

## Description

- 1-12 meters sensing range
- 14 to 54 channels
- 40 to 160 cross scanning beams
- Active height of 585 mm to 2385 mm
- Length of 710 mm to 2510 mm
- Light/dark selection via control wire
- Colour-coded M8 plug pigtail with extension cables
- Micro aluminium IP67 profile design
- Fully encapsulated electronics
- Power, output and system status indicators
- 10-30 V dc supply voltage
- Master/Slave synchronisation and multiplexing
- Solid state relay output
- Test input and static blanking function



The SG 18 light curtain system consists of a self-contained transmitter, SGT and receiver, SGR, which are to be positioned opposite of each other. The detectors are housed in ultra compact, but sturdy, aluminium profiles that are mounted using plastic fixture clips (included). All electronics are fully potted. The light curtain can be fitted with an optional front cover for additional protection of the optoelectronic components.

The system is supplied with a 10-30 V dc power supply and the SGR includes a solid state relay output and wire selectable light or dark function. The control input in the SGT may be used for either disabling or enabling the transmitter power temporarily for test purpose or for set up of a static blanking function which allows a selection of beams to be permanently ignored. The SGT and SGR are electrically synchronised.

The advanced automatic signal-tracking (AST) feature ensures that no onsite set up or adjustments are required. The signal level of each individual channel is adjusted automatically which compensates for misalignment and contamination during operation.

Specialised signal processing technology, designed for outdoor environments, reduces the risk of false detections of water, rain or snow that may pass between the light curtains during operation.

Two sets of SG 18 light curtains can be wire configured together to form a synchronised and multiplexed Master/Slave system, which ensures that optical cross-talk between the two sets is prevented.

Technical Data		
	SGT	SGR
Supply voltage	10-30 V dc	
Current consumption	70 mA (RMS)	40 mA
Max. output load	Solid State Relay	100 mA
Short circuit protected	-	Yes
Inductive load protection	-	Yes
Reverse polarity protected	Yes	
Light source	Infrared (880 nm)	-
Number of channels	14 ... 54	
Number of cross scanning beams	40 ... 160	
Active height	585 ... 2385 mm	
Bottom spacing to Ch 1	35 mm	
Spacing between Ch 1 and Ch 2	10 mm	
Channel spacing (Ch 1 excluded)	45 mm between all channels	
Pinch point beam spacing	23 mm	
Max. response time	-	160 ms
Power on indicator	Green LED	
Output indicator	-	Yellow LED
System status indicator	Red LED	
Opening angle	-	+/- 10°
Emission angle	+/- 10°	-
Profile dimensions (w x d)	12 mm x 14 mm	
Housing material	Profile	Aluminium (black anodised)
	Lens cover (optional)	Polycarbonate
Pigtail, PVC Ø 4,5 mm	0.3 m with 4 pin, M8 male plug (black)	0.3 m with 6 pin, M8 male plug (grey)
Extension cable, PVC Ø 4,5 mm	5 m with 4 pin, M8 female plug (black)	5 m with 6 pin, M8 female plug (grey)

Solid State Relay

Environmental Data

	SGT	SGR
Light immunity @ 5° incidence	-	100 000 lux
Temperature, operation	-20 to +55 °C	
Temperature, storage	-40 to +80 °C	
Sealing class	IP 67	
EU directives	2011/65/EU (RoHS) 2014/30/EU (EMC)	
Standards	IEC 60068-2-6:2007 (vibration) EN 61000-6-2:2019 (EMC emission) EN 61000-6-3:2007 +A1:2011 (EMC immunity)	
Marking	CE UK EAC	

Available Types

U-profile

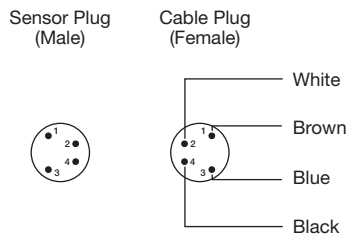
	Housing Length	Active Height	Number of Channels	Number of Beams	Connection		4 pin, M8 plug: 0.3 m pigtail + 5 m extension cable	Range
					Output	Order Reference		
Transmitter	710 mm	585 mm	14	40	-	-	SGT 18-071-014-C1-U-01-0.3-T4-5	12 m
	980 mm	855 mm	20	58			SGT 18-098-020-C1-U-01-0.3-T4-5	
	1070 mm	945 mm	22	64			SGT 18-107-022-C1-U-01-0.3-T4-5	
	1250 mm	1125 mm	26	76			SGT 18-125-026-C1-U-01-0.3-T4-5	
	1340 mm	1215 mm	28	82			SGT 18-134-028-C1-U-01-0.3-T4-5	
	1430 mm	1305 mm	30	88			SGT 18-143-030-C1-U-01-0.3-T4-5	
	1520 mm	1395 mm	32	94			SGT 18-152-032-C1-U-01-0.3-T4-5	
	1610 mm	1485 mm	34	100			SGT 18-161-034-C1-U-01-0.3-T4-5	
	1700 mm	1575 mm	36	106			SGT 18-170-036-C1-U-01-0.3-T4-5	
	1790 mm	1665 mm	38	112			SGT 18-179-038-C1-U-01-0.3-T4-5	
	1880 mm	1755 mm	40	118			SGT 18-188-040-C1-U-01-0.3-T4-5	
	1970 mm	1845 mm	42	124			SGT 18-197-042-C1-U-01-0.3-T4-5	
	2060 mm	1935 mm	44	130			SGT 18-206-044-C1-U-01-0.3-T4-5	
	2150 mm	2025 mm	46	136			SGT 18-215-046-C1-U-01-0.3-T4-5	
	2240 mm	2115 mm	48	142			SGT 18-224-048-C1-U-01-0.3-T4-5	
	2330 mm	2205 mm	50	148			SGT 18-233-050-C1-U-01-0.3-T4-5	
2420 mm	2295 mm	52	154	SGT 18-242-052-C1-U-01-0.3-T4-5				
2510 mm	2385 mm	54	160	SGT 18-251-054-C1-U-01-0.3-T4-5				

	Housing Length	Active Height	Number of Channels	Number of Beams	Connection		6 pin, M8 plug: 0.3 m pigtail + 5 m extension cable	Range
					Output	Order Reference		
Receiver	710 mm	585 mm	14	40	Solid State Relay	DO/LO (NO/NC)	SGR 18-071-014-C1-U-07-0.3-T6-5	1-12 m
	980 mm	855 mm	20	58			SGR 18-098-020-C1-U-07-0.3-T6-5	
	1070 mm	945 mm	22	64			SGR 18-107-022-C1-U-07-0.3-T6-5	
	1250 mm	1125 mm	26	76			SGR 18-125-026-C1-U-07-0.3-T6-5	
	1340 mm	1215 mm	28	82			SGR 18-134-028-C1-U-07-0.3-T6-5	
	1430 mm	1305 mm	30	88			SGR 18-143-030-C1-U-07-0.3-T6-5	
	1520 mm	1395 mm	32	94			SGR 18-152-032-C1-U-07-0.3-T6-5	
	1610 mm	1485 mm	34	100			SGR 18-161-034-C1-U-07-0.3-T6-5	
	1700 mm	1575 mm	36	106			SGR 18-170-036-C1-U-07-0.3-T6-5	
	1790 mm	1665 mm	38	112			SGR 18-179-038-C1-U-07-0.3-T6-5	
	1880 mm	1755 mm	40	118			SGR 18-188-040-C1-U-07-0.3-T6-5	
	1970 mm	1845 mm	42	124			SGR 18-197-042-C1-U-07-0.3-T6-5	
	2060 mm	1935 mm	44	130			SGR 18-206-044-C1-U-07-0.3-T6-5	
	2150 mm	2025 mm	46	136			SGR 18-215-046-C1-U-07-0.3-T6-5	
	2240 mm	2115 mm	48	142			SGR 18-224-048-C1-U-07-0.3-T6-5	
	2330 mm	2205 mm	50	148			SGR 18-233-050-C1-U-07-0.3-T6-5	
2420 mm	2295 mm	52	154	SGR 18-242-052-C1-U-07-0.3-T6-5				
2510 mm	2385 mm	54	160	SGR 18-251-054-C1-U-07-0.3-T6-5				

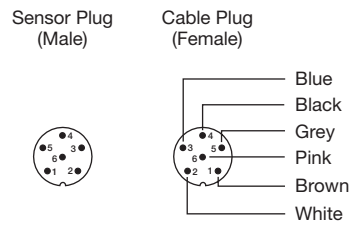
Note: Different test input configurations are available upon request.

Connections	M8 Plug / Cable	
	SGT	SGR
Supply +	Pin 1 / Brown	Pin 1 / Brown
Common sync	Pin 2 / White	Pin 2 / White
Supply -	Pin 3 / Blue	Pin 3 / Blue
Control input	Pin 4 / Black	-
Output	-	Pin 4 / Black
Output	-	Pin 5 / Grey
LO/DO control	-	Pin 6 / Pink

4 pin, M8

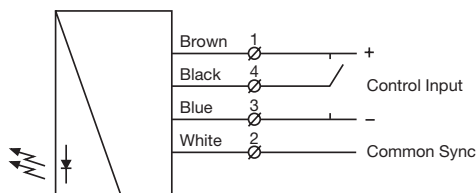


6 pin, M8

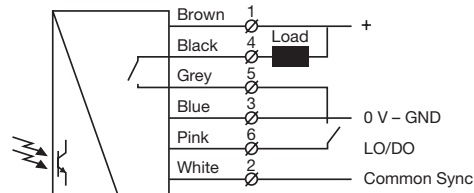


Refer to SpaceGuard Cables datasheet for extension cables.

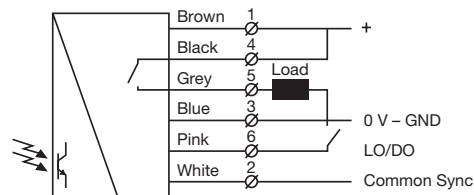
Wiring Diagrams



**SGT 18**  
Control wire for test input and static blanking function



**SGR 18**  
Load as NPN output



**SGR 18**  
Load as PNP output

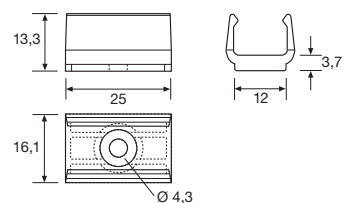
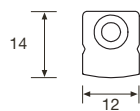
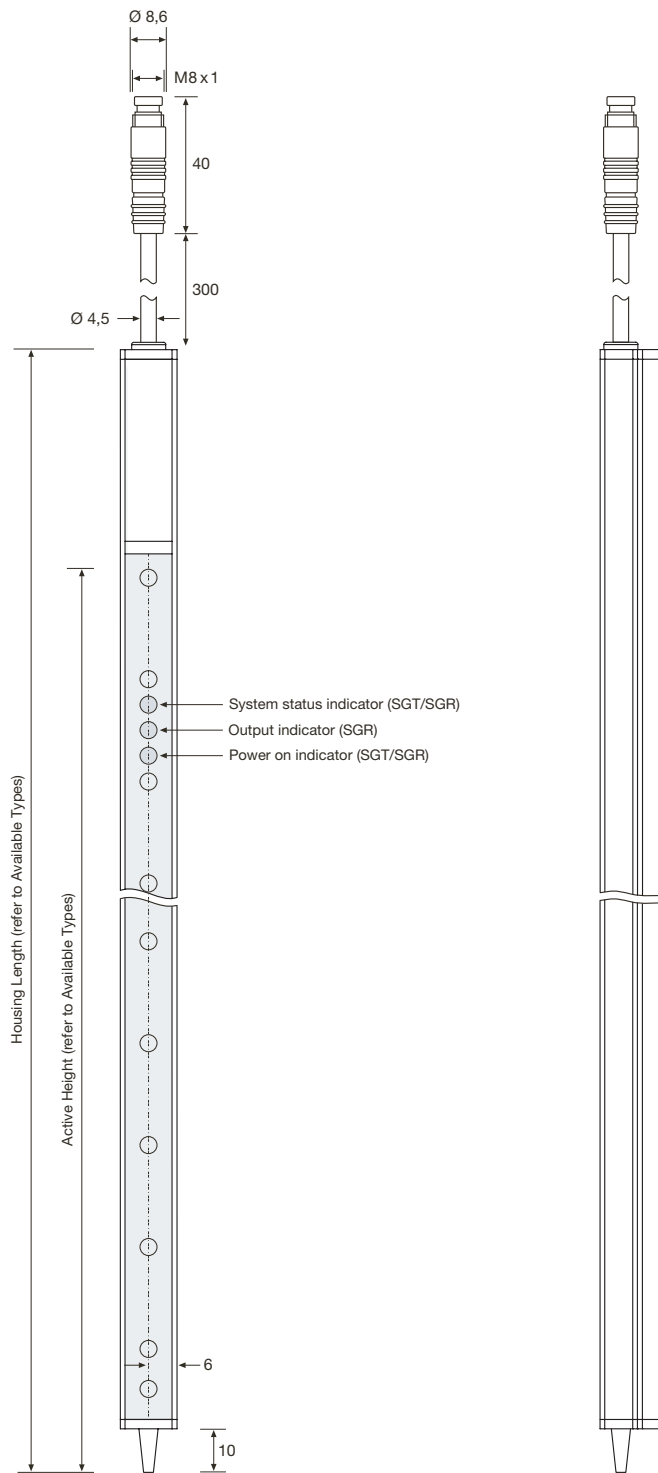


**SGR 18**  
Solid state relay output

Solid State Relay

Dimensions and Descriptions

U-profile



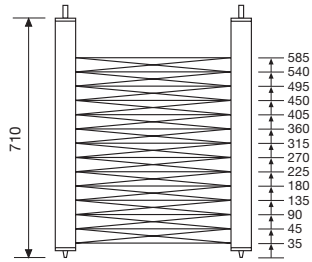
TR PSC-16-25 U  
(6 pcs included with each set)

Note: 1. Optional front lens cover to be ordered separately.

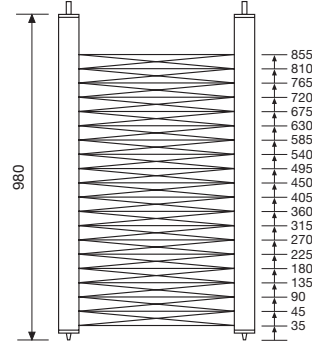
(Units in mm)

Beam Patterns

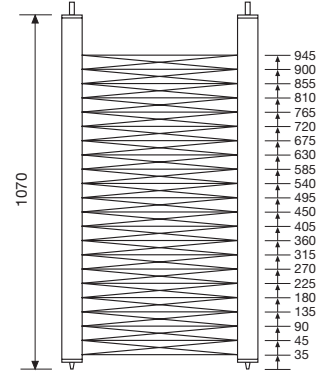
710 mm housing length



980 mm housing length

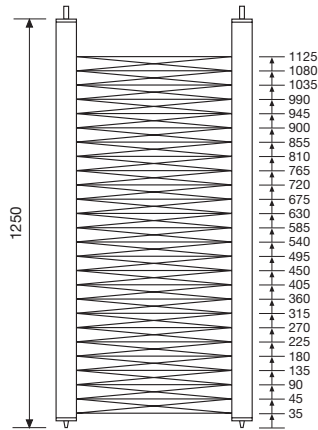


1070 mm housing length

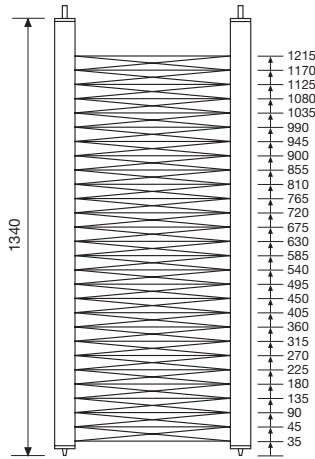


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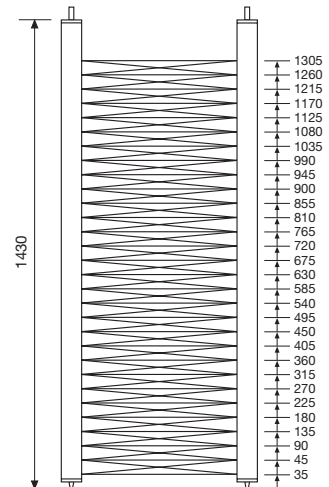
1250 mm housing length



1340 mm housing length



1430 mm housing length

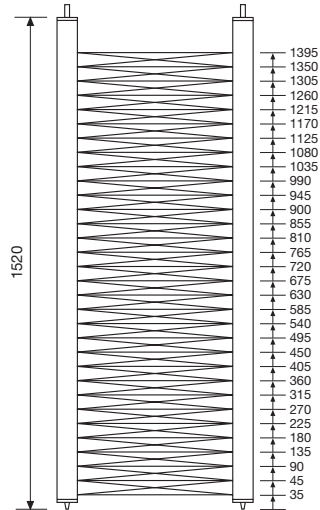


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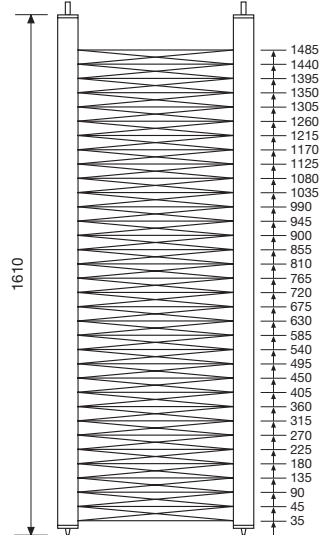
Solid State Relay

Beam Patterns

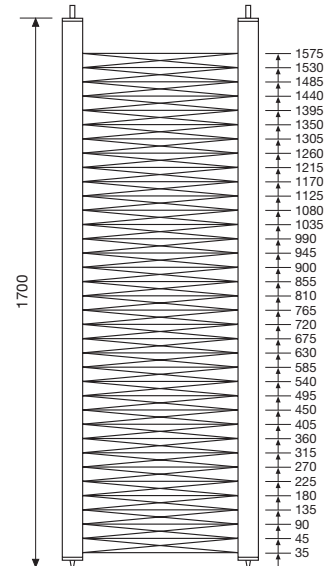
1520 mm housing length



1610 mm housing length

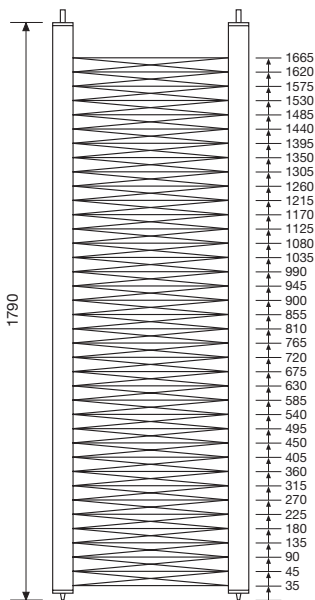


1700 mm housing length

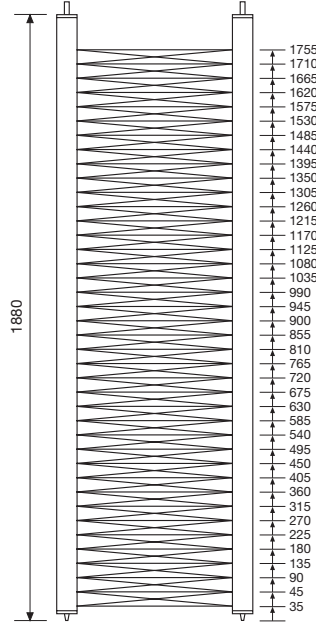


(Units in mm)

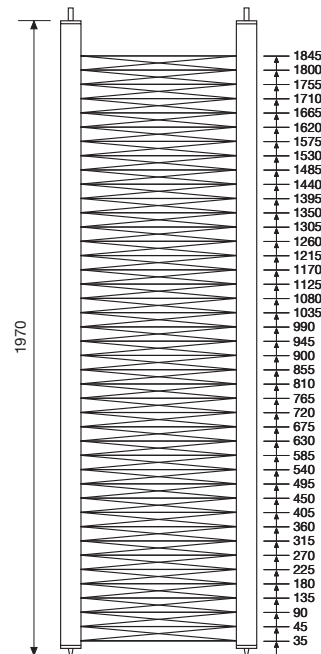
1790 mm housing length



1880 mm housing length



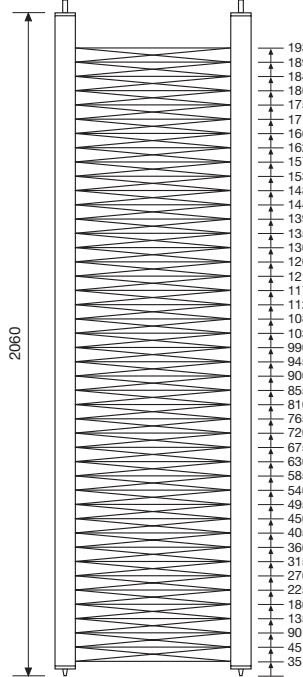
1970 mm housing length



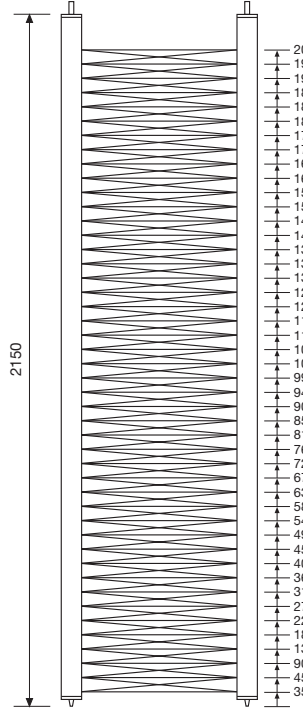
(Units in mm)

Beam Patterns

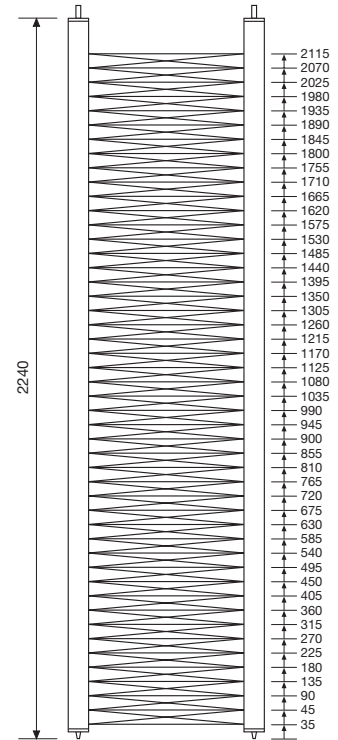
2060 mm housing length



2150 mm housing length

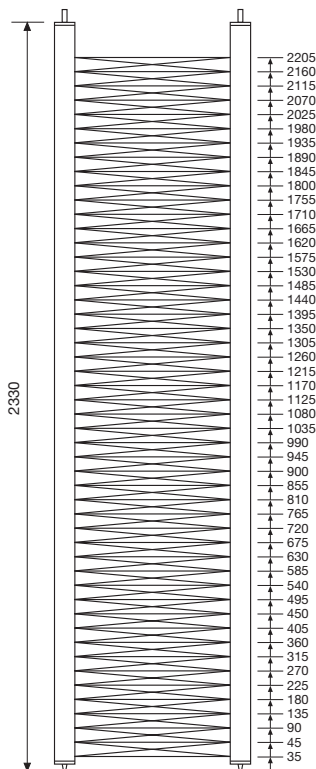


2240 mm housing length

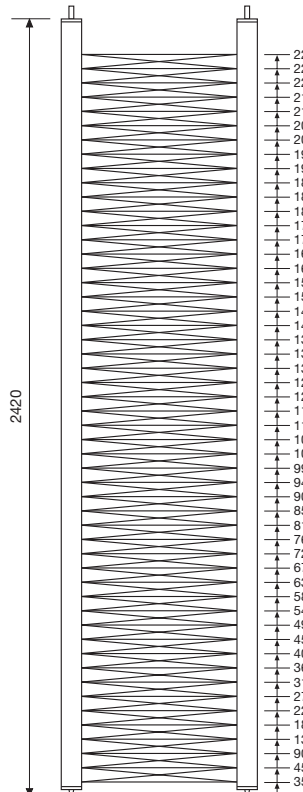


(Units in mm)

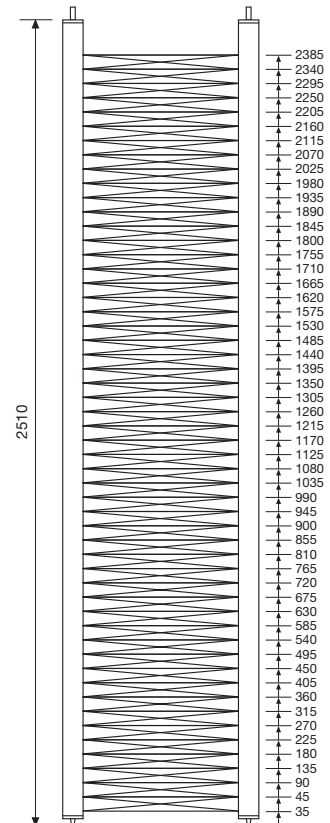
2330 mm housing length



2420 mm housing length



2510 mm housing length

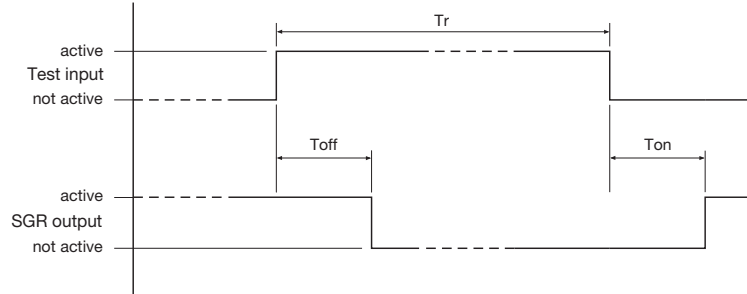


(Units in mm)

Solid State Relay

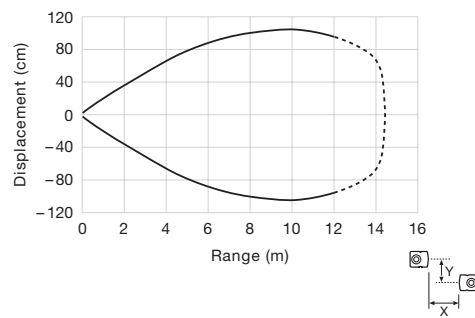
Timing Diagram

Ton (max/min)	Toff (max/min)	Tr (min)
300 ms / 50 ms	60 ms / 1 ms	100 ms

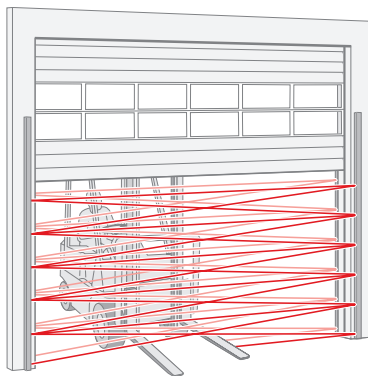


Sensing Characteristics

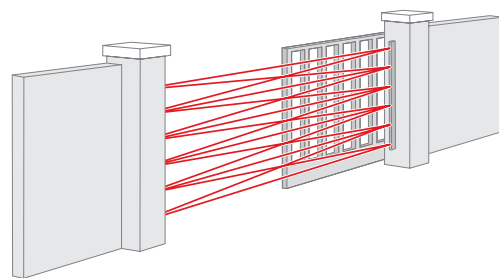
Parallel Displacement



Applications



OVERHEAD DOOR



AUTOMATIC GATE

Telco reserves the right to change specifications without notice.