

# 8CR050.12-1

## 1 General information

- Can be used in cable drag chains
- Assembled specifically for use with ACOPOS servo drives and B&R servo motors

## 2 Order data

| Model number | Short description                                                                                                                                                      | Figure                                                                              |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|              | <b>Resolver cables</b>                                                                                                                                                 |  |
| 8CR050.12-1  | Resolver cable, length 50 m, 3x 2x 24 AWG (19x 0.127), 12-pin female Intercontec resolver connector, 9-pin male DSUB servo connector, can be used in cable drag chains |                                                                                     |

Table 1: 8CR050.12-1 - Order data

## 3 Technical data

| Model number                               | 8CR050.12-1                                                                                                                     |
|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>General information</b>                 |                                                                                                                                 |
| Cable cross section                        | 3x 2x 24 19 AWG                                                                                                                 |
| Durability                                 | Oil resistance per VDE 0472 Part 803 as well as standard hydraulic oils <sup>1)</sup>                                           |
| Certification                              | UL AWM Style 20671, 90°C, 30 V, E63216 and CSA AWM, 90°C, 30 V, I/II A/B FT1 LL46064 <sup>1)</sup>                              |
| Certifications                             |                                                                                                                                 |
| CE                                         | Yes                                                                                                                             |
| UL                                         | cULus E225616<br>Power conversion equipment                                                                                     |
| <b>Cable construction</b>                  |                                                                                                                                 |
| Signal line                                |                                                                                                                                 |
| Quantity                                   | 6                                                                                                                               |
| Wire insulation                            | Special thermoplastic material                                                                                                  |
| Wire colors                                | White/Brown, green/yellow, gray/pink                                                                                            |
| Variant                                    | Tinned copper stranded wire                                                                                                     |
| Cross section                              | 24 AWG / 19 AWG                                                                                                                 |
| Shield                                     | No                                                                                                                              |
| Stranding                                  | White with brown, green with yellow, gray with pink                                                                             |
| Cable stranding                            | The 3 pairs together covered by foil shield                                                                                     |
| Cable shield                               | Copper braiding, optical coverage ≥ 90% and foil shield                                                                         |
| Outer jacket                               |                                                                                                                                 |
| Material                                   | PUR                                                                                                                             |
| Color                                      | Green, similar to RAL 6018 flat                                                                                                 |
| Labeling                                   | BERNECKER + RAINER 3x2x24 AWG FLEX UL AWM STYLE 20671<br>90°C 30 V E63216 CSA AWM 90°C 30 V I/II A/B FT1 LL46064 <sup>1)</sup>  |
| <b>Connector</b>                           |                                                                                                                                 |
| Type                                       | 12-pin female Intercontec resolver connector                                                                                    |
| Mating cycles                              | <500                                                                                                                            |
| Contacts                                   | 12                                                                                                                              |
| Additional connectors                      | 9-pin male DSUB servo connector<br>Mating cycles: <200<br>Contacts: 9<br>Degree of protection per EN 60529: IP20 when connected |
| Degree of protection per EN 60529          | IP66/67 when connected                                                                                                          |
| <b>Electrical properties <sup>1)</sup></b> |                                                                                                                                 |
| Operating voltage                          | ≤30 V <sub>eff</sub>                                                                                                            |
| Test voltage                               |                                                                                                                                 |
| Wire/Wire                                  | 1.5 kV                                                                                                                          |
| Wire/Shield                                | 0.8 kV                                                                                                                          |
| Conductor resistance                       |                                                                                                                                 |
| Signal line                                | ≤86 Ω/km                                                                                                                        |
| Insulation resistance                      | >200 MΩ*km                                                                                                                      |
| <b>Ambient conditions <sup>1)</sup></b>    |                                                                                                                                 |
| Temperature                                |                                                                                                                                 |
| Moving                                     | -20°C to +80°C                                                                                                                  |
| Static                                     | -20°C to +90°C                                                                                                                  |

Table 2: 8CR050.12-1 - Technical data

| Model number                        | 8CR050.12-1     |
|-------------------------------------|-----------------|
| Mechanical properties <sup>1)</sup> |                 |
| Dimensions                          |                 |
| Length                              | 50 m            |
| Diameter                            | 6.5 mm ± 0.2 mm |
| Bend radius                         |                 |
| Single bend                         | ≥20 mm          |
| Moving                              | ≥50 mm          |
| Drag chain data                     |                 |
| Acceleration                        | ≤6 g            |
| Flex cycles <sup>2)</sup>           | >3,000,000      |
| Speed                               | ≤4 m/s          |
| Weight                              | 3.5 kg          |

Table 2: 8CR050.12-1 - Technical data

1) Values refer to the raw cable being used.

2) At an ambient temperature of 20°C and bend radius of 65 mm.

## 4 Wiring

### 4.1 Construction of the resolver cable

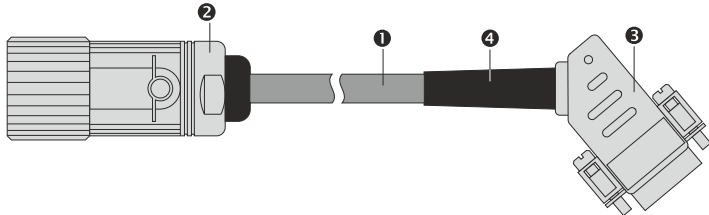
|  |                                                      |                 |
|------------------------------------------------------------------------------------|------------------------------------------------------|-----------------|
| Pos.                                                                               | Description                                          | Note            |
| 1                                                                                  | Encoder line                                         | 3x 2x 24 AWG/19 |
| 2                                                                                  | 12-pin female circular connector                     |                 |
| 3                                                                                  | DSUB housing 45°, metal-plated, 9-pin male connector |                 |
| 4                                                                                  | Kink protection                                      |                 |

Table 3: Resolver cables - Construction

### 4.2 Pinout

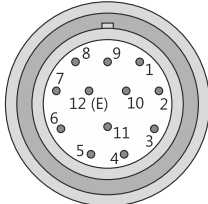
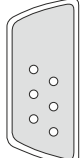
| Circular connector                                                                  | Pin | Description | Function           | Pin | DSUB connector                                                                        |
|-------------------------------------------------------------------------------------|-----|-------------|--------------------|-----|---------------------------------------------------------------------------------------|
|  | 1   | ---         |                    |     |  |
|                                                                                     | 2   | ---         |                    |     |                                                                                       |
|                                                                                     | 3   | S4          | Sine input +       | 3   |                                                                                       |
|                                                                                     | 4   | S1          | Cosine input -     | 4   |                                                                                       |
|                                                                                     | 5   | Ref         | Reference output + | 5   |                                                                                       |
|                                                                                     | 6   | ---         |                    |     |                                                                                       |
|                                                                                     | 7   | Cos\        | Sine input -       | 7   |                                                                                       |
|                                                                                     | 8   | Sin\        | Cosine input +     | 8   |                                                                                       |
|                                                                                     | 9   | Ref\        | Reference output - | 9   |                                                                                       |
|                                                                                     | 10  | ---         |                    |     |                                                                                       |
|                                                                                     | 11  | ---         |                    |     |                                                                                       |
|                                                                                     | 12  | ---         |                    |     |                                                                                       |

Table 4: Resolver cables - Pinout

4.3 Cable diagram

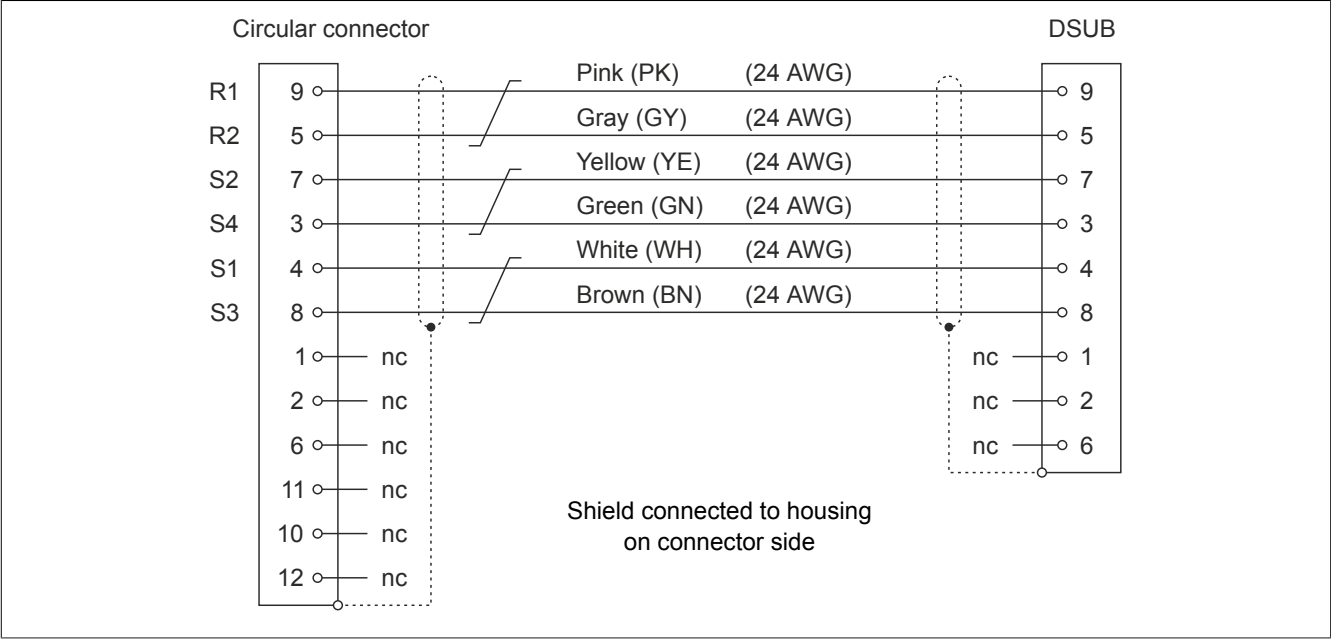


Figure 1: Resolver cables - Cable diagram