



MAKING SENSE OF TECHNOLOGY



Introducing the SG 1



Telco *sensors*®

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It makes perfect sense



## INTRODUCING THE SG 1

The SG 1 is the latest generation of light curtain systems from the renowned Space-Guard series. The SG 1 is a technologically advanced, self-contained light curtain series that has been designed around ease-of-use, performance, reliability and uncompromising door protection. Providing the market with the best was a priority when the SG 1 was designed. We are confident that this has been accomplished with success and we are proud to raise the standards to an unmatched level.

The complete system consists of a transmitter detector unit (SGT) and a receiver detector unit (SGR) which are each housed in a sturdy slimline aluminium profile. Control circuitry, electronics and optical components are all integrated into the detector profiles enabling direct connection to a door operator or lift controller. The system's multiple channels generate a dense grid of infrared cross beams ensuring maximum protection.

Additionally the system offers a multitude of essential features including time-out function, test input, Automatic Signal Tracking (AST) and optional alarm output. Telco's fundamental attributes are naturally also incorporated in the SG 1 series with its easy alignment, high light immunity, durable housing, exceptional sensing range and reliable performance under the most challenging conditions.



Everything gets in the way

## BEYOND COMFORT

Nothing gets caught in elevator doors equipped with the SG 1. The SG 1 series offers a high performance 40 channel model that generates 194 infrared scanning cross beams creating a very dense light grid covering the entire doorway that remains constantly active until the fully closed position of the elevator doors. The 40 channels are concentrated over an active height of 1.8 m ensuring a very narrow space of 46 mm between each channel. Even small objects like a child's hand or the tip of an umbrella will activate the light curtain and keep the doors from closing prematurely. A 20 channel model is also available that generates 94 constantly active cross beams for less demanding applications.

## FOR EVERY ELEVATOR

Universal is a familiar term with the SG 1. The SG 1 is housed in a sturdy slimline detector profile that provides flexible mounting possibilities, and will fit in virtually any elevator application and in the narrowest of profiles. This system is self-contained and only requires a 12-36 V dc supply voltage whilst providing a transistor output enabling direct connection to a door operator or lift controller. No external power supply or controller unit is required. Installations where a DC supply voltage is not available and/or where a relay output is required, an optional Telco power supply unit is available. Moreover, the SG 1 is engineered for both dynamic and static installations and is suitable for both new and existing elevator installations, making the SG 1 a versatile solution.





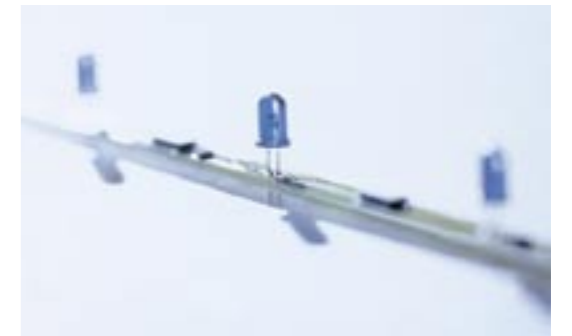
## The light that never goes out

### **FIT AND FORGET**

The SG 1 assures quick and effortless installation with no on-site setup or adjustments. The ever changing operating conditions within an elevator installation are a challenge for any infrared door protection system. That is why Telco has developed a special feature, Automatic Signal Tracking (AST), that continuously monitors the signal level and adjusts the sensitivity of each individual channel. This achieves optimum performance according to the operating conditions by continuously compensating for misalignment, ageing of components and moderate contamination. Furthermore, easy installation is guaranteed with the SG 1 with Telco's infamous easy alignment feature.

### **PROBLEM FREE OPERATION**

Optimise reliability and minimise downtime with the SG 1. If the time-out function is enabled during installation, a factory set number of non-adjacent channels will automatically be ignored if permanently obstructed for 10 seconds or more. This is a useful service feature that ensures safe and reliable operation of a system with a vandalised detector or a deteriorated optical component until arrangements can be made for servicing or replacement. An optional alarm output is also available that is intended for external elevator monitoring used to inform the lift controller that there is a faulty detector unit or the time-out is activated. Additionally, the standard test input enables a lift controller to perform an overall system-function test by temporarily disabling the transmitter beams imitating an obstruction.



### **RELENTLESS PERFORMANCE**

Performance is guaranteed with the SG 1. The advanced optoelectronics design ensures an impressive 5 metre sensing range and an outstanding immunity to interference from reflections and even direct sunlight, preventing false activations during operation. Even the most challenging applications, such as high-polished aluminium or glass panoramic elevator cabins, do not present a problem for the SG 1. In addition, the SG 1 has an exceptionally high EMC performance and is compliant with all international standards (including elevator safety code EN 81-70).



## Technical data

### SPACEGUARD™ SERIES SG 1

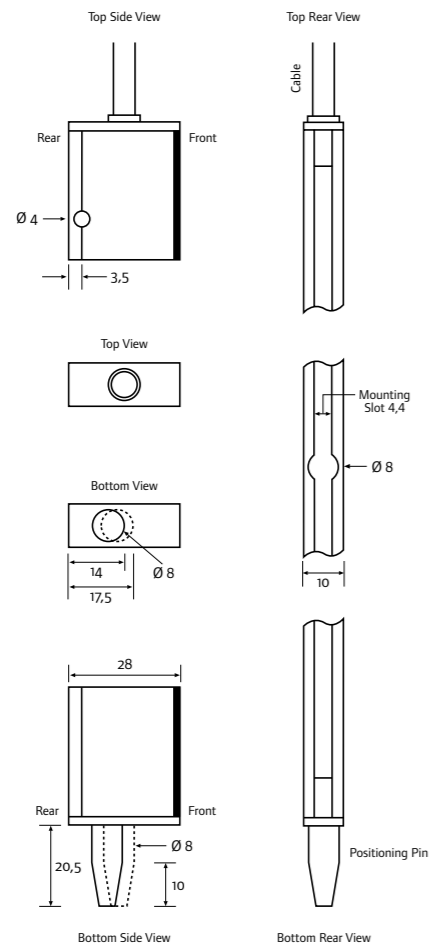
TECHNICAL DATA	20 CHANNEL	40 CHANNEL
Supply voltage	12 - 36V dc	
Current consumption	max. 100 mA	
	Transmitter	50 mA
	Receiver	50 mA
Output	NPN or PNP (factory set)	
Output ratings	200 mA	
Short circuit protected	Yes	
Reverse polarity protected	Yes	
Light Source	Infrared (880 nm)	
Number of channels (diodes per detector)	20	40
Number of cross scanning beams	94 (constant)	194 (constant)
Active height	1754 mm	1800 mm
Channel spacing	Between Channel 1 and bottom of housing: 25 mm (centre of beam). Between other channels: 92 mm	Between Channel 1 and bottom of housing: 25 mm (centre of beam). Between other channels: 46 mm
Distance between beams at pinch point	46 mm	23 mm
Sensing range	0-5 m	
Response time	< 40 ms	< 80 ms
Power on indicator	Green LED in receiver and transmitter unit	
Output indicator	Yellow LED in receiver unit	
System status indicator	Red LED in receiver unit Flashing: Alarm for time-out (Only if enabled during installation) Constant light: Alarm for system failure	
Time-out function	Up to 2 non-adjacent channels On / Off wire selectable	Up to 4 non-adjacent channels On / Off wire selectable
Alarm output (optional)	PNP @ supply voltage Time-out (Only if enabled during installation) System failure	
Connection	3 m fixed flexible cable	
Cable reliability	20 million door movements	
Housing dimensions (W x D x H)	10 x 28 x 2000 mm or 10 x 28 x 2100 mm	
Housing material	Aluminium	
Housing colour	Black anodised (Natural anodised upon request)	
Front cover	Infrared transparent plastic	

ENVIRONMENTAL DATA	
Light immunity @ 20° incidence	> 80,000 lux
Temperature, operation	- 20 to + 65 ° C
Temperature, storage	- 40 to +80 ° C
Sealing Class	IP 54
Approvals	CE

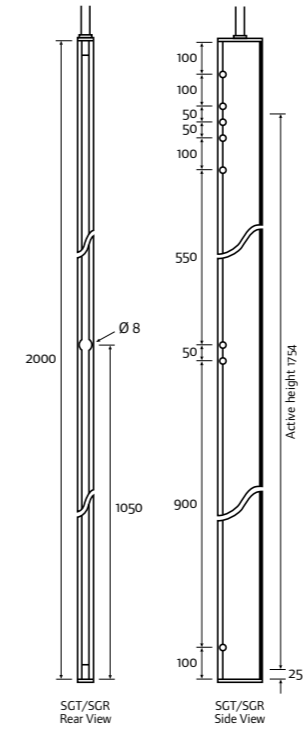
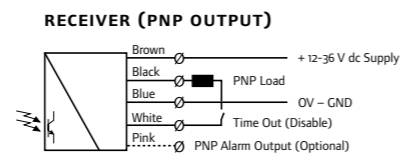
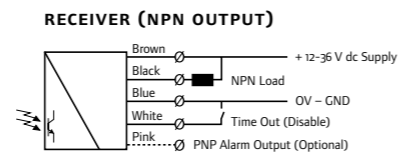
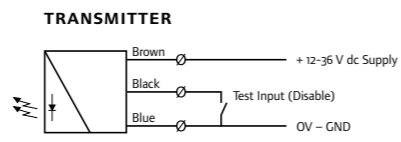
AVAILABLE TYPES					
	Housing Length	Model		20 channel	40 channel
		Output		Order Reference	
Transmitter	2000 mm			SGT 1-200-020-A-3F	SGT 1-200-040-A-3F
	2100 mm			SGT 1-200-020-A-3F	SGT 1-200-040-A-3F
Receiver	2000 mm	NPN	NC	SGR 1-200-020-A-00-3F	SGR 1-200-040-A-00-3F
			NO	SGR 1-200-020-A-01-3F	SGR 1-200-040-A-01-3F
		PNP	NC	SGR 1-200-020-A-02-3F	SGR 1-200-040-A-02-3F
			NO	SGR 1-200-020-A-03-3F	SGR 1-200-040-A-03-3F
	2100 mm	NPN	NC	SGR 1-210-020-A-00-3F	SGR 1-210-040-A-00-3F
			NO	SGR 1-210-020-A-01-3F	SGR 1-210-040-A-01-3F
		PNP	NC	SGR 1-210-020-A-02-3F	SGR 1-210-040-A-02-3F
			NO	SGR 1-210-020-A-03-3F	SGR 1-210-040-A-03-3F

Note: For an installation requiring a failsafe operation, then the PNP NC (normally closed) type should be used.  
For alarm output, add AL after cable reference, e.g. SGT/SGR 1-200-020-A-3FAL

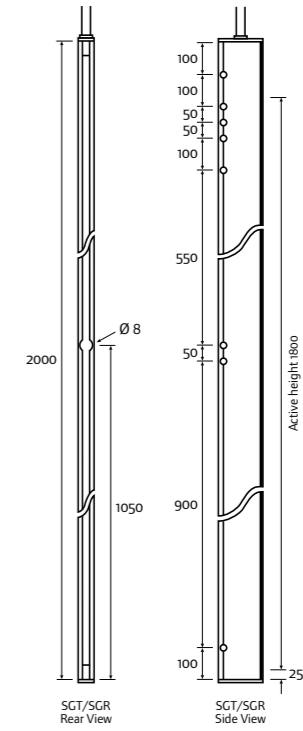
# Dimensions & wiring diagrams



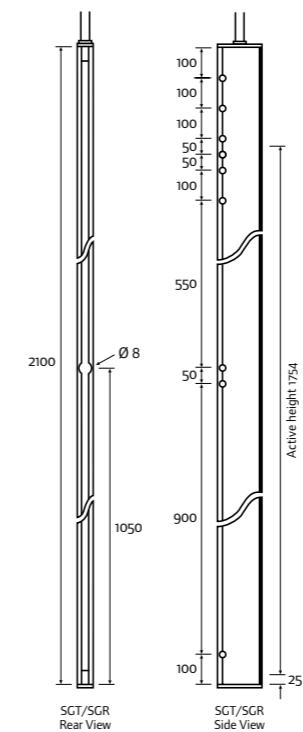
SG 1 DETAILS



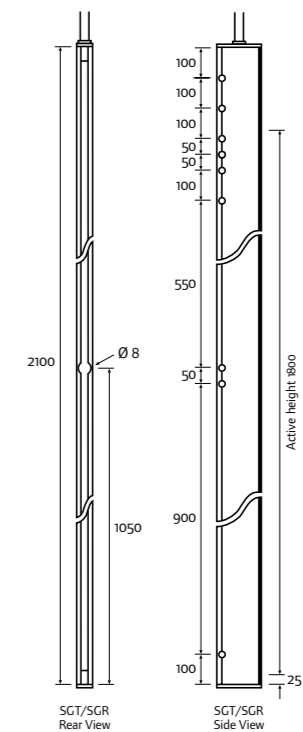
SG 1-200 20 CHANNEL



SG 1-200 40 CHANNEL



SG 1-210 20 CHANNEL



SG 1-210 40 CHANNEL

## Making sense of technology

### WHO WE ARE AT TELCO

Telco is a Danish manufacturer of photoelectric sensors, that have been used in some of the harshest and most demanding environments in heavy industries like mining and offshore drilling since 1975. We are determined to take sensor technology to a higher level by questioning the ordinary, setting new standards in innovation and design. We are dedicated to providing you with sensor solutions that will defy your expectations – always. Today our full range of high performance sensor solutions is unmatched by any other sensor manufacturer.



### OUR GLOBAL SERVICE COMMITMENT

We believe that flexibility and close personal contact is the only way to provide you with the best possible sensor solutions. With our global network of dedicated Telco Teams and subsidiaries, you are assured superb customer service and technical support 24 hours a day, 7 days a week.

Telco  
SENSORS