

8CH012.12-3

1 General information

- Can be used in cable drag chains
- Motor and encoder lines in one cable
- Assembled specifically for use with ACOPOS servo drives 8V1180/1320 and B&R servo motors with option "Single-cable solution (hybrid)"
- speedtec - Innovative connector system for secure connections

2 Order data


| Model number | Short description | Figure |
|--------------|--|---|
| | 4 mm² hybrid motor cables | |
| 8CH012.12-3 | ACOPOS hybrid motor cable, length 12 m, 4x 4 mm ² + 2x 1 mm ² + 2x 0.30 mm ² + 2x 2x 0.15 mm ² , 13-pin female speedtec hybrid motor connector, can be used in cable drag chains |  |

Table 1: 8CH012.12-3 - Order data

3 Technical data

| Model number | 8CH012.12-3 |
|----------------------------|--|
| General information | |
| Cable cross section | 4x 4 mm ² + 2x 1 mm ² + (2x 1x 0.30 mm ² + 2x 2x 0.15 mm ²) |
| Durability | Oil resistance per EN 60811-2-1 ¹⁾ |
| Certification | E130266 cRUus AWM Style 21223, 80°C, 1000 V and CSA C22.2 No. 210 I/II A/B FT1 ¹⁾ |
| Certifications | |
| CE | Yes |
| UL | cULus E225616 Power conversion equipment |
| Cable construction | |
| Power lines | |
| Quantity | 4 |
| Wire insulation | PP |
| Wire colors | Black, brown, blue, yellow/green |
| Variant | Copper stranded wire |
| Cross section | 4 mm ² |
| Shield | No |
| Stranding | No |
| Supply lines | |
| Quantity | 2 |
| Wire insulation | PP |
| Wire colors | White/Blue, white/green |
| Variant | Tinned copper stranded wire |
| Cross section | 1 mm ² |
| Shield | No |
| Stranding | No |
| Signal line | |
| Quantity | 6 |
| Wire insulation | PP |
| Wire colors | Brown/Green, white/green, gray/pink, yellow/violet |
| Variant | 2x copper stranded wire, 4x tinned copper stranded wire |
| Cross section | 2x 0.30 mm ² , 4x 0.15 mm ² |
| Shield | Tinned copper braiding, optical coverage > 85% and foil shield |
| Stranding | Brown/Green with white/green, pink with gray and yellow with violet |
| Cable stranding | With filler elements and foil shield |

Table 2: 8CH012.12-3 - Technical data

| Model number | 8CH012.12-3 |
|---|---|
| Cable shield | Tinned copper braiding, optical coverage > 85% and foil shield |
| Outer jacket | |
| Material | PUR |
| Color | Orange, similar to RAL 2003 flat |
| Labeling | B&R 4x4 + 2x1 + (2x2 26AWG + 2x1x 23AWG) *E130266* cRU-us AWM STYLE 21223* AWM I/II A/B 80°C 1000 V FT1 ¹⁾ |
| Connector | |
| Type | 13-pin female speedtec hybrid motor connector |
| Mating cycles | <500 |
| Contacts | 13 |
| Additional connectors | 9-pin male DSUB connector Mating cycles: <200 Contacts: 9 Degree of protection per EN 60529: IP20 when connected |
| Degree of protection per EN 60529 | IP66/67 when connected |
| Electrical properties ¹⁾ | |
| Test voltage | |
| Wire/Wire | 4 kV |
| Wire/Shield | 4 kV |
| Conductor resistance | |
| Power lines | ≤5 Ω/km |
| Supply lines | ≤19.5 Ω/km |
| Signal line | 0.30 mm ² : ≤68 Ω/km, 0.15 mm ² : ≤140 Ω/km |
| Insulation resistance | ≥200 MΩ*km |
| Current-carrying capacity per DIN VDE 0298 part 4, table 11 | |
| Wall mounting | 30 A ²⁾ |
| Installed in conduit or cable duct | 30 A ²⁾ |
| Installed in cable tray | 30 A ²⁾ |
| Ambient conditions ¹⁾ | |
| Temperature | |
| Moving | -20°C to +90°C |
| Static | -20°C to +90°C |
| Mechanical properties ¹⁾ | |
| Dimensions | |
| Length | 12 m |
| Diameter | 15.7 mm ± 0.4 mm |
| Bend radius | |
| Single bend | >65 mm |
| Moving | ≥121 mm |
| Drag chain data | |
| Acceleration | Max. 50 m/s ² (depends on the length of the travel path) |
| Flex cycles | ≥3,000,000 |
| Speed | Max. 300 m/min |
| Weight | 4.6 kg |

Table 2: 8CH012.12-3 - Technical data

- 1) Values refer to the raw cable being used.
2) Limited to 30 A by the hybrid motor connector.

4 Wiring

4.1 Cable construction

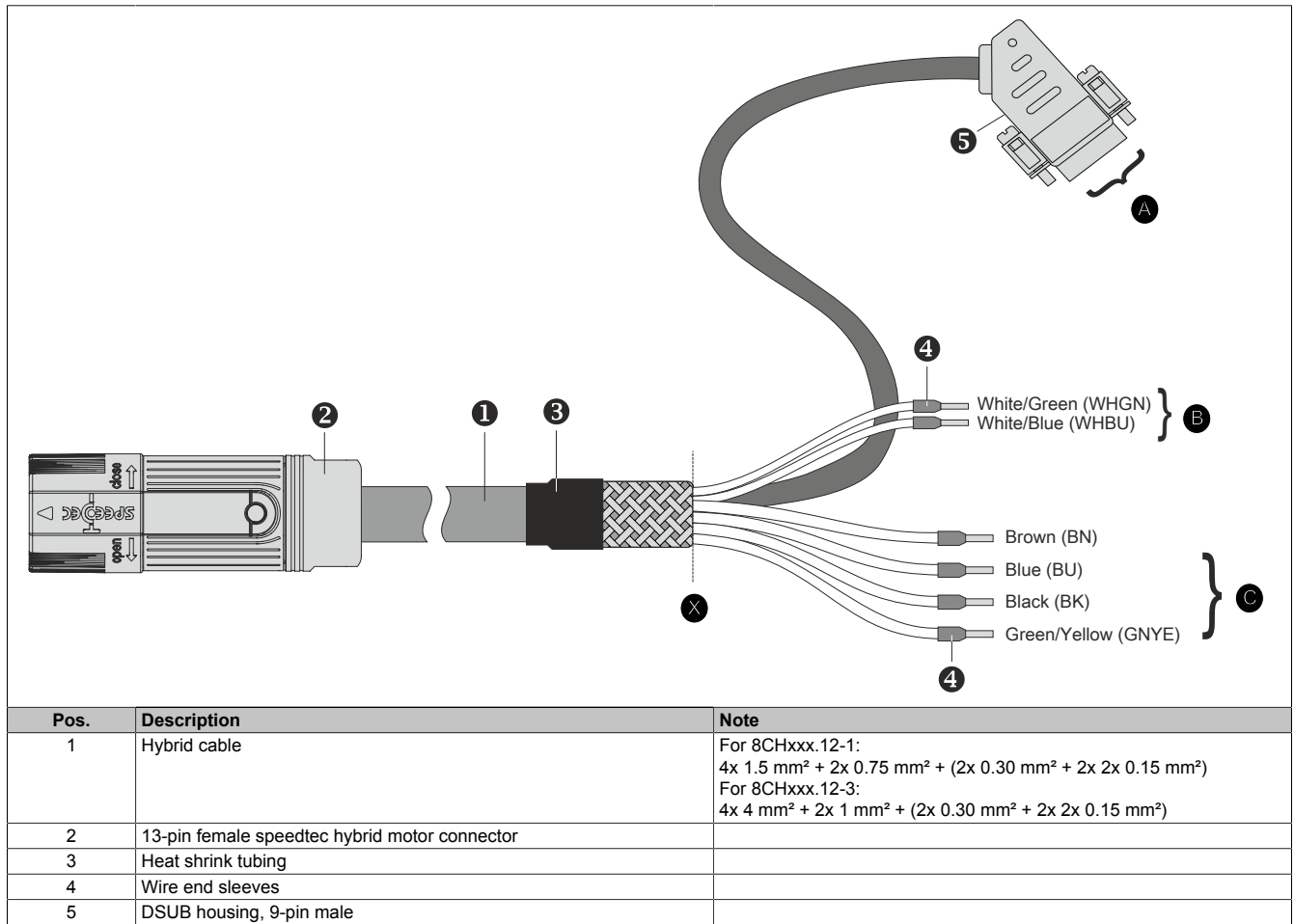


Table 3: Hybrid motor cables - Cable construction

| Custom cable length from point x (for 1.5 mm ²) | | |
|---|---|--------|
| A | 1 | 380 mm |
| B | 2 | 75 mm |
| C | 4 | 65 mm |

| Custom cable length from point (for 4 mm ²) | | |
|---|---|--------|
| A | 1 | 380 mm |
| B | 2 | 150 mm |
| C | 4 | 90 mm |

4.2 Pinout

| Circular connector | Pin | Description | Function | Pin | DSUB connector |
|--------------------|-----|-------------|-----------------------------|-----|----------------|
| | 6 | T\ | Clock output inverted | 9 | |
| | 1 | U+ | Encoder power supply +12 V | 1 | |
| | 2 | COM | Encoder power supply 0 V | 6 | |
| | 3 | D | Data | 4 | |
| | 4 | D\ | Data inverted | 8 | |
| | 5 | T | Clock output | 5 | |
| | 7 | B- | Brake 0 V | - | |
| | 8 | B+ | Brake +24 V | - | |
| | A | U | Motor connection U | - | |
| | B | V | Motor connection V | - | |
| | C | W | Motor connection W | - | |
| | D | - | - | - | |
| | ⊕ | PE | Protective ground conductor | - | |

Table 4: Hybrid motor cables - Pinout

4.3 Cable diagram

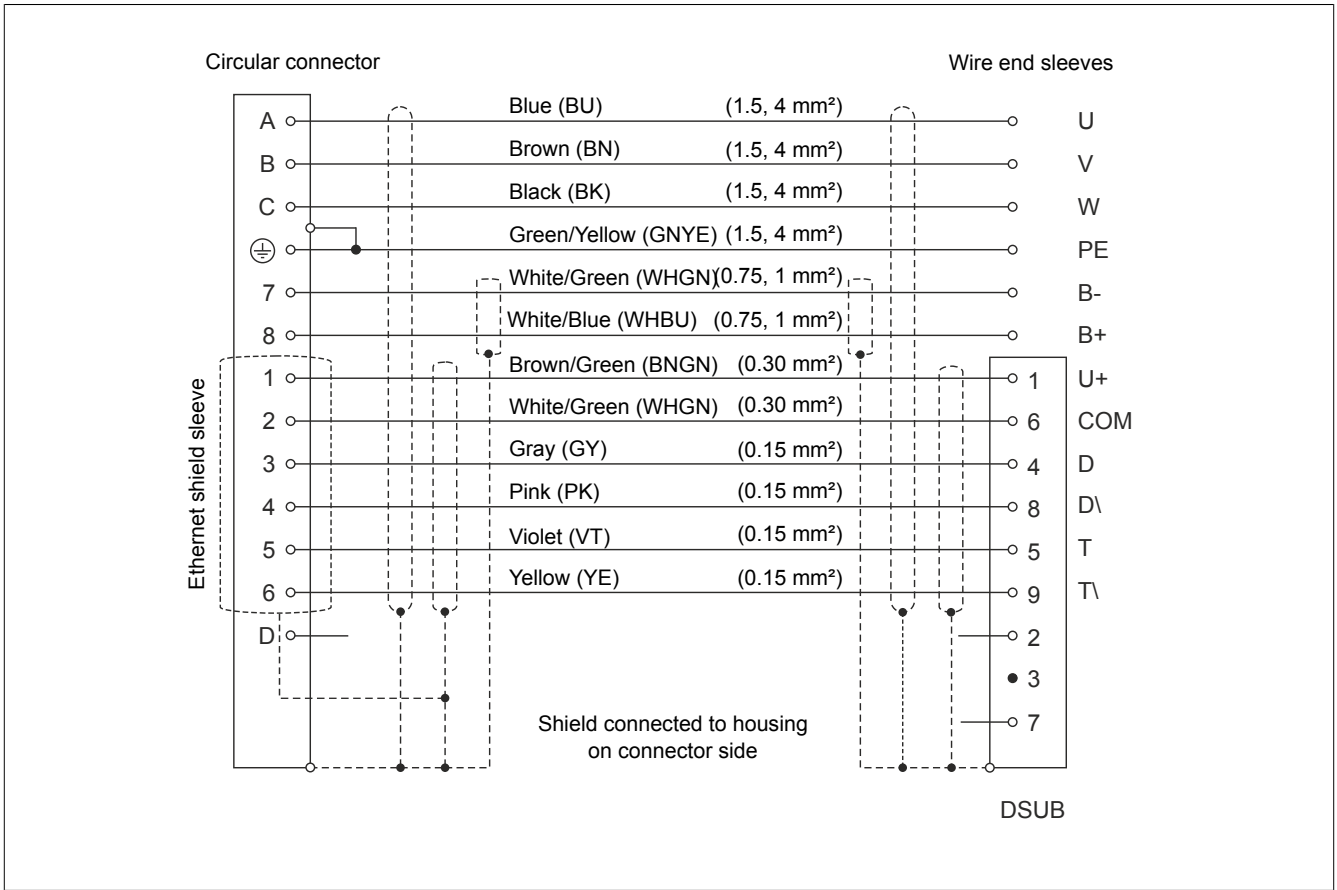


Figure 1: Hybrid motor cables - Cable diagram