



MAKING SENSE OF TECHNOLOGY

**Telco**  *sensors*<sup>®</sup>

Introducing the SG 14



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IT MAKES PERFECT SENSE

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EVERYTHING GETS IN THE WAY

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THE LIGHT THAT NEVER GOES OUT

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MAKING SENSE OF TECHNOLOGY

Telco  *sensors*<sup>®</sup>

It makes perfect sense

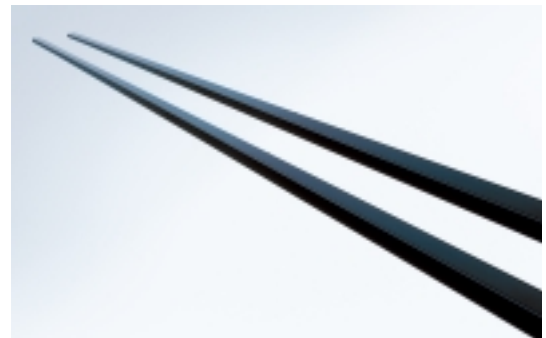


## INTRODUCING THE SG 14

It's true to say that Telco is considered the leading choice of light curtains within the industrial door market. Telco's SG 14 is a high performance self-contained light curtain system that generates a dense grid of infrared scanning light beams designed to provide maximum door protection, radically reducing the risk of personal injury and property damage. The SG 14 replaces the conventional contact bumper edge on doors, cutting significant costs in maintenance and services, while enhancing the safety of doors with a non-contact sensing device.

The SG 14 series has been designed around a market demand for uncompromised door protection offering high performance, reliability, ease-of-use and versatility for all door types both indoors and outdoors; including high-speed, sectional, cold storage, fire-resistant and freight-elevator doors. Combining Telco's eminent product core values, together with innovative technology and many years of experience and know-how, has ensured that Telco's SG 14 system is the preferred choice for door safety.

Telco is well renowned for being the pioneers of light curtain technology within the industry and, as a result, has set the unrivalled standard for door protection expected in the industrial door market today.



Everything gets in the way



## TOTAL PROTECTION

Nothing is left undetected with the SG 14 system. The SG 14 generates a very dense grid of parallel infrared light beams, with even spacing of 46 mm covering the entire active height between the doorway, with a height of up to 2.5 m. The high resolution ensures that even the smallest objects, like a hand or the tips of a fork lift truck, are reliably detected every time. The obstruction of a light beam will immediately activate an output and reverse the door, preventing the risk of personal injury, property damage and damage to the door itself.

The system includes an integrated test input which allows a door controller to perform an overall system test by temporarily disabling the transmitting beams.



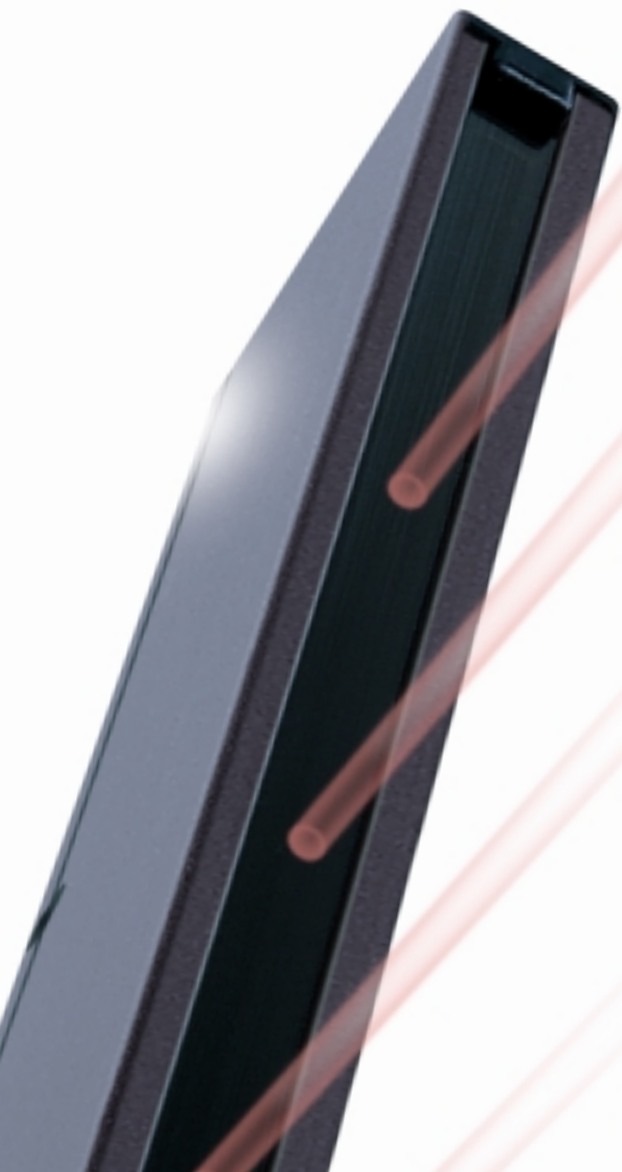
## FOR EVERY DOOR

Versatility in every way with the SG 14 series.

The system consists of a transmitter (SGT) and receiver detector (SGR), which are each housed

in a sturdy, IP67 aluminium profile available in a slim line design (12 x 30 mm) or a leading edge design (38.4 x 14 mm). Control circuitry, electronics and optical components are all integrated in the light curtains and require no external controller unit. The light curtains operate on a 12-36 V dc supply voltage and provide a solid-state opto-isolated relay output, ensuring direct connection to any door controller. The SG 14 is available in a wide range of lengths, ranging from 85 to 280 cm, offering a solution for all door types, including new and existing. Moreover, Telco's expertise and experience in providing customised, tailor-made solutions has made Telco the only choice for the most demanding door customers.

The light that never goes out

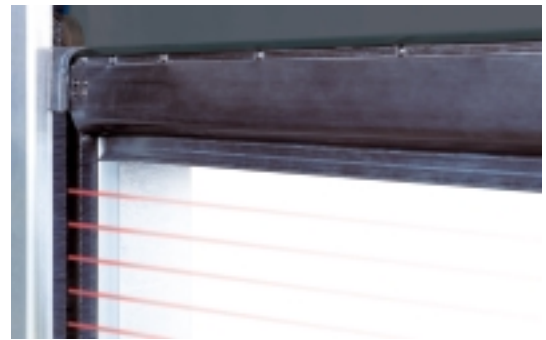


## HIGH PERFORMANCE TECHNOLOGY

Performance is the core of the SG 14. The advanced and powerful optical design of the SG 14 guarantees that the system operates reliably in the most challenging conditions and contaminated environments. Its outstanding immunity to interference from ambient light and contamination, including dust, dirt, snow, fog and rain, ensures uncompromised performance and prevents false activations during operation. The system operates at a sensing range of 10 plus metres, allowing it to be installed on almost any door type. Furthermore, the SG 14's exceptional high EMC performance guarantees that it is a dependable safe guard on doors.

## OUT OF SIGHT

The SG 14 incorporates a Dynamic Sequential Blanking (DSB) feature that allows the detectors to be installed inside the guide tracks of an industrial door, where the door travels directly in front of the protection area, interrupting the beams sequentially from top to bottom. The feature ensures that the system can distinguish between the closing door and an object, by ignoring the beams that are obstructed by the moving door, leaving the below remaining beams active to detect any object in the protection zone. The in-line position of the detectors allows the light curtains to be entirely concealed, whilst providing optimum protection directly under the leading edge of the closing door and the critical zone of the doorway.



## FIT AND FORGET

Quick and easy installation is guaranteed with the SG 14 series. The system requires neither on-site setups nor adjustments of the light curtain – nor modifications to the doors themselves. Just fit and forget. The ever-changing operating conditions of a door installation are a challenge for any optical door protection device. This is why Telco's advanced Automatic Signal Tracking (AST) feature is especially designed to monitor the signal and adjust the sensitivity level of each individual channel, thereby achieving optimum performance according to the operating conditions by continuously compensating for contamination, misalignment and aging of components during operating, making it a maintenance free solution. The SG 14 optical design and its easy alignment, guarantee effortless installation and eliminate misalignment issues during operation.

# Technical data

Technical Data			SGT	SGR
Supply voltage			12 – 36 V dc	
Current consumption			Max. 70 mA	50 mA
Output rating	Solid state			200 mA
Short circuit protected			–	Yes
Reverse polarity protected			Yes	
Light source			Infrared (880 nm)	–
Number of channels (diodes per detector)			16, 24, 32, 40, 48 or 56	
Number of parallel beams			16, 24, 32, 40, 48 or 56	
Active height			695, 1065, 1430, 1800, 2165 or 2535 mm	
Channel spacing			Between channel 1 and bottom of housing: 25 mm Between other channels: 46 mm	
Response time			–	16/24 chs: 24 ms 32 chs: 30 ms 40 chs: 37 ms 48 chs: 43 ms 56 chs: 49 ms
Maximum / minimum sequential blanking speed			1,6 m/s / 0,05 m/s	
Minimum size of blanking object			55 mm	
Power on indicator			Green LED	
Output indicator			–	Yellow LED
System status indicator			–	Red LED
Time-out function			–	
Housing dimensions (w x d)	Slim Line C	12 x 30 mm		
	Leading Edge D	38,4 x 14 mm		
Housing material	Profile	Aluminium (black anodised)		
	Lens cover	Polycarbonate		
Connection			5 m fixed cable or 5 pin, M12 plug	
Cable, PVC Ø 4,9 mm			3 x 0,20 mm <sup>2</sup>	5 x 0,20 mm <sup>2</sup>

Environmental Data		
Light immunity @ 5° incidence	> 100 000 lux	
Temperature, operation	–20 to +65 °C	
Temperature, storage	–40 to +80 °C	
Sealing class	C/D housing	IP 67
Approvals	CE	

Available Types									
Water-Resistant Slim Line C									
Transmitter Detector	Housing Length	Active Height	Number of Channels	Beam Spacing	Connection		5 m cable	0.5 m cable with 5 pin, M12 plug	Range
					Output		Order reference		
					–	–	SGT 14-085-016-A1-C-01-5	SGT 14-085-016-A1-C-01-0.5-J5	
	850 mm	695 mm	16	46 mm	–	–	SGT 14-125-024-A1-C-01-5	SGT 14-125-024-A1-C-01-0.5-J5	10 m
	1250 mm	1065 mm	24				SGT 14-160-032-A1-C-01-5	SGT 14-160-032-A1-C-01-0.5-J5	
	1600 mm	1430 mm	32				SGT 14-200-040-A1-C-01-5	SGT 14-200-040-A1-C-01-0.5-J5	
	2000 mm	1800 mm	40				SGT 14-240-048-A1-C-01-5	SGT 14-240-048-A1-C-01-0.5-J5	
	2400 mm	2165 mm	48				SGT 14-280-056-A1-C-01-5	SGT 14-280-056-A1-C-01-0.5-J5	
	2800 mm	2535 mm	56						

Receiver Detector	850 mm	695 mm	16	46 mm	Solid State Relay	NO	SGR 14-085-016-A1-C-08-5	SGR 14-085-016-A1-C-08-0.5-J5	1-10 m
						NC	SGR 14-085-016-A1-C-09-5	SGR 14-085-016-A1-C-09-0.5-J5	
	1250 mm	1065 mm	24			NO	SGR 14-125-024-A1-C-08-5	SGR 14-125-024-A1-C-08-0.5-J5	
						NC	SGR 14-125-024-A1-C-09-5	SGR 14-125-024-A1-C-09-0.5-J5	
	1600 mm	1430 mm	32			NO	SGR 14-160-032-A1-C-08-5	SGR 14-160-032-A1-C-08-0.5-J5	
						NC	SGR 14-160-032-A1-C-09-5	SGR 14-160-032-A1-C-09-0.5-J5	
	2000 mm	1800 mm	40			NO	SGR 14-200-040-A1-C-08-5	SGR 14-200-040-A1-C-08-0.5-J5	
						NC	SGR 14-200-040-A1-C-09-5	SGR 14-200-040-A1-C-09-0.5-J5	
	2400 mm	2165 mm	48			NO	SGR 14-240-048-A1-C-08-5	SGR 14-240-048-A1-C-08-0.5-J5	
						NC	SGR 14-240-048-A1-C-09-5	SGR 14-240-048-A1-C-09-0.5-J5	
2800 mm	2535 mm	56	NO	SGR 14-280-056-A1-C-08-5	SGR 14-280-056-A1-C-08-0.5-J5				
			NC	SGR 14-280-056-A1-C-09-5	SGR 14-280-056-A1-C-09-0.5-J5				

**Available Types**

Water-Resistant Leading Edge D									
Transmitter Detector	Housing Length	Active Height	Number of Channels	Beam Spacing	Connection		5 m cable	0.5 m cable with 5 pin, M12 plug	Range
					Output	Order reference			
Transmitter Detector	850 mm	695 mm	16	46 mm	-	-	<b>SGT 14-085-016-A1-D-01-5</b>	<b>SGT 14-085-016-A1-D-01-0.5-J5</b>	7,5 m
	1250 mm	1065 mm	24				<b>SGT 14-125-024-A1-D-01-5</b>	<b>SGT 14-125-024-A1-D-01-0.5-J5</b>	
	1600 mm	1430 mm	32				<b>SGT 14-160-032-A1-D-01-5</b>	<b>SGT 14-160-032-A1-D-01-0.5-J5</b>	
	2000 mm	1800 mm	40				<b>SGT 14-200-040-A1-D-01-5</b>	<b>SGT 14-200-040-A1-D-01-0.5-J5</b>	
	2400 mm	2165 mm	48				<b>SGT 14-240-048-A1-D-01-5</b>	<b>SGT 14-240-048-A1-D-01-0.5-J5</b>	
	2800 mm	2535 mm	56				<b>SGT 14-280-056-A1-D-01-5</b>	<b>SGT 14-280-056-A1-D-01-0.5-J5</b>	

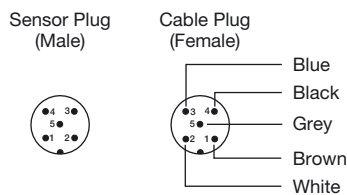
Receiver Detector	Housing Length	Active Height	Number of Channels	Beam Spacing	Solid State Relay	Connection		Order reference		Range
						Output	Blanking Function Control	Order reference	Order reference	
Receiver Detector	850 mm	695 mm	16	46 mm	Solid State Relay	NO		<b>SGR 14-085-016-A1-D-08-5</b>	<b>SGR 14-085-016-A1-D-08-0.5-J5</b>	1-7,5 m
						NC		<b>SGR 14-085-016-A1-D-09-5</b>	<b>SGR 14-085-016-A1-D-09-0.5-J5</b>	
	1250 mm	1065 mm	24			NO		<b>SGR 14-125-024-A1-D-08-5</b>	<b>SGR 14-125-024-A1-D-08-0.5-J5</b>	
						NC		<b>SGR 14-125-024-A1-D-09-5</b>	<b>SGR 14-125-024-A1-D-09-0.5-J5</b>	
	1600 mm	1430 mm	32			NO		<b>SGR 14-160-032-A1-D-08-5</b>	<b>SGR 14-160-032-A1-D-08-0.5-J5</b>	
						NC		<b>SGR 14-160-032-A1-D-09-5</b>	<b>SGR 14-160-032-A1-D-09-0.5-J5</b>	
	2000 mm	1800 mm	40			NO		<b>SGR 14-200-040-A1-D-08-5</b>	<b>SGR 14-200-040-A1-D-08-0.5-J5</b>	
						NC		<b>SGR 14-200-040-A1-D-09-5</b>	<b>SGR 14-200-040-A1-D-09-0.5-J5</b>	
	2400 mm	2165 mm	48			NO		<b>SGR 14-240-048-A1-D-08-5</b>	<b>SGR 14-240-048-A1-D-08-0.5-J5</b>	
						NC		<b>SGR 14-240-048-A1-D-09-5</b>	<b>SGR 14-240-048-A1-D-09-0.5-J5</b>	
2800 mm	2535 mm	56	NO		<b>SGR 14-280-056-A1-D-08-5</b>	<b>SGR 14-280-056-A1-D-08-0.5-J5</b>				
			NC		<b>SGR 14-280-056-A1-D-09-5</b>	<b>SGR 14-280-056-A1-D-09-0.5-J5</b>				

Note: The transmitter SGT and receiver SGR set must have the same number of channels.

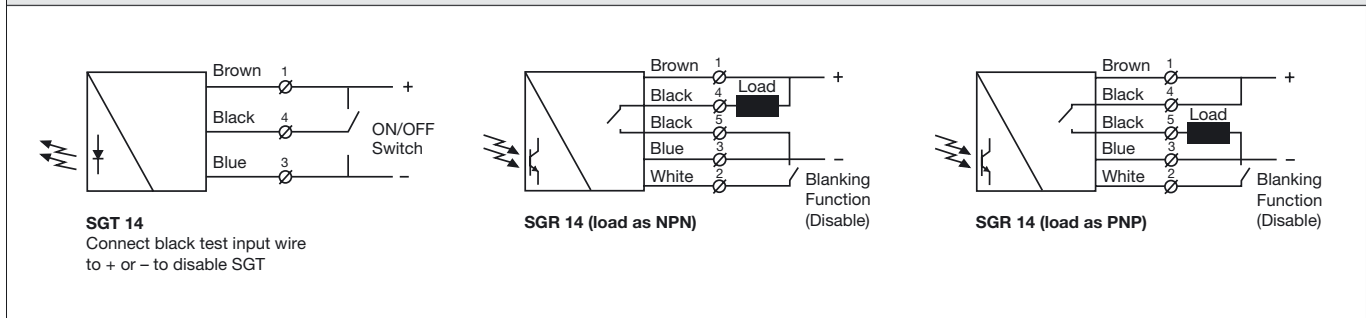
**Connections**

	Cable	M12 Plug / Cable
Supply +	Brown	Pin 1 / Brown
Supply -	Blue	Pin 3 / Blue
SGT test input	Black	Pin 4 / Black
SGR output	Black	Pin 4 / Black
SGR output	Black	Pin 5 / Grey
SGR blanking function control	White	Pin 2 / White

**5 pin, M12**

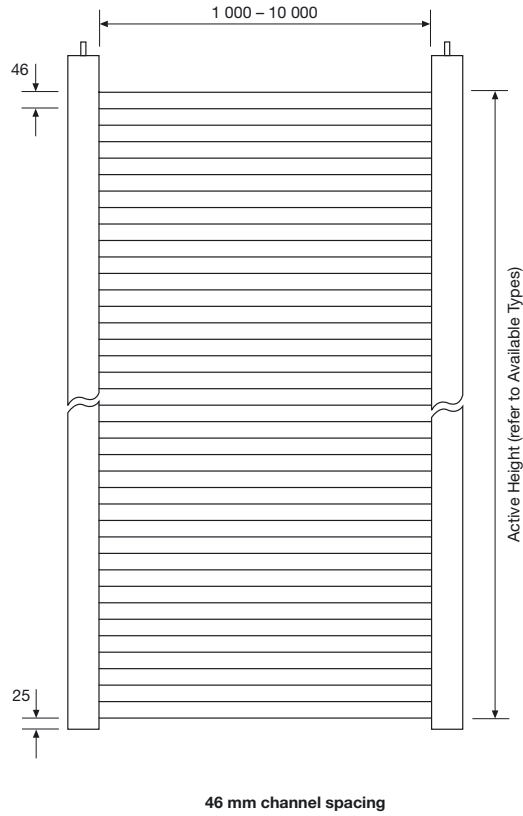


**Wiring Diagrams**





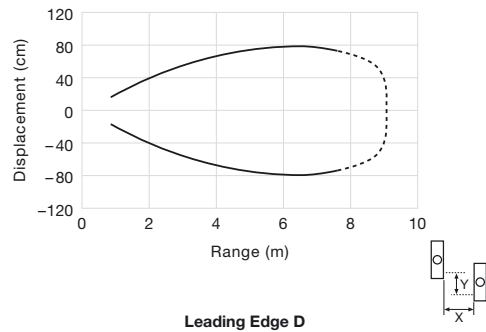
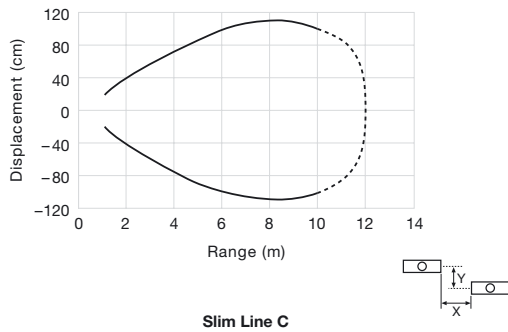
**Beam Patterns**



(Units in mm)

**Sensing Characteristics**

**Parallel Displacement**



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.



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