

DC - 3 WIRE – PLASTIC & METAL HOUSING – Brass, Nickel Plated (BN), and Plastic (TROGAMID T) Cylindrical, Threaded, 10-30V DC, 400mA 1 LED for Output Energized

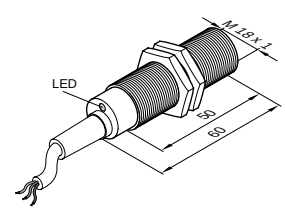
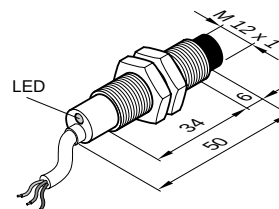
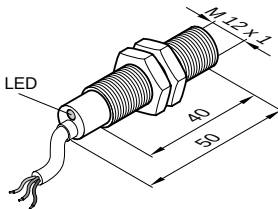
- *Metal and plastic housings*
- *Higher output currents, 400mA*
- *Long body length*
- *Carries C mark*

- 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)

M12 Flush Mount				M12 Non-Flush Mount		M18 Flush Mount		
Sensing Distance		2mm (.08 in.)		4mm (.16 in.)		5mm (.20 in.)		
Cable or Connector Cat. No.		Cable		Cable		Cable		
PNP	Normally Open		9962-3100	9962-1400	9962-3300	9962-1600	9964-3100	9964-1500
	Normally Closed							
NPN	Normally Open		9962-3200	9962-1500	9962-3400	9962-1700	9964-3200	9964-1600
	Normally Closed							
Ripple Voltage			≥10%	≥10%	≥10%	≥10%	≥10%	≥10%
Voltage Range			10-30V	10-30V	10-30V	10-30V	10-30V	10-30V
Supply Current			≥10 mA	≥10 mA	≥10 mA	≥10 mA	≥10 mA	≥10 mA
Max. Load Current			400 mA	400 mA	400 mA	400 mA	400 mA	400 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 mA	≥ 10mA
Switching Frequency			2000Hz	2000Hz	1000Hz	1000Hz	1000Hz	1000Hz
Hysteresis			≥15%	≥15%	≥15%	≥15%	≥15%	≥15%
Temperature Drift			≥10%	≥10%	≥10%	≥10%	≥10%	≥10%
Repeatability			.20mm (.008 in.)	.20mm (.008 in.)	.40mm (.016 in.)	.40mm (.016 in.)	.5mm (.02 in.)	.5mm (.02 in.)
Front Cap Material			PBTB	PBTB	PBTB	PBTB	PBTB	PBTB
Housing Material			Trogamid T	Nickel Plated Brass	Trogamid T	Nickel Plated Brass	Trogamid T	Nickel Plated Brass

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. Supplied with non-metallic locknuts for Trogamid T housings, and Brass, Nickel Plated (BN) locknuts for Nickel Plated Brass housings.



Metric/in. Conversion Table

1 mm = .04 in.	34.0 mm = 1.31 in.
1.5 mm = .06 in.	38.0 mm = 1.50 in.
6.0 mm = .23 in.	40.0 mm = 1.57 in.
8.0 mm = .31 in.	42.0 mm = 1.65 in.
12.0 mm = .47 in.	50.0 mm = 1.97 in.
18.0 mm = .70 in.	60.0 mm = 2.36 in.
30.0 mm = 1.20 in.	

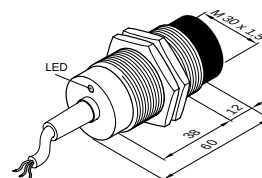
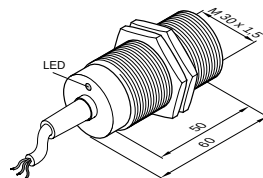
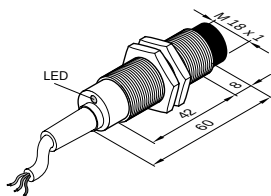
This table converts millimeters to inches in reference to the illustrations included on these pages

Accessories

Mounting Brackets – see Pages 114-115

M18 Non-Flush Mount 8mm (.31 in.)		M30 Flush Mount 10mm (.39 in.)		M30 Non-Flush Mount 15mm (.59 in.)	
Cable		Cable		Cable	
9964-3300	9964-1700	9966-3100	9966-1100	9966-3300	9966-1300
9964-3400	9964-1800	9966-3200	9966-1200	9966-3400	9966-1400
≥10%	≥10%	≥10%	≥10%	≥10%	≥10%
10-30V	10-30V	10-30V	10-30V	10-30V	10-30V
≥10 mA	≥10 mA	≥10 mA	≥10 mA	≥10 mA	≥10 mA
400 mA	400 mA	400 mA	400 mA	400 mA	400 mA
≥2.4V	≥2.4V	≥2.4V	≥2.4V	≥2.4V	≥2.4V
≥ 10mA	≥ 10mA	≥ 10mA	≥ 10mA	≥ 10mA	≥ 10mA
500Hz	500Hz	500Hz	500Hz	300Hz	300Hz
≥15%	≥15%	≥15%	≥15%	≥15%	≥15%
≥10%	≥10%	≥10%	≥10%	≥10%	≥10%
.8mm (.03 in.)	.8mm (.03 in.)	1.0mm (.04 in)	1.0mm (.04 in)	1.5mm (.06 in)	1.5mm (.06 in)
PBTB	PBTB	PBTB	PBTB	PBTB	PBTB
Trogamid T	Nickel Plated Brass	Trogamid T	Nickel Plated Brass	Trogamid T	Nickel Plated Brass

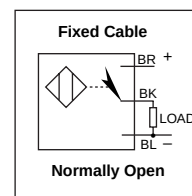
Note: Sensor dimensions in mm.



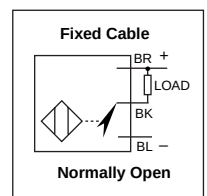
Wiring Diagrams

Note: Wire colors are applicable to cable purchased from Altech

PNP



NPN



Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Altech:](#)

[9962-1600](#) [9964-1500](#) [9962-3300](#) [9962-1400](#) [9962-3400](#) [9962-1700](#) [9966-3300](#) [9964-1700](#) [9966-3400](#) [9966-3200](#) [9964-1800](#) [9964-3400](#) [9966-1200](#) [9962-1500](#) [9966-1400](#) [9964-3100](#) [9964-3200](#) [9964-3300](#) [9964-1600](#) [9966-1300](#) [9962-3100](#)