

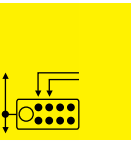
# Fieldbus Systems

## Fieldbus System: Profinet

With Profinet, industrial automation has made a significant advancement. Profinet operates on an Ethernet basis and is considerably faster than Profibus. Other advantages: Profinet can be fully integrated from the control level to the drive. Even in harsh environments. With Profinet, you also directly link drives and safety technology to the network environment.

You can also combine Profinet with Profibus with no additional work. Connecting is also extremely simple with IO-Link. This ensures freedom of installation and guarantees simplified wiring, integrated diagnostics and central configuration. Time savings and tangible cost benefits included. Thus, you help to ensure improved process quality through connectivity.





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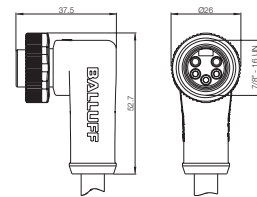




Connector diagram and wiring	<p>PIN 1: black PIN 2: blue PIN 3: green/yellow PIN 4: brown PIN 5: white</p>	<p>PIN 1: black PIN 2: blue PIN 3: green/yellow PIN 4: brown PIN 5: white</p>
Type	Female	Female
Supply voltage $U_b$	300 V DC	300 V DC
Number of conductors × conductor cross-section	5×1.5 mm <sup>2</sup>	5×1.5 mm <sup>2</sup>
Degree of protection as per IEC 60529	IP 68	IP 68
Ambient temperature $T_a$	-25...+80 °C	-25...+80 °C

Cable material	Color	Length	Ordering code	
			Part number	
PUR	Black	0.6 m		
PUR	Black	2 m	<b>BCC06HC</b> BCC A315-0000-10-063-PX05A5-020	<b>BCC06HH</b> BCC A325-0000-10-063-PX05A5-020
PUR	Black	5 m	<b>BCC06HE</b> BCC A315-0000-10-063-PX05A5-050	<b>BCC06HJ</b> BCC A325-0000-10-063-PX05A5-050
PUR	Black	10 m	<b>BCC06HF</b> BCC A315-0000-10-063-PX05A5-100	<b>BCC06HK</b> BCC A325-0000-10-063-PX05A5-100
PUR	Black	15 m		

Other cable materials, colors, and lengths on request.

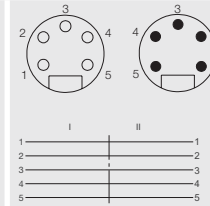
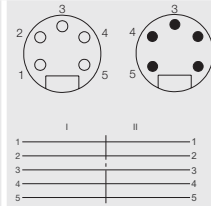
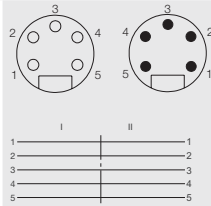
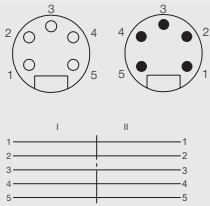


# Profinet

## Power connection cables 7/8", 5-pin



Profibus  
 Profinet  
 Product topology  
 IO-Link modules  
 Modules  
**Power cables**  
 Power connectors  
 Power tee  
 Bus couplings  
 Bus cables  
 Bus connectors  
 Accessories  
 CC-Link  
 Devicenet  
 Ethernet/IP  
 Unmanaged switches



Female/male  
 300 V DC  
 5×1.5 mm<sup>2</sup>  
 IP 68  
 -25...+80 °C

Female/male  
 300 V DC  
 5×1.5 mm<sup>2</sup>  
 IP 68  
 -25...+80 °C

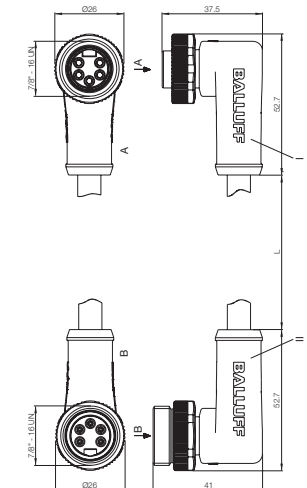
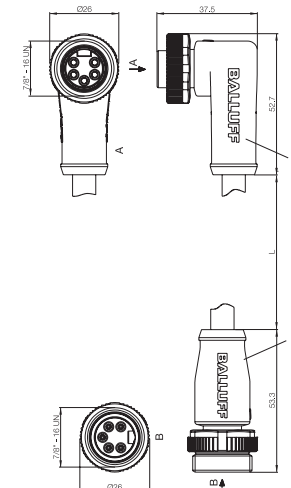
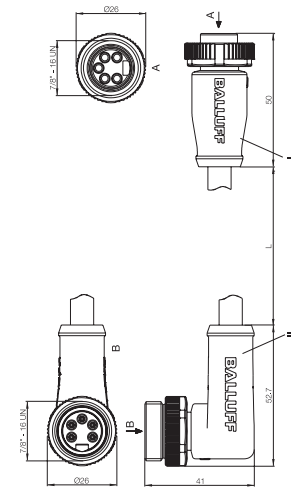
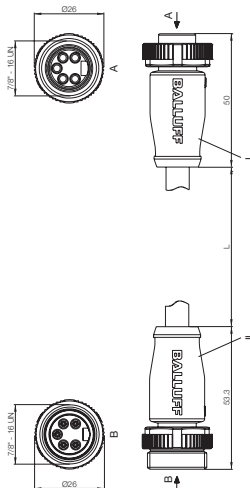
Female/male  
 300 V DC  
 5×1.5 mm<sup>2</sup>  
 IP 68  
 -25...+80 °C

Female/male  
 300 V DC  
 5×1.5 mm<sup>2</sup>  
 IP 68  
 -25...+80 °C

### Ordering code

Part number

<b>BCC06FM</b> BCC A315-A315-30-335-PX05A5-006	<b>BCC06FU</b> BCC A315-A325-30-335-PX05A5-006	<b>BCC06H1</b> BCC A325-A315-30-335-PX05A5-006	<b>BCC06H6</b> BCC A325-A325-30-335-PX05A5-006
<b>BCC06FN</b> BCC A315-A315-30-335-PX05A5-020	<b>BCC06FW</b> BCC A315-A325-30-335-PX05A5-020	<b>BCC06H2</b> BCC A325-A315-30-335-PX05A5-020	<b>BCC06H7</b> BCC A325-A325-30-335-PX05A5-020
<b>BCC06FP</b> BCC A315-A315-30-335-PX05A5-050	<b>BCC06FY</b> BCC A315-A325-30-335-PX05A5-050	<b>BCC06H3</b> BCC A325-A315-30-335-PX05A5-050	<b>BCC06H8</b> BCC A325-A325-30-335-PX05A5-050
<b>BCC06FR</b> BCC A315-A315-30-335-PX05A5-100	<b>BCC06FZ</b> BCC A315-A325-30-335-PX05A5-100	<b>BCC06H4</b> BCC A325-A315-30-335-PX05A5-100	<b>BCC06H9</b> BCC A325-A325-30-335-PX05A5-100
<b>BCC06FT</b> BCC A315-A315-30-335-PX05A5-150	<b>BCC06H0</b> BCC A315-A325-30-335-PX05A5-150	<b>BCC06H5</b> BCC A325-A315-30-335-PX05A5-150	<b>BCC06HA</b> BCC A325-A325-30-335-PX05A5-150





Connector diagram and wiring



Type	M12 female straight/RJ45 straight, pass-thru	M12 female straight/RJ45 right angle, pass-thru
Coding	D-coded/no coding	D-coded/no coding
Supply voltage $U_B$	60 V AC/DC	60 V AC/DC
Degree of protection	IP 20	IP 20
Ambient temperature $T_a$	-25...+85 °C	-25...+85 °C
Mounting thread	M16	M16

**Ordering code**

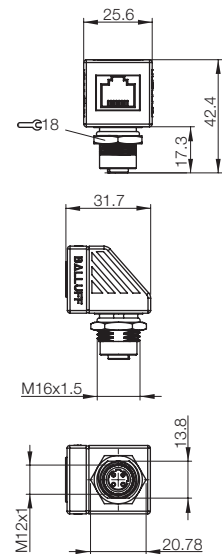
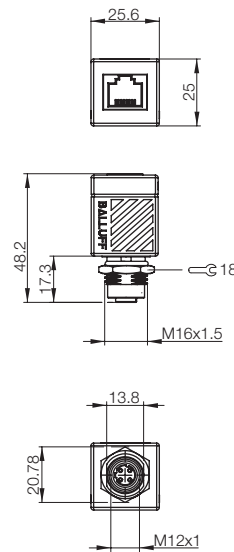
Part number

**BCC085F**

BCC M414-E814-BG-RM013-000

**BCC085H**

BCC M424-E814-BG-RM013-000

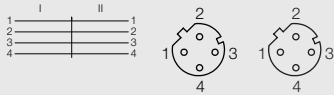


# Profinet

## Bus couplings and pass-thrus



Profibus  
 Profinet  
 Product topology  
 IO-Link modules  
 Modules  
 Power cables  
 Power connectors  
 Power tee  
**Bus couplings**  
 Bus cables  
 Bus connectors  
 Accessories  
 CC-Link  
 Devicenet  
 Ethernet/IP  
 Unmanaged switches



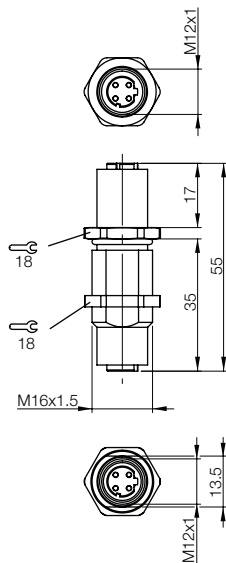
M12 female straight/M12 female straight,  
 pass-thru  
 D-coded  
 60 V AC/DC  
 IP 67  
 -25...+80 °C  
 M16

### Ordering code

Part number

**BCC06YP**

BCC M454-M454-5D-RM002-000

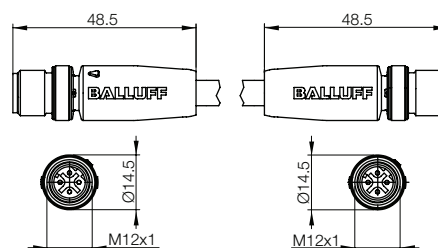


**Bus connection cables M12, 4-pin, D-coded**



Connector diagram and wiring	
Type	M12 male straight/M12 male straight
Supply voltage $U_B$	60 V AC/DC
Number of conductors × conductor cross-section	4×22 AWG
Degree of protection as per IEC 60529	IP 68
Ambient temperature $T_a$	-20...+60 °C

Cable material	Color	Length	Ordering code
PUR shielded	Green	0.6 m	<b>BCC04K0</b> Part number BCC M414-M414-6D-331-PS54T2-006
PUR shielded	Green	2 m	<b>BCC04K1</b> BCC M414-M414-6D-331-PS54T2-020
PUR shielded	Green	5 m	<b>BCC04K2</b> BCC M414-M414-6D-331-PS54T2-050
PUR shielded	Green	10 m	<b>BCC04K3</b> BCC M414-M414-6D-331-PS54T2-100
PUR shielded	Green	15 m	<b>BCC04ZH</b> BCC M414-M414-6D-331-PS54T2-150
PUR shielded	Green	20 m	<b>BCC04K4</b> BCC M414-M414-6D-331-PS54T2-200
PUR shielded	Green	30 m	<b>BCC04K5</b> BCC M414-M414-6D-331-PS54T2-300

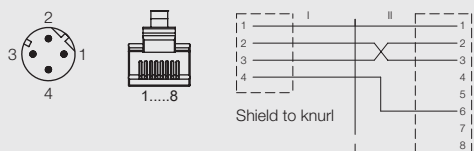


# Profinet

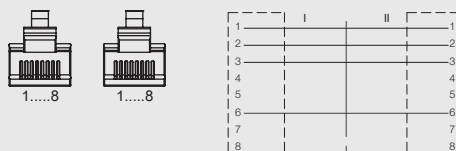
## Bus connection cables M12, 4-pin, D-coded and RJ45



Profibus  
 Profinet  
 Product topology  
 IO-Link modules  
 Modules  
 Power cables  
 Power connectors  
 Power tee  
 Bus couplings  
**Bus cables**  
 Bus connectors  
 Accessories  
 CC-Link  
 Devicenet  
 Ethernet/IP  
 Unmanaged switches



M12 male straight/RJ45 male straight  
 60 V AC/DC  
 4×22 AWG  
 IP 68/IP 20  
 -20...+60 °C



RJ45 male straight/RJ45 male straight  
 60 V AC/DC  
 4×22 AWG  
 IP 20  
 -20...+60 °C

### Ordering code

Part number

#### BCC04K6

BCC M414-E834-8G-668-PS54T2-006

#### BCC04K7

BCC M414-E834-8G-668-PS54T2-020

#### BCC04K8

BCC M414-E834-8G-668-PS54T2-050

#### BCC04K9

BCC M414-E834-8G-668-PS54T2-100

#### BCC04ZJ

BCC M414-E834-8G-668-PS54T2-150

#### BCC04KA

BCC M414-E834-8G-668-PS54T2-200

#### BCC04KC

BCC M414-E834-8G-668-PS54T2-300

#### BCC04KE

BCC E834-E834-90-334-PS54T2-006

#### BCC04KF

BCC E834-E834-90-334-PS54T2-020

#### BCC04KH

BCC E834-E834-90-334-PS54T2-050

#### BCC04KJ

BCC E834-E834-90-334-PS54T2-100

#### BCC04ZK

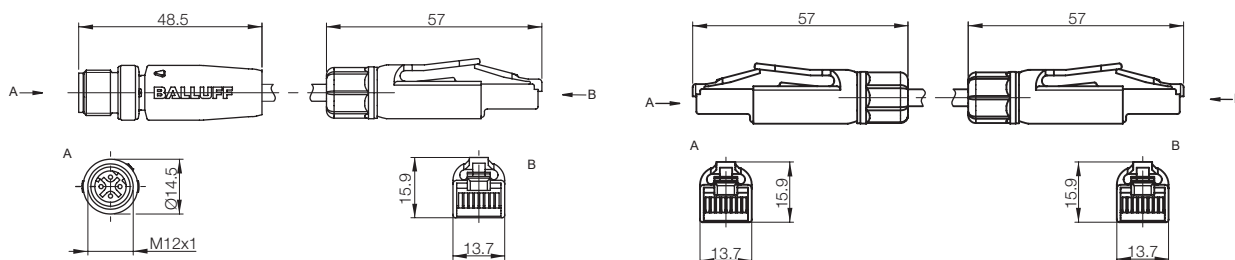
BCC E834-E834-90-334-PS54T2-150

#### BCC04KK

BCC E834-E834-90-334-PS54T2-200

#### BCC04KL

BCC E834-E834-90-334-PS54T2-300

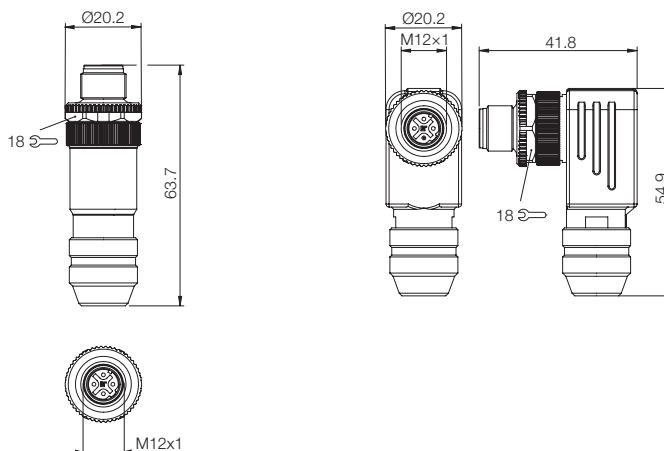




**Bus connector M12, 4-pin, D-coded,  
User-fabricated, shieldable**



Connector diagram and wiring			
Connector	M12 male, straight	M12 male, right-angle	
Version	4-pin, D-coded	4-pin, D-coded	
<b>Ordering code</b>	<b>BCC03WZ</b>	<b>BCC03Y0</b>	
Part number	BCC M474-0000-2D-000-51X475-000	BCC M484-0000-2D-000-51X475-000	
Nominal voltage	60 V AC/DC	60 V AC/DC	
Number of connections	4	4	
Number of conductors x Cross-section	4x0.75 mm <sup>2</sup>	4x0.75 mm <sup>2</sup>	
Cable diameter	Max. 8 mm	Max. 8 mm	
Connection	Cage clamp	Screw plug	
Degree of protection as per IEC 60529	IP 67	IP 67	
Ambient temperature T <sub>a</sub>	-25...+85 °C	-25...+85 °C	
Housing material	CuZn	CuZn	
Shielded design	Yes	Yes	



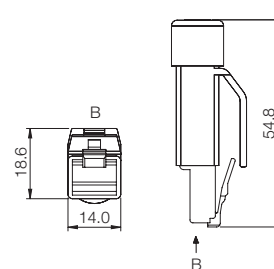
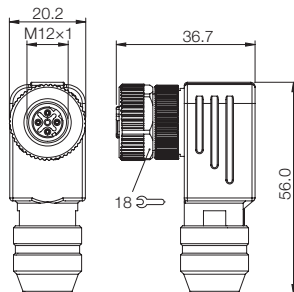
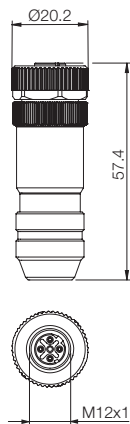
# Profinet

## Bus connector M12, 4-pin, D-coded, User-fabricated, shieldable



Profibus  
 Profinet  
 Product topology  
 IO-Link modules  
 Modules  
 Power cables  
 Power connectors  
 Power tee  
 Bus couplings  
 Bus cables  
**Bus connectors**  
 Accessories  
 CC-Link  
 Devicenet  
 Ethernet/IP  
 Unmanaged switches

M12 female, straight 4-pin, D-coded	M12 female, right-angle 4-pin, D-coded	RJ45 male, straight No coding
<b>BCC03Y1</b>	<b>BCC03Y2</b>	<b>BCC06FH</b>
BCC M474-0000-1D-000-51X475-000	BCC M484-0000-1D-000-51X475-000	BCC E834-0000-20-000-53X4T2-000
60 V AC/DC	60 V AC/DC	60 V AC/DC
4	4	8
4x0.75 mm <sup>2</sup>	4x0.75 mm <sup>2</sup>	244x max. AWG 22
Max. 8 mm	Max. 8 mm	Max. 9 mm
Cage clamp	Screw plug	Insulation displacement connector technology
IP 67	IP 67	IP 20
-25...+85 °C	-25...+85 °C	-40...+70 °C
CuZn	CuZn	
Yes	Yes	Yes

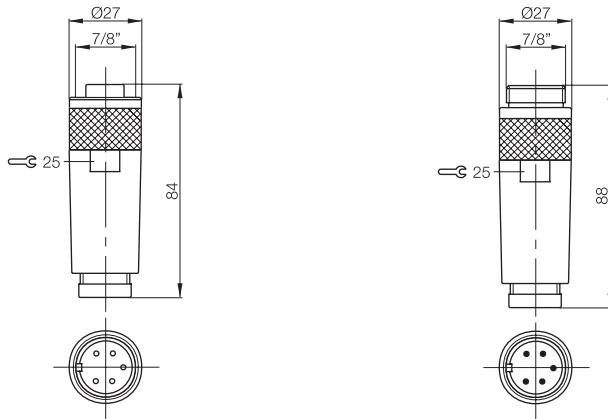


Power plug connector, 7/8", 5-pin



Connector diagram and wiring		
Type	Female	Male
Supply voltage U <sub>B</sub>	300 V	300 V
Number of conductors × conductor cross-section	5 × max. 1.5 mm <sup>2</sup>	5 × max. 1.5 mm <sup>2</sup>
Degree of protection as per IEC 60529	IP 67	IP 67
Ambient temperature T <sub>a</sub>	-25...+80 °C	-25...+80 °C

Cable material Cable dia.	Color	Ordering code	
		Part number	
PUR 6...8 mm	Black	<b>BCC070E</b> BCC A335-0000-10-000-51X5A5-000	<b>BCC070J</b> BCC A335-0000-20-000-51X5A5-000
PUR 8...10 mm	Black	<b>BCC070F</b> BCC A335-0000-10-000-61X5A5-000	<b>BCC070K</b> BCC A335-0000-20-000-61X5A5-000
PUR 10...12 mm	Black	<b>BCC070H</b> BCC A335-0000-10-000-71X5A5-000	<b>BCC070L</b> BCC A335-0000-20-000-71X5A5-000

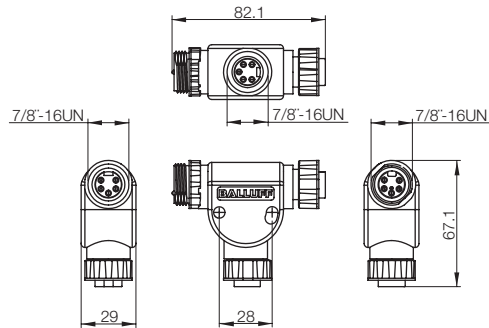


# Profinet Power tee



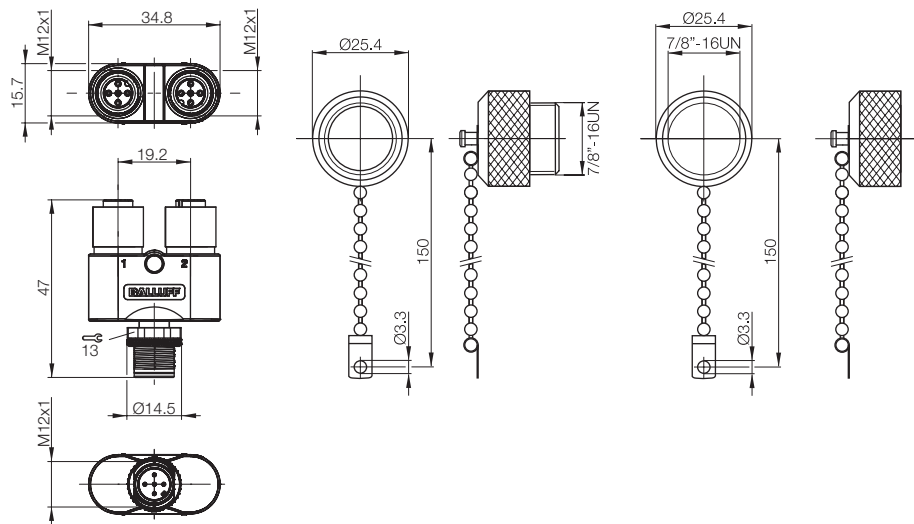
Profibus  
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 Product topology  
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**Power connectors**  
**Power tee**  
 Bus couplings  
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 Bus connectors  
 Accessories  
 CC-Link  
 Devicenet  
 Ethernet/IP  
 Unmanaged switches

Connector diagram and wiring		
Configuration	7/8" power distributor	
Version	Standard, 5-pin	
Type	Female/male	
<b>Ordering code</b>	<b>BCC0AA7</b>	
Part number	BCC A315-A315-A315-T0023-000	
Supply voltage $U_B$	300 V AC	
Degree of protection as per IEC 60529	IP 67	
Ambient temperature $T_a$	-40...+90 °C	
Housing material	Plastic	





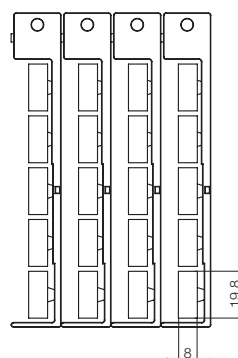
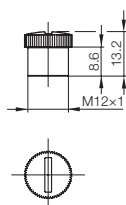
Connector diagram and wiring			
Description	T splitter	Screw plug 7/8"	Screw plug 7/8"
Use	2x M12 female to 1x M12 male	Cover for the power ports	Cover for the power ports
<b>Ordering code</b>	<b>BCC089P</b>	<b>BAM012T</b>	<b>BAM012U</b>
Part number	BCC M415-M415-M415-U0003-000	BKS-7/8-CS-00-A	BKS-7/8-CS-00-I
Supply voltage $U_b$	125 V		
Rated operating current $I_e$	4 A		
Degree of protection as per IEC 60529	IP 67		
Ambient temperature $T_a$	-25...+80 °C	-20...+80 °C	-20...+80 °C
Housing material	PA 6.6 + GF	Nickel-plated CuZn	Nickel-plated CuZn





Profibus  
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CC-Link  
Devicenet  
Ethernet/IP  
Unmanaged switches

Description	M12 locking screw	Marking sleeve	Label set	
Use	IP 65 screw plug for unused ports	For labeling connectors	Labeling the ports for modules BNI PBS..., BNI PNT..., BNI DNT..., BNI EIP..., BNI CCL...	
<b>Ordering code</b>	<b>BAM01C2</b>		<b>BAM01AT</b>	
Part number	BAM CS-XA-002-M12-A	BAM IA-CC-002-01	BNI ACC-L01-000	
Ambient temperature T <sub>a</sub>	-20...+80 °C			
Housing material	Plastic		Plastic	



3-wire connector BCC; see the chapter "Connectors and Cables" beginning on **page 270**.

