


80CMxx013.21-01 - Hybrid cable

Data sheet
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Version history

B&R makes every effort to keep documents as current as possible. The most current versions are available for download on the B&R website (www.br-automation.com).

1 Order data


Order number	Short description	Figure
	Hybrid cables	
80CM01013.21-01	Hybrid cable, length 1 m, 4x 0.5 mm ² , 2x 0.35 mm ² , 3x 0.14 mm ² , for stepper motors with IP20 incremental encoder, 4-pin and 8-pin connectors on the motor side, can be used in cable drag chains, UL listed	
80CM02013.21-01	Hybrid cable, length 2 m, 4x 0.5 mm ² , 2x 0.35 mm ² , 3x 0.14 mm ² , for stepper motors with IP20 incremental encoder, 4-pin and 8-pin connectors on the motor side, can be used in cable drag chains, UL listed	
80CM03013.21-01	Hybrid cable, length 3 m, 4x 0.5 mm ² , 2x 0.35 mm ² , 3x 0.14 mm ² , for stepper motors with IP20 incremental encoder, 4-pin and 8-pin connectors on the motor side, can be used in cable drag chains, UL listed	
80CM05013.21-01	Hybrid cable, length 5 m, 4x 0.5 mm ² , 2x 0.35 mm ² , 3x 0.14 mm ² , for stepper motors with IP20 incremental encoder, 4-pin and 8-pin connectors on the motor side, can be used in cable drag chains, UL listed	
80CM10013.21-01	Hybrid cable, length 10 m, 4x 0.5 mm ² , 2x 0.35 mm ² , 3x 0.14 mm ² , for stepper motors with IP20 incremental encoder, 4-pin and 8-pin connectors on the motor side, can be used in cable drag chains, UL listed	
80CM15013.21-01	Hybrid cable, length 15 m, 4x 0.5 mm ² , 2x 0.35 mm ² , 3x 0.14 mm ² , for stepper motors with IP20 incremental encoder, 4-pin and 8-pin connectors on the motor side, can be used in cable drag chains, UL listed	
80CM25013.21-01	Hybrid cable, length 25 m, 4x 0.5 mm ² , 2x 0.35 mm ² , 3x 0.14 mm ² , for stepper motors with IP20 incremental encoder, 4-pin and 8-pin connectors on the motor side, can be used in cable drag chains, UL listed	

Table 1: 80CM01013.21-01, 80CM02013.21-01, 80CM03013.21-01, 80CM05013.21-01, 80CM10013.21-01, 80CM15013.21-01, 80CM25013.21-01 - Order data

2 Technical data

Order number	80CMxx013.21-01
General information	
Cable cross section	4x 0.5 mm ² + 2x 0.35 mm ² + 3x 0.14 mm ²
Certification	UL AWM Style 20963, 80°C, 30 V, E63216 and CSA AWM I/II A/B, 90°C, 30 V, FT2 LL46064
Cable construction	
Power lines	
Quantity	4
Wire insulation	Special thermoplastic material
Wire colors	Black, gray, brown, blue
Variant	Tinned copper stranded wire
Cross section	0.5 mm ²
Supply lines	
Quantity	2
Wire insulation	Special thermoplastic material
Wire colors	Red, black
Variant	Tinned copper stranded wire
Cross section	0.35 mm ²
Shield	Yes
Stranding	Yes
Signal line	
Quantity	3
Wire insulation	Special thermoplastic material
Wire colors	Gray, yellow, green
Variant	Tinned copper stranded wire
Cross section	0.14 mm ²
Shield	Yes
Stranding	Yes
Cable stranding	Yes
Cable shield	Tinned copper wire braiding, optical coverage ≥ 85%
Outer jacket	
Material	PUR
Labeling	B&R 4x0.50+1x(2x0.35+3x0.14 C) FLEX UL AWM STYLE 20963 80°C 30 V E63216 CSA AWM I/II A/B 90°C 30 V FT2 LL46064
Electrical properties	
Test voltage	
Wire - Wire	1.0 kV
Wire - Shield	0.5 kV
Conductor resistance	
0.14 mm ²	≤134 Ω/km
0.35 mm ²	≤55 Ω/km
0.50 mm ²	≤39 Ω/km
Insulation resistance	>200 MΩ/km
Ambient conditions	
Temperature	
Moving	-10 to 50°C
Static	-20 to 80°C
Mechanical properties	
Dimensions	
Diameter	7.9 mm ±0.25 mm
Bend radius	
Single bend	≥20 mm
Moving	≥50 mm
Drag chain data	
Acceleration	<60 m/s ²
Flex cycles ¹⁾	≥3,000,000
Velocity	≤4 m/s
Weight	0.085 kg/m

1) At an ambient temperature of 20°C and a flex radius of 65 mm.

3 Wiring

3.1 Pinout

Dimensions				
Pinout				
4-pin terminal block 	Pin	Description	Wire colors	Open-ended
	1	A \	Gray	For custom wiring Connection to drive system
	2	B \	Blue	
	3	A	Black	
	4	B	Brown	
8-pin terminal block 	Pin	Description	Wire colors	
	1	A	Green	
	2	B	Yellow	
	3	R	Gray	
	4	NC	-	
	5	NC	-	
	6	24 VDC	Red	
	7	COM	Black	
	8	NC	-	
Cable lug 	Pin	Description	Wire colors	Cable lug
	-	FE wire / Shield	Black	

Cable lengths (L)	
Model number	Length [m]
80CM01013.21-01	1
80CM02013.21-01	2
80CM03013.21-01	3
80CM05013.21-01	5
80CM10013.21-01	10
80CM15013.21-01	15
80CM25013.21-01	25

3.2 Cable diagram

