Product Data

Electrical Data		
	Transmitter	Receiver
Supply Voltage	10-32 V dc	
Voltage ripple	+/- 15%	
Reverse polarity protected	Yes	
Short circuit protected	-	Yes
Current consumption	25 mA / 10 V dc, 10 mA / 32 Vdc	8 mA / 10 V dc, 10 mA / 32 V dc
Max. output load	-	100 mA

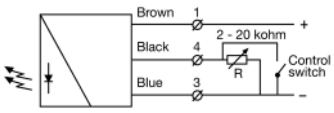
Environmental Data	
Temperature, operation	-20 to +60 ºC
Sealing class	IP 67
Approvals	CE

Available Models				
	Model	Output	Output Mode	Sensing Range
Transmitter	SMT 6000	-	-	1-6 m, adjustable
	SMT 6001			6 m
Receiver	SMR 6002	NPN	Light operated (N.C.)	2 m
	SMR 6102	NPN	Dark operated (N.O.)	
	SMR 6202	PNP	Light operated (N.C.)	
	SMR 6302	PNP	Dark operated (N.O.)	
	SMR 6402	NPN/PNP	Dark operated (N.O.)	
	SMR 6502	NPN/PNP	Light operated (N.C.)	
	SMR 6006	NPN	Light operated (N.C.)	6 m
	SMR 6106	NPN	Dark operated (N.O.)	
	SMR 6206	PNP	Light operated (N.C.)	
	SMR 6306	PNP	Dark operated (N.O.)	
	SMR 6406	NPN/PNP	Dark operated (N.O.)	
	SMR 6506	NPN/PNP	Light operated (N.C.)	

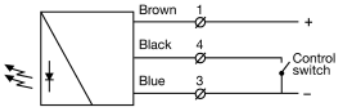
Connection

Wiring Diagrams

Transmitters

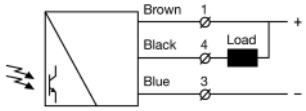


SMT 6000
Variable range and test input

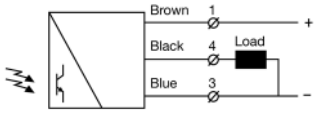


SMT 6001
Test input

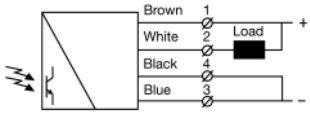
Receivers



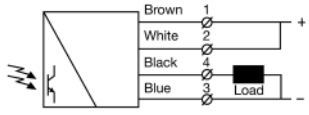
SMR 600X / SMR 610X
Transistor NPN



SMR 620X / SMR 630X
Transistor PNP



SMR 640X / SMR 650X
Transistor NPN/PNP – load as NPN



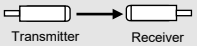
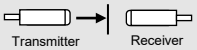
SMR 640X / SMR 650X
Transistor NPN/PNP – load as PNP

Connection Wires/Pins				
	Cable	3 pin, M8 plug	4 pin, M8 plug	4 pin, M12 plug
Supply +	Brown	Pin 1	Pin 1	Pin 1
Supply -	Blue	Pin 3	Pin 3	Pin 3
Control/Output	Black	Pin 4	Pin 4	Pin 4
Output	White	-	Pin 2	Pin 2
	-	Sensor plug	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. Avoid acute angles on cable close to sensor.

Adjustments

Output Logic			
Detection	Output Mode	Output status	Yellow LED
Object absent 	Dark operated (N.O.)	Open	Off
	Light operated (N.C.)	Closed	On
Object present 	Light operated (N.C.)	Open	Off
	Dark operated (N.O.)	Closed	On

Transmitter Power Adjustment SMT 6000	
Maximum transmitting power can be used for most applications. Maximum transmitter power (factory set) is advised for applications with contaminated environments.	
The transmitting power can be adjusted externally via the wires of the transmitter sensor. Adjust using a resistor (e.g. potentiometer) of 2 - 20K ohm or a voltage source of 1 - 4 V dc connected respectively between control and – (negative) supply wires. Adjustment of transmitter power may be required in applications where objects to be detected are small or translucent. Proceed with the following steps:	
1	Select target object with the smallest dimensions and most translucent surface.
2	Place target object between transmitter and receiver sensors. If the output status changes, adjustment is not required. If the output status has not changed proceed to step 3.
3	Decrease the transmitter power (by reducing the resistance) until the output status changes. If the output status has not changed, attempt to move the sensors further apart or angle one of the sensors, and then repeat procedure.
4	Remove target object. Observe the output status has changed.

Note: If the transmitter power adjustment is not to be used, it is recommended to connect the control wire to + (positive) supply wire.

Test Input	
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, a resistor over 2 Kohm or voltage over 4 V dc
Disable transmitter	Close (on) control switch, a resistor below 2 Kohm or voltage below 0.7 Vdc

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

Website: www.telcosensors.com
E-Mail: info@telcosensors.com

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.

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Telco A/S reserves the right to make changes without prior notice