

# 8BCH0001.1312A-0

## 1 General information

- Can be used in cable drag chains
- Motor and encoder wires in one cable
- Assembled specifically for use with ACOPOSmulti drive systems and B&R servo motors with option "Single-cable solution (hybrid)"
- speedtec - Innovative connector system for secure connections
- Integrated shield plate

### Information:

A shield plate is attached to ACOPOSmulti 8BCH hybrid motor cables. If this shield plate is correctly installed on the respective ACOPOSmulti 8BVI inverter module, no additional shielding measures are necessary.

## 2 Order data


Order number	Short description	Figure
8BCH0001.1312A-0	<b>4 mm<sup>2</sup> hybrid motor cable</b> ACOPOSmulti hybrid motor cable, length 1 m, 4x 4 mm <sup>2</sup> + 2x 1 mm <sup>2</sup> + 2x 0.30 mm <sup>2</sup> + 2x 2x 0.15 mm <sup>2</sup> , 13-pin female speedtec hybrid motor connector size 1, integrated shield plate, can be used in cable drag chains	

Table 1: 8BCH0001.1312A-0 - Order data

## 3 Technical data

Order number	8BCH0001.1312A-0
<b>General information</b>	
Cable cross section	4x 4 mm <sup>2</sup> + 2x 1 mm <sup>2</sup> + (2x 1x 0.30 mm <sup>2</sup> + 2x 2x 0.15 mm <sup>2</sup> )
Durability	Oil resistance per EN 60811-2-1 <sup>1)</sup>
Certification	E130266 cRUus AWM style 21223, 80°C, 1000 V and CSA C22.2 no. 210 I/II A/B FT1 <sup>1)</sup>
<b>Certifications</b>	
CE	Yes
UKCA	Yes
UL	cULus E225616 Power conversion equipment
EAC	Yes
<b>Cable construction</b>	
<b>Power lines</b>	
Quantity	4
Wire insulation	PP
Wire colors	Black, brown, blue, yellow/green
Variant	Copper stranded wire
Cross section	4 mm <sup>2</sup>
Shield	No
Stranding	No
<b>Supply lines</b>	
Quantity	2
Wire insulation	PP
Wire colors	White/Blue, white/green
Variant	Tinned copper stranded wire
Cross section	1 mm <sup>2</sup>
Shield	No
Stranding	No

Table 2: 8BCH0001.1312A-0 - Technical data

Order number	8BCH0001.1312A-0
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 <sup>2</sup> , 4x 0.15 mm <sup>2</sup>
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
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 24AWG) *E130266* cRU-us AWM STYLE 21223* AWM I/II A/B 80°C 1000 V FT1 <sup>1)</sup>
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 <sup>1)</sup>	
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 <sup>2</sup> : ≤68 Ω/km, 0.15 mm <sup>2</sup> : ≤140 Ω/km
Insulation resistance	≥200 MΩ*km
Current-carrying capacity per DIN VDE 0298 part 4, table 11	
Wall mounting	30 A <sup>2)</sup>
Installed in conduit or cable duct	30 A <sup>2)</sup>
Installed in cable tray	30 A <sup>2)</sup>
Ambient conditions <sup>1)</sup>	
Temperature	
Moving	-20°C to +90°C
Static	-20°C to +90°C
Mechanical properties <sup>1)</sup>	
Dimensions	
Length	1 m
Diameter	15.7 mm ±0.4 mm
Bend radius	
Single bend	>48 mm
Moving	≥121 mm
Drag chain data	
Acceleration	Max. 50 m/s <sup>2</sup> (depends on the length of the travel path)
Flex cycles	≥3,000,000
Velocity	Max. 300 m/min
Weight	0.4 kg

Table 2: 8BCH0001.1312A-0 - 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

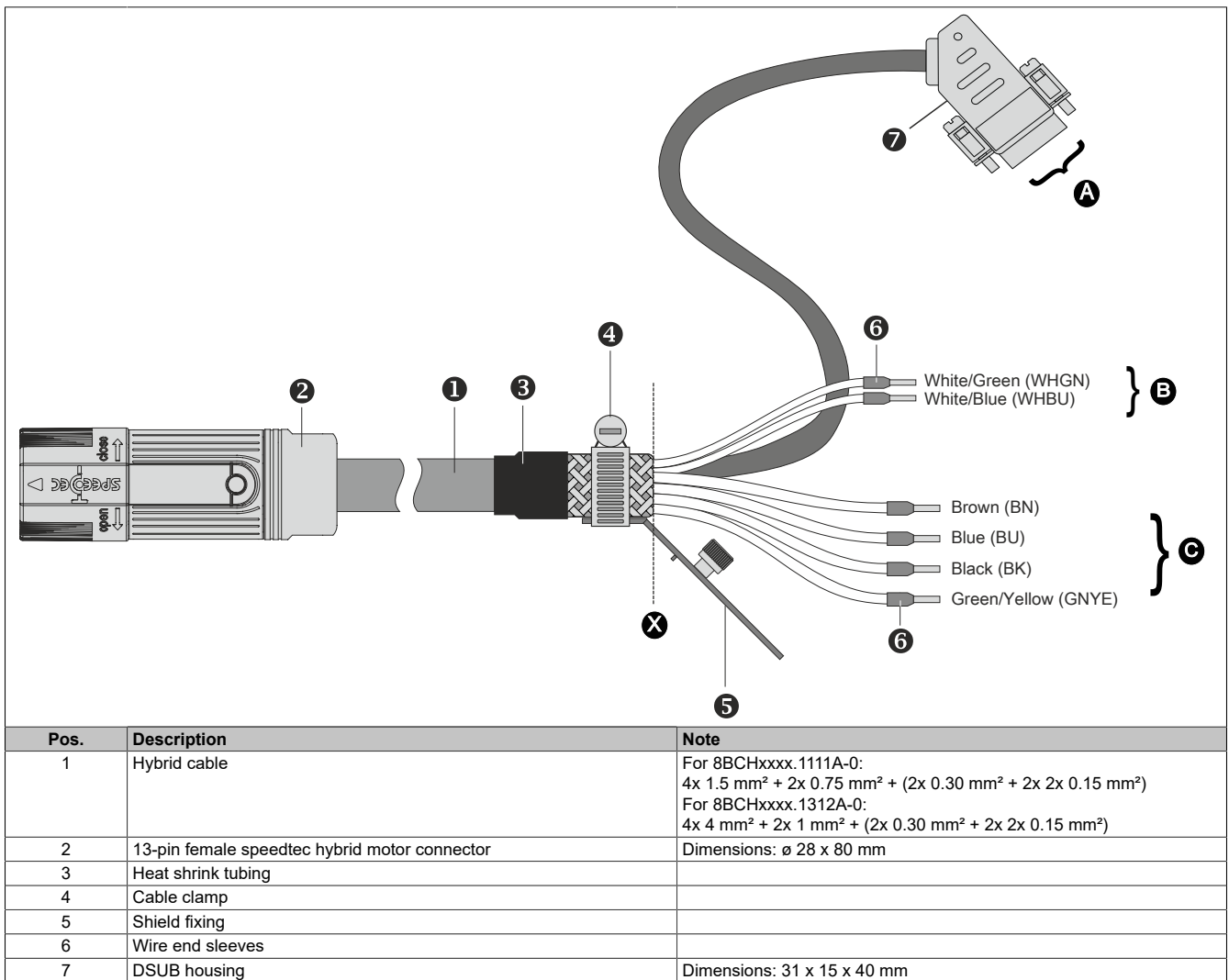


Table 3: Hybrid motor cables - Cable construction

Pos.	Quantity	Custom cable length from point x
A	1	480 mm
B	2	135 mm
C	4	140 mm

Table 4: Custom cable length

### 4.2 Pinout

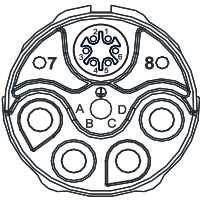
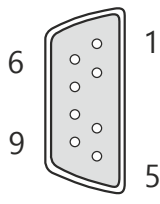
Circular connector	Pin	Description	Function	Pin	DSUB connector
	6	T\	Clock output inverted	9	
	1	U+	Encoder power supply +12 V	1	
	2	COM	Encoder power supply 0 V	6	
	3	D	Data	4	
	4	D\	Data inverted	8	
	5	T	Clock output	5	
	7	B-	Brake 0 V	-	
	8	B+	Brake +24 V	-	
	A	U	Motor connection U	-	
	B	V	Motor connection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

Table 5: Hybrid motor cables - Pinout

### 4.3 Cable diagram

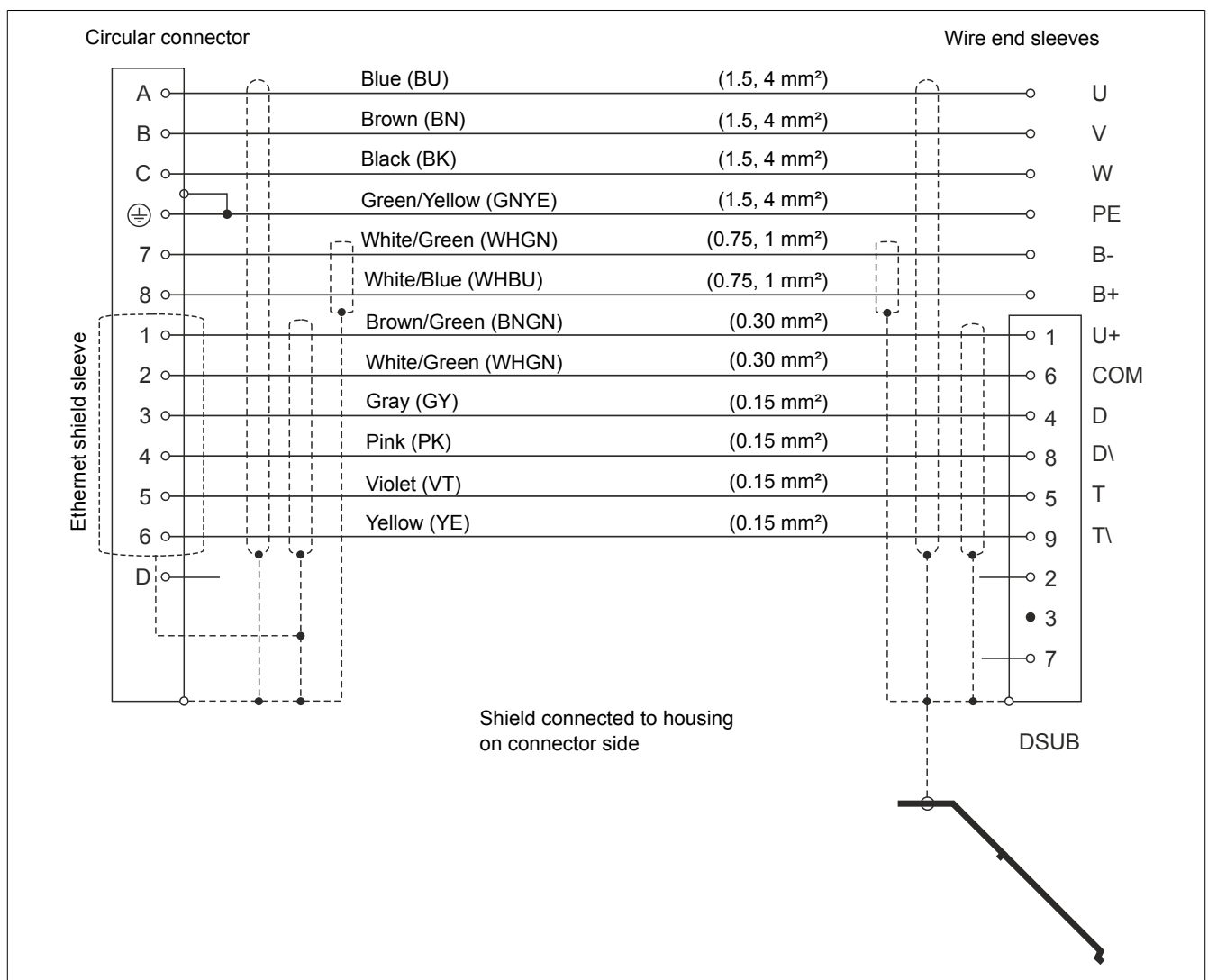


Figure 1: Hybrid motor cables - Cable diagram