

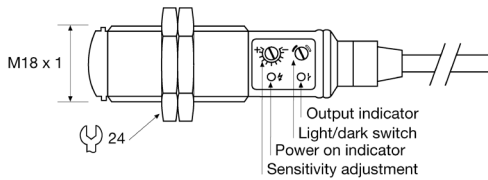
**Product Data**

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		-		

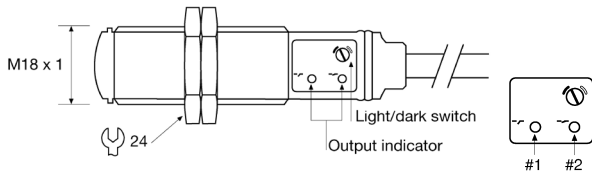
Environmental Data					
Temperature, operation	-20 to +60 °C				
Sealing class	IP 67				
Approvals	ac				
	dc				

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	
	SMR 8520	PNP	Light/dark		
	SMR 8800	20-250 V ac	SCR	Light/dark	7 m fixed

**Illustration**



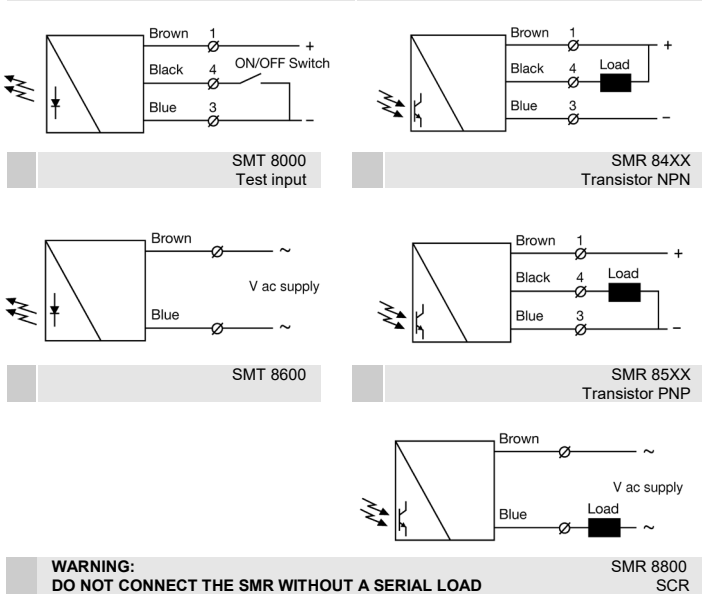
DC Models



AC Models

**Connection**

**Wiring Diagrams**



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	AC models #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.