|                                    |     |
|------------------------------------|-----|
| Characteristic impedance 1-100 MHz | 100 |
|------------------------------------|-----|

|                       |          |
|-----------------------|----------|
| Capacitance at 800 Hz | 52 nF/km |
|-----------------------|----------|

|            |             |
|------------|-------------|
| Delay skew | 30 ns/100 m |
|------------|-------------|

### Mechanical data

|               |       |
|---------------|-------|
| Tensile force | 100 N |
|---------------|-------|

|                                |          |
|--------------------------------|----------|
| Life - Number of mating cycles | min. 100 |
|--------------------------------|----------|

|                             |         |
|-----------------------------|---------|
| Bending radius without load | 31.2 mm |
|-----------------------------|---------|

|                             |           |
|-----------------------------|-----------|
| Bending radius without load | 1.228 in. |
|-----------------------------|-----------|

|                          |         |
|--------------------------|---------|
| Bending radius with load | 58.5 mm |
|--------------------------|---------|

|                          |           |
|--------------------------|-----------|
| Bending radius with load | 2.303 in. |
|--------------------------|-----------|

|                                  |         |
|----------------------------------|---------|
| Maximum operating bending radius | 58.5 mm |
|----------------------------------|---------|

|                                  |           |
|----------------------------------|-----------|
| Maximum operating bending radius | 2.303 in. |
|----------------------------------|-----------|

|                                                                  |                          |
|------------------------------------------------------------------|--------------------------|
| Number of alternating bending cycles (mechanical resistance) at: | 4 million bending cycles |
|------------------------------------------------------------------|--------------------------|

|                            |         |
|----------------------------|---------|
| Alternating bending radius | 58.5 mm |
|----------------------------|---------|

|          |       |
|----------|-------|
| velocity | 3 m/s |
|----------|-------|

|              |                    |
|--------------|--------------------|
| acceleration | 3 m/s <sup>2</sup> |
|--------------|--------------------|

|                          |      |
|--------------------------|------|
| Shielding braid coverage | 85 % |
|--------------------------|------|



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### Materials and material properties

#### Cable

|                                 |                               |
|---------------------------------|-------------------------------|
| Material - Conductor            | Cu (copper)                   |
| Material - Conductor Insulation | polypropylene                 |
| Material - Cable jacket         | PUR                           |
| Material - Inner cable jacket   | FRNC, with an aluminized film |
| Flame retardancy                | according to IEC 60332-1-2    |

#### Interface 1

|                                         |                   |
|-----------------------------------------|-------------------|
| Material - Body interface 1             | Plastics          |
| Material - Contact interface 1          | CuZnPb (brass)    |
| Material - Contact finish interface 1   | Au (gold)         |
| Material - Contact carriers interface 1 | Plastics          |
| Material - Main shield                  | Cu (copper) braid |
| Material - Main shield finish           | Sn                |
| Oil resistance                          | yes               |
| UV-resistance                           | yes               |
| drag chain suitable                     | yes               |
| RoHS                                    | compliant         |

### Environmental conditions

#### Temperature (min. - max.)

|                                      |                            |
|--------------------------------------|----------------------------|
| Temperature - Operating °C           | -30 °C - 90 °C             |
| Temperature - Operating °F           | -22 °F - 194 °F            |
| Particulate ingress interface 1      | IP6X when plugged in       |
| Liquid ingress/immersion interface 1 | IPX5, IPX7 when plugged in |
| Pollution degree interface 1         | 2                          |

### Approvals

UL listed (file no.)



DUXR.E178484



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### Standards/Regulations

Generic cabling systems

General requirements ISO/IEC 11801 | ANSI/TIA-568

Connectors for electronic equipment

circular connector DIN EN 61076-2-109

Multi-element metallic cables used in analogue and digital communication and control

DIN EN 50288-5-2

Test for vertical flame propagation for a single insulated wire or cable

IEC 60332-1-2

Determination of the halogen acid gas content

IEC 60754-1

### Classifications

ETIM 7.0 EC002599

ETIM 8.0 EC002599

ETIM 9.0 EC002599

ETIM 10.0 EC002599

### Packing details

Type of packaging 1 pc(s) / plastic bag

### Application note

This product is a standard product of METZ CONNECT. METZ CONNECT is not aware of the specific intended use of the goods by the Customer or any customers of the Customer. The Customer guarantees that it has fully and sufficiently tested the use of the goods and any product modifications, product changes or product enhancements with regard to the specific intended use in accordance with the state of the art or in any other way.



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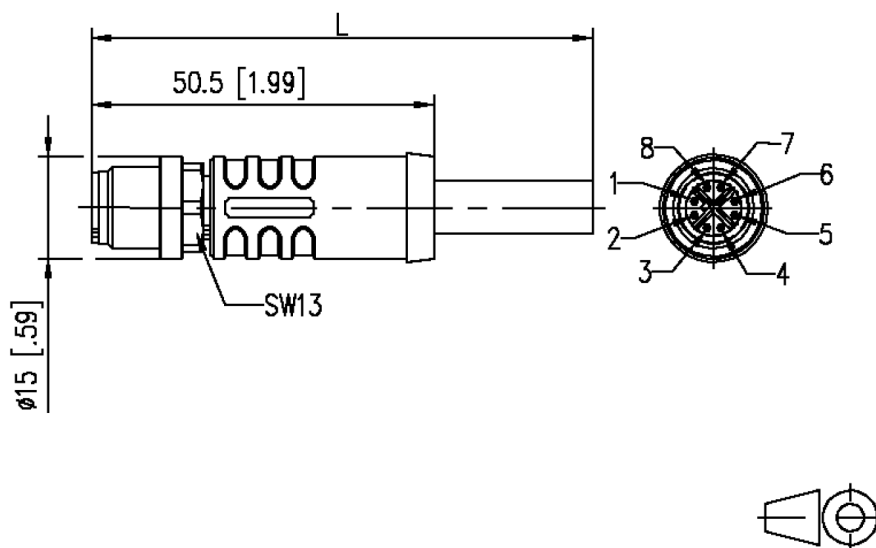
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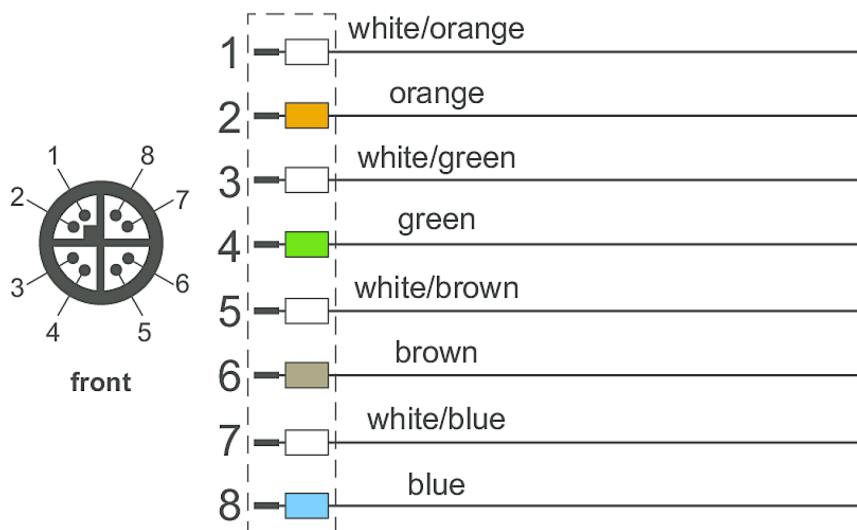
### Dimensional drawing



### Wiring diagram

M12 plug

free cable end



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**Illustrations**

Principle diagram

