

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

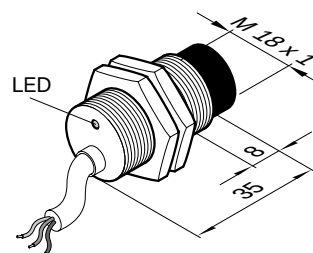
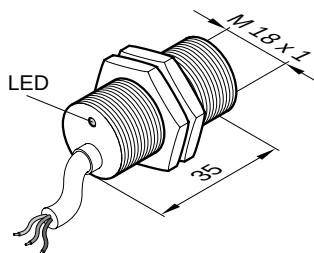
- **Short Body Sensors**
- **Economically priced**
- **Connector options**
- **Carries C€ mark**

- 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)

| M18 Flush Mount                   |                                                                                                   |                 | M18 Non-Flush Mount |                  |
|-----------------------------------|---------------------------------------------------------------------------------------------------|-----------------|---------------------|------------------|
| Sensing Distance                  |                                                                                                   |                 | 8mm (.31in.)        |                  |
| Cable or Connector Style Cat. No. | Cable                                                                                             | 65              | Cable               | 65               |
| <b>PNP</b>                        | Normally Open    | 9984-2000       | 9984-2200           | 9984-2265        |
|                                   | Normally Closed  |                 |                     |                  |
| <b>NPN</b>                        | Normally Open    | 9984-2100       | 9984-2300           | 9984-2365        |
|                                   | Normally Closed  |                 |                     |                  |
| Ripple Voltage                    | ≤10%                                                                                              | ≤10%            | ≤10%                | ≤10%             |
| Voltage Range                     | 18V - 30V                                                                                         | 18V - 30V       | 18V - 30V           | 18V - 30V        |
| Supply Current                    | ≤10 mA                                                                                            | ≤10 mA          | ≤10 mA              | ≤10 mA           |
| Max. Load Current                 | 120 mA                                                                                            | 120 mA          | 120 mA              | 120 mA           |
| Voltage Drop Across Sensor        | ≤1.5V                                                                                             | ≤1.5V           | ≤1.5V               | ≤1.5V            |
| Max. Leakage Current              | ≤10 µA                                                                                            | ≤10 µA          | ≤10 µA              | ≤10 µA           |
| Switching Frequency               | 1000Hz                                                                                            | 1000Hz          | 500Hz               | 500Hz            |
| Hysteresis                        | ≤15%                                                                                              | ≤15%            | ≤15%                | ≤15%             |
| Temperature Drift                 | ≤10%                                                                                              | ≤10%            | ≤10%                | ≤10%             |
| Repeatability                     | .50mm (.02 in.)                                                                                   | .50mm (.02 in.) | .80mm (.031in.)     | .80mm (.031 in.) |
| Front Cap Material                | PBTP                                                                                              | PBTP            | PBTP                | PBTP             |

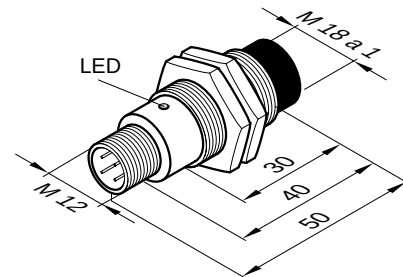
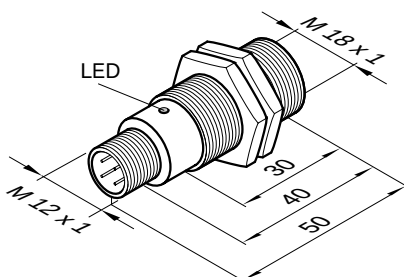
**Fixed Cable**

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.



**65 Style Connector**

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



**Metric/in. Conversion Table**

|                   |                    |
|-------------------|--------------------|
| 1.5 mm = .06 in.  | 23.0 mm = .91 in.  |
| 2.0 mm = .08 in.  | 28.0 mm = 1.10 in. |
| 4.0 mm = .16 in.  | 30.0 mm = 1.18 in. |
| 5.0 mm = .20 in.  | 32.0 mm = 1.26 in. |
| 6.0 mm = .23 in.  | 34.0 mm = 1.38 in. |
| 8.0 mm = .31 in.  | 40.0 mm = 1.57 in. |
| 10.0 mm = .39 in. | 50.0 mm = 1.97 in. |
| 12.0 mm = .47 in. | 51.0 mm = 2.01 in. |
| 15.0 mm = .59 in. | 60.0 mm = 2.36 in. |
| 18.0 mm = .70 in. | 80.0 mm = 3.12 in. |

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

## Accessories

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

|              |           |                             |
|--------------|-----------|-----------------------------|
| 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 |

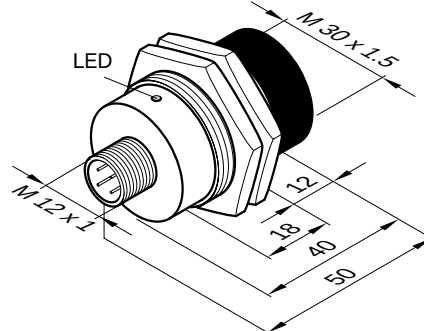
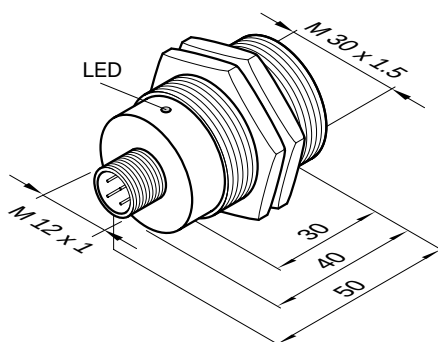
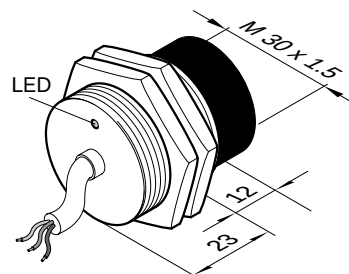
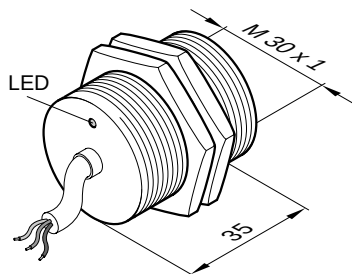
**Change last digit of connector number to 5 for 5 meter cable**

Refer to pages 116-121 for more cable information

Mounting Brackets – see Pages 114-115

| M30 Flush Mount<br>10mm (.39 in.) |                  | M30 Non-Flush Mount<br>15mm (.59 in.) |                  |
|-----------------------------------|------------------|---------------------------------------|------------------|
| Cable                             | 65               | Cable                                 | 65               |
| 9986-2000                         | 9986-2065        | 9986-2200                             | 9986-2265        |
| 9986-2100                         | 9986-2165        | 9986-2300                             | 9986-2365        |
| ≤10%                              | ≤10%             | ≤10%                                  | ≤10%             |
| 18V - 30V                         | 18V - 30V        | 18V - 30V                             | 18V - 30V        |
| ≤10 mA                            | ≤10 mA           | ≤10 mA                                | ≤10 mA           |
| 120 mA                            | 120 mA           | 120 mA                                | 120 mA           |
| ≤1.5V                             | ≤1.5V            | ≤1.5V                                 | ≤1.5V            |
| ≤10 μA                            | ≤10 μA           | ≤10 μA                                | ≤10 μA           |
| 500Hz                             | 500Hz            | 300Hz                                 | 300Hz            |
| ≤15%                              | ≤15%             | ≤15%                                  | ≤15%             |
| ≤10%                              | ≤10%             | ≤10%                                  | ≤10%             |
| 1.0mm (.039 in.)                  | 1.0mm (.039 in.) | 1.5mm (.059 in.)                      | 1.5mm (.059 in.) |
| PBTP                              | PBTP             | PBTP                                  | PBTP             |

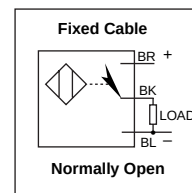
Note: Sensor dimensions in mm.



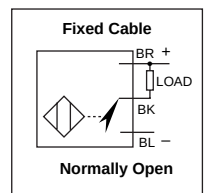
## Wiring Diagrams

Note: Wire colors are applicable on cables purchased from Altech

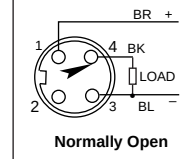
### PNP



### NPN



### 65 Connector



### 65 Connector

