8BCH0014.1312A-0

1 General information

- UL/CSA certified
- Can be used in cable drag chains
- Motor and encoder lines 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

2 Order data

Model number	Short description	Figure
	4 mm² hybrid motor cable	
8BCH0014.1312A-0	ACOPOSmulti hybrid motor cable, length 14 m, 4x 4 mm² + 2x 1 mm² + 2x 0.24 mm² + 2x 2x 0.15 mm², 13-pin female speedtec hybrid motor connector, integrated shield plate, can be used in cable drag chains, UL/CSA listed	

Table 1: 8BCH0014.1312A-0 - Order data

3 Technical data

Model number	8BCH0014.1312A-0
General information	
Cable cross section	4x 4 mm² + 2x 1 mm² + (2x 0.24 mm² + 2x 2x 0.15 mm²)
Durability	Oil resistance according to EN 60811-2-1
Listed	UL AWM Style 21223, 80°C, 1000 V as well as CSA C22.2 No. 210 I/II A/B FT1
Certification	
CE	Yes
UL	cULus E225616 Power Conversion Equipment
Cable construction	
Power lines	
Quantity	4
Wire insulation	Special thermoplastic material
Wire colors	Black, brown, blue, yellow/green
Design	Copper stranded wire
Diameter	4 mm²
Shield	No
Stranding	No
Supply lines	
Quantity	2
Wire insulation	Special thermoplastic material
Wire colors	White/blue, white/green
Design	Copper stranded wire
Diameter	1 mm²
Shield	Tinned copper braiding, optical coverage >90% and wrapped in foil shield
Stranding	White/blue with white/green
Signal lines	
Quantity	6
Wire insulation	Special thermoplastic material
Wire colors	Brown/green, white/green, gray, pink, yellow, violet
Design	Tinned copper stranded wire
Diameter	2x 0.24 mm², 4x 0.15 mm²
Shield	Tinned copper braiding, optical coverage >85% and wrapped in foil shield
Stranding	Brown/green with white/green, pink with gray and yellow with violet
Cable stranding	With filler elements and foil shield
Complete shielding	Tinned copper braiding, optical coverage >85% and wrapped in foil shield

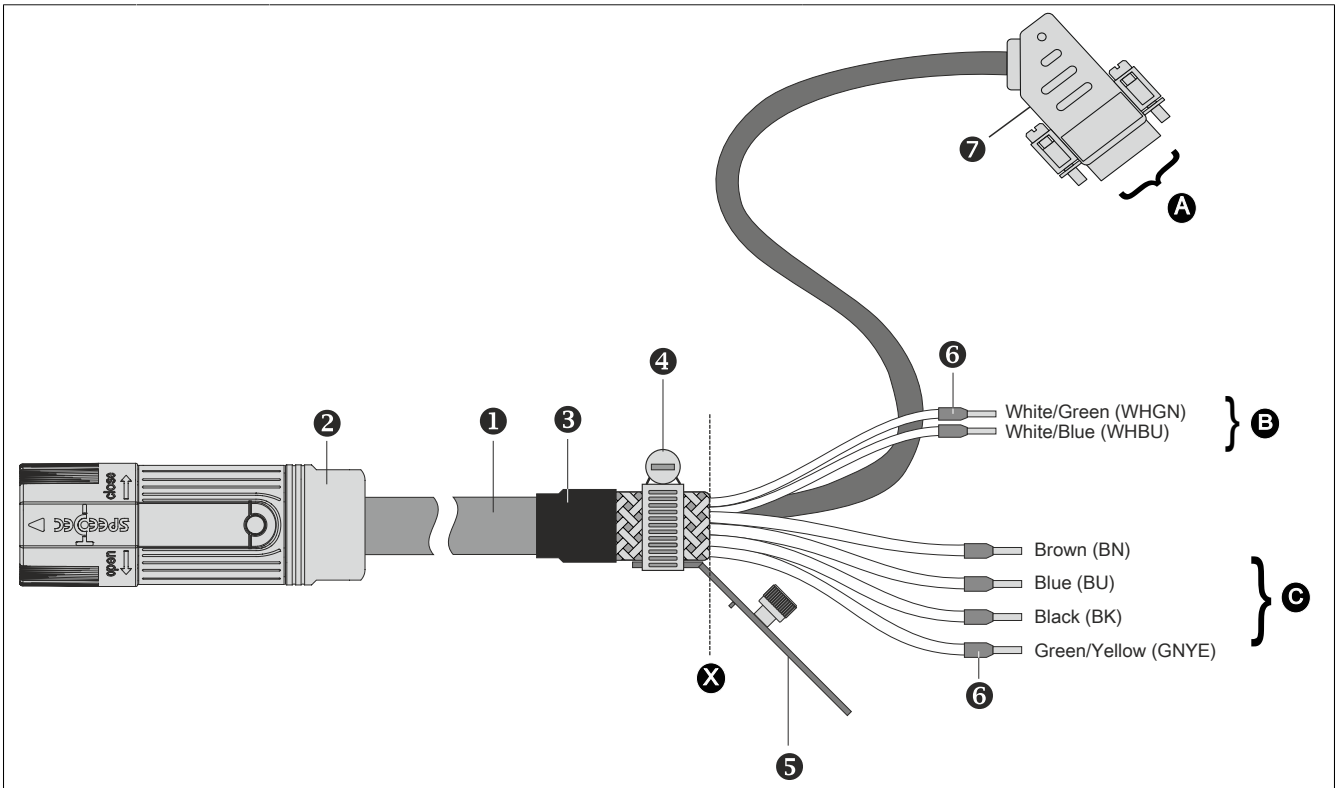
Table 2: 8BCH0014.1312A-0 - Technical data

Model number	8BCH0014.1312A-0
Outer sheathing	
Material	PUR
Color	Orange, similar to RAL 2003 flat
Labeling	B&R 4x4.0 + 2x1.0 + (2x2xAWG26 + 2x1xAWG24) * E130266 * cULus AWM STYLE 21223 * AWM I/II A/B 80°C 1000V FT1
Connector	
Type	13-pin female speedtec hybrid motor connector
Connection cycles	<500
Contacts	13
Additional connectors	9-pin male DSUB connector Connection cycles: >50 Contacts: 9 Protection in accordance with EN 60529: IP20 when connected
EN 60529 protection	IP67 when connected
Electrical characteristics	
Test voltage	
Wire/Wire	4 kV
Wire/Shield	4 kV
Conductor resistance	
Power lines	≤4.95 Ω/km
Supply lines	≤19.5 Ω/km
Signal lines	0.24 mm²: ≤84 Ω/km; 0.15 mm²: ≤140 Ω/km
Insulation resistance	>200 MΩ*km
Max. current-carrying capacity in accordance with IEC 60364-5-523 by installation type	
Wall mounting	36.4 A
Installed in conduit or cable duct	31.9 A
Installed in cable tray	38.2 A
Environmental conditions	
Temperature	
Moving	-10 to 80°C
Static	-40 to 90°C
Mechanical characteristics	
Dimensions	
Length	14 m
Diameter	15.6 mm ±0.4 mm
Bend radius	
Single bend	>48 mm
Moving	≥120 mm
Drag chain data	
Acceleration	4 m/s²
Flex cycles	3,000,000
Speed	4 m/s
Weight	5.36 kg

Table 2: 8BCH0014.1312A-0 - Technical data

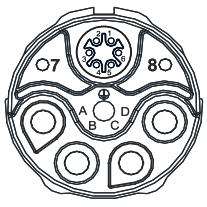
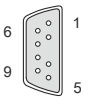
4 Wiring

4.1 Cable construction



Pos.	Pieces	Name	Note
1	1	Hybrid cable	For 8BCHxxxx.1111A-0: 4x 1.5 mm² + 2x 0.75 mm² + (2x 0.24 mm² + 2x 2x 0.15 mm²) For 8BCMxxxx.1312A-0: 4x 4 mm² + 2x 1 mm² + (2x 0.24 mm² + 2x 2x 0.15 mm²)
2	1	speedtec hybrid motor connector	
3	1	Heat shrink tubing	
4	1	Cable clamp	
5	1	Shield mounting	
6	6	Wire end sleeves	
7	1	DSUB housing	
free cable length from point x			
A	1	480 mm	
B	2	135 mm	
C	4	140 mm	

4.2 Pinout

Circular connector	Pin	Name	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	-	

4.3 Cable diagram

