

### Product type designation

Product description

### IE TP Torsion Cable 2 x 2 (Type C)

Highly flexible bus cable (4-core), sold by the meter, unassembled  
SIMATIC NET, IE FC TORSION CABLE, 2X2 (PROFINET TYP C),  
TP INSTALLATION CABLE, 4-WIRE, FOR USE IN ENHANCED  
FLEXIBILITY APPLICATION (TORSION), SOLD BY THE METER  
MAX. CONSIGNMENT: 1000 M, MIN. ORDERING QUANTITY: 20 M



Suitability for use

Continuous motion control when using robots

Cable designation

02YS C11Y 1x4x0,75/1,5-100 LI VZN FRNC GN SF/UTP

### Electrical data

Damping ratio per length

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

0.081 dB/m  
0.41 dB/m

Impedance

- at 1 MHz ... 100 MHz

100  $\Omega$

Relative symmetrical tolerance

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

15 %

Near-end crosstalk per length

- at 1 MHz ... 100 MHz

0.5 dB/m

Transfer impedance per length / at 10 MHz

100 m $\Omega$ /m

Loop resistance per length / maximum

120 m $\Omega$ /m

Operating voltage

- RMS value

100 V

|                      |      |
|----------------------|------|
| NVP value in percent | 70 % |
|----------------------|------|

## 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                                    | No                                                                                     |
| Core diameter                                                                  |                                                                                        |
| • of AWG22 core                                                                | 0.76 mm                                                                                |
| Outer diameter                                                                 |                                                                                        |
| • of inner conductor                                                           | 0.76 mm                                                                                |
| • of the wire insulation                                                       | 1.5 mm                                                                                 |
| • of cable sheath                                                              | 6.5 mm                                                                                 |
| Symmetrical tolerance of the outer diameter / of cable sheath                  | 0.2 mm                                                                                 |
| Material                                                                       |                                                                                        |
| • of the wire insulation                                                       | PE                                                                                     |
| • of cable sheath                                                              | PUR (TPE-U)                                                                            |
| Color                                                                          |                                                                                        |
| • of the insulation of data wires                                              | white/yellow/blue/orange                                                               |
| • of cable sheath                                                              | green                                                                                  |
| Bending radius                                                                 |                                                                                        |
| • with single bend / minimum permissible                                       | 32.5 mm                                                                                |
| • with multiple bends / minimum permissible                                    | 65 mm                                                                                  |
| Number of bending cycles                                                       | Not suitable for garland usage                                                         |
| Number of torsion cycles / with torsion by $\pm 180^\circ$ on 1 m cable length | 5000000                                                                                |
| Tensile load / maximum                                                         | 130 N                                                                                  |
| Weight per length                                                              | 54 kg/km                                                                               |

## Permitted ambient conditions

|                                           |                                                                          |
|-------------------------------------------|--------------------------------------------------------------------------|
| Ambient temperature                       |                                                                          |
| • during operation                        | -40 ... +80 °C                                                           |
| • during storage                          | -40 ... +80 °C                                                           |
| • during transport                        | -40 ... +80 °C                                                           |
| • during installation                     | -20 ... +60 °C                                                           |
| • Note                                    | Electrical properties measured at 20 °C, tests according to DIN VDE 0472 |
| Burning behavior                          | flame resistant according to IEC 60332-1-2                               |
| Chemical resistance                       |                                                                          |
| • to mineral oil                          | oil resistant according to IEC 60811-2-1 (7x24h/90°C)                    |
| • to grease                               | resistant                                                                |
| • to water                                | resistant                                                                |
| Radiological resistance / to UV radiation | resistant                                                                |

## Product properties, functions, components / general

|                                       |      |
|---------------------------------------|------|
| Product feature                       |      |
| • halogen-free                        | Yes  |
| • silicon-free                        | Yes  |
| Wire length / for Industrial Ethernet |      |
| • with 100BaseTX                      | 75 m |

## Standards, specifications, approvals

|                                                 |                     |
|-------------------------------------------------|---------------------|
| UL/ETL listing / 300 V Rating                   | Yes; UL Style 21161 |
| UL/ETL style / 600 V Rating                     | No                  |
| Certificate of suitability                      |                     |
| • CE marking                                    | Yes                 |
| • 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>             |

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