





**DC - 3 WIRE – GL SERIES**  
**Brass, Nickel Plated (BN),**  
**Cylindrical, Threaded,**  
**10-60V DC, 400mA,**  
**2 LED's for Operating Voltage**  
**and Output Energized**

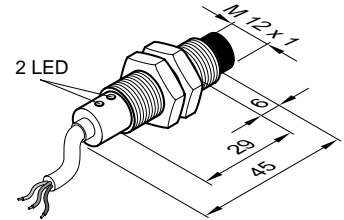
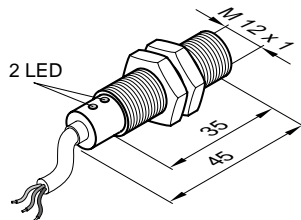
- **Higher Current Output**
- **Higher Voltage Range**
- **Carries  $\text{C}\epsilon$  mark**

- 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<br>2mm (.08 in.)  |   |                  |                  | M12 Non-Flush Mount<br>4mm (.16 in.) |                  |                  |                  |
|-----------------------------------|---|------------------|------------------|--------------------------------------|------------------|------------------|------------------|
| Sensing Distance                  |   |                  |                  |                                      |                  |                  |                  |
| Cable or Connector Style Cat. No. |   | Cable            | 64               | 65                                   | Cable            | 64               | 65               |
| <b>PNP</b>                        | Normally Open    | 9982-4000        | 9982-4064        | 9982-4065                            | 9982-4200        | 9984-4264        | 9982-4265        |
|                                   | Normally Closed  | 9982-4400        | 9982-4464        | 9982-4465                            | 9982-4600        | 9982-4664        | 9982-4665        |
| <b>NPN</b>                        | Normally Open    | 9982-4100        | 9982-4164        | 9982-4165                            | 9982-4300        | 9982-4364        | 9982-4365        |
|                                   | Normally Closed  | 9982-4500        | 9982-4564        | 9982-4565                            | 9982-4700        | 9982-4764        | 9982-4765        |
| Ripple Voltage                    |   | ≤10%             | ≤10%             | ≤10%                                 | ≤10%             | ≤10%             | ≤10%             |
| Voltage Range                     |   | 10V - 60V        | 10V - 60V        | 10V - 60V                            | 10V - 60V        | 10V - 60V        | 10V - 60V        |
| 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 μA           | ≤10 μA           |
| Switching Frequency               |   | 2000Hz           | 2000Hz           | 2000Hz                               | 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.) | .20mm (.008 in.)                     | .40mm (.016 in.) | .40mm (.016 in.) | .40mm (.016 in.) |
| Front Cap Material                |   | PBTP             | PBTP             | PBTP                                 | PBTP             | PBTP             | PBTP             |

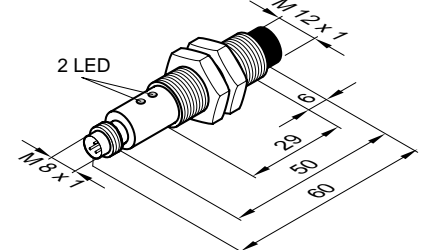
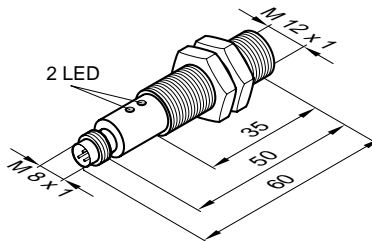
**Fixed Cable**

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. Supplied with Brass, Nickel Plated (BN) locknuts.



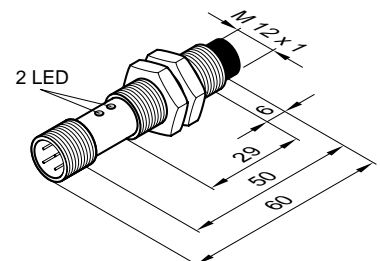
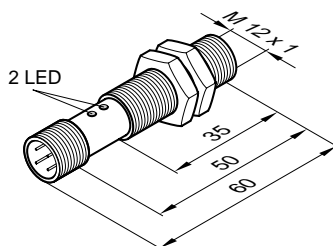
**64 Style Connector**

3-pin, Pico style, 8mm (.31 in.) supplied with Brass, Nickel Plated (BN) locknuts.



**65 Style Connectors**

4-pin, Micro style, 12mm (.47 in.) supplied with Brass, Nickel Plated (BN) locknuts.



### Metric/in. Conversion Table

|                     |                    |   |
|---------------------|--------------------|---|
| 1.0 mm = .04 in.    | 29.0 mm = 1.14 in. | This table converts millimeters to inches in reference to the illustrations included on these pages |
| 6.0 mm = .23 in.    | 35.0 mm = 1.37 in. |   |
| 8.0 mm = .31 in.    | 45.0 mm = 1.77 in. |   |
| 12.0 mm = .47 in.   | 50.0 mm = 1.97 in. |   |
| 18.0 mm = .70 in.   | 60.0 mm = 2.36 in. |   |
| .27.0 mm = 1.06 in. | 80.0 mm = 3.15 in. |   |

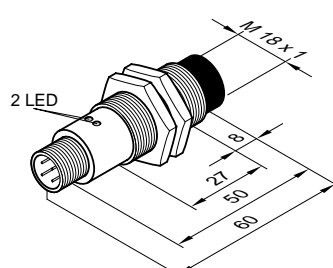
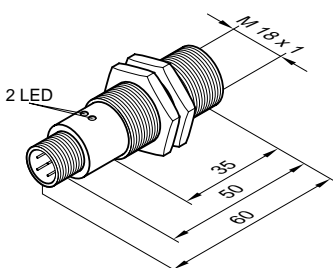
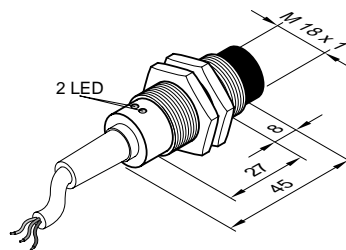
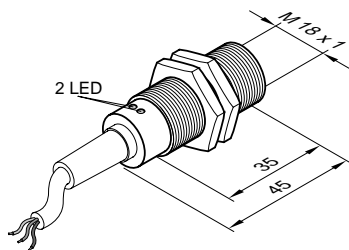
### M18 Flush Mount 5mm (.20 in.)

| Cable           | 65              |
|-----------------|-----------------|
| 9984-4000       | 9984-4065       |
| 9984-4400       | 9984-4465       |
| 9984-4100       | 9984-4165       |
| 9984-4500       | 9984-4565       |
| ≤10%            | ≤10%            |
| 10V - 60V       | 10V - 60V       |
| ≤10 mA          | ≤10 mA          |
| 400 mA          | 400 mA          |
| ≤2.4V           | ≤2.4V           |
| ≤10 μA          | ≤10 μA          |
| 1000Hz          | 1000Hz          |
| ≤15%            | ≤15%            |
| ≤10%            | ≤10%            |
| .25mm (.01 in.) | .25mm (.01 in.) |
| PBTP            | PBTP            |

### M18 Non-Flush Mount 8mm (.31 in.)

| Cable            | 65               |
|------------------|------------------|
| 9984-4200        | 9984-4265        |
| 9984-4600        | 9984-4665        |
| 9984-4300        | 9984-4365        |
| 9984-4700        | 9984-4765        |
| ≤10%             | ≤10%             |
| 10V - 60V        | 10V - 60V        |
| ≤10 mA           | ≤10 mA           |
| 400 mA           | 400 mA           |
| ≤2.4V            | ≤2.4V            |
| ≤10 μA           | ≤10 μA           |
| 500Hz            | 500Hz            |
| ≤15%             | ≤15%             |
| ≤10%             | ≤10%             |
| .40mm (.016 in.) | .40mm (.016 in.) |
| 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, NPN
- 64 Connector 8000-5240 PVC, Right Angle, 2LED, NPN

#### 65 Connectors, 4 PIN - 3 Wire cable (PIN 1, 3, 4) :

- 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, NPN

#### 65 Connectors, 4 PIN - 4 Wire cable (PIN 1, 2, 3, 4) :

- 65 Connector 8000-5280 PVC Right Angle

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

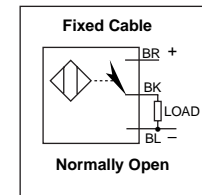
Refer to pages 116-121 for more cable information

Mounting Brackets - see Pages 114-115

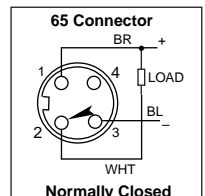
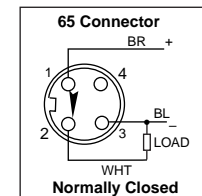
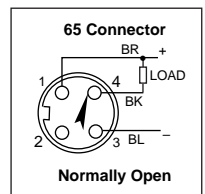
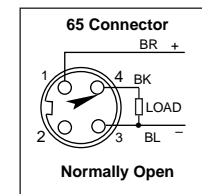
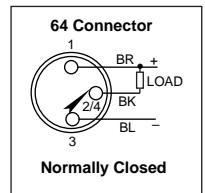
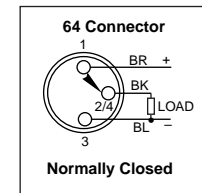
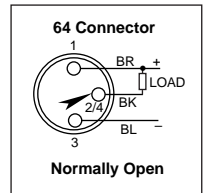
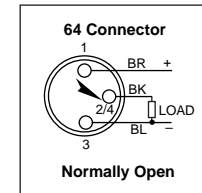
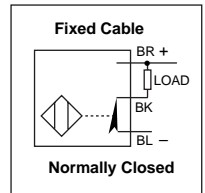
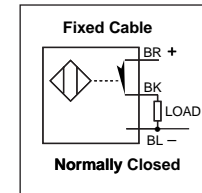
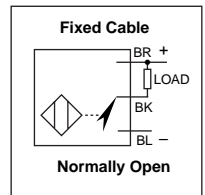
### Wiring Diagrams

Note: Wire colors are applicable on cables purchased from Altech

#### NPN



#### NPN



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