

### product type designation

product description

### IE Connecting Cable M12-180/M12-180

Flexible plug-in cable (4-wire), preferred length, prefabricated with two 4-pole M12 connectors (D-coded, 180° cable outlet)

Industrial Ethernet connecting Cable M12-180/M12-180, pre-assembled IE FC Trailing cable GP, with 2 M12 plugs (D-coded) length 0.5 m.



suitability for use

For connecting Industrial Ethernet stations (e.g. SIMATIC ET200 and SCALANCE XP-200) in IP 65/67 degree of protection

cable designation

2YY (ST) CY 2x2x0,75/1,5-100 LI GN

wire length

0.5 m

### electrical data

number of electrical connections

2

attenuation factor per length

- at 10 MHz / maximum
- at 100 MHz / maximum

0.063 dB/m  
0.213 dB/m

impedance

- at 1 MHz ... 100 MHz

100 Ω

relative symmetrical tolerance

- of the characteristic impedance at 1 MHz ... 100 MHz

5 %

near-end crosstalk per length

- at 1 MHz ... 100 MHz

0.5 dB/m

transfer impedance per length / at 10 MHz

20 mΩ/m

operating voltage

- RMS value

80 V

NVP value in percent

66 %

### mechanical data

number of electrical cores

4

design of the shield

Overlapped aluminum-clad foil, sheathed in a braided screen of tin-plated copper wires

core diameter

- of AWG22 insulated conductor

0.75 mm

outer diameter

- of inner conductor
- of the wire insulation
- of the inner sheath of the cable
- of cable sheath

0.75 mm  
1.5 mm  
3.9 mm  
6.5 mm

symmetrical tolerance of the outer diameter / of cable sheath

0.2 mm

material

- of the wire insulation
- of the inner sheath of the cable
- of cable sheath

polyethylene (PE)  
PVC  
PVC

color

- of the insulation of data wires
- of cable sheath

white/yellow/blue/orange  
green

|                                                                          |                                                                                                                                                     |
|--------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| bending radius                                                           |                                                                                                                                                     |
| • with single bend / minimum permissible                                 | 32.5 mm                                                                                                                                             |
| • with multiple bends / minimum permissible                              | 49 mm                                                                                                                                               |
| • with continuous bending                                                | 100 mm                                                                                                                                              |
| number of bending cycles                                                 | 3000000; Drag chain suitable for 3 million bending cycles at a bending radius of 100 mm, a speed of 4 m/s and an acceleration of 4 m/s <sup>2</sup> |
| tensile load / maximum                                                   | 150 N                                                                                                                                               |
| weight per length                                                        | 68 kg/km                                                                                                                                            |
| <b>plug</b>                                                              |                                                                                                                                                     |
| type of plug interlock                                                   | screwed                                                                                                                                             |
| connector coding                                                         |                                                                                                                                                     |
| • of the M12 circular connector                                          | D-coded                                                                                                                                             |
| <b>ambient conditions</b>                                                |                                                                                                                                                     |
| ambient temperature                                                      |                                                                                                                                                     |
| • during operation                                                       | -25 ... +75 °C                                                                                                                                      |
| • during storage                                                         | -25 ... +75 °C                                                                                                                                      |
| • during transport                                                       | -25 ... +75 °C                                                                                                                                      |
| • during installation                                                    | -10 ... +60 °C                                                                                                                                      |
| • note                                                                   | Electrical properties measured at 20 °C, tests according to DIN VDE 0472                                                                            |
| fire behavior                                                            | flame resistant according to UL 1685 (CSA FT 4)                                                                                                     |
| chemical resistance                                                      |                                                                                                                                                     |
| • to mineral oil                                                         | conditional resistance                                                                                                                              |
| • to grease                                                              | Conditional resistance                                                                                                                              |
| radiological resistance / to UV radiation                                | resistant                                                                                                                                           |
| protection class IP                                                      | IP65, IP67                                                                                                                                          |
| <b>product features, product functions, product components / general</b> |                                                                                                                                                     |
| product feature                                                          |                                                                                                                                                     |
| • halogen-free                                                           | No                                                                                                                                                  |
| • silicon-free                                                           | Yes                                                                                                                                                 |
| <b>standards, specifications, approvals</b>                              |                                                                                                                                                     |
| UL/ETL listing / 300 V Rating                                            | Yes; c(ETL)us, CMG FT4 / (ETL)us PLTC / Sun Res / OIL RES                                                                                           |
| UL/ETL style / 600 V Rating                                              | Yes; cRUus AWM 21694 AWM I A/B 60°C 600V FT2                                                                                                        |
| certificate of suitability                                               |                                                                                                                                                     |
| • EAC approval                                                           | Yes                                                                                                                                                 |
| • CE marking                                                             | Yes                                                                                                                                                 |
| • RoHS conformity                                                        | Yes                                                                                                                                                 |
| standard for structured cabling                                          | Cat5e                                                                                                                                               |
| Marine classification association                                        |                                                                                                                                                     |
| • American Bureau of Shipping Europe Ltd. (ABS)                          | No                                                                                                                                                  |
| • French marine classification society (BV)                              | No                                                                                                                                                  |
| • Det Norske Veritas (DNV)                                               | No                                                                                                                                                  |
| • Germanische Lloyd (GL)                                                 | No                                                                                                                                                  |
| • Lloyds Register of Shipping (LRS)                                      | No                                                                                                                                                  |
| • Nippon Kaiji Kyokai (NK)                                               | No                                                                                                                                                  |
| • Polski Rejestr Statkow (PRS)                                           | No                                                                                                                                                  |
| reference code                                                           |                                                                                                                                                     |
| • according to IEC 81346-2                                               | WG                                                                                                                                                  |
| • according to IEC 81346-2:2019                                          | WGB                                                                                                                                                 |
| <b>further information / internet links</b>                              |                                                                                                                                                     |
| internet link                                                            |                                                                                                                                                     |
| • to web page: selection aid TIA Selection Tool                          | <a href="http://www.siemens.com/tia-selection-tool">http://www.siemens.com/tia-selection-tool</a>                                                   |
| • to website: Industrial communication                                   | <a href="http://www.siemens.com/simatic-net">http://www.siemens.com/simatic-net</a>                                                                 |
| • to website: Industry Mall                                              | <a href="https://mall.industry.siemens.com">https://mall.industry.siemens.com</a>                                                                   |
| • to website: Information and Download Center                            | <a href="http://www.siemens.com/industry/infocenter">http://www.siemens.com/industry/infocenter</a>                                                 |
| • to website: Selection guide for cables and connectors                  | <a href="https://sie.ag/2QdlxcP">https://sie.ag/2QdlxcP</a>                                                                                         |
| • to website: Image database                                             | <a href="http://automation.siemens.com/bilddb">http://automation.siemens.com/bilddb</a>                                                             |
| • to website: CAX-Download-Manager                                       | <a href="http://www.siemens.com/cax">http://www.siemens.com/cax</a>                                                                                 |
| • to website: Industry Online Support                                    | <a href="https://support.industry.siemens.com">https://support.industry.siemens.com</a>                                                             |

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