SM 8000 USER MANUAL
SpaceMaster Series
Photoelectric thru beam sensors

EN

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	-	200 mA

Environmental Data

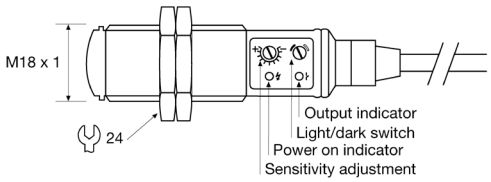
Temperature, operation		-20 to +60 ºC
Sealing class		IP 67
Approvals	ac	CE cULus
	dc	CE

Available Models

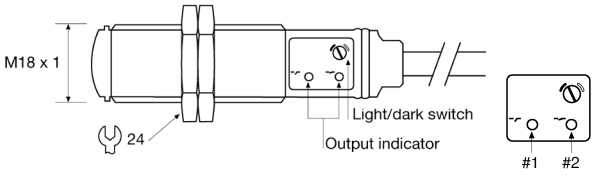
	Model	Supply Voltage	Output	Output Mode	Sensing Range
Transmitter	SMT 8000	10-30 V dc	-	-	20 m
	SMT 8600	20-250 V ac	-	-	7 m
	SMT8600H	20-250 V ac	-	-	20 m (*)
Receiver	SMR 8400	10-30 V dc	NPN	Light/dark	0-7 m, adjustable
	SMR 8500		PNP	Light/dark	
	SMR 8420		NPN	Light/dark	0-20 m, adjustable
	SMR 8520		PNP	Light/dark	
	SMR 8800	20-250 V ac	SCR	Light/dark	7 m fixed
	SMR8820	20-250 V ac	SCR	Light/dark	20 m fixed (*)

(*) Used together

Illustration



DC Models

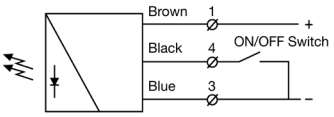


AC Models

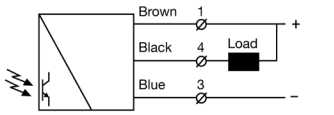
Connection

Wiring Diagrams

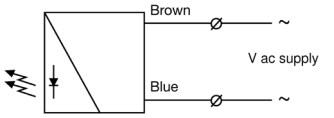
Transmitters | Receivers



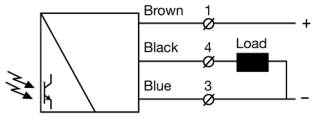
SMT 8000
Test input



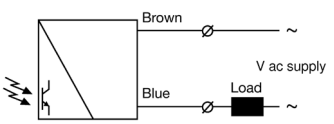
SMR 84XX
Transistor NPN



SMT 8600



SMR 85XX
Transistor PNP



SMR 8800
SCR

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
	-	 Sensor plug	 Sensor plug

Mounting & Alignment

Mounting & Alignment

1	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.
2	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)
3	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.

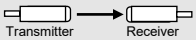
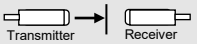
Adjustments

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:

1	Start with the sensitivity at maximum by turning the potentiometer to full clockwise position.
2	Select target object with smallest dimensions and most translucent surface.
3	Place target object between transmitter and receiver sensors.
4	Decrease the sensitivity by turning the potentiometer counter clockwise until the output changes.
5	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.

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Made in Denmark

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.

V 1.1 Part Number: 0666220871
April 2019 edition