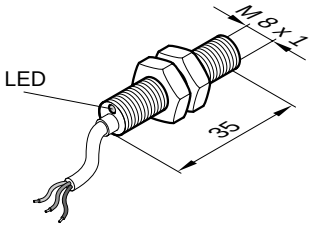
DC - 3 WIRE – L SERIES
Brass, Nickel Plated (BN), Cylindrical, Threaded,
M8 – 10-30V DC, 200mA
M12-M30 – 18-30V DC, 120mA
1 LED for Output Energized

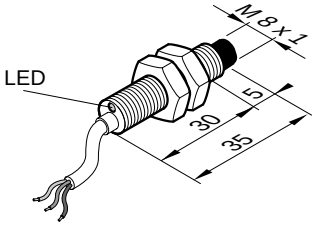
- ***Short Body Sensors***
- ***Economically priced***
- ***Connector options***
- ***Carries CE mark***

- IEC (529)IP67 (NEMA 1, 3, 4, 6, 12, 13) Protection
- Short Circuit Protection
- Overload Protection
- Reverse Polarity Protection
- Wire Break Resistance
- Temperature Range: -25 to 70°C (-13 to 158°F)

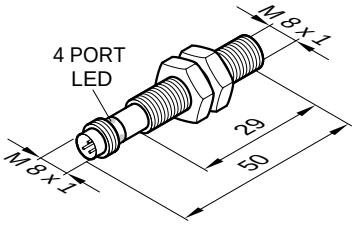
		M8 Flush Mount			M8 Non-Flush Mount		
Sensing Distance		1.5mm (.06 in.)			2mm (.08 in.)		
Cable or Connector Style Cat. No.		**Cable**	**64**	**65**	**Cable**	**64**	**65**
PNP	Normally Open	9981-2000	9981-2064	9981-2065	9981-2200	9981-2264	9981-2265
	Normally Closed						
NPN	Normally Open	9981-2100	9981-2164	9981-2165	9981-2300	9981-2364	9981-2365
	Normally Closed						
Ripple Voltage		≤10%	≤10%	≤10%	≤10%	≤10%	≤10%
Voltage Range		10V - 30V	10V - 30V	10V - 30V	10V - 30V	10V - 30V	10V - 30V
Supply Current		≤10 mA	≤10 mA	≤10 mA	≤10 mA	≤10 mA	≤10 mA
Max. Load Current		200 mA	200 mA	200 mA	200 mA	200 mA	200 mA
Voltage Drop Across Sensor		≤2.4V	≤2.4V	≤2.4V	≤2.4V	≤2.4V	≤2.4V
Max. Leakage Current		≤10 µA	≤10 µA	≤10 µA	≤10 µA	≤10 µA	≤10 µA
Switching Frequency		2000Hz	2000Hz	2000Hz	2000Hz	2000Hz	2000Hz
Hysterisis		≤15%	≤15%	≤15%	≤15%	≤15%	≤15%
Temperature Drift		≤10%	≤10%	≤10%	≤10%	≤10%	≤10%
Repeatability		.15mm (.006 in.)	.15mm (.006 in.)	.15mm (.006 in.)	.20mm (.008 in.)	.20mm (.008 in.)	.20mm (.008 in.)
Front Cap Material		PBTP	PBTP	PBTP	PBTP	PBTP	PBTP

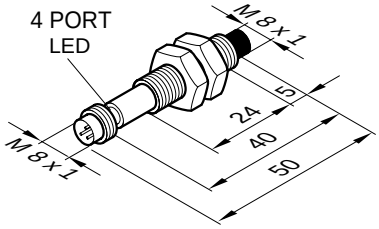
Fixed Cable
PVC 2m (6ft. 6in.). For 5m (16 ft. 5 in.) cable length, change the last two digits of the part number to 02. For other cable lengths and/or PUR cable, please consult Altech. Non-metallic locknuts for M8 and Brass, Nickel Plated (BN) locknuts for M12 through M30.



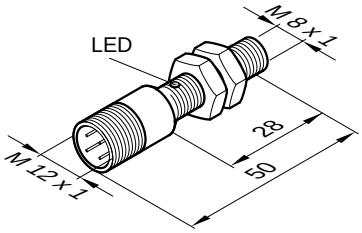


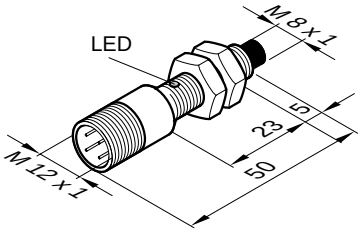
64 Style Connector
3-pin, Pico style, 8mm (.31 in.) supplied with non-metallic locknuts for M8 and Brass, Nickel Plated (BN) locknuts for M12 through M30.





65 Style Connector
4-pin, Micro style, 12mm (.47 in.) supplied with non-metallic locknuts for M8 and Brass, Nickel Plated (BN) locknuts for M12 through M30.





Metric/in. Conversion Table

1.0 mm	= .04 in.	30.0 mm	= 1.18 in.
5.0 mm	= .20 in.	34.0 mm	= 1.34 in.
6.0 mm	= .23 in.	35.0 mm	= 1.37 in.
8.0 mm	= .31 in.	39.0 mm	= 1.53 in.
12.0 mm	= .47 in.	40.0 mm	= 1.57 in.
23.0 mm	= .91 in.	50.0 mm	= 1.96.in.
24.0 mm	= .94 in.		
28.0 mm	=1.10 in.		
29.0 mm	=1.14 in.		

This table converts millimeters to inches in reference to the illustrations included on these pages

M12 Flush Mount

2mm (.08 in.)

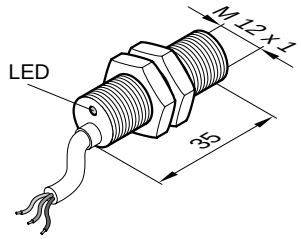
Cable	64	65
9982-2000	9982-2064	9982-2065
9982-2100	9982-2164	9982-2165
≤10%	≤10%	≤10%
18V - 30V	18V - 30V	18V - 30V
≤10 mA	≤10 mA	≤10 mA
120 mA	120 mA	120 mA
≤1.5V	≤1.5V	≤1.5V
≤10 µA	≤10 µA	≤10 µA
2000Hz	2000Hz	2000Hz
≤15%	≤15%	≤15%
≤10%	≤10%	≤10%
.20mm (.008 in.)	.20mm (.008 in.)	.20mm (.008 in.)
PBTP	PBTP	PBTP

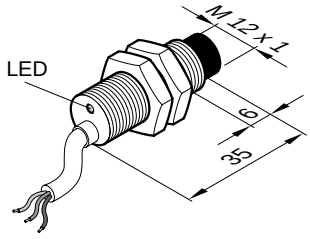
M12 Non-Flush Mount

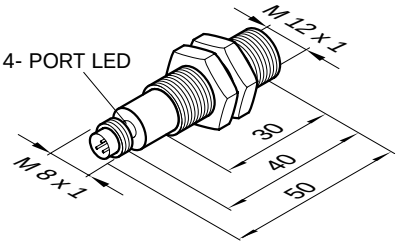
4mm (.16 in.)

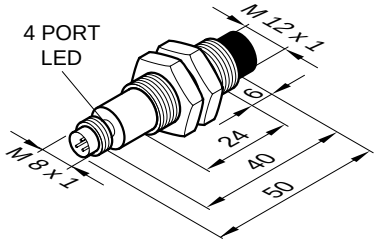
Cable	64	65
9982-2200	9982-2264	9982-2265
9982-2300	9982-2364	9982-2365
≤10%	≤10%	≤10%
18V - 30V	18V - 30V	18V - 30V
≤10 mA	≤10 mA	≤10 mA
120 mA	120 mA	120 mA
≤1.5V	≤1.5V	≤1.5V
≤10 µA	≤10 µA	≤10 µA
1000Hz	1000Hz	1000Hz
≤15%	≤15%	≤15%
≤10%	≤10%	≤10%
.40mm (.016 in.)	.40mm (.016 in.)	.40mm (.016 in.)
PBTP	PBTP	PBTP

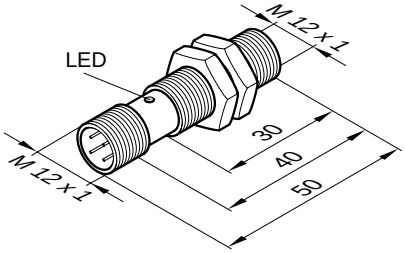
Note: Sensor dimensions in mm.

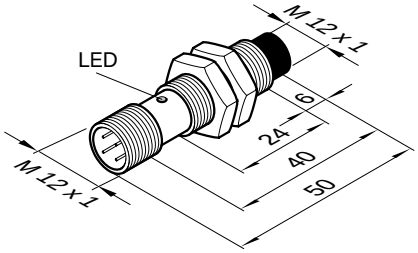












Accessories

2 meter (6 ft. 6 in.) DC Cable Assemblies for Quick Disconnect Sensors

64 Connector	8000-5220	PVC, Straight
64 Connector	8000-5230	PVC, Right Angle, 2LED, PNP
64 Connector	8000-5240	PVC, Right Angle, 2LED, NPN
65 Connector	8000-5110	PVC, Straight
65 Connector	8000-5120	PVC, Right Angle
65 Connector	8000-5150	PVC, Right Angle, 2LED, NPN
65 Connector	8000-5160	PVC, Right Angle, 2LED, PNP

Change last digit of connector number to 5 for 5 meter cable

Refer to pages 116-121 for more cable information

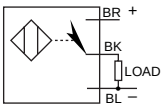
Mounting Brackets – see Page 114-115

Wiring Diagrams

Note; Wire colors are applicable on cables purchased from Altech.

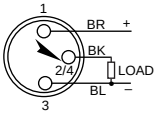
PNP

Fixed Cable



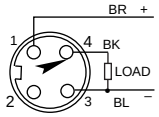
Normally Open

64 Connector



Normally Open

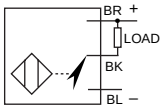
65 Connector



Normally Open

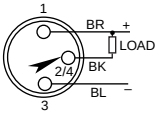
NPN

Fixed Cable



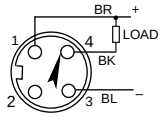
Normally Open

64 Connector



Normally Open

65 Connector



Normally Open