

CABLE-FCN40/.../...M/S7...

System cables for Simatic S7-300, 64-channel I/O boards

INTERFACE

Data sheet
103913_en_00

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1 Description

These system cables are plugged into Simatic S7-300 I/O boards, which are connected via Fujitsu connectors.

Two connection options are available:

CABLE-FCN40/1X50/...M/S7...

- Signal transfer of 32 channels
(two cables are required per board)

CABLE-FCN40/4X14/...M/S7...

- Splitting of 32 channels into 4 x 8 channels
(two cables are required per board)

The following I/O boards can be connected:

- 6ES7 322-1BP00-0AA0
- 6ES7 322-1BP50-0AA0
- 6ES7 321-1BP00-0AA0



Make sure you always use the latest documentation.
It can be downloaded at www.phoenixcontact.net/download.



This data sheet is valid for all products listed on the following page:

2 Ordering data

System cables

| Description | Cable length | Type | Order No. | Pcs./Pkt. |
|--|--------------|-------------------------------|-----------|-----------|
| Assembled round cable , 40-pos. Fujitsu strip on 50-pos. FLK strip (for connection to 6ES7 322-1BP00-0AA0 and 6ES7 322-1BP50-0AA0 output modules) | 0.5 m | CABLE-FCN40/1X50/0,5M/S7-OUT | 2321017 | 1 |
| | 1.0 m | CABLE-FCN40/1X50/1,0M/S7-OUT | 2321020 | 1 |
| | 2.0 m | CABLE-FCN40/1X50/2,0M/S7-OUT | 2321033 | 1 |
| | 3.0 m | CABLE-FCN40/1X50/3,0M/S7-OUT | 2321046 | 1 |
| | 4.0 m | CABLE-FCN40/1X50/4,0M/S7-OUT | 2321059 | 1 |
| | 6.0 m | CABLE-FCN40/1X50/6,0M/S7-OUT | 2321062 | 1 |
| | 8.0 m | CABLE-FCN40/1X50/8,0M/S7-OUT | 2321075 | 1 |
| | 10.0 m | CABLE-FCN40/1X50/10,0M/S7-OUT | 2321088 | 1 |
| Assembled round cable , 40-pos. Fujitsu strip on 50-pos. FLK strip (for connection to 6ES7 321-1BP00-0AA0 input module) Positive reading mode (sinking mode) of the module | 0.5 m | CABLE-FCN40/1X50/0,5M/S7-IN | 2321091 | 1 |
| | 1.0 m | CABLE-FCN40/1X50/1,0M/S7-IN | 2321101 | 1 |
| | 2.0 m | CABLE-FCN40/1X50/2,0M/S7-IN | 2321114 | 1 |
| | 3.0 m | CABLE-FCN40/1X50/3,0M/S7-IN | 2321127 | 1 |
| | 4.0 m | CABLE-FCN40/1X50/4,0M/S7-IN | 2321130 | 1 |
| | 6.0 m | CABLE-FCN40/1X50/6,0M/S7-IN | 2321143 | 1 |
| | 8.0 m | CABLE-FCN40/1X50/8,0M/S7-IN | 2321156 | 1 |
| | 10.0 m | CABLE-FCN40/1X50/10,0M/S7-IN | 2321169 | 1 |
| Assembled round cable , 40-pos. Fujitsu strip on four 14-pos. FLK strips (for connection to 6ES7 322-1BP00-0AA0 and 6ES7 322-1BP50-0AA0 output modules) | 0.5 m | CABLE-FCN40/4X14/0,5M/S7-OUT | 2321172 | 1 |
| | 1.0 m | CABLE-FCN40/4X14/1,0M/S7-OUT | 2321185 | 1 |
| | 2.0 m | CABLE-FCN40/4X14/2,0M/S7-OUT | 2321198 | 1 |
| | 3.0 m | CABLE-FCN40/4X14/3,0M/S7-OUT | 2321208 | 1 |
| | 4.0 m | CABLE-FCN40/4X14/4,0M/S7-OUT | 2321211 | 1 |
| | 6.0 m | CABLE-FCN40/4X14/6,0M/S7-OUT | 2321224 | 1 |
| | 8.0 m | CABLE-FCN40/4X14/8,0M/S7-OUT | 2321237 | 1 |
| | 10.0 m | CABLE-FCN40/4X14/10,0M/S7-OUT | 2321240 | 1 |
| Assembled round cable , 40-pos. Fujitsu strip on four 14-pos. FLK strips (for connection to 6ES7 321-1BP00-0AA0 input module) Positive reading mode (sinking mode) of the module | 0.5 m | CABLE-FCN40/4X14/0,5M/S7-IN | 2321253 | 1 |
| | 1.0 m | CABLE-FCN40/4X14/1,0M/S7-IN | 2321266 | 1 |
| | 2.0 m | CABLE-FCN40/4X14/2,0M/S7-IN | 2321279 | 1 |
| | 3.0 m | CABLE-FCN40/4X14/3,0M/S7-IN | 2321282 | 1 |
| | 4.0 m | CABLE-FCN40/4X14/4,0M/S7-IN | 2321295 | 1 |
| | 6.0 m | CABLE-FCN40/4X14/6,0M/S7-IN | 2321305 | 1 |
| | 8.0 m | CABLE-FCN40/4X14/8,0M/S7-IN | 2321318 | 1 |
| | 10.0 m | CABLE-FCN40/4X14/10,0M/S7-IN | 2321321 | 1 |

3 Technical data

| General data | CABLE-FCN40/1X50/...M/S7... | CABLE-FCN40/4X14/...M/S7... |
|--|---|---|
| Nominal voltage UN | < 50 V AC/60 V DC | |
| Maximum permissible current carrying capacity per path | 1 A | |
| Maximum conductor resistance | 0.16 Ω/m | |
| Ambient temperature range | | |
| Operation | -20°C ... +50°C | |
| Storage/transport | -20°C ... +70°C | |
| Conductor cross-section | 0.14 mm ² (26 AWG) | |
| Conductor structure | 7 litz wires, Cu tin-plated | |
| Outside diameter | 10 mm | 6.3 mm |
| Assembly | IDC IEC 60352-4/DIN EN 60352-4 | |
| Connector, control side | 40-pos. Fujitsu FCN connection | |
| Connector, module side | 50-pos. flat-ribbon cable connection | 4 x 14-pos. flat-ribbon cable connection |

4 Color code and pin assignment

CABLE-FCN40/1X50/...M/S7-OUT

| Connector, control side | Connector, module side | Conductor color |
|----------------------------|---------------------------|--------------------|
| A1 | 3 | Black |
| B1 | 27 | Brown |
| A2 | 4 | Red |
| B2 | 28 | Orange |
| A3 | 5 | Yellow |
| B3 | 29 | Green |
| A4 | 6 | Blue |
| B4 | 30 | Violet |
| A5 | 7 | Gray |
| B5 | 31 | White |
| A6 | 8 | White-black |
| B6 | 32 | White-brown |
| A7 | 9 | White-red |
| B7 | 33 | White-orange |
| A8 | 10 | White-yellow |
| B8 | 34 | White-green |
| A9 | 11(-) | White-blue |
| B9 | 35(-) | White-violet |
| A10 | 1(+) | White-gray |
| B10 | 25(+) | Brown-black |
| A11 | 15 | Brown-red |
| B11 | 39 | Brown-orange |
| A12 | 16 | Brown-yellow |
| B12 | 40 | Brown-green |
| A13 | 17 | Brown-blue |
| B13 | 41 | Brown-violet |
| A14 | 18 | Brown-gray |
| B14 | 42 | Brown-white |
| A15 | 19 | Green-black |
| B15 | 43 | Green-brown |
| A16 | 20 | Green-red |
| B16 | 44 | Green-orange |
| A17 | 21 | Green-blue |
| B17 | 45 | Green-violet |
| A18 | 22 | Green-gray |
| B18 | 46 | Green-white |
| A19 | 23(-) | Yellow-black |
| B19 | 47(-) | Yellow-brown |
| A20 | 13(+) | Yellow-red |
| B20 | 37(+) | Yellow-orange |

CABLE-FCN40/1X50/...M/S7-IN

| Connector, control side | Connector, module side | Conductor color |
|----------------------------|---------------------------|--------------------|
| A1 | 3 | Black |
| B1 | 27 | Brown |
| A2 | 4 | Red |
| B2 | 28 | Orange |
| A3 | 5 | Yellow |
| B3 | 29 | Green |
| A4 | 6 | Blue |
| B4 | 30 | Violet |
| A5 | 7 | Gray |
| B5 | 31 | White |
| A6 | 8 | White-black |
| B6 | 32 | White-brown |
| A7 | 9 | White-red |
| B7 | 33 | White-orange |
| A8 | 10 | White-yellow |
| B8 | 34 | White-green |
| A9 | 11(-) | White-blue |
| B9 | 35(-) | White-violet |
| A10 | 15 | White-gray |
| B10 | 39 | Brown-black |
| A11 | 16 | Brown-red |
| B11 | 40 | Brown-orange |
| A12 | 17 | Brown-yellow |
| B12 | 41 | Brown-green |
| A13 | 18 | Brown-blue |
| B13 | 42 | Brown-violet |
| A14 | 19 | Brown-gray |
| B14 | 43 | Brown-white |
| A15 | 20 | Green-black |
| B15 | 44 | Green-brown |
| A16 | 21 | Green-red |
| B16 | 45 | Green-orange |
| A17 | 22 | Green-blue |
| B17 | 46 | Green-violet |
| A18 | 23(-) | Green-gray |
| B18 | 47(-) | Green-white |
| A19 | | Yellow-black |
| B19 | | Yellow-brown |
| A20 | | Yellow-red |
| B20 | | Yellow-orange |

CABLE-FCN40/4X14/...M/S7-OUT

| | Connector, control side | Connector, module side | Conductor color |
|--------------------------|----------------------------|---------------------------|--------------------|
| Connection 1 (byte 0) | A9 | 10(-) | White |
| | A10 | 9(+) | Gray |
| | A8 | 8 | Violet |
| | A7 | 7 | Blue |
| | A6 | 6 | Green |
| | A5 | 5 | Yellow |
| | A4 | 4 | Orange |
| | A3 | 3 | Red |
| | A2 | 2 | Brown |
| | A1 | 1 | Black |
| Connection 2 (byte 1) | A19 | 10(-) | White |
| | A20 | 9(+) | Gray |
| | A18 | 8 | Violet |
| | A17 | 7 | Blue |
| | A16 | 6 | Green |
| | A15 | 5 | Yellow |
| | A14 | 4 | Orange |
| | A13 | 3 | Red |
| | A12 | 2 | Brown |
| | A11 | 1 | Black |
| Connection 3 (byte 2) | B9 | 10(-) | White |
| | B10 | 9(+) | Gray |
| | B8 | 8 | Violet |
| | B7 | 7 | Blue |
| | B6 | 6 | Green |
| | B5 | 5 | Yellow |
| | B4 | 4 | Orange |
| | B3 | 3 | Red |
| | B2 | 2 | Brown |
| | B1 | 1 | Black |
| Connection 4 (byte 3) | B19 | 10(-) | White |
| | B20 | 9(+) | Gray |
| | B18 | 8 | Violet |
| | B17 | 7 | Blue |
| | B16 | 6 | Green |
| | B15 | 5 | Yellow |
| | B14 | 4 | Orange |
| | B13 | 3 | Red |
| | B12 | 2 | Brown |
| | B11 | 1 | Black |

CABLE-FCN40/4X14/...M/S7-IN

| | Connector, control side | Connector, module side | Conductor color |
|--------------------------|----------------------------|---------------------------|--------------------|
| Connection 1 (byte 0) | A9 | 10(-) | Gray |
| | A8 | 8 | Violet |
| | A7 | 7 | Blue |
| | A6 | 6 | Green |
| | A5 | 5 | Yellow |
| | A4 | 4 | Orange |
| | A3 | 3 | Red |
| | A2 | 2 | Brown |
| | A1 | 1 | Black |
| | Connection 2 (byte 1) | A18 | 10(-) |
| A17 | | 8 | Violet |
| A16 | | 7 | Blue |
| A15 | | 6 | Green |
| A14 | | 5 | Yellow |
| A13 | | 4 | Orange |
| A12 | | 3 | Red |
| A11 | | 2 | Brown |
| A10 | | 1 | Black |
| Connection 3 (byte 2) | | B9 | 10(-) |
| | B8 | 8 | Violet |
| | B7 | 7 | Blue |
| | B6 | 6 | Green |
| | B5 | 5 | Yellow |
| | B4 | 4 | Orange |
| | B3 | 3 | Red |
| | B2 | 2 | Brown |
| | B1 | 1 | Black |
| | Connection 4 (byte 3) | B18 | 10(-) |
| B17 | | 8 | Violet |
| B16 | | 7 | Blue |
| B15 | | 6 | Green |
| B14 | | 5 | Yellow |
| B13 | | 4 | Orange |
| B12 | | 3 | Red |
| B11 | | 2 | Brown |
| B10 | | 1 | Black |

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