

### Product type designation

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

SIMATIC NET, IE CONNECTING CABLE M12-180/M12-180, PREASSEMBLED IE FC TRAILING CABLE GP, WITH 2 M12 CONNECTORS (D-CODED), LENGTH 0.3 M



|                                                        |                                    |
|--------------------------------------------------------|------------------------------------|
| Cable designation                                      | 2YY (ST) CY 2x2x0,75/1,5-100 LI GN |
| Wire length                                            | 0.3 m                              |
| <b>Electrical data</b>                                 |                                    |
| Damping ratio per length                               |                                    |
| • at 10 MHz / maximum                                  | 0.063 dB/m                         |
| • at 100 MHz / maximum                                 | 0.213 dB/m                         |
| Impedance                                              |                                    |
| • at 1 MHz ... 100 MHz                                 | 100 $\Omega$                       |
| 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 m $\Omega$ /m                   |
| Loop resistance per length / maximum                   | 120 m $\Omega$ /m                  |
| Operating voltage                                      |                                    |
| • RMS value                                            | 100 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 <ul style="list-style-type: none"> <li>• of AWG22 core</li> </ul>                                                                                                                   | 0.75 mm                                                                                                                                             |
| Outer diameter <ul style="list-style-type: none"> <li>• of inner conductor</li> <li>• of the wire insulation</li> <li>• of the inner sheath of the cable</li> <li>• of cable sheath</li> </ul>    | 0.75 mm<br>1.5 mm<br>3.9 mm<br>6.5 mm                                                                                                               |
| Symmetrical tolerance of the outer diameter / of cable sheath                                                                                                                                     | 0.2 mm                                                                                                                                              |
| Material <ul style="list-style-type: none"> <li>• of the wire insulation</li> <li>• of the inner sheath of the cable</li> <li>• of cable sheath</li> </ul>                                        | PE<br>PVC<br>PVC                                                                                                                                    |
| Color <ul style="list-style-type: none"> <li>• of the insulation of data wires</li> <li>• of cable sheath</li> </ul>                                                                              | white/yellow/blue/orange<br>green                                                                                                                   |
| Bending radius <ul style="list-style-type: none"> <li>• with single bend / minimum permissible</li> <li>• with multiple bends / minimum permissible</li> <li>• with continuous bending</li> </ul> | 32.5 mm<br>49 mm<br>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                                                                                                                                            |

| Permitted ambient conditions                                                                                                                                                                  |                                                                                                                                                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Ambient temperature <ul style="list-style-type: none"> <li>• during operation</li> <li>• during storage</li> <li>• during transport</li> <li>• during installation</li> <li>• Note</li> </ul> | -25 ... +75 °C<br>-25 ... +75 °C<br>-25 ... +75 °C<br>-10 ... +60 °C<br>Electrical properties measured at 20 °C, tests according to DIN VDE 0472 |
| Burning behavior                                                                                                                                                                              | flame resistant according to UL 1685 (CSA FT 4)                                                                                                  |
| Chemical resistance <ul style="list-style-type: none"> <li>• to mineral oil</li> <li>• to grease</li> </ul>                                                                                   | conditional resistance<br>Conditional resistance                                                                                                 |
| Radiological resistance / to UV radiation                                                                                                                                                     | resistant                                                                                                                                        |
| Protection class IP                                                                                                                                                                           | IP65, IP67                                                                                                                                       |

## Product properties, functions, components / general

### Product feature

- |                |     |
|----------------|-----|
| • halogen-free | No  |
| • silicon-free | Yes |

## Standards, specifications, approvals

|                               |                                              |
|-------------------------------|----------------------------------------------|
| UL/ETL listing / 300 V Rating | Yes; c(UL)us, CMG / PLTC / Sun Res / OIL RES |
|-------------------------------|----------------------------------------------|

|                             |     |
|-----------------------------|-----|
| UL/ETL style / 600 V Rating | Yes |
|-----------------------------|-----|

### Certificate of suitability

- |                   |     |
|-------------------|-----|
| • RoHS conformity | Yes |
|-------------------|-----|

|                                 |       |
|---------------------------------|-------|
| Standard for structured cabling | Cat5e |
|---------------------------------|-------|

### Marine classification association

- |                                                 |    |
|-------------------------------------------------|----|
| • American Bureau of Shipping Europe Ltd. (ABS) | No |
| • Bureau Veritas (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 |

## Further Information / Internet Links

### Internet-Link

- |                                                   |                                                                                                     |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| • to website: Selector SIMATIC NET SELECTION TOOL | <a href="http://www.siemens.com/snst">http://www.siemens.com/snst</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: 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>             |

**last modified:** 10/12/2016