

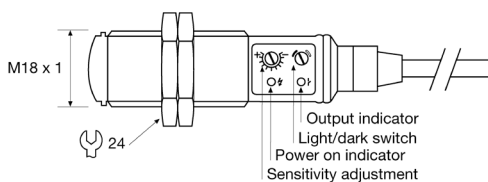
Product Data

| Electrical Data | | | | | |
|----------------------------|----------------|----------|-------------|----------|--|
| | DC | | | AC | |
| | Transmitter | Receiver | Transmitter | Receiver | |
| Supply Voltage | 10-30 V dc | | 20-250 V ac | | |
| Voltage ripple | +/- 15% | | - | | |
| Reverse polarity protected | Yes | | - | | |
| Short circuit protected | - | | Yes | | |
| Current consumption | 15 mA | 5 mA | 3 mA | 2 mA | |
| Max. output load | 120 mA/30 V dc | | - | | |

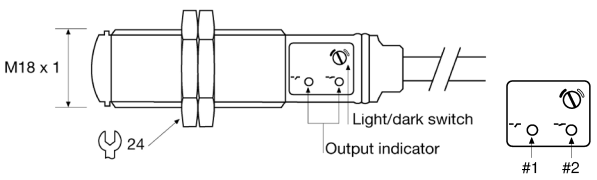
| Environmental Data | | | | | |
|------------------------|---------------|------------------|--|--|--|
| Temperature, operation | -20 to +60 °C | | | | |
| Sealing class | IP 67 | | | | |
| Approvals | ac | UK CA CE c RU us | | | |
| | dc | UK CA CE | | | |

| Available Models | | | | | |
|------------------|----------|----------------|------------|--------------------|--------------------|
| | Model | Supply Voltage | Output | Output Mode | Sensing Range |
| Transmitter | SMT 8000 | 10-30 V dc | - | - | 20 m |
| | SMT 8600 | 20-250 V ac | - | - | 7 m |
| Receiver | SMR 8400 | 10-30 V dc | NPN | Light/dark | 0-7 m, adjustable |
| | SMR 8500 | | PNP | Light/dark | 0-20 m, adjustable |
| | SMR 8420 | | NPN | Light/dark | 0-20 m, adjustable |
| | SMR 8520 | PNP | Light/dark | 0-20 m, adjustable | |
| | SMR 8800 | 20-250 V ac | SCR | Light/dark | 7 m fixed |

Illustration



DC Models



AC Models

Connection

Wiring Diagrams

| Transmitters | Receivers |
|--------------------------------|------------------------------------|
| <p>SMT 8000 Test input</p> | <p>SMR 84XX Transistor NPN</p> |
| <p>SMT 8600</p> | <p>SMR 85XX Transistor PNP</p> |
| | <p>SMR 8800 SCR</p> |

WARNING: DO NOT CONNECT THE SMR WITHOUT A SERIAL LOAD

| Connection Wires/Pins | | | |
|-----------------------|--------------|----------------|-----------------|
| | Cable | 3 pin, M8 plug | 4 pin, M12 plug |
| AC supply | Blue & Brown | - | - |
| Supply + | Brown | Pin 1 | Pin 1 |
| Supply - | Blue | Pin 3 | Pin 3 |
| Control/Output | Black | Pin 4 | Pin 4 |

Mounting & Alignment

- Mount the transmitter and receiver sensors facing each other. Make sure the distance between the sensors does not exceed the specified sensing range of the system.
- Align the sensors by moving, either the transmitter or receiver sensor, horizontally and vertically until the output is:
 - Deactivated when no object is present. (Dark operated)
 - Activated when no object is present. (Light operated)
- Fasten the transmitter and receiver sensors securely using the enclosed locking nuts and/or a mounting bracket. Avoid acute angles on cable close to sensor.

Adjustments

Output Mode Selection

The output mode can be selected via an integral switch on the receiver sensor. Refer to Output Logic table for output mode reference.

| | | |
|-----------------------|--|--|
| Light Operated (N.C.) | Enables the output to be inactive when there is an object present. | Turn potentiometer to full clockwise position |
| Dark Operated (N.O.) | Enables the output to be active when there is an object present. | Turn potentiometer full counter clockwise position |

Output Logic

| Detection | Output Mode | Output status | Yellow LED | |
|--|-----------------------|---------------|------------|-----------------|
| | | | DC models | AC models #1 #2 |
| Object absent Transmitter → Receiver | Dark operated (N.O.) | Open | Off | On Off |
| | Light operated (N.C.) | Closed | On | Off On |
| Object present Transmitter → Receiver | Light operated (N.C.) | Open | Off | On Off |
| | Dark operated (N.O.) | Closed | On | Off On |

Sensitivity Adjustment DC models only

Maximum sensitivity can be used for most applications and is advised for applications with contaminated environments. Increase the sensitivity to maximum by turning the potentiometer, on the receiver sensor, to full clockwise position.

Sensitivity adjustment may be required in applications where objects to be detected are small or translucent. Proceed with the following steps:

- Start with the sensitivity at maximum by turning the potentiometer to full clockwise position.
- Select target object with smallest dimensions and most translucent surface.
- Place target object between transmitter and receiver sensors.
- Decrease the sensitivity by turning the potentiometer counter clockwise until the output changes.
- Remove target object. Check output status has changed.

Test Input DC models only

The transmitter can be externally disabled and enabled, via the control wire, for test purposes. The test input requires the control wire to be connected to - (negative) supply wire. Make sure no object is present in the detection area when transmitter is disabled for test. When the transmitter is disabled, the receiver should change output.

| | |
|---------------------|--|
| Enable transmitter | Open (off) control switch (connected to +, or not connected) |
| Disable transmitter | Close (on) control switch (connected to -) |

Note: If the test input is not to be used, it is recommended to connect the control wire to + supply wire.

Warning
 This device is not to be used for Personnel Protection in Machine Guarding Safety applications. This device does not include the self-checking redundant circuitry necessary to allow its use in personnel machine guarding stand-alone safety applications.