

**Product Data**

Electrical Data		SGT (Transmitter)	SGR (Receiver)
Supply voltage		12 – 36 Vdc	
Current consumption		100 mA	50 mA
Max. output load		-	200 mA
Reverse polarity protected		Yes	
Short circuit protected		-	Yes

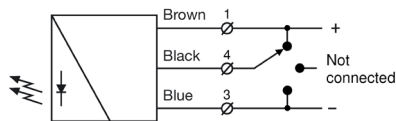
Environmental Data	
Light immunity @ 5° incidence	> 100.000 lux
Temperature, operation	-20 to + 65 °C
Sealing class	"A" & "B" housing IP 54 - "C" housing IP 67
Approvals	CE

Available Models				
	Model	Output	Output Mode	Sensing Range
Transmitter	SGT 1(H)-xxx-0xx-x1-x-0x-xx	-	-	0 – 4m. (slim line)  0 – 3 m. (leading edge)
	SGR 1-xxx-0xx-x1-x-00-xx	NPN	Light operated	
SGR 1-xxx-0xx-x1-x-01-xx	Dark operated			
Receiver	SGR 1-xxx-0xx-x1-x-02-xx	PNP	Light operated	
	SGR 1-xxx-0xx-x1-x-03-xx		Dark operated	
	SGR 1-xxx-0xx-x1-x-04-xx	Solid State Relay	Dark operated	
	SGR 1-xxx-0xx-x1-x-05-xx		Light operated	

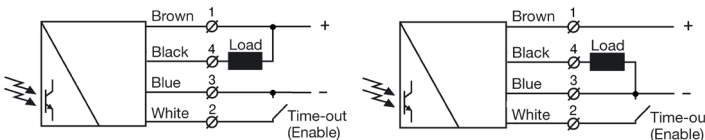
Note:  
The high power transmitter, model SGT 1H-xxx-0xx-x1-x-0x-xx has a sensing range of 0,5 to 6,5m.

**Connection**

Wiring Diagrams			
Model	Black wire connected to (-)	Black wire not connected	Black wire connected to (+)
SGT 1(H)-xxx-0xx-x1-x-00-xx	TX is not transmitting	TX is transmitting	TX is transmitting
SGT 1(H)-xxx-0xx-x1-x-01-xx	TX is not transmitting	TX is transmitting	TX is not transmitting
SGT 1(H)-xxx-0xx-x1-x-02-xx	TX is transmitting	TX is not transmitting	TX is transmitting
SGT 1(H)-xxx-0xx-x1-x-03-xx	TX is transmitting	TX is transmitting	TX is not transmitting

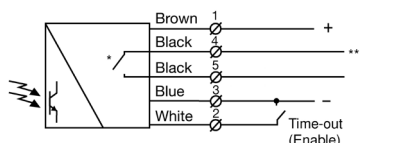


Transmitter SGT



Receiver SGR NPN output

Receiver SGR PNP output



\* Relay type: Open when SGR not powered \*\* Max. 24 V ac / 36 V dc

Receiver SGR Solid State Relay output

**Installation & Adjustments**

Output Logic			
Detection	Output mode	Output status	Output indicator (yellow led)
Present	Dark operated	Closed	On
	Light operated	Open	Off
Absent	Dark operated	Open	Off
	Light operated	Closed	On

**Adjustment**

On the SG1 no initial set up or adjustments are required, due the automatic signal-tracking (AST) feature, that adjusts automatically each individual beam on the system.

- Mount the transmitter (SGT) and receiver (SGR) facing each other and correctly aligned.
  - Wire the sensor according to the wiring diagram. Make sure the load does not exceed 200 mA.
  - Check for correct wiring before turning power on. Select time-out function if required.
  - When the power on indicator (green LEDs) are on, the system is operating.
    - If the Status indicator (red LED) is constant on the SGR cannot see the SGT.
    - If the Status indicator (red LED) is flashing slowly one or more beams are blocked (only if time-out is enabled).
- Note:  
In dynamic installations:  
- For initial setup, ensure that the doors where the light curtains are installed, are in the fully open position.  
- In order to prevent vandalism Telco recommends that the detectors are placed at least 5 mm in the door.

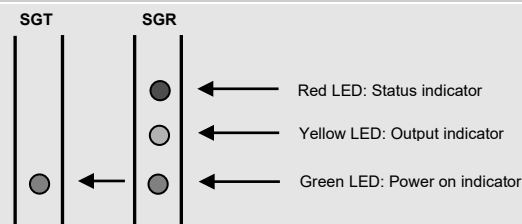
**Time-out function**

On "A1" model (46 mm channel spacing), up to 4 non-adjacent channels can be ignored with time-out function enabled, when obstructed for more than 10 seconds.  
On "B1" model (92 mm channel spacing), up to 2 non-adjacent channels can be ignored with time-out function enabled, when obstructed for more than 10 seconds.  
This function can be enabled (White wire disconnected) or disabled (White wire connected).

**Test Input** SGT 1

The transmitter can be externally disabled and enabled, via the control wire, for test purposes. Make sure no object is present in the detection area when transmitter is disabled for test. When the transmitter is disabled, the receiver will change output.

**Indicators**



**Troubleshooting**

Probable Reason	Corrective Action
1. Symptom: Output changes when doors are closing.	
Misaligned detectors.	Align detectors.
The doors are vibrating when closing.	Place the detectors further apart from each other.
2. Symptom: Status indicator (Red LED) is constant on.	
TX is not emitting.	Check supply and cable to the SGT.
SGT is disabled.	Enable the SGT.
The upper channel is blocked.	Remove obstruction.
2a. For "A1" models (46 mm channel spacing).	
More than 4 channels blocked.	Remove obstruction.
2b. For "B1" models (92 mm channel spacing).	
More than 2 channels are blocked.	Remove obstruction.
3. Symptom: Status indicator (Red LED) is flashing but correct function of light curtain.	
3a. On "A1" model (46 mm channel spacing), up to four non-adjacent channels have been blocked or damaged (time-out function activated).	Remove obstruction or prepare to replace the faulty detector.
3b. On "B1" model (92 mm channel spacing), up to two non-adjacent channels have been blocked or damaged (time-out function activated).	Remove obstruction or prepare to replace the faulty detector.
4. Symptom: Status indicator (Red LED) is flashing and output is not working.	
Two adjacent channels are blocked.	Remove obstruction or replace detectors.
Lower channel blocked	
5. Symptom: Output indicator (Yellow LED) is flashing	
Severe electrical interference.	Remove SGR and SGT supply cable from high voltage cables.
Severe ambient light.	Change position of SGT and SGR.
Cross talk from another light curtain.	Change position of SGT and SGR.



**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.