

# BALLUFF

**Global**  **Prox**

## GlobalProx 3-wire DC Sensors

General-purpose inductive proximity sensors





### Sensor Selection Gets a Whole Lot Easier

Balluff manufactures over 2,000 inductive proximity sensor designs, many with specific applications in mind. With so many choices, it can be difficult to select the appropriate sensor solution.

But one thing's for sure – you can't go wrong selecting a **GlobalProx** sensor!

### Your Economical Sensor Solution

Balluff's rugged **GlobalProx** sensors can be used in virtually any general-purpose application where there is a need to detect, without physical contact, the presence of metal objects.

Why pay for a higher-priced specialized sensor when a **GlobalProx** sensor will solve the task?

### Same Balluff Quality

All **GlobalProx** sensors are manufactured to Balluff's highest quality standards. They are designed to withstand the toughest sensing environments and meet all applicable CE and cULus requirements.

Balluff backs up this promise with a lifetime warranty.

### Global Availability

Balluff's **GlobalProx** sensors were designed to meet the needs of general-purpose applications found in North America as well as the rest of the world. This makes it possible for Balluff to ensure global availability and increased global standardization.

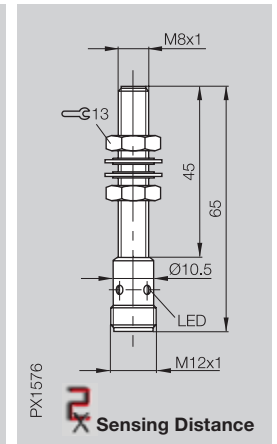
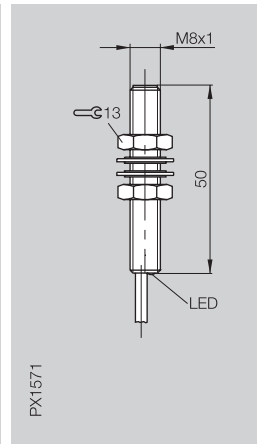
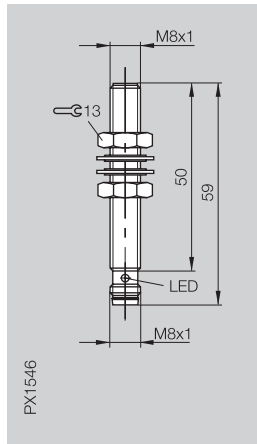
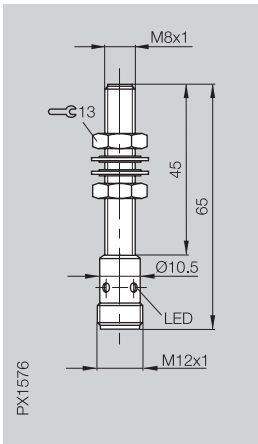
#### Features:

- Standard range and extended range (2x) units
- Medium length housings
- Fully threaded nickel plated brass housings
- 360° visible LED on quick disconnect units
- Quick disconnect or cable out versions (PVC or PUR)
- Short circuit protected
- Protected against polarity reversal
- CE and cULus listed
- IP67 and IP68 models
- Smear-proof part number on active surface (laser etched)
- Lifetime warranty

#### Common Applications:

- Presence sensing
- Positioning
- Controlling
- Regulating
- Automating
- Monitoring of process sequences

Housing size	<b>M8x1</b>	<b>M8x1</b>	<b>M8x1</b>	<b>M8x1</b>
Mounting	flush	flush	flush	flush
Rated operating distance s <sub>n</sub>	<b>1.5 mm</b>	<b>1.5 mm</b>	<b>1.5 mm</b>	<b>2 mm</b>
Assured operating distance s <sub>a</sub>	0...1.2 mm	0...1.2 mm	0...1.2 mm	0...1.6 mm

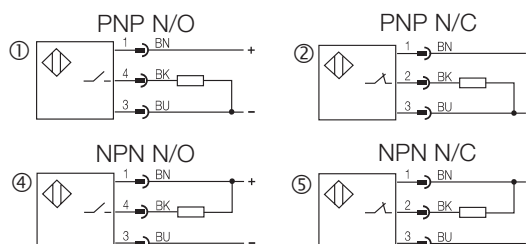


PNP	Normally-open ①	BES M08MH1-PSC15B-S04G	BES M08MI-PSC15B-S49G	BES M08MI-PSC15B-	BES M08MH1-PSC20B-S04G
	Normally-closed ②	BES M08MH1-POC15B-S04G		BES M08MI-POC15B-	
NPN	Normally-open ④	BES M08MH1-NSC15B-S04G	BES M08MI-NSC15B-S49G	BES M08MI-NSC15B-	BES M08MH1-NSC20B-S04G
	Normally-closed ⑤	BES M08MH1-NOC15B-S04G			

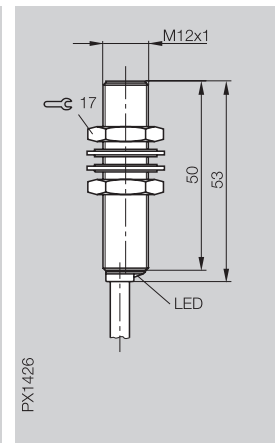
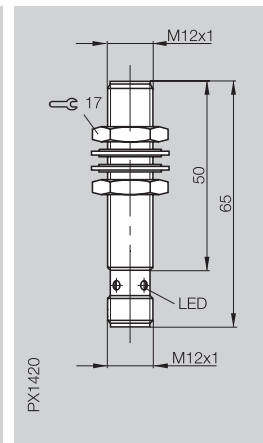
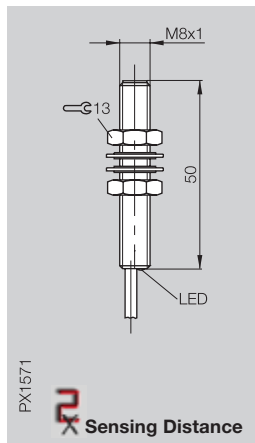
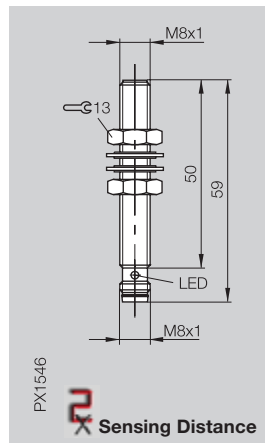
Rated operational voltage U <sub>e</sub>	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Supply voltage U <sub>B</sub>	12...30 Vdc	12...30 Vdc	12...30 Vdc	12...30 Vdc
Voltage drop U <sub>d</sub> at I <sub>e</sub>	≤ 3.0 V	≤ 3.0 V	≤ 2.5 V	≤ 2.5 V
Rated insulation voltage U <sub>i</sub>	75 Vdc	75 Vdc	75 Vdc	75 Vdc
Load current capacity	100 mA	100 mA	100 mA	200 mA
Current consumption (closed/open)	≤ 10 mA / ≤ 5 mA	≤ 12 mA / ≤ 6 mA	≤ 10 mA / ≤ 5 mA	≤ 10 mA / ≤ 5 mA
Off-state current I <sub>r</sub>	≤ 20 µA	≤ 20 µA	≤ 20 µA	≤ 20 µA
Protected against polarity reversal	yes	yes	yes	yes
Short circuit protected	yes	yes	yes	yes
Load capacitance	≤ 1.0 µF	≤ 1.0 µF	≤ 1.0 µF	≤ 1.0 µF
Repeat accuracy R	≤ 5 %	≤ 5 %	≤ 5 %	≤ 5 %
Ambient temperature range T <sub>a</sub>	-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C
Frequency of operating cycles f	1000 Hz	1000 Hz	1000 Hz	700 Hz
Utilization categories	DC 13	DC 13	DC 13	DC 13
Function indication	yes	yes	yes	yes
Degree of protection per IEC 529	IP 67	IP 67	IP 67	IP 67
Insulation class				
Housing material	nickel plated brass	nickel plated brass	nickel plated brass	nickel plated brass
Material of sensing face	PA12	PA12	PA12	PA12
Connection	connector	connector	cable	connector
No. of wires x gauge			3 x 26 AWG	
Approvals	cULus	cULus	cULus	cULus
Recommended connector	C04 AEL-00-VY-050M	C49 ANE-00-VY-050M		C04 AEL-00-VY-050M

\* See technical section in the Sensor Catalog for proper mounting of the 2x long range sensors.

Please add the cable type and length to cable out versions:  
3 meter PVC (BV03), 5 meter PVC (BV05)  
3 meter PUR (BP03), 5 meter PUR (BP05)



Housing size	<b>M8x1</b>	<b>M8x1</b>	<b>M12x1</b>	<b>M12x1</b>
Mounting	flush	flush	flush	flush
Rated operating distance s <sub>n</sub>	<b>2 mm</b>	<b>2 mm</b>	<b>2 mm</b>	<b>2 mm</b>
Assured operating distance s <sub>a</sub>	0...1.6 mm	0...1.6 mm	0...1.6 mm	0...1.6 mm



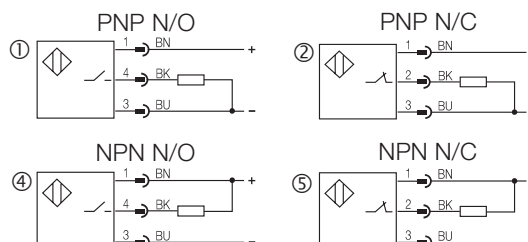
PNP	Normally-open ④	BES M08MI-PSC20B-S49G	BES M08MI-PSC20B-	BES M12MI-PSC20B-S04G	BES M12MI-PSC20B-
	Normally-closed ⑤			BES M12MI-POC20B-S04G	BES M12MI-POC20B-
NPN	Normally-open ④	BES M08MI-NSC20B-S49G	BES M08MI-NSC20B-	BES M12MI-NSC20B-S04G	BES M12MI-NSC20B-
	Normally-closed ⑤			BES M12MI-NOC20B-S04G	BES M12MI-NOC20B-

Rated operational voltage U <sub>e</sub>	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Supply voltage U <sub>B</sub>	12...30 Vdc	12...30 Vdc	12...30 Vdc	12...30 Vdc
Voltage drop U <sub>d</sub> at I <sub>e</sub>	≤ 2.5 V	≤ 2.5 V	≤ 2.5 V	≤ 2.5 V
Rated insulation voltage U <sub>i</sub>	75 Vdc	75 Vdc	250 Vac	250 Vac
Load current capacity	200 mA	200 mA	200 mA	200 mA
Current consumption (closed/open)	≤ 10 mA / ≤ 5mA	≤ 10 mA / ≤ 5 mA	≤ 15 mA / ≤ 6 mA	≤ 15 mA / ≤ 6 mA
Off-state current I <sub>r</sub>	≤ 20 µA	≤ 20 µA	≤ 20 µA	≤ 20 µA
Protected against polarity reversal	yes	yes	yes	yes
Short circuit protected	yes	yes	yes	yes
Load capacitance	≤ 1.0 µF	≤ 1.0 µF	≤ 1.0 µF	≤ 1.0 µF
Repeat accuracy R	≤ 5 %	≤ 5 %	≤ 5 %	≤ 5 %
Ambient temperature range T <sub>a</sub>	-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C
Frequency of operating cycles f	700 Hz	700 Hz	1200 Hz	1200 Hz
Utilization categories	DC 13	DC 13	DC 13	DC 13
Function indication	yes	yes	yes	yes
Degree of protection per IEC 529	IP 67	IP 67	IP 68	IP 68
Insulation class			□	□
Housing material	nickel plated brass	nickel plated brass	nickel plated brass	nickel plated brass
Material of sensing face	PBT	PBT	PA 12	PA 12
Connection	connector	cable	connector	cable
No. of wires x gauge		3 x 26 AWG		3 x 22 AWG
Approvals	cULus	cULus	cULus	cULus
Recommended connector	C49 ANE-00-VY-050M		C04 AEL-00-VY-050M	

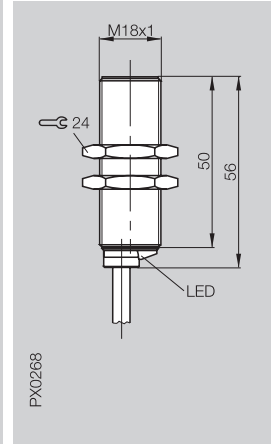
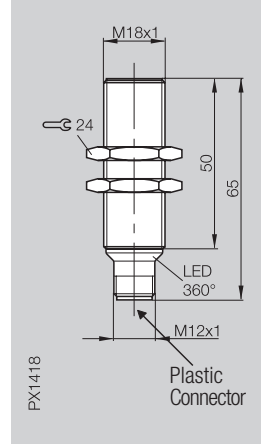
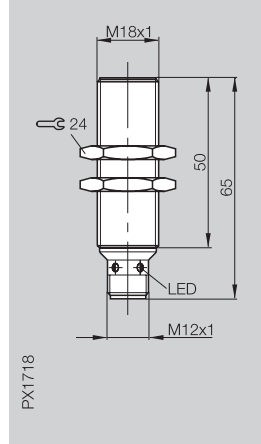
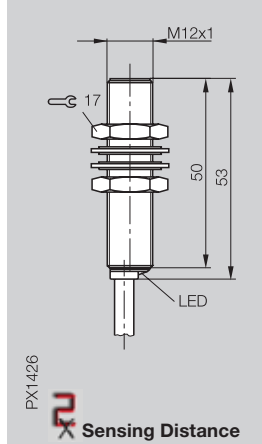
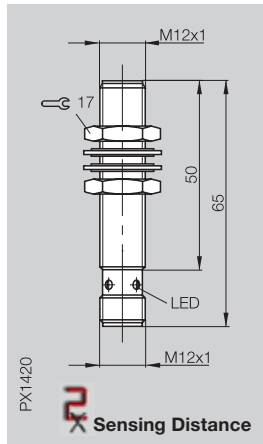
\* See technical section in the Sensor Catalog for proper mounting of the 2x long range sensors.

Please add the cable type and length to cable out versions:

- 3 meter PVC (BV03), 5 meter PVC (BV05)
- 3 meter PUR (BP03), 5 meter PUR (BP05)



M12x1	M12x1	M18x1	M18x1	M18x1
flush	flush	flush	flush	flush
<b>4 mm</b>	<b>4 mm</b>	<b>5 mm</b>	<b>5 mm</b>	<b>5 mm</b>
0...3.2 mm	0...3.2 mm	0...4.1 mm	0...4.1 mm	0...4.1 mm



BES M12MI-PSC40B-S04G BES M12MI-POC40B-S04G	BES M12MI-PSC40B- BES M12MI-POC40B-	BES M18MI-PSC50B-S04G	BES M18MI-PSC50B-S04K BES M18MI-POC50B-S04K	BES M18MI-PSC50B- BES M18MI-POC50B-
BES M12MI-NSC40B-S04G BES M12MI-NOC40B-S04G	BES M12MI-NSC40B-		BES M18MI-NSC50B-S04K BES M18MI-NOC50B-S04K	BES M18MI-NSC50B-
24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
12...30 Vdc	12...30 Vdc	12...30 Vdc	12...30 Vdc	12...30 Vdc
≤ 2.5 V	≤ 2.5 V	≤ 2.5 V	≤ 2.5 V	≤ 2.5 V
250 Vac	250 Vac	250 Vac	250 Vac	250 Vac
200 mA	200 mA	200 mA	200 mA	200 mA
≤ 10 mA / ≤ 5 mA	≤ 15 mA / ≤ 8 mA	≤ 15 mA / ≤ 6 mA	≤ 15 mA / ≤ 6 mA	≤ 15 mA / ≤ 6 mA
≤ 20 µA	≤ 20 µA	≤ 20 µA	≤ 20 µA	≤ 20 µA
yes	yes	yes	yes	yes
yes	yes	yes	yes	yes
≤ 1.0 µF	≤ 1.0 µF	≤ 1.0 µF	≤ 1.0 µF	≤ 1.0 µF
≤ 5 %	≤ 5 %	≤ 5 %	≤ 5 %	≤ 5 %
-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C
300 Hz	300 Hz	700 Hz	700 Hz	700 Hz
DC 13	DC 13	DC 13	DC 13	DC 13
yes	yes	yes	yes	yes
IP 68	IP 68	IP 68	IP 68	IP 68
nickel plated brass	nickel plated brass	nickel plated brass	nickel plated brass	nickel plated brass
LCP	LCP	PA 12	PA 12	PA 12
connector	cable	connector	connector	cable
	3 X 22 awg			3 x 22 AWG
cULus	cULus	cULus	cULus	cULus
C04 AEL-00-VY-050M		C04 AEL-00-VY-050M	C04 AEL-00-VY-050M	

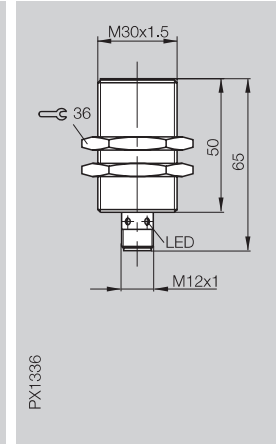
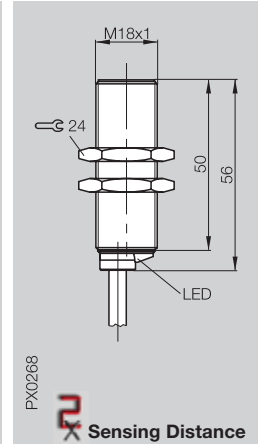
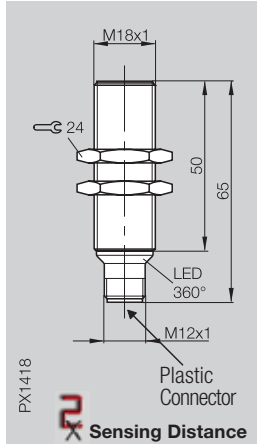
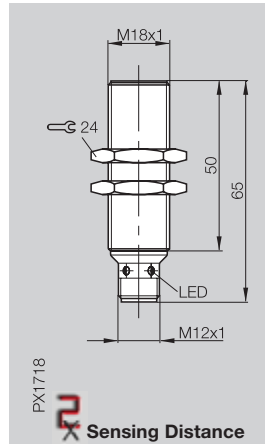
\* See technical section in the Sensor Catalog for proper mounting of the 2x long range sensors.

Please add the cable type and length to cable out versions:

3 meter PVC (BV03), 5 meter PVC (BV05)  
3 meter PUR (BP03), 5 meter PUR (BP05)



Housing size	<b>M18x1</b>	<b>M18x1</b>	<b>M18x1</b>	<b>M30x1.5</b>
Mounting	flush	flush	flush	flush
Rated operating distance s <sub>n</sub>	<b>8 mm</b>	<b>8 mm</b>	<b>8 mm</b>	<b>10 mm</b>
Assured operating distance s <sub>a</sub>	0...6.5 mm	0...6.5 mm	0...6.5 mm	0...8.1 mm

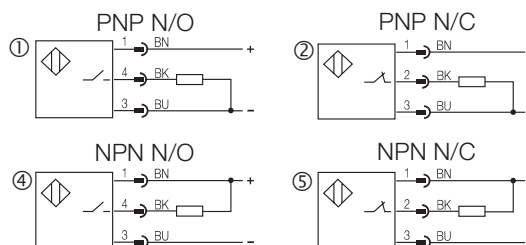


PNP	Normally-open ①	BES M18MI-PSC80B-S04G	BES M18MI-PSC80B-S04K	BES M18MI-PSC80B-	BES M30MI-PSC10B-S04G
	Normally-closed ②		BES M18MI-POC80B-S04K		
NPN	Normally-open ④	BES M18MI-NSC80B-S04G	BES M18MI-NSC80B-S04K	BES M18MI-NSC80B-	
	Normally-closed ⑤	BES M18MI-NOC80B-S04G			

Rated operational voltage U <sub>e</sub>	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Supply voltage U <sub>B</sub>	10...30 Vdc	12...30 Vdc	12...30 Vdc	10...30 Vdc
Voltage drop U <sub>d</sub> at I <sub>e</sub>	≤ 2.5 V	≤ 2.5 V	≤ 2.5 V	≤ 2.5 V
Rated insulation voltage U <sub>i</sub>	250 Vac	250 Vac	250 Vac	75 Vdc
Load current capacity	200 mA	200 mA	200 mA	200 mA
Current consumption (closed/open)	≤ 18 mA / ≤ 10 mA	≤ 15 mA / ≤ 8 mA	≤ 15 mA / ≤ 8 mA	≤ 10 mA
Off-state current I <sub>r</sub>	≤ 75 μA	≤ 20 μA	≤ 20 μA	≤ 20 μA
Protected against polarity reversal	yes	yes	yes	yes
Short circuit protected	yes	yes	yes	yes
Load capacitance	≤ 1.0 μF	≤ 1.0 μF	≤ 1.0 μF	≤ 1.0 μF
Repeat accuracy R	≤ 5 %	≤ 5 %	≤ 5 %	≤ 5 %
Ambient temperature range T <sub>a</sub>	-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C
Frequency of operating cycles f	1000 Hz	150 Hz	150 Hz	400 Hz
Utilization categories	DC 13	DC 13	DC 13	DC 13
Function indication	yes	yes	yes	yes
Degree of protection per IEC 529	IP 67	IP 68	IP 68	IP 67
Insulation class	□	□	□	
Housing material	nickel plated brass	nickel plated brass	nickel plated brass	nickel plated brass
Material of sensing face	PBT	PA 12	PA 12	PA 12
Connection	connector	connector	cable	connector
No. of wires × gauge			3 x 22 AWG	
Approvals	cULus	cULus	cULus	cULus
Recommended connector	C04 AEL-00-VY-050M	C04 AEL-00-VY-050M		C04 AEL-00-VY-050M

\* See technical section in the Sensor Catalog for proper mounting of the 2x long range sensors.

Please add the cable type and length to cable out versions:  
3 meter PVC (BV03), 5 meter PVC (BV05)  
3 meter PUR (BP03), 5 meter PUR (BP05)



M30x1.5 flush 10 mm 0...8.1 mm	M30x1.5 flush 10 mm 0...8.1 mm	M30x1.5 flush 15 mm 0...12.2 mm	M30x1.5 flush 15 mm 0...12.2 mm
BES M30MI-PSC10B-S04K BES M30MI-POC10B-S04K	BES M30MI-PSC10B- BES M30MI-POC10B-	BES M30MI-PSC15B-S04K BES M30MI-POC15B-S04K	BES M30MI-PSC15B- BES M30MI-POC15B-
BES M30MI-NSC10B-S04K BES M30MI-NOC10B-S04K	BES M30MI-NSC10B- BES M30MI-NOC10B-	BES M30MI-NSC15B-S04K BES M30MI-NOC15B-S04K	
24 Vdc	24 Vdc	24 Vdc	24 Vdc
12...30 Vdc	12...30 Vdc	10...30 Vdc	10...30 Vdc
≤ 2.5 V	≤ 2.5 V	≤ 2.5 V	≤ 2.5 V
250 Vac	250 Vac	250 Vac	250 Vac
200 mA	200 mA	200 mA	200 mA
≤ 10 mA / ≤ 5 mA	≤ 10 mA	≤ 10 mA / ≤ 5 mA	≤ 10 mA / ≤ 5 mA
≤ 20 μA	≤ 20 μA	≤ 10 μA	≤ 10 μA
yes	yes	yes	yes
yes	yes	yes	yes
≤ 1.0 μF	≤ 1.0 μF	≤ 0.5 μF	≤ 0.5 μF
≤ 5 %	≤ 5 %	≤ 5 %	≤ 5 %
-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C
400 Hz	400 Hz	100 Hz	100 Hz
DC 13	DC 13	DC 13	DC 13
yes	yes	yes	yes
IP 68	IP 68	IP 67	IP 67
nickel plated brass	nickel plated brass	ni-free coated brass	ni-free coated brass
PA 12	PA 12	PA 12	PA 12
connector	cable	connector	cable
	3 x 22 AWG		3 x 22 AWG
cULus	cULus	cULus	cULus
C04 AEL-00-VY-050M		C04 AEL-00-VY-050M	

\* See technical section in the Sensor Catalog for proper mounting of the 2x long range sensors.

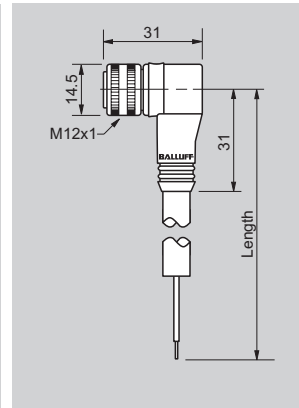
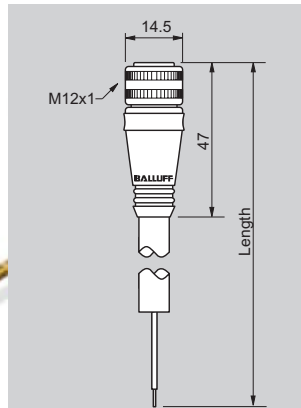
Please add the cable type and length to cable out versions:

3 meter PVC (BV03), 5 meter PVC (BV05)

3 meter PUR (BP03), 5 meter PUR (BP05)



Connector	Micro	Micro
Style	M12 DC Single Keyway	M12 DC Single Keyway
Configuration	Straight Female	Right Angle Female



<b>3 Wire DC</b>		
3 Wire Normally-open	C04 AEC-00-*Y-050M	C04 BEC-00-*Y-050M
3 Wire Normally-closed	C04 AED-00-*Y-050M	C04 BED-00-*Y-050M
<b>4 Wire DC (NO/NC)</b>		
4 Wire (Universal)	C04 AEL-00-*Y-050M	C04 BEL-00-*Y-050M
Voltage rating	250 Vac/Vdc	250 Vac/Vdc
Amperage	4 A	4 A
Wire gauge	22 AWG	22 AWG
Jacket	Yellow PVC or TPE	Yellow PVC or TPE
Coupling nut	Black epoxy coated zinc	Black epoxy coated zinc
Cable O.D.-3 wire versions (mm)	4.6 (V) / 5.0 (T)	4.6 (V) / 5.0 (T)
Protection	IP 68 / NEMA 6P	IP 68 / NEMA 6P
Ambient operating temp.	-4 to 221° F	-4 to 221° F

\* Insert **V**= PVC cable  
**T**= TPE cable

Balluff offers a full range of inductive accessories. Please see our Sensor Catalog or visit us online at: [www.balluff.com/accessories](http://www.balluff.com/accessories)



[www.balluff.com](http://www.balluff.com)

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