

product type designation

product description

IE TP Cord M12-90/RJ45-180

Flexible plug-in cable (8-wire), preferred length, pre-assembled with 1 x IE M12 plug 4X2, X-coded, 90 degrees cable outlet and 1x RJ45 connector; 4x2, 180 degrees cable outlet

IE TP Cord M12-90/RJ45-180, pre-assembled IE Flexible Cable with 1x M12 plug (X-coded); 90-degree cable outlet; 1x RJ45 plug; 180-degree cable outlet; length 5.0 m.



Technical Product Detail Page

<https://l.siemens.com/1P6XV1878-5SH50>

suitability for use

For connecting Industrial Ethernet stations with an M12 interface (e.g. SCALANCE W and SCALANCE X)

cable designation

S/FTP

wire length

5 m

electrical data

number of electrical connections

2

attenuation factor per length

- at 10 MHz / maximum
- at 100 MHz / maximum
- at 300 MHz / maximum
- at 600 MHz / maximum

0.086 dB/m  
0.28 dB/m  
0.402 dB/m  
0.735 dB/m

impedance

- at 1 MHz ... 100 MHz

100 Ω

near-end crosstalk per length

- at 100 MHz
- at 300 MHz
- at 600 MHz

0.724 dB/m  
0.653 dB/m  
0.608 dB/m

loop resistance per length / maximum

290 mΩ/m

insulation resistance coefficient

5000 GΩ·m

operating voltage

- RMS value

80 V

NVP value in percent

68 %

mechanical data

number of electrical cores

8

design of the shield

S/FTP, overlapped aluminum-clad foil, sheathed in a protective braided shield of tinned copper wires

type of electrical connection / FastConnect

No

core diameter

- of AWG26 insulated conductor

0.48 mm

outer diameter

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

1 mm  
5.4 mm  
6.5 mm

symmetrical tolerance of the outer diameter / of cable sheath

0.3 mm

material

|                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• of the wire insulation</li> <li>• of cable sheath</li> </ul>                                                                                                                                                                                                                                                                                   | polyethylene (PE)<br>PUR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| color <ul style="list-style-type: none"> <li>• of the insulation of data wires</li> <li>• of cable sheath</li> </ul>                                                                                                                                                                                                                                                                    | white/blue, white/orange, white/green, white/brown<br>green                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| bending radius <ul style="list-style-type: none"> <li>• with single bend / minimum permissible</li> <li>• with multiple bends / minimum permissible</li> </ul>                                                                                                                                                                                                                          | 32.5 mm<br>65 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| tensile load / maximum                                                                                                                                                                                                                                                                                                                                                                  | 100 N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| weight per length                                                                                                                                                                                                                                                                                                                                                                       | 45 kg/km                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>ambient conditions</b>                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ambient temperature <ul style="list-style-type: none"> <li>• during operation</li> <li>• during storage</li> <li>• during transport</li> <li>• during installation</li> </ul>                                                                                                                                                                                                           | -30 ... +80 °C<br>-40 ... +80 °C<br>-40 ... +80 °C<br>-40 ... +80 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| fire behavior                                                                                                                                                                                                                                                                                                                                                                           | flame resistant according to IEC 60332-1-2, smoke density according to IEC 61034                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| chemical resistance <ul style="list-style-type: none"> <li>• to mineral oil</li> <li>• to grease</li> <li>• to water</li> </ul>                                                                                                                                                                                                                                                         | oil resistant according to DIN EN 60811-2-1<br>Conditional resistance<br>conditional resistance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| radiological resistance / to UV radiation                                                                                                                                                                                                                                                                                                                                               | resistant                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| protection class IP                                                                                                                                                                                                                                                                                                                                                                     | IP65/67 (M12), IP20 (RJ45)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>product features, product functions, product components / general</b>                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| product feature <ul style="list-style-type: none"> <li>• halogen-free</li> <li>• PoE capability</li> <li>• PoE+ capability</li> <li>• PoE++ capability</li> <li>• silicon-free</li> </ul>                                                                                                                                                                                               | Yes<br>Yes<br>Yes<br>Yes<br>Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>standards, specifications, approvals</b>                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| UL/ETL listing / 300 V Rating                                                                                                                                                                                                                                                                                                                                                           | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| UL/ETL style / 600 V Rating                                                                                                                                                                                                                                                                                                                                                             | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| certificate of suitability <ul style="list-style-type: none"> <li>• EAC approval</li> <li>• CE marking</li> <li>• RoHS conformity</li> </ul>                                                                                                                                                                                                                                            | ISO/IEC 11801-1, IEC 61035<br>Yes<br>Yes<br>Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| standard for structured cabling                                                                                                                                                                                                                                                                                                                                                         | Cat6A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Marine classification association <ul style="list-style-type: none"> <li>• American Bureau of Shipping Europe Ltd. (ABS)</li> <li>• French marine classification society (BV)</li> <li>• Det Norske Veritas (DNV)</li> <li>• Germanische Lloyd (GL)</li> <li>• Lloyds Register of Shipping (LRS)</li> <li>• Nippon Kaiji Kyokai (NK)</li> <li>• Polski Rejestr Statkow (PRS)</li> </ul> | No<br>No<br>No<br>No<br>No<br>No<br>No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>further information / internet links</b>                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| internet link <ul style="list-style-type: none"> <li>• to website: Selection guide for cables and connectors</li> <li>• to web page: selection aid TIA Selection Tool</li> <li>• to web page: SiePortal</li> <li>• to website: Image database</li> <li>• to website: CAX-Download-Manager</li> <li>• to website: Industry Online Support</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><br><a href="https://www.siemens.com/tstcloud">https://www.siemens.com/tstcloud</a><br><a href="https://sieportal.siemens.com/">https://sieportal.siemens.com/</a><br><a href="https://www.automation.siemens.com/bilddb">https://www.automation.siemens.com/bilddb</a><br><a href="https://www.siemens.com/cax">https://www.siemens.com/cax</a><br><a href="https://support.industry.siemens.com">https://support.industry.siemens.com</a> |
| <b>security information</b>                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 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

[Declaration of Con-  
formity](#)



[Manufacturer Declara-  
tion](#)

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