

### product description

Robust, flexible connection cable (4-core), preferred length, preassembled with two 4-pole M12 connectors (D-coded)

IE Robust Connecting Cable M12-180/M12-180, IP69, pre-assembled IE FC Robust Food cable 2x2, with 2 M12 plugs (D-coded) length 5.0 m.



### suitability for use

For connecting Industrial Ethernet stations with degree of protection IP65/67/69. Cable with FEP jacket (fluorinated plastic, perfluoroethylene propylene) for use in the food, beverages and tobacco industries (IP69 resistant). Line is water-repellent, weather-proof, resistant to microbes, and extremely resistant to many cleaning agents and disinfectants (such as hypochlorite, chlorine dioxide, peroxyacetic acid, and quaternary ammonium cations).

### cable designation

2YY(ST)CY6Y 2X2X0.75/1.55 LI VZN

### wire length

5 m

### electrical data

#### number of electrical connections

2

#### attenuation factor per length

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

0.095 dB/m  
0.32 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

0.353 dB/m

#### transfer impedance per length / at 10 MHz

80 mΩ/m

#### loop resistance per length / maximum

120 mΩ/m

#### operating voltage

- RMS value

80 V

#### NVP value in percent

69 %

### 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

#### type of electrical connection / FastConnect

Yes

#### 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  
1.56 mm  
4 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

polyethylene (PE)  
PVC

<ul style="list-style-type: none"> <li>• of cable sheath</li> </ul>	PVC/FEP; FEP transparent
color	
<ul style="list-style-type: none"> <li>• of the insulation of data wires</li> </ul>	white/yellow/blue/orange
<ul style="list-style-type: none"> <li>• of cable sheath</li> </ul>	green
bending radius	
<ul style="list-style-type: none"> <li>• with single bend / minimum permissible</li> </ul>	26 mm
<ul style="list-style-type: none"> <li>• with multiple bends / minimum permissible</li> </ul>	52 mm
<ul style="list-style-type: none"> <li>• with continuous bending</li> </ul>	100 mm
number of bending cycles	1000000; Acceleration 4 m/s <sup>2</sup>
number of torsion cycles / with torsion by $\pm 180^\circ$ on 1 m cable length	1000000
tensile load / maximum	150 N
weight per length	72 kg/km
<b>plug</b>	
type of plug interlock	screwed
design of plug-in connection	M12-180
connector coding	M12
<ul style="list-style-type: none"> <li>• of the M12 circular connector</li> </ul>	D-coded
<b>ambient conditions</b>	
ambient temperature	
<ul style="list-style-type: none"> <li>• during operation</li> </ul>	-40 ... +80 °C
<ul style="list-style-type: none"> <li>• during storage</li> </ul>	-40 ... +80 °C
<ul style="list-style-type: none"> <li>• during transport</li> </ul>	-40 ... +80 °C
<ul style="list-style-type: none"> <li>• during installation</li> </ul>	-40 ... +80 °C
<ul style="list-style-type: none"> <li>• note</li> </ul>	Electrical properties measured at 20 °C, tests according to DIN VDE 0472
fire behavior	flame resistant according to IEC 60332-1-2
chemical resistance	
<ul style="list-style-type: none"> <li>• to mineral oil</li> </ul>	oil resistant according to IEC 60811-404 (7x24h/90°C)
<ul style="list-style-type: none"> <li>• to grease</li> </ul>	Conditional resistance
<ul style="list-style-type: none"> <li>• to water</li> </ul>	resistant
radiological resistance / to UV radiation	resistant
protection class IP	IP65/67/69
<b>product features, product functions, product components / general</b>	
product feature	
<ul style="list-style-type: none"> <li>• halogen-free</li> </ul>	No
<ul style="list-style-type: none"> <li>• silicon-free</li> </ul>	Yes
<b>standards, specifications, approvals</b>	
UL/ETL listing / 300 V Rating	Yes; c(ETL)us 3047254 CMG FT4 75°C
UL/ETL style / 600 V Rating	Yes; AWM 22162 AWM I A/B 80°C 600V FT2
certificate of suitability	UL 2238
<ul style="list-style-type: none"> <li>• EAC approval</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• CE marking</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• RoHS conformity</li> </ul>	Yes
standard for structured cabling	Cat5e
Marine classification association	
<ul style="list-style-type: none"> <li>• American Bureau of Shipping Europe Ltd. (ABS)</li> </ul>	No
<ul style="list-style-type: none"> <li>• French marine classification society (BV)</li> </ul>	No
<ul style="list-style-type: none"> <li>• Det Norske Veritas (DNV)</li> </ul>	No
<ul style="list-style-type: none"> <li>• Germanische Lloyd (GL)</li> </ul>	No
<ul style="list-style-type: none"> <li>• Lloyds Register of Shipping (LRS)</li> </ul>	No
<ul style="list-style-type: none"> <li>• Nippon Kaiji Kyokai (NK)</li> </ul>	No
<ul style="list-style-type: none"> <li>• Polski Rejestr Statkow (PRS)</li> </ul>	No
reference code	
<ul style="list-style-type: none"> <li>• according to IEC 81346-2</li> </ul>	WG
<ul style="list-style-type: none"> <li>• according to IEC 81346-2:2019</li> </ul>	WGB
<b>further information / internet links</b>	
internet link	
<ul style="list-style-type: none"> <li>• to website: Selection guide for cables and connectors</li> </ul>	<a href="https://support.industry.siemens.com/cs/ww/en/view/109766358">https://support.industry.siemens.com/cs/ww/en/view/109766358</a>
<ul style="list-style-type: none"> <li>• to web page: selection aid TIA Selection Tool</li> </ul>	<a href="https://www.siemens.com/tstcloud">https://www.siemens.com/tstcloud</a>
<ul style="list-style-type: none"> <li>• to web page: SiePortal</li> </ul>	<a href="https://sieportal.siemens.com/">https://sieportal.siemens.com/</a>
<ul style="list-style-type: none"> <li>• to website: Image database</li> </ul>	<a href="https://www.automation.siemens.com/bilddb">https://www.automation.siemens.com/bilddb</a>

- to website: CAX-Download-Manager
- to website: Industry Online Support

<https://www.siemens.com/cax>  
<https://support.industry.siemens.com>

security information

security information

Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit [www.siemens.com/cybersecurity-industry](https://www.siemens.com/cybersecurity-industry). Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under <https://www.siemens.com/cert>. (V4.7)

Approvals / Certificates

General Product Approval

Environment



[Declaration of Con-  
formity](#)

[Manufacturer Declara-  
tion](#)

[Confirmation](#)

Industrial Communication

[PROFINET](#)

last modified:

8/8/2024 