SG 1 - USER MANUAL
Space Guard Series
Photoelectric light curtains

EN

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 @ 5º incidence	> 100.000 lux
Temperature, operation	-20 to + 65 ºC
Sealing class	"A" & "B" housing IP 54 - "C" housing IP 67
Approvals	UK CA CE

Available Models

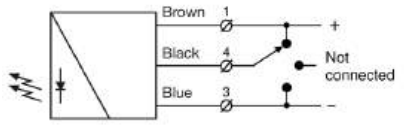
	Model	Output	Output Mode	Sensing Range
Transmitter	SGT 1(H)-xxx-0xx-x1-x-0x-xx	-	-	0 – 4m. (slim line) 0 – 3 m. (leading edge)
Receiver	SGR 1-xxx-0xx-x1-x-00-xx	NPN	Light operated	
	SGR 1-xxx-0xx-x1-x-01-xx		Dark operated	
	SGR 1-xxx-0xx-x1-x-02-xx	PNP	Light operated	
	SGR 1-xxx-0xx-x1-x-03-xx		Dark 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 1**H**-xxx-0xx-x1-x-0x-xx has a sensing range of 0,5 to 6,5m.

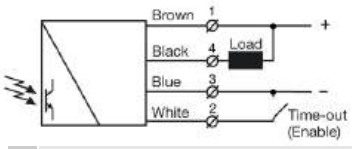
Connection

Wiring Diagrams

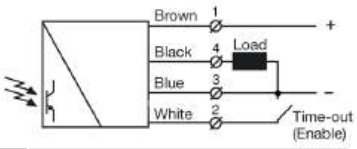
Model	Black wire connected to (-)	Black wire not connected	Black wire connected to (+)
SGT 1(H)-xxx-0xx-x1-x-00-xx	TX is not transmitting	TX is transmitting	TX is transmitting
SGT 1(H)-xxx-0xx-x1-x-01-xx	TX is not transmitting	TX is transmitting	TX is not transmitting
SGT 1(H)-xxx-0xx-x1-x-02-xx	TX is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



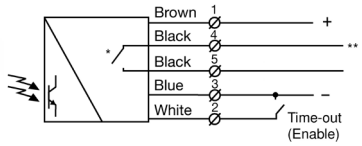
Transmitter SGT



Receiver SGR NPN output



Receiver SGR PNP output

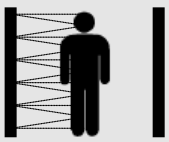
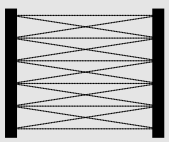


* Relay type: Open when SGR not powered
** Max. 24 V ac / 36 V dc

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.

1	Mount the transmitter (SGT) and receiver (SGR) facing each other and correctly aligned.
2	Wire the sensor according to the wiring diagram. Make sure the load does not exceed 200 mA.
3	Check for correct wiring before turning power on. Select time-out function if required.
4	When the power on indicator (green LEDs) are on, the system is operating. 1.- If the Status indicator (red LED) is constant on the SGR cannot see the SGT. 2.- 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.

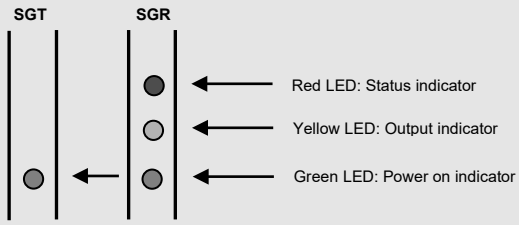
On "B1" model (92 mm channel spacing), up to 2 non-adjacent channels can be ignored with time-out function enabled, when obstructed for more than 10 seconds.

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.

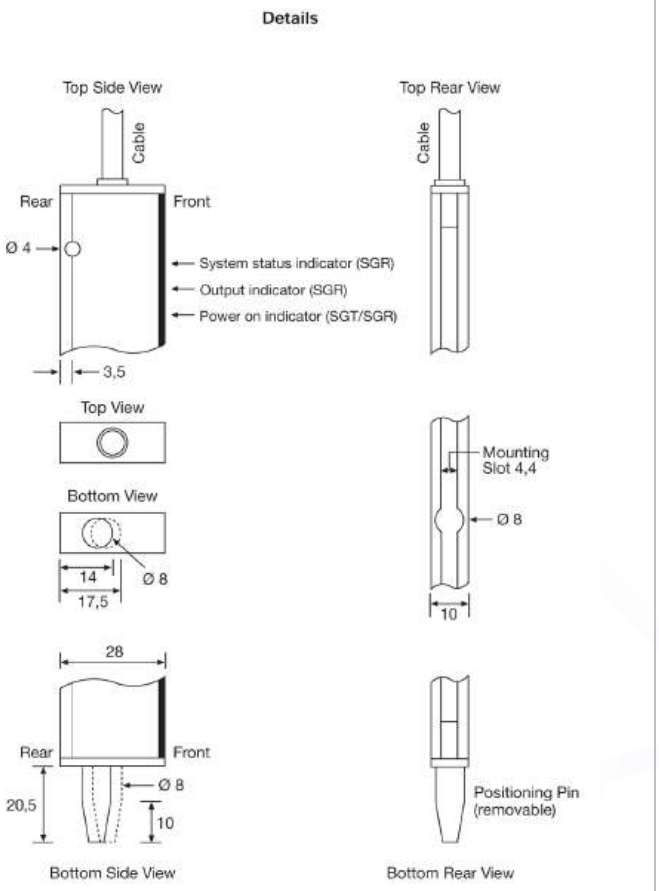
Made in Denmark

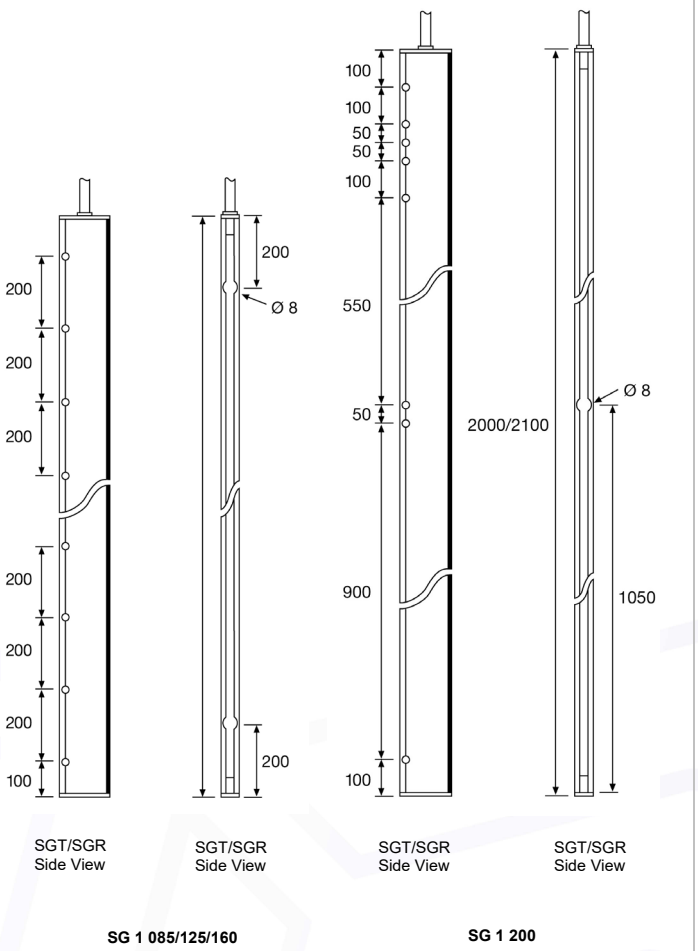
Warning
This device is not to be used for Personnel Protection in Machine Guarding Safety applications. This device does not include the self-checking redundant circuitry necessary to allow its use in personnel machine guarding stand-alone safety applications.

V 1.4 Part Number: 0666220647
January 2023 edition

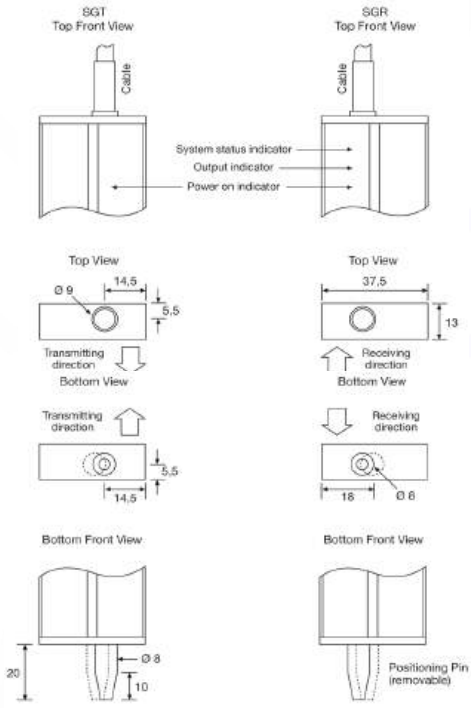
Dimensions and Descriptions

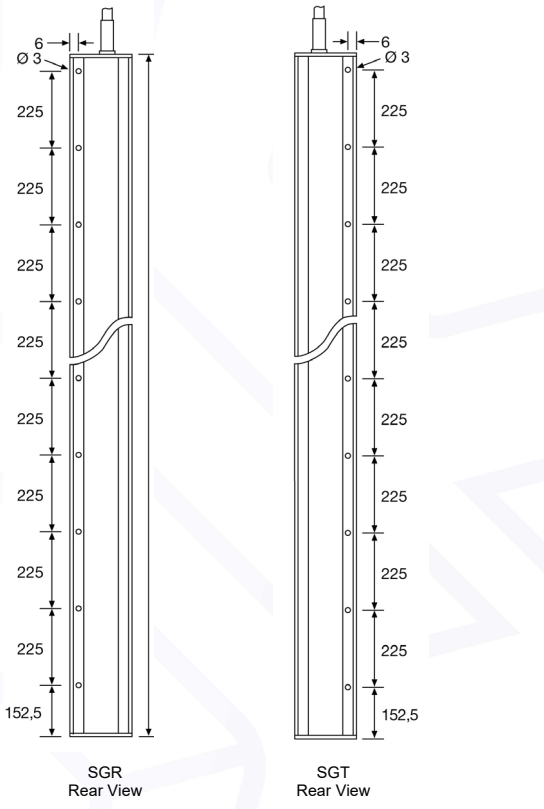
Slim Line **"A"** Housing – **IP 54**





Leading Edge **"B"** Housing – **IP 54**





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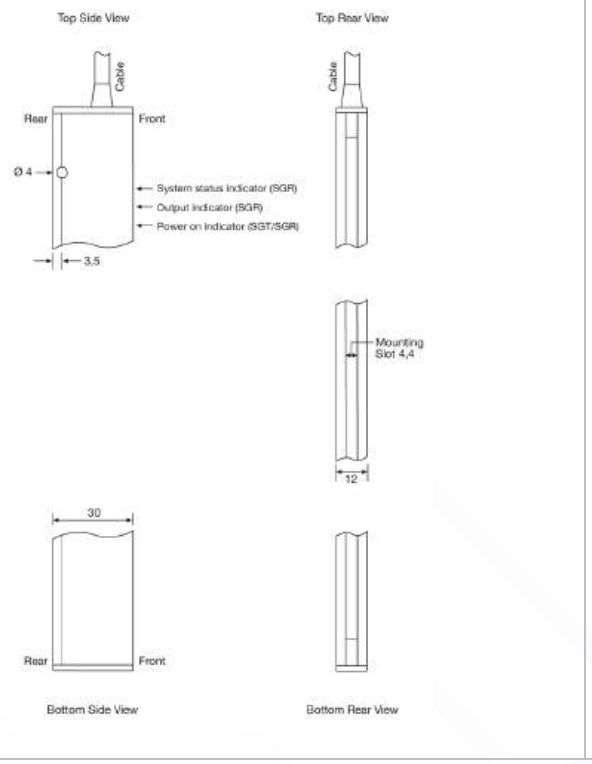
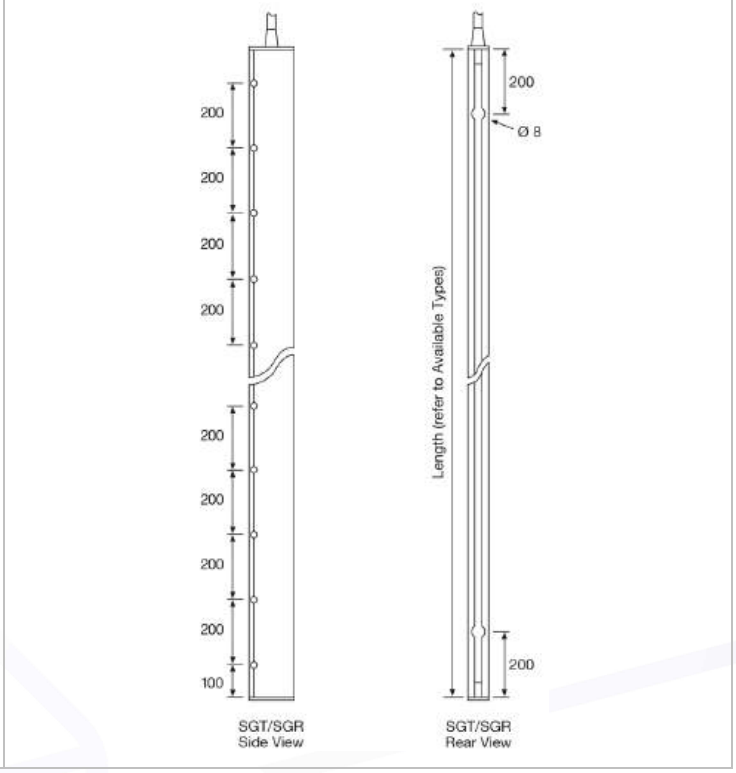
Dimensions and Descriptions

Slim Line **"C"** Housing – **IP 67**

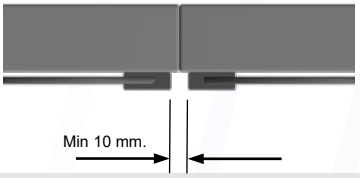


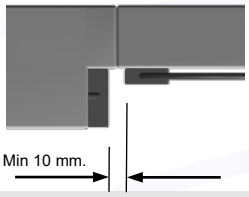


Recommendations for elevator installations

Fig. 1

Fasten the cables with cable clips.
In dynamic applications, please make sure that the cables can move freely





In order to prevent vandalism Telco recommends that the detectors are placed at least 5 mm in the door.

Position of Channels & Channel spacing

46 mm channel spacing
(Drawing of 2000 mm housing length, 40 channels model)

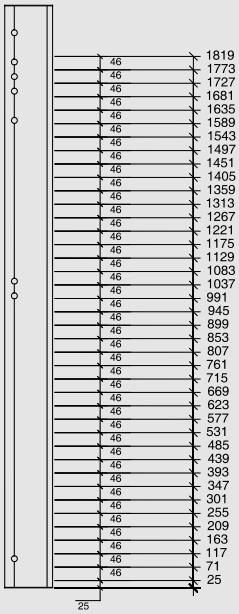


Fig. 2

Housing Length & Number of Channels

Housing Length	Active height	Number of Channels	Channel Spacing
850 mm	669 mm	8	92 mm
	715 mm	16	46 mm
1250 mm	1037 mm	12	92 mm
	1083 mm	24	46 mm
1600 mm	1405 mm	16	92 mm
	1451 mm	32	46 mm
2000 mm	1773 mm	20	92 mm
	1819 mm	40	46 mm

To determine the position of channels on each different model, use this table and refer to fig. 2 & 3. Channel nº 1 at the bottom.

Um die Position der Kanäle auf jedem der unterschiedlichen Modelle festzustellen, benutzen Sie diese Tabelle und beziehen Sie sich auf Bild 2 u.3.
Kanal Nº1 befindet sich unten.

Pour déterminer la position des canaux sur chaque modèle différent, utilisez cette table est référez-vous à fig. 2 et 3.
Canal n° 1 au fond.

Para determinar la posición de los canales en cada modelo, utilice esta tabla y véase fig. 2 y 3.
El canal nº 1 está situado en la parte inferior.

92 mm channel spacing
(Drawing of 2000 mm housing length, 20 channels mode)

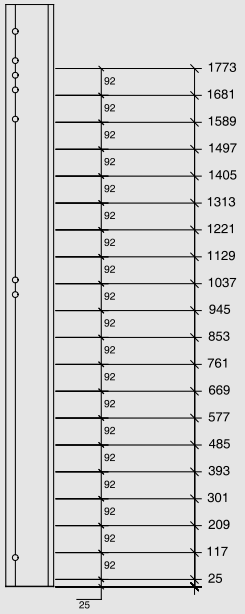


Fig. 3

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