## DC - 3 WIRE
MINI METAL HOUSING
Cylindrical, 10-30V DC, 200mA
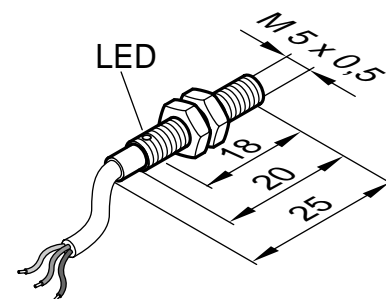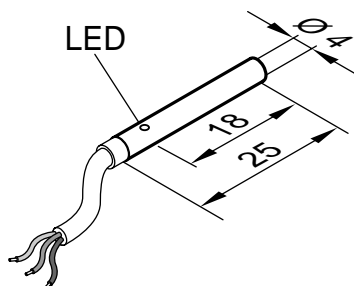## LED for Output Energized

- • *4mm, 5mm, and 6.5mm diameter*
- • *Economically Priced*
- • *Non-connector models feature polyurethane (PUR) cables*
- • *Carries C E 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)

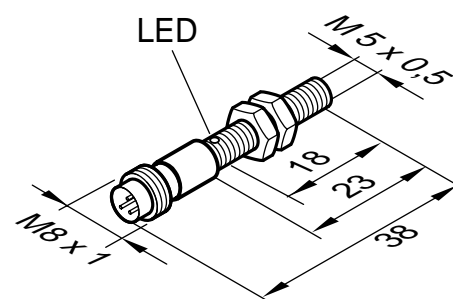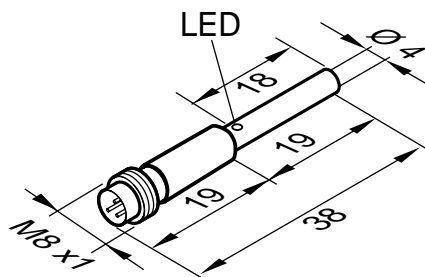|		Ø 4 Flush Mount		M5 Flush Mount	
Sensing Distance		**0.8mm (0.03 in.)**		**0.8mm (0.03 in.)**	
Cable or Connector Style Cat. No.		Cable	64	Cable	64
PNP Normally Open		9980-1010	9980-1064	9980-2010	9980-2064
Normally Closed					
NPN Normally Open		9980-1110	9980-1164	9980-2110	9980-2164
Normally Closed					
Ripple Voltage		≤10%	≤10%	≤10%	≤10%
Voltage Range		10V-30V	10V - 30V	10V - 30V	10V - 30V
Supply Current		≤10 mA	≤10 mA	≤10 mA	≤10 mA
Max. Load Current		200 mA	200 mA	200 mA	200 mA
Voltage Drop Across Sensor		≤2V	≤2V	≤2V	≤2V
Max. Leakage Currrent		≤100 µA	≤100 µA	≤100 µA	≤100 µA
Switching Frequency		5000 Hz	5000 Hz	5000 Hz	5000 Hz
Hysterisis		Typ. 5%	Typ. 5%	Typ. 5%	Typ. 5%
Temperature Drift		≤10%	≤10%	≤10%	≤10%
Repeatability		.04mm (.003 in.)	.04mm (.003 in.)	.04mm (.003in.)	.04mm (.003in.)
Front Cap Material		PBTP	PBTP	PBTB	PBTB
Housing Material		Nickel Plated Brass	Nickel Plated Brass	Nickel Plated Brass	Nickel Plated Brass

Fixed Cable
PUR 2m (6 ft. 6 in.).Supplied with Brass, Nickel Plated (BN) locknuts for M5 model.

64 Style Connector
4-pin, Micro style, 12mm (.47 in.) supplied with Brass, Nickel Plated (BN) locknuts for M5 model.

Metric/in. Conversion Table

.5 mm	= .019in.	19.0 mm	= .74 in.
1.0 mm	= .04 in.	20.0 mm	= .78 in
3.5 mm	= .13 in	23.0 mm	= .90 in.
4.0 mm	= .15 in.	25.0 mm	= .94 in.
5.0 mm	= .19 in.	35.0 mm	= 1.37 in.
6.5 mm	= .25 in.	40.0 mm	= 1.57 in.
8.0 mm	= .31 in.	43.0 mm	= 1.69 in.

This table converts millimeters to inches in reference to the illustrations included in this catalog

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

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

Refer to pages 116-121 for more cable information

Mounting Brackets – see Pages 114-115
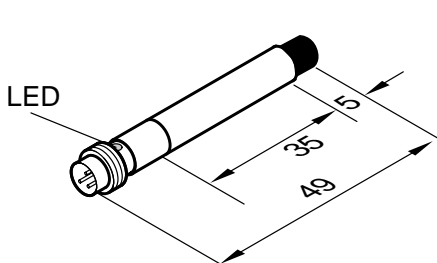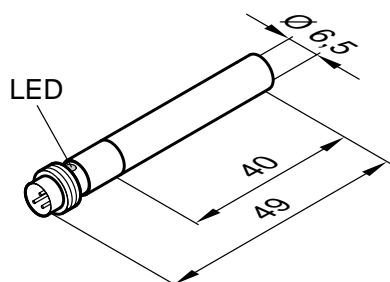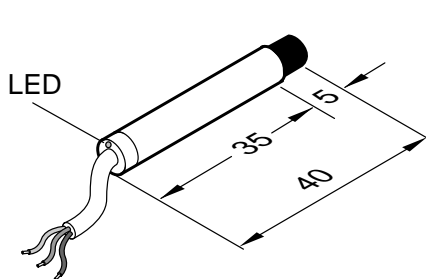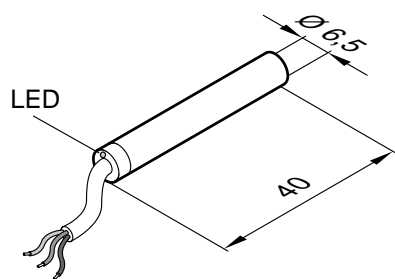
Ø 6.5 Flush Mount
1.5mm (0.06 in.)

Ø 6.5 Non-Flush Mount
3.0mm (0.11 in.)

Cable	65	Cable	65
9961-1200	9961-1264	9961-1300	9961-1364
≤10%	≤10%	≤10%	≤10%
10V - 30V	10V - 30V	10V - 30V	10V - 30V
≤8 mA	≤8 mA	≤8 mA	≤8 mA
200 mA	200 mA	200 mA	200 mA
≤2.4V	≤2.4V	≤2.4V	≤2.4V
≤10 µA	≤10 µA	≤10 µA	≤10 µA
2000 Hz	2000 Hz	2000 Hz	2000 Hz
≤15%	≤15%	≤15%	≤15%
≤10%	≤10%	≤10%	≤10%
.15mm (.006in.)	.15mm (.006in.)	.15mm (.006in.)	.15mm (.006in.)
PBTB	PBTB	PBTB	PBTB
Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel

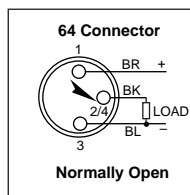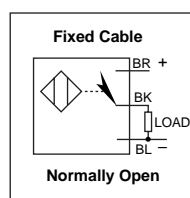*Note: Sensor dimensions in mm.*

Wiring Diagrams

Note: Wire colors are applicable to cabl;e purchased from Altech

PNP

Fixed Cable
BR +
BK
LOAD
BL –
Normally Open

NPN

Fixed Cable
BR +
LOAD
BK
BL –
Normally Open

64 Connector
1
BR +
BK
2/4 LOAD
BL –
3
Normally Open

64 Connector
1
BR +
LOAD
2/4 BK
BL
3
Normally Open