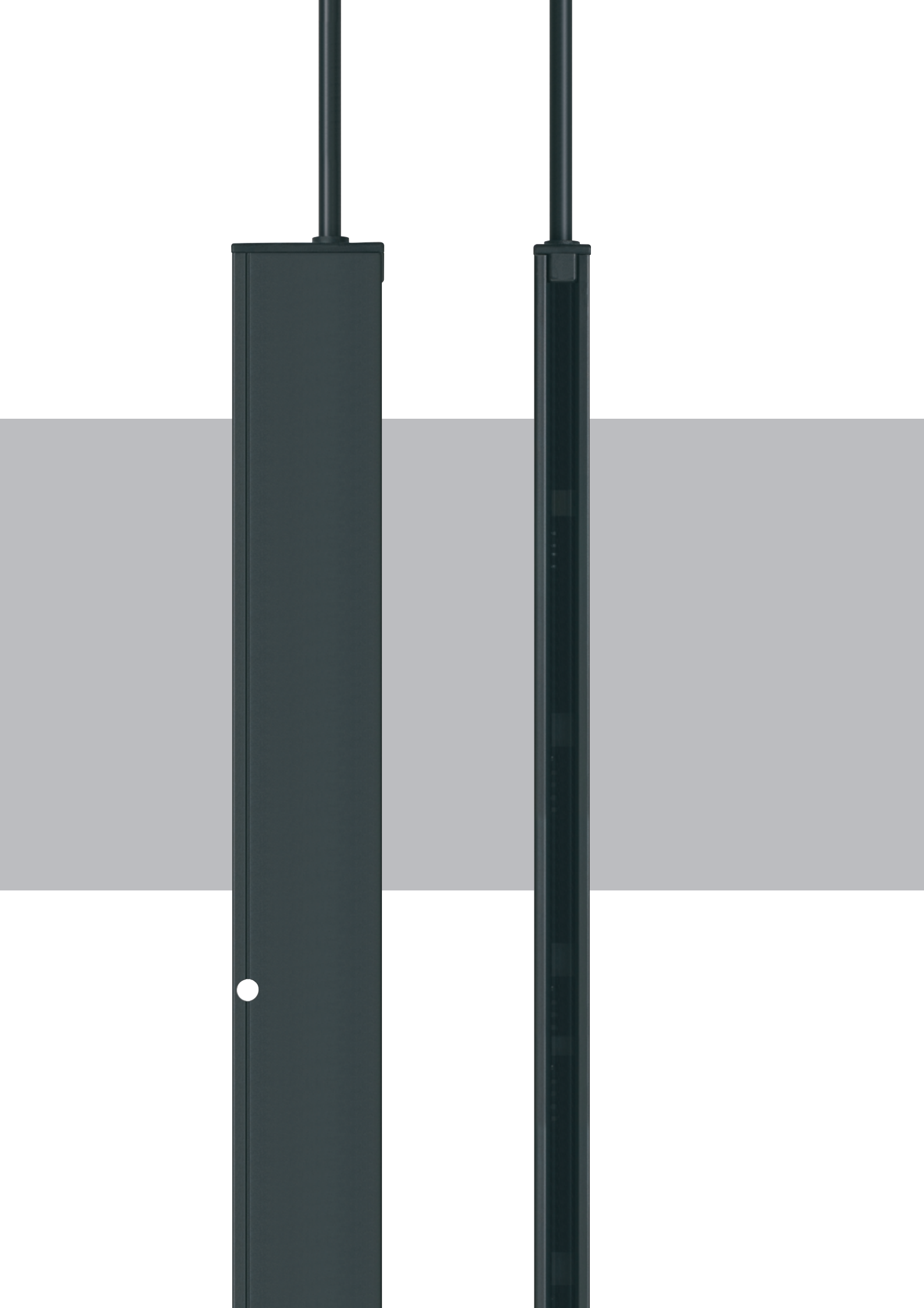




## SPACEGUARD™ SERIES

The SpaceGuard series has never been anything less than impressive. The slim, but durable, design of our detectors has never failed to raise eyebrows. Yet this signature design has never hindered nor compromised its technology or performance in any way – on the contrary, it has inspired creative and innovative engineering in every way.

**Description**

- 0-4 m sensing range
- 34 to 194 cross scanning beams
- Active height of 650 mm to 1800 mm
- Length of 850 mm to 2100 mm
- Flexible cable connection
- Automatic sensitivity adjustment
- Slim line (10x28 mm), leading edge (37,5x13 mm) or water-resistant slim line (12x30 mm) housing
- Power, output and signal status indicators
- 12-36 V dc supply voltage
- 5 wire, solid state relay output
- Test input
- Time-out function via control wire
- Static and dynamic applications



The SG 1 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 a sturdy aluminium profile available in a slim line design (10 x 28 mm), a leading edge design (37,5 x 13 mm) or a water-resistant slim line design (12 x 30 mm).

The SGR is supplied with a 12-36 V dc power supply with a 5 wire, solid state relay output, and a choice of light or dark function. The test input in the SGT may be used for either disabling or enabling the transmitting power temporarily for test purposes.

The light curtains also include time-out function, which allows a pre-set number of non-adjacent channels to be automatically ignored if

permanently obstructed for 10 seconds or more. This function can be enabled or disabled via the control wire.

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 compensating for misalignment and contamination during operation. Transmitter and receiver are optically synchronised. The system can be used both in static and dynamic installations.

Both the transmitter and receiver units are protected against reverse polarity of power supplies, control input and output signals. The output is also protected against short circuit and inductive loads.

**Technical Data**

|                                          |              |   | 46 mm channel spacing                     |              | 92 mm channel spacing                     |              |
|------------------------------------------|--------------|---|-------------------------------------------|--------------|-------------------------------------------|--------------|
|                                          |              |   | SGT                                       | SGR          | SGT                                       | SGR          |
| Supply voltage                           |              |   | 12-36 V dc                                |              |                                           |              |
| Current consumption                      |              |   | Max. 100 mA                               | 50 mA        | Max. 100 mA                               | 50 mA        |
| Output rating                            | Solid state  |   | –                                         | 200 mA       | –                                         | 200 mA       |
| Short circuit protected                  |              |   | –                                         | Yes          | –                                         | Yes          |
| Reverse polarity protected               |              |   | Yes                                       |              |                                           |              |
| Light source                             |              |   | Infrared (940 nm)                         | –            | Infrared (940 nm)                         | –            |
| Number of channels (diodes per detector) |              |   | 16, 24, 32 or 40                          |              | 8, 12, 16 or 20                           |              |
| Number of cross scanning beams           |              |   | 74, 114, 154 or 194                       |              | 34, 54, 74 or 94                          |              |
| Active height                            |              |   | 695, 1065, 1430 or 1800 mm                |              | 650, 1020, 1385 or 1755 mm                |              |
| Channel spacing                          |              |   | 46 mm                                     |              | 92 mm                                     |              |
| Bottom spacing to Ch 1                   |              |   | 25 mm                                     |              |                                           |              |
| Pinch point beam spacing                 |              |   | 23 mm                                     |              | 46 mm                                     |              |
| Response time                            |              |   | –                                         | < 80 ms      | –                                         | < 40 ms      |
| Power on indicator                       |              |   | Green LED                                 |              |                                           |              |
| Output indicator                         |              |   | –                                         | Yellow LED   | –                                         | Yellow LED   |
| System status indicator                  |              |   | –                                         | Red LED      | –                                         | Red LED      |
| Time-out function                        |              |   | Up to 4 non-adjacent channels, selectable |              | Up to 2 non-adjacent channels, selectable |              |
| Housing dimensions (w x d)               | Slim Line    | A | 10 x 28 mm                                |              |                                           |              |
|                                          | Leading Edge | B | 37,5 x 13 mm                              |              |                                           |              |
|                                          | Slim Line    | C | 12 x 30 mm                                |              |                                           |              |
| Housing material                         | Profile      |   | Aluminium (black anodised)                |              |                                           |              |
|                                          | Lens cover   |   | Polycarbonate                             |              |                                           |              |
| Connection                               |              |   | 3 m fixed flexible cable                  |              |                                           |              |
| Cable, PVC Ø 4,1 mm                      |              |   | 3 x 0,14 mm²                              | 5 x 0,14 mm² | 3 x 0,14 mm²                              | 5 x 0,14 mm² |

| Environmental Data            |               |             |
|-------------------------------|---------------|-------------|
|                               | SGT           | SGR         |
| Light immunity @ 5° incidence | –             | 100 000 lux |
| Temperature, operation        | –20 to +65 °C |             |
| Temperature, storage          | –40 to +80 °C |             |
| Sealing class                 | A / B housing | IP 54       |
|                               | C housing     | IP 67       |
| Approvals                     | CE            |             |

| Available Types |                |               |                    |                 |              |                   |         |                          |       |
|-----------------|----------------|---------------|--------------------|-----------------|--------------|-------------------|---------|--------------------------|-------|
| Slim Line A     |                |               |                    |                 |              |                   |         |                          |       |
|                 | Housing Length | Active Height | Number of Channels | Number of Beams | Beam Spacing | Connection        |         | 3 m flexible cable       | Range |
|                 |                |               |                    |                 |              | Output            |         | Order Reference          |       |
| Transmitter     | 850 mm         | 650 mm        | 8                  | 34              | 92 mm        | –                 | –       | SGT 1-085-008-B1-A-00-3F | 4 m   |
|                 |                | 695 mm        | 16                 | 74              | 46 mm        |                   |         | SGT 1-085-016-A1-A-00-3F |       |
|                 | 1250 mm        | 1020 mm       | 12                 | 54              | 92 mm        |                   |         | SGT 1-125-012-B1-A-00-3F |       |
|                 |                | 1065 mm       | 24                 | 114             | 46 mm        |                   |         | SGT 1-125-024-A1-A-00-3F |       |
|                 | 1600 mm        | 1385 mm       | 16                 | 74              | 92 mm        |                   |         | SGT 1-160-016-B1-A-00-3F |       |
|                 |                | 1430 mm       | 32                 | 154             | 46 mm        |                   |         | SGT 1-160-032-A1-A-00-3F |       |
|                 | 2000 mm        | 1755 mm       | 20                 | 94              | 92 mm        |                   |         | SGT 1-200-020-B1-A-00-3F |       |
|                 |                | 1800 mm       | 40                 | 194             | 46 mm        |                   |         | SGT 1-200-040-A1-A-00-3F |       |
|                 | 2100 mm        | 1755 mm       | 20                 | 94              | 92 mm        |                   |         | SGT 1-210-020-B1-A-00-3F |       |
|                 |                | 1800 mm       | 40                 | 194             | 46 mm        |                   |         | SGT 1-210-040-A1-A-00-3F |       |
| Receiver        | 850 mm         | 650 mm        | 8                  | 34              | 92 mm        | Solid State Relay | DO (NO) | SGR 1-085-008-B1-A-04-3F | 0-4 m |
|                 |                | 695 mm        | 16                 | 74              | 46 mm        |                   | LO (NC) | SGR 1-085-008-B1-A-05-3F |       |
|                 | 1250 mm        | 1020 mm       | 12                 | 54              | 92 mm        |                   | DO (NO) | SGR 1-085-016-A1-A-04-3F |       |
|                 |                | 1065 mm       | 24                 | 114             | 46 mm        |                   | LO (NC) | SGR 1-085-016-A1-A-05-3F |       |
|                 | 1600 mm        | 1385 mm       | 16                 | 74              | 92 mm        |                   | DO (NO) | SGR 1-125-012-B1-A-04-3F |       |
|                 |                | 1430 mm       | 32                 | 154             | 46 mm        |                   | LO (NC) | SGR 1-125-012-B1-A-05-3F |       |
|                 | 2000 mm        | 1755 mm       | 20                 | 94              | 92 mm        |                   | DO (NO) | SGR 1-125-024-A1-A-04-3F |       |
|                 |                | 1800 mm       | 40                 | 194             | 46 mm        |                   | LO (NC) | SGR 1-125-024-A1-A-05-3F |       |
|                 | 2100 mm        | 1755 mm       | 20                 | 94              | 92 mm        |                   | DO (NO) | SGR 1-160-016-B1-A-04-3F |       |
|                 |                | 1800 mm       | 40                 | 194             | 46 mm        |                   | LO (NC) | SGR 1-160-016-B1-A-05-3F |       |
|                 |                |               |                    |                 |              |                   | DO (NO) | SGR 1-160-032-A1-A-04-3F |       |
|                 |                |               |                    |                 |              |                   | LO (NC) | SGR 1-160-032-A1-A-05-3F |       |
|                 |                |               |                    |                 |              |                   | DO (NO) | SGR 1-200-020-B1-A-04-3F |       |
|                 |                |               |                    |                 |              |                   | LO (NC) | SGR 1-200-020-B1-A-05-3F |       |
|                 |                |               |                    |                 |              |                   | DO (NO) | SGR 1-200-040-A1-A-04-3F |       |
|                 |                |               |                    |                 |              |                   | LO (NC) | SGR 1-200-040-A1-A-05-3F |       |
|                 |                |               |                    |                 |              |                   | DO (NO) | SGR 1-210-020-B1-A-04-3F |       |
|                 |                |               |                    |                 |              |                   | LO (NC) | SGR 1-210-020-B1-A-05-3F |       |
|                 |                |               |                    |                 |              |                   | DO (NO) | SGR 1-210-040-A1-A-04-3F |       |
|                 |                |               |                    |                 |              |                   | LO (NC) | SGR 1-210-040-A1-A-05-3F |       |

**Note:** 1. The transmitter SGT and receiver SGR set must have the same number of channels and beam spacing.  
 2. The transmitter SGT is available in a long range model to be used in conjunction with standard receiver SGR. Sensing range is increased by 50%.  
 Add "H" after the series number of the SGT for long range model, e.g. SGT 1H-200-040-A1-A-00-3F.

## Available Types

## Leading Edge B

|             | Housing Length | Active Height | Number of Channels | Number of Beams | Beam Spacing | Connection        |         | 3 m flexible cable       | Range |
|-------------|----------------|---------------|--------------------|-----------------|--------------|-------------------|---------|--------------------------|-------|
|             |                |               |                    |                 |              | Output            |         | Order Reference          |       |
| Transmitter | 850 mm         | 650 mm        | 8                  | 34              | 92 mm        | -                 | -       | SGT 1-085-008-B1-B-00-3F | 3 m   |
|             |                | 695 mm        | 16                 | 74              | 46 mm        |                   |         | SGT 1-085-016-A1-B-00-3F |       |
|             | 1250 mm        | 1020 mm       | 12                 | 54              | 92 mm        |                   |         | SGT 1-125-012-B1-B-00-3F |       |
|             |                | 1065 mm       | 24                 | 114             | 46 mm        |                   |         | SGT 1-125-024-A1-B-00-3F |       |
|             | 1600 mm        | 1385 mm       | 16                 | 74              | 92 mm        |                   |         | SGT 1-160-016-B1-B-00-3F |       |
|             |                | 1430 mm       | 32                 | 154             | 46 mm        |                   |         | SGT 1-160-032-A1-B-00-3F |       |
|             | 2000 mm        | 1755 mm       | 20                 | 94              | 92 mm        |                   |         | SGT 1-200-020-B1-B-00-3F |       |
|             |                | 1800 mm       | 40                 | 194             | 46 mm        |                   |         | SGT 1-200-040-A1-B-00-3F |       |
|             | 2100 mm        | 1755 mm       | 20                 | 94              | 92 mm        |                   |         | SGT 1-210-020-B1-B-00-3F |       |
|             |                | 1800 mm       | 40                 | 194             | 46 mm        |                   |         | SGT 1-210-040-A1-B-00-3F |       |
| Receiver    | 850 mm         | 650 mm        | 8                  | 34              | 92 mm        | Solid State Relay | DO (NO) | SGR 1-085-008-B1-B-04-3F | 0-3 m |
|             |                | 695 mm        | 16                 | 74              | 46 mm        |                   | LO (NC) | SGR 1-085-008-B1-B-05-3F |       |
|             | 1250 mm        | 1020 mm       | 12                 | 54              | 92 mm        |                   | DO (NO) | SGR 1-085-016-A1-B-04-3F |       |
|             |                | 1065 mm       | 24                 | 114             | 46 mm        |                   | LO (NC) | SGR 1-085-016-A1-B-05-3F |       |
|             | 1600 mm        | 1385 mm       | 16                 | 74              | 92 mm        |                   | DO (NO) | SGR 1-125-012-B1-B-04-3F |       |
|             |                | 1430 mm       | 32                 | 154             | 46 mm        |                   | LO (NC) | SGR 1-125-012-B1-B-05-3F |       |
|             | 2000 mm        | 1755 mm       | 20                 | 94              | 92 mm        |                   | DO (NO) | SGR 1-125-024-A1-B-04-3F |       |
|             |                | 1800 mm       | 40                 | 194             | 46 mm        |                   | LO (NC) | SGR 1-125-024-A1-B-05-3F |       |
|             | 2100 mm        | 1755 mm       | 20                 | 94              | 92 mm        |                   | DO (NO) | SGR 1-160-016-B1-B-04-3F |       |
|             |                | 1800 mm       | 40                 | 194             | 46 mm        |                   | LO (NC) | SGR 1-160-016-B1-B-05-3F |       |
|             |                |               |                    |                 |              |                   | DO (NO) | SGR 1-160-032-A1-B-04-3F |       |
|             |                |               |                    |                 |              |                   | LO (NC) | SGR 1-160-032-A1-B-05-3F |       |
|             |                |               |                    |                 |              |                   | DO (NO) | SGR 1-200-020-B1-B-04-3F |       |
|             |                |               |                    |                 |              |                   | LO (NC) | SGR 1-200-020-B1-B-05-3F |       |
|             |                |               |                    |                 |              |                   | DO (NO) | SGR 1-200-040-A1-B-04-3F |       |
|             |                |               |                    |                 |              |                   | LO (NC) | SGR 1-200-040-A1-B-05-3F |       |
|             |                |               |                    |                 |              |                   | DO (NO) | SGR 1-210-020-B1-B-04-3F |       |
|             |                |               |                    |                 |              |                   | LO (NC) | SGR 1-210-020-B1-B-05-3F |       |
|             |                |               |                    |                 |              |                   | DO (NO) | SGR 1-210-040-A1-B-04-3F |       |
|             |                |               |                    |                 |              |                   | LO (NC) | SGR 1-210-040-A1-B-05-3F |       |

Note: 1. The transmitter SGT and receiver SGR set must have the same number of channels and beam spacing.

2. The transmitter SGT is available in a long range model to be used in conjunction with standard receiver SGR. Sensing range is increased by 50%. Add "H" after the series number of the SGT for long range model, e.g. SGT 1H-200-040-A1-B-00-3F.

## Available Types

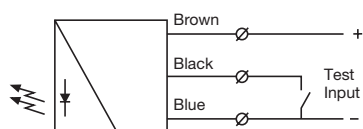
## Slim Line C

|             | Housing Length | Active Height | Number of Channels | Number of Beams | Beam Spacing | Connection        |         | 3 m flexible cable       | Range |
|-------------|----------------|---------------|--------------------|-----------------|--------------|-------------------|---------|--------------------------|-------|
|             |                |               |                    |                 |              | Output            |         | Order Reference          |       |
| Transmitter | 850 mm         | 650 mm        | 8                  | 34              | 92 mm        | -                 | -       | SGT 1-085-008-B1-C-00-3F | 4 m   |
|             |                | 695 mm        | 16                 | 74              | 46 mm        |                   |         | SGT 1-085-016-A1-C-00-3F |       |
|             | 1250 mm        | 1020 mm       | 12                 | 54              | 92 mm        |                   |         | SGT 1-125-012-B1-C-00-3F |       |
|             |                | 1065 mm       | 24                 | 114             | 46 mm        |                   |         | SGT 1-125-024-A1-C-00-3F |       |
|             | 1600 mm        | 1385 mm       | 16                 | 74              | 92 mm        |                   |         | SGT 1-160-016-B1-C-00-3F |       |
|             |                | 1430 mm       | 32                 | 154             | 46 mm        |                   |         | SGT 1-160-032-A1-C-00-3F |       |
|             | 2000 mm        | 1755 mm       | 20                 | 94              | 92 mm        |                   |         | SGT 1-200-020-B1-C-00-3F |       |
|             |                | 1800 mm       | 40                 | 194             | 46 mm        |                   |         | SGT 1-200-040-A1-C-00-3F |       |
| Receiver    | 850 mm         | 650 mm        | 8                  | 34              | 92 mm        | Solid State Relay | DO (NO) | SGR 1-085-008-B1-C-04-3F | 0-4 m |
|             |                | 695 mm        | 16                 | 74              | 46 mm        |                   | LO (NC) | SGR 1-085-008-B1-C-05-3F |       |
|             | 1250 mm        | 1020 mm       | 12                 | 54              | 92 mm        |                   | DO (NO) | SGR 1-085-016-A1-C-04-3F |       |
|             |                | 1065 mm       | 24                 | 114             | 46 mm        |                   | LO (NC) | SGR 1-085-016-A1-C-05-3F |       |
|             | 1600 mm        | 1385 mm       | 16                 | 74              | 92 mm        |                   | DO (NO) | SGR 1-125-012-B1-C-04-3F |       |
|             |                | 1430 mm       | 32                 | 154             | 46 mm        |                   | LO (NC) | SGR 1-125-012-B1-C-05-3F |       |
|             | 2000 mm        | 1755 mm       | 20                 | 94              | 92 mm        |                   | DO (NO) | SGR 1-125-024-A1-C-04-3F |       |
|             |                | 1800 mm       | 40                 | 194             | 46 mm        |                   | LO (NC) | SGR 1-125-024-A1-C-05-3F |       |
|             |                |               |                    |                 |              |                   | DO (NO) | SGR 1-160-016-B1-C-04-3F |       |
|             |                |               |                    |                 |              |                   | LO (NC) | SGR 1-160-016-B1-C-05-3F |       |
|             |                |               |                    |                 |              |                   | DO (NO) | SGR 1-160-032-A1-C-04-3F |       |
|             |                |               |                    |                 |              |                   | LO (NC) | SGR 1-160-032-A1-C-05-3F |       |
|             |                |               |                    |                 |              |                   | DO (NO) | SGR 1-200-020-B1-C-04-3F |       |
|             |                |               |                    |                 |              |                   | LO (NC) | SGR 1-200-020-B1-C-05-3F |       |
|             |                |               |                    |                 |              |                   | DO (NO) | SGR 1-200-040-A1-C-04-3F |       |
|             |                |               |                    |                 |              |                   | LO (NC) | SGR 1-200-040-A1-C-05-3F |       |

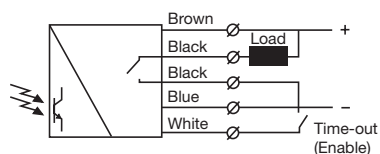
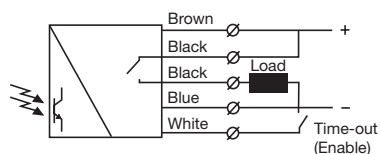
Note: 1. The transmitter SGT and receiver SGR set must have the same number of channels and beam spacing.

2. The transmitter SGT is available in a long range model to be used in conjunction with standard receiver SGR. Sensing range is increased by 50%. Add "H" after the series number of the SGT for long range model, e.g. SGT 1H-200-040-A1-C-00-3F.

## Wiring Diagrams



SGT 1

SGR 1  
Load as NPNSGR 1  
Load as PNP

### Slim Line A

**Top Side View**

→  $\varnothing 4,1$

Rear Front

← System status indicator (SGR)  
 ← Output indicator (SGR)  
 ← Power on indicator (SGT/SGR)

**Top Rear View**

**Top View**

14  $\varnothing 7$

**Bottom View Cross Section**

4,3 4 10 28

**Bottom Side View**

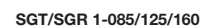
3,5  $\varnothing 4$  20,5 14 17,5  $\varnothing 8$  10

Rear Front

**Bottom Rear View**

Mounting Slot 4,3  $\varnothing 8$

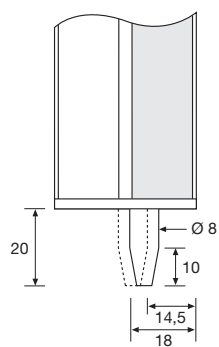
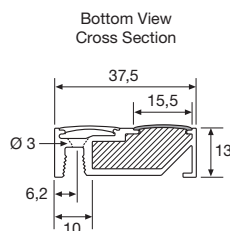
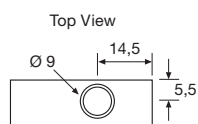
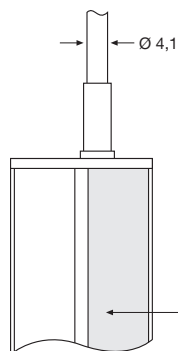
Positioning Pin (removable)



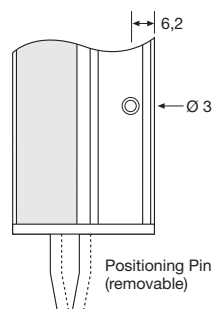
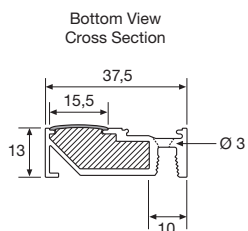
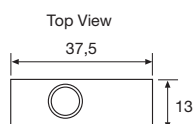
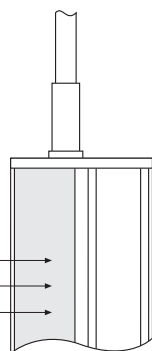
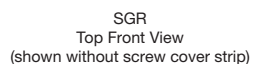
SELF-CONTAINED LIGHT CURTAIN SYSTEMS | 109

### Leading Edge B

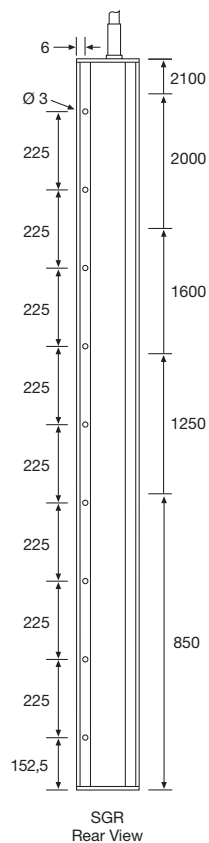
SGT  
Top Front View  
(shown with screw cover strip)



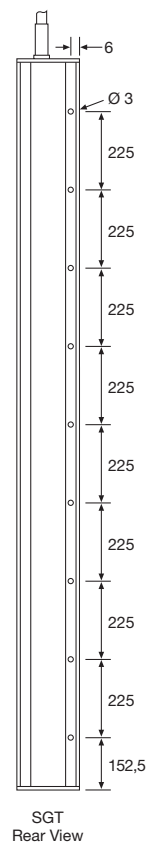
Bottom Front View



Bottom Front View



SGR  
Rear View



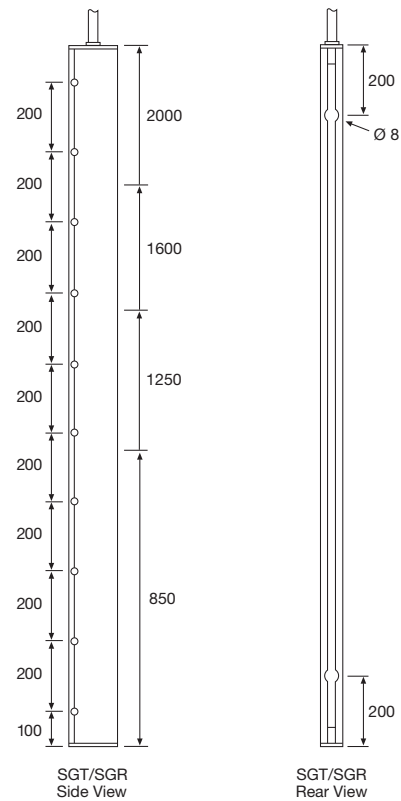
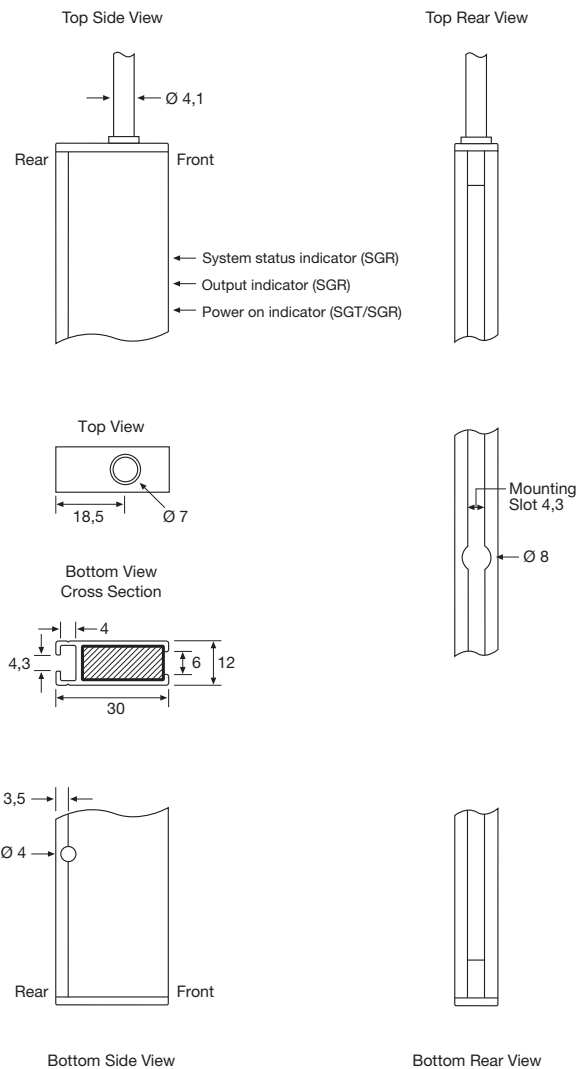
SGT  
Rear View

(Units in mm)

## Dimensions and Descriptions

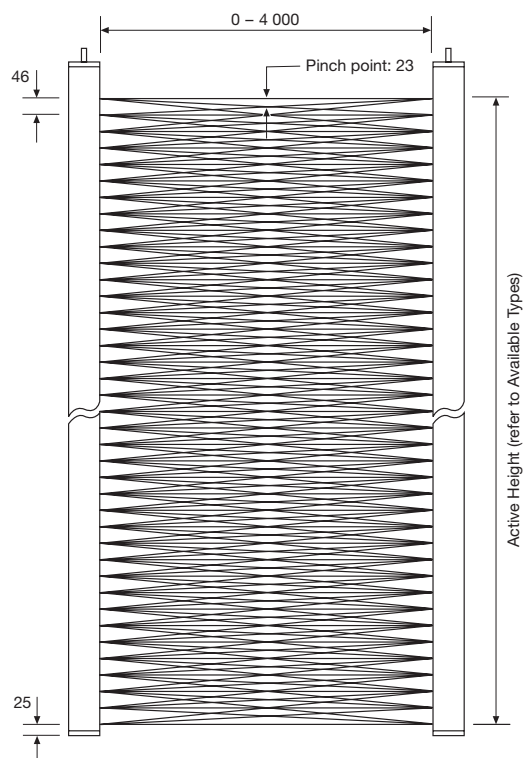
## Slim Line C

## Details

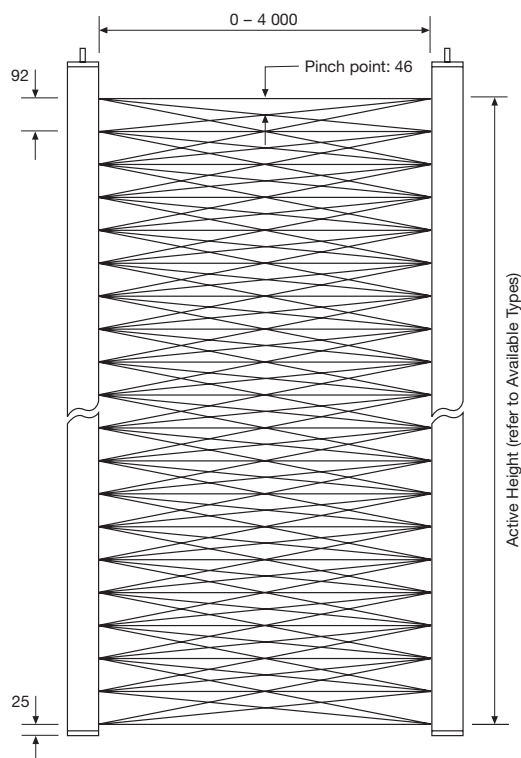


(Units in mm)

## Beam Patterns



46 mm channel spacing

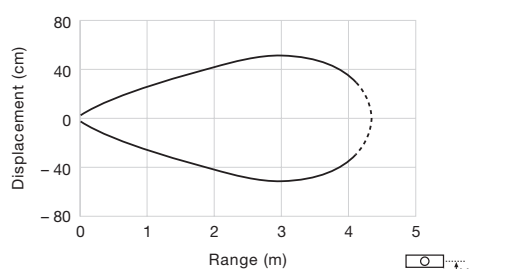


92 mm channel spacing

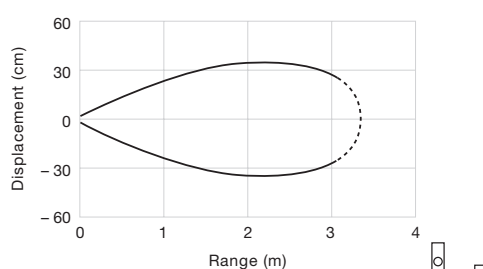
(Units in mm)

## Sensing Characteristics

## Parallel Displacement



Slim Line A / C



Leading Edge B

Telco reserves the right to change specifications without notice.

**Description**

- 1-10 m sensing range
- 34 to 274 cross scanning beams
- Active height of 650 mm to 2535 mm
- Length of 850 mm to 2800 mm
- Cable or plug connection
- Automatic sensitivity adjustment
- Water-resistant, slim line (12x30 mm) housing
- Power, output and signal status indicators
- 12-36 V dc supply voltage
- 5 wire, solid state relay output
- Test input
- Light/dark selection via control wire



The SG 10 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 a water-resistant, aluminium profile available in a slim line design (12 x 30 mm).

The SGR is supplied with a 12-36 V dc power supply with a 5 wire, solid state relay output, and wire selectable light or dark function. The test input in the SGT may be used for either disabling or enabling the transmitting power temporarily for test purposes.

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. Transmitter and receiver are optically synchronised.

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.

Both the transmitter and receiver units are protected against reverse polarity of power supplies, control input and output signals. The output is also protected against short circuit and inductive loads.

**Technical Data**

|                                                                                  |  |  | 46 mm channel spacing                               |              | 92 mm channel spacing                  |              |
|----------------------------------------------------------------------------------|--|--|-----------------------------------------------------|--------------|----------------------------------------|--------------|
|                                                                                  |  |  | SGT                                                 | SGR          | SGT                                    | SGR          |
| Supply voltage                                                                   |  |  | 12-36 V dc                                          |              |                                        |              |
| Current consumption                                                              |  |  | Max. 100 mA                                         | 50 mA        | Max. 100 mA                            | 50 mA        |
| Output rating                      Solid state                                   |  |  | –                                                   | 200 mA       | –                                      | 200 mA       |
| Short circuit protected                                                          |  |  | –                                                   | Yes          | –                                      | Yes          |
| Reverse polarity protected                                                       |  |  | Yes                                                 |              |                                        |              |
| Light source                                                                     |  |  | Infrared (880 nm)                                   | –            | Infrared (880 nm)                      | –            |
| Number of channels (diodes per detector)                                         |  |  | 16, 24, 32, 40, 48 or 56                            |              | 8, 12, 16, 20, 24 or 28                |              |
| Number of cross scanning beams                                                   |  |  | 74, 114, 154, 194, 234 or 274                       |              | 34, 54, 74, 94, 114 or 134             |              |
| Active height                                                                    |  |  | 695, 1065, 1430, 1800, 2165 or 2535 mm              |              | 650, 1020, 1385, 1755, 2120 or 2490 mm |              |
| Channel spacing                                                                  |  |  | 46 mm                                               |              | 92 mm                                  |              |
| Bottom spacing to Ch 1                                                           |  |  | 25 mm                                               |              |                                        |              |
| Pinch point beam spacing                                                         |  |  | 23 mm                                               |              | 46 mm                                  |              |
| Response time                                                                    |  |  | –                                                   | < 165 ms     | –                                      | < 85 ms      |
| Power on indicator                                                               |  |  | Green LED                                           |              |                                        |              |
| Output indicator                                                                 |  |  | –                                                   | Yellow LED   | –                                      | Yellow LED   |
| System status indicator                                                          |  |  | –                                                   | Red LED      | –                                      | Red LED      |
| Time-out function                                                                |  |  | –                                                   |              |                                        |              |
| Housing dimensions (w x d)                      Slim Line                      C |  |  | 12 x 30 mm                                          |              |                                        |              |
| Housing material                      Profile                      Lens cover    |  |  | Aluminium (black anodised)                          |              |                                        |              |
|                                                                                  |  |  | Polycarbonate                                       |              |                                        |              |
| Connection                                                                       |  |  | 5 m fixed cable or 0,5 m cable with 5 pin, M12 plug |              |                                        |              |
| Cable, PVC Ø 4,9 mm                                                              |  |  | 3 x 0,20 mm²                                        | 5 x 0,20 mm² | 3 x 0,20 mm²                           | 5 x 0,20 mm² |

## Environmental Data

|                               |           | SGT           | SGR         |
|-------------------------------|-----------|---------------|-------------|
| Light immunity @ 5° incidence |           | –             | 100 000 lux |
| Temperature, operation        |           | –20 to +65 °C |             |
| Temperature, storage          |           | –40 to +80 °C |             |
| Sealing class                 | C housing | IP 67         |             |
| Approvals                     |           | CE            |             |

## Available Types

## Slim Line C

| Transmitter | Housing Length | Active Height | Number of Channels | Number of Beams | Beam Spacing             | Connection        |               | 5 m cable                     | 0.5 m cable with 5 pin, M12 plug | Range  |
|-------------|----------------|---------------|--------------------|-----------------|--------------------------|-------------------|---------------|-------------------------------|----------------------------------|--------|
|             | 850 mm         | 650 mm        | 8                  | 34              | 92 mm                    | -                 | -             | Order Reference               |                                  | 10 m   |
|             |                | 695 mm        | 16                 | 74              | 46 mm                    |                   |               | SGT 10-085-008-B1-C-01-5      | SGT 10-085-008-B1-C-01-0.5-J5    |        |
| 1250 mm     | 1020 mm        | 12            | 54                 | 92 mm           | SGT 10-085-016-A1-C-01-5 |                   |               | SGT 10-085-016-A1-C-01-0.5-J5 |                                  |        |
|             | 1065 mm        | 24            | 114                | 46 mm           | SGT 10-125-012-B1-C-01-5 |                   |               | SGT 10-125-012-B1-C-01-0.5-J5 |                                  |        |
| 1600 mm     | 1385 mm        | 16            | 74                 | 92 mm           | SGT 10-125-024-A1-C-01-5 |                   |               | SGT 10-125-024-A1-C-01-0.5-J5 |                                  |        |
|             | 1430 mm        | 32            | 154                | 46 mm           | SGT 10-160-016-B1-C-01-5 |                   |               | SGT 10-160-016-B1-C-01-0.5-J5 |                                  |        |
| 2000 mm     | 1755 mm        | 20            | 94                 | 92 mm           | SGT 10-160-032-A1-C-01-5 |                   |               | SGT 10-160-032-A1-C-01-0.5-J5 |                                  |        |
|             | 1800 mm        | 40            | 194                | 46 mm           | SGT 10-160-032-A1-C-01-5 |                   |               | SGT 10-160-032-A1-C-01-0.5-J5 |                                  |        |
| 2400 mm     | 2120 mm        | 24            | 114                | 92 mm           | SGT 10-200-020-B1-C-01-5 |                   |               | SGT 10-200-020-B1-C-01-0.5-J5 |                                  |        |
|             | 2165 mm        | 48            | 234                | 46 mm           | SGT 10-200-040-A1-C-01-5 |                   |               | SGT 10-200-040-A1-C-01-0.5-J5 |                                  |        |
| 2800 mm     | 2490 mm        | 28            | 134                | 92 mm           | SGT 10-240-024-B1-C-01-5 |                   |               | SGT 10-240-024-B1-C-01-0.5-J5 |                                  |        |
|             | 2535 mm        | 56            | 274                | 46 mm           | SGT 10-240-048-A1-C-01-5 |                   |               | SGT 10-240-048-A1-C-01-0.5-J5 |                                  |        |
|             |                |               |                    |                 |                          |                   |               |                               |                                  |        |
| Receiver    | 850 mm         | 650 mm        | 8                  | 34              | 92 mm                    | Solid State Relay | DO/LO (NO/NC) | SGR 10-085-008-B1-C-07-5      | SGR 10-085-008-B1-C-07-0.5-J5    | 1-10 m |
|             |                | 695 mm        | 16                 | 74              | 46 mm                    |                   |               | SGR 10-085-016-A1-C-07-5      | SGR 10-085-016-A1-C-07-0.5-J5    |        |
|             | 1250 mm        | 1020 mm       | 12                 | 54              | 92 mm                    |                   |               | SGR 10-125-012-B1-C-07-5      | SGR 10-125-012-B1-C-07-0.5-J5    |        |
|             |                | 1065 mm       | 24                 | 114             | 46 mm                    |                   |               | SGR 10-125-024-A1-C-07-5      | SGR 10-125-024-A1-C-07-0.5-J5    |        |
|             | 1600 mm        | 1385 mm       | 16                 | 74              | 92 mm                    |                   |               | SGR 10-160-016-B1-C-07-5      | SGR 10-160-016-B1-C-07-0.5-J5    |        |
|             |                | 1430 mm       | 32                 | 154             | 46 mm                    |                   |               | SGR 10-160-032-A1-C-07-5      | SGR 10-160-032-A1-C-07-0.5-J5    |        |
|             | 2000 mm        | 1755 mm       | 20                 | 94              | 92 mm                    |                   |               | SGR 10-200-020-B1-C-07-5      | SGR 10-200-020-B1-C-07-0.5-J5    |        |
|             |                | 1800 mm       | 40                 | 194             | 46 mm                    |                   |               | SGR 10-200-040-A1-C-07-5      | SGR 10-200-040-A1-C-07-0.5-J5    |        |
|             | 2400 mm        | 2120 mm       | 24                 | 114             | 92 mm                    |                   |               | SGR 10-240-024-B1-C-07-5      | SGR 10-240-024-B1-C-07-0.5-J5    |        |
|             |                | 2165 mm       | 48                 | 234             | 46 mm                    |                   |               | SGR 10-240-048-A1-C-07-5      | SGR 10-240-048-A1-C-07-0.5-J5    |        |
|             | 2800 mm        | 2490 mm       | 28                 | 134             | 92 mm                    |                   |               | SGR 10-280-028-B1-C-07-5      | SGR 10-280-028-B1-C-07-0.5-J5    |        |
|             |                | 2535 mm       | 56                 | 274             | 46 mm                    |                   |               | SGR 10-280-056-A1-C-07-5      | SGR 10-280-056-A1-C-07-0.5-J5    |        |

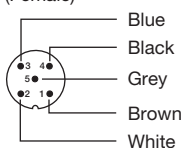
Note: 1. The transmitter SGT and receiver SGR set must have the same number of channels and beam spacing.

2. SG 10 series is optionally available with Master/Slave electrical synchronisation (SG 10 M/S series) which ensures that optical cross-talk between two neighbouring sets is prevented.

## Connections

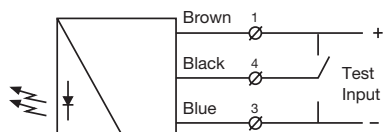
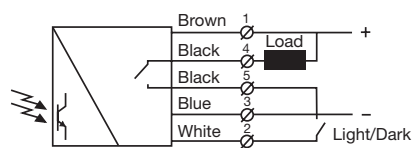
|                   | Cable | M12 Plug / Cable |
|-------------------|-------|------------------|
| Supply +          | Brown | Pin 1 / Brown    |
| Supply -          | Blue  | Pin 3 / Blue     |
| SGT test input    | Black | Pin 4 / Black    |
| SGR output        | Black | Pin 4 / Black    |
| SGR output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

## 5 pin, M12

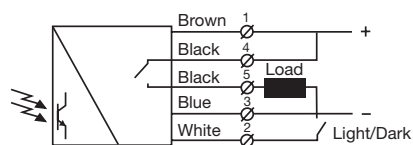
Sensor Plug  
(Male)Cable Plug  
(Female)

Refer to page 177 for extension cables.

## Wiring Diagrams

**SGT 10**Connect black test input wire  
to + or - to disable SGT**SGR 10**

Load as NPN

**SGR 10**

Load as PNP

### Slim Line C

**Top Side View**

Ø 14,8  
M12 x 1  
47

**Top Rear View**

Ø 4,9

Rear Front

System status indicator (SGR)  
Output indicator (SGR)  
Power on indicator (SGT/SGR)

**Top View**

18,5 Ø 7

**Bottom View Cross Section**

4,3 4 6 12 30

**Bottom Side View**

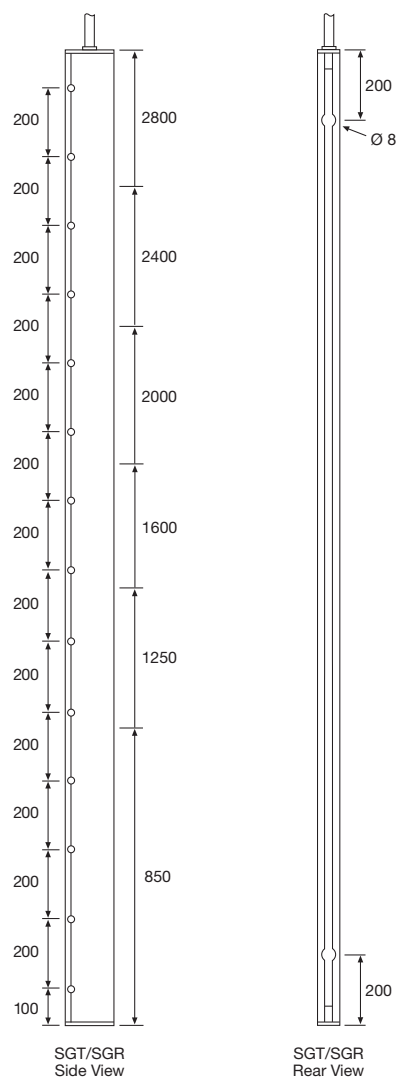
3,5 Ø 4

Rear Front

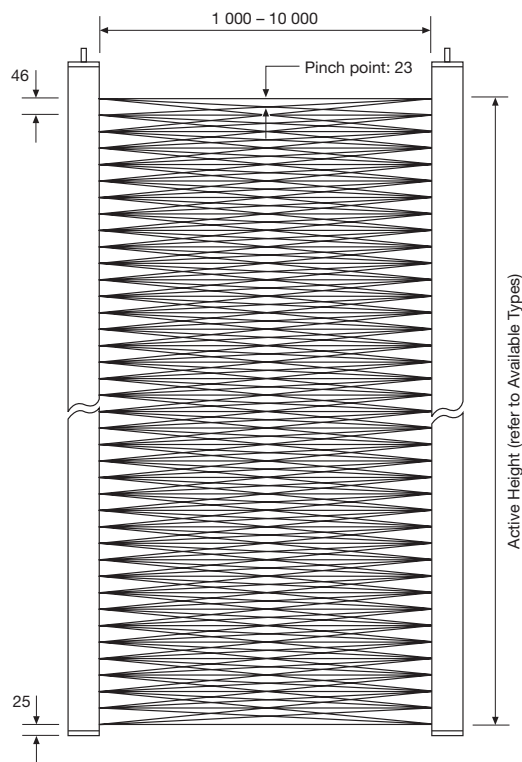
**Bottom Rear View**

Mounting Slot 4,3  
Ø 8

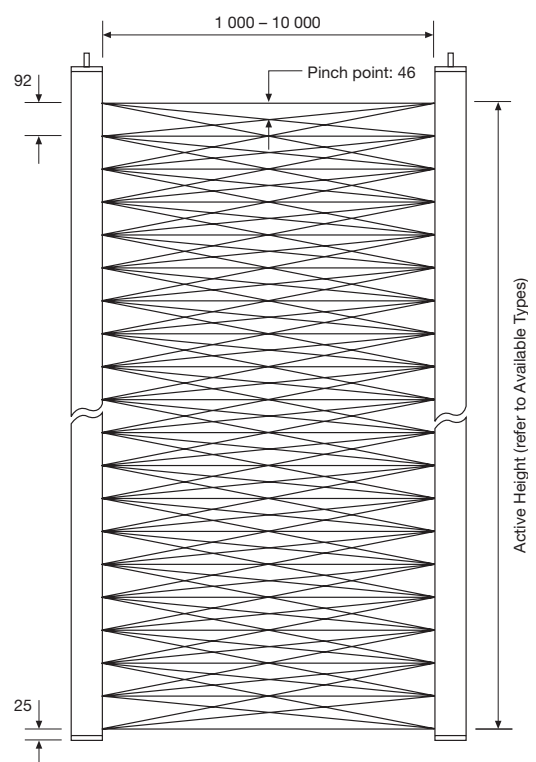
(Units in mm)



## Beam Patterns



46 mm channel spacing

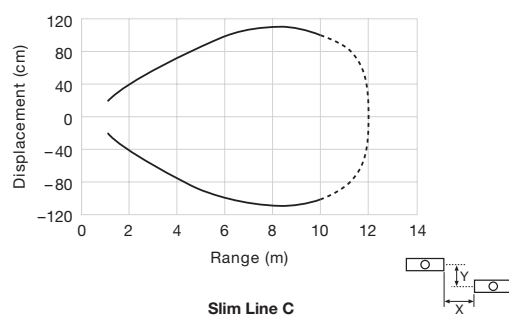


92 mm channel spacing

(Units in mm)

## Sensing Characteristics

## Parallel Displacement



Telco reserves the right to change specifications without notice.

**Description**

- 1-10 m sensing range
- 16 to 56 parallel beams
- Active height of 695 mm to 2535 mm
- Length of 850 mm to 2800 mm
- Cable or plug connection
- Automatic sensitivity adjustment
- Water-resistant slim line (12x30 mm) or leading edge (38,4x14 mm) housing
- Power, output and signal status indicators
- 12-36 V dc supply voltage
- 5 wire, solid state relay output
- Test input
- Dynamic sequential blanking function



The SG 14 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 a sturdy aluminium profile available in a slim line design (12 x 30 mm) or a leading edge design (38,4 x 14 mm).

The SGR is supplied with a 12-36 V dc power supply with a 5 wire, solid state relay output, and with wire selectable dynamic blanking function. The test input in the SGT may be used for either disabling or enabling the transmitting power temporarily for test purposes.

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. Transmitter and receiver are optically synchronised.

The SG 14 series features the Dynamic Sequential Blanking Function which allows the light curtains to be positioned in 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 special 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 whilst leaving the remaining beams active to detect an object below the door edge.

Both the transmitter and receiver units are protected against reverse polarity of power supplies, control input and output signals. The output is also protected against short circuit and inductive loads.

**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                          |                | 46 mm                                  |                                                                             |
| Bottom spacing to Ch 1                   |                | 25 mm                                  |                                                                             |
| Response time                            |                | –                                      | 16/24 chs: 24 ms 32 chs: 30 ms 40 chs: 37 ms<br>48 chs: 43 ms 56 chs: 49 ms |
| Max. / min. 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

|                               |               | SGT           | SGR         |
|-------------------------------|---------------|---------------|-------------|
| 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

## Slim Line C

| Transmitter | 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          |                                  |       |
|             | 850 mm         | 695 mm        | 16                 | 46 mm        | -          | - | SGT 14-085-016-A1-C-01-5 | SGT 14-085-016-A1-C-01-0.5-J5    | 10 m  |
|             | 1250 mm        | 1065 mm       | 24                 |              |            |   | SGT 14-125-024-A1-C-01-5 | SGT 14-125-024-A1-C-01-0.5-J5    |       |
|             | 1600 mm        | 1430 mm       | 32                 |              |            |   | SGT 14-160-032-A1-C-01-5 | SGT 14-160-032-A1-C-01-0.5-J5    |       |
|             | 2000 mm        | 1800 mm       | 40                 |              |            |   | SGT 14-200-040-A1-C-01-5 | SGT 14-200-040-A1-C-01-0.5-J5    |       |
|             | 2400 mm        | 2165 mm       | 48                 |              |            |   | SGT 14-240-048-A1-C-01-5 | SGT 14-240-048-A1-C-01-0.5-J5    |       |
|             | 2800 mm        | 2535 mm       | 56                 |              |            |   | SGT 14-280-056-A1-C-01-5 | SGT 14-280-056-A1-C-01-0.5-J5    |       |

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

## Leading Edge D

| Transmitter | 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          |                                  |       |
|             | 850 mm         | 695 mm        | 16                 | 46 mm        | -          | - | SGT 14-085-016-A1-D-01-5 | SGT 14-085-016-A1-D-01-0.5-J5    | 7,5 m |
|             | 1250 mm        | 1065 mm       | 24                 |              |            |   | SGT 14-125-024-A1-D-01-5 | SGT 14-125-024-A1-D-01-0.5-J5    |       |
|             | 1600 mm        | 1430 mm       | 32                 |              |            |   | SGT 14-160-032-A1-D-01-5 | SGT 14-160-032-A1-D-01-0.5-J5    |       |
|             | 2000 mm        | 1800 mm       | 40                 |              |            |   | SGT 14-200-040-A1-D-01-5 | SGT 14-200-040-A1-D-01-0.5-J5    |       |
|             | 2400 mm        | 2165 mm       | 48                 |              |            |   | SGT 14-240-048-A1-D-01-5 | SGT 14-240-048-A1-D-01-0.5-J5    |       |
|             | 2800 mm        | 2535 mm       | 56                 |              |            |   | SGT 14-280-056-A1-D-01-5 | SGT 14-280-056-A1-D-01-0.5-J5    |       |

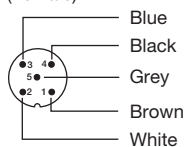
| Receiver | 850 mm  | 695 mm  | 16 | 46 mm | Solid State Relay | DO (NO) | SGR 14-085-016-A1-D-08-5 | SGR 14-085-016-A1-D-08-0.5-J5 | 1-7,5 m |
|----------|---------|---------|----|-------|-------------------|---------|--------------------------|-------------------------------|---------|
|          |         |         |    |       |                   | LO (NC) | SGR 14-085-016-A1-D-09-5 | SGR 14-085-016-A1-D-09-0.5-J5 |         |
|          | 1250 mm | 1065 mm | 24 |       |                   | DO (NO) | SGR 14-125-024-A1-D-08-5 | SGR 14-125-024-A1-D-08-0.5-J5 |         |
|          |         |         |    |       |                   | LO (NC) | SGR 14-125-024-A1-D-09-5 | SGR 14-125-024-A1-D-09-0.5-J5 |         |
|          | 1600 mm | 1430 mm | 32 |       |                   | DO (NO) | SGR 14-160-032-A1-D-08-5 | SGR 14-160-032-A1-D-08-0.5-J5 |         |
|          |         |         |    |       |                   | LO (NC) | SGR 14-160-032-A1-D-09-5 | SGR 14-160-032-A1-D-09-0.5-J5 |         |
|          | 2000 mm | 1800 mm | 40 |       |                   | DO (NO) | SGR 14-200-040-A1-D-08-5 | SGR 14-200-040-A1-D-08-0.5-J5 |         |
|          |         |         |    |       |                   | LO (NC) | SGR 14-200-040-A1-D-09-5 | SGR 14-200-040-A1-D-09-0.5-J5 |         |
|          | 2400 mm | 2165 mm | 48 |       |                   | DO (NO) | SGR 14-240-048-A1-D-08-5 | SGR 14-240-048-A1-D-08-0.5-J5 |         |
|          |         |         |    |       |                   | LO (NC) | SGR 14-240-048-A1-D-09-5 | SGR 14-240-048-A1-D-09-0.5-J5 |         |
|          | 2800 mm | 2535 mm | 56 |       |                   | DO (NO) | SGR 14-280-056-A1-D-08-5 | SGR 14-280-056-A1-D-08-0.5-J5 |         |
|          |         |         |    |       |                   | LO (NC) | SGR 14-280-056-A1-D-09-5 | SGR 14-280-056-A1-D-09-0.5-J5 |         |

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

## Connections

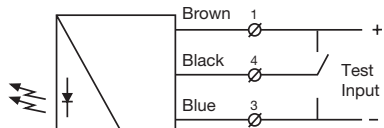
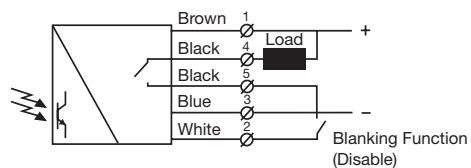
|                               | Cable | M12 Plug / Cable |
|-------------------------------|-------|------------------|
| Supply +                      | Brown | Pin 1 / Brown    |
| Supply -                      | Blue  | Pin 3 / Blue     |
| SGT test input                | Black | Pin 4 / Black 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

## 5 pin, M12

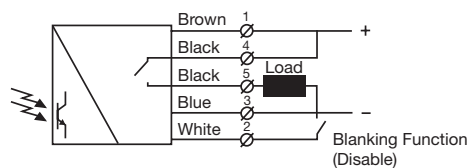
Sensor Plug  
(Male)Cable Plug  
(Female)

Refer to page 177 for extension cables.

## Wiring Diagrams

**SGT 14**Connect black test input wire  
to + or - to disable SGT**SGR 14**

Load as NPN

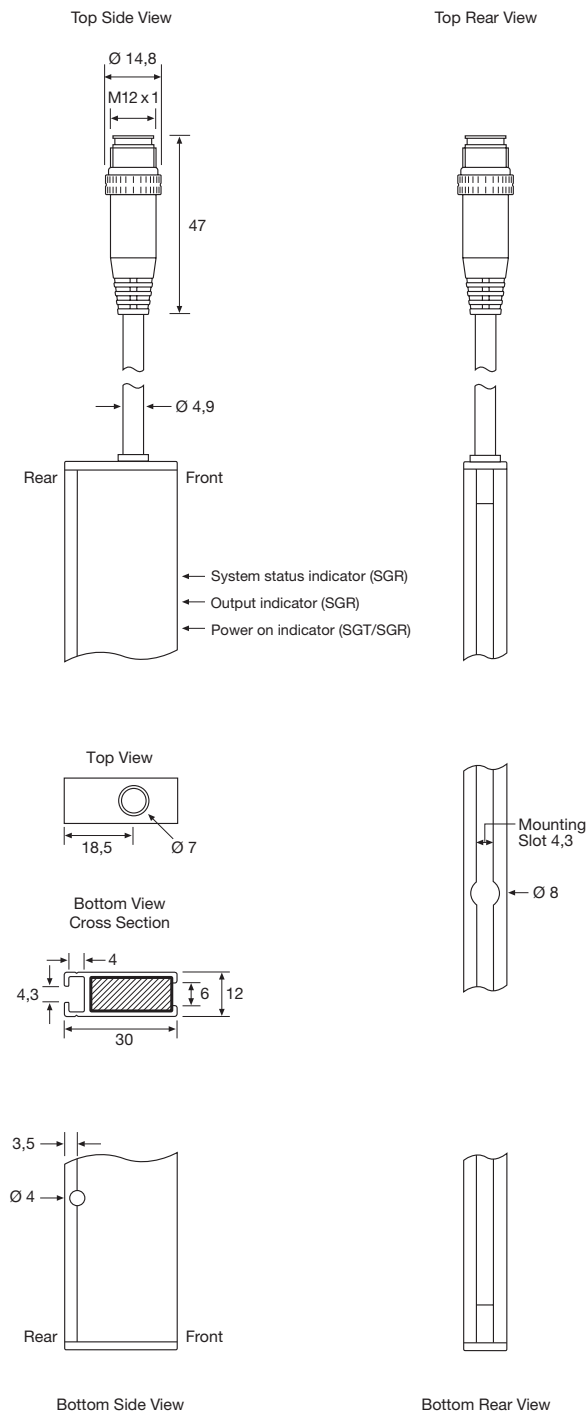
**SGR 14**

Load as PNP

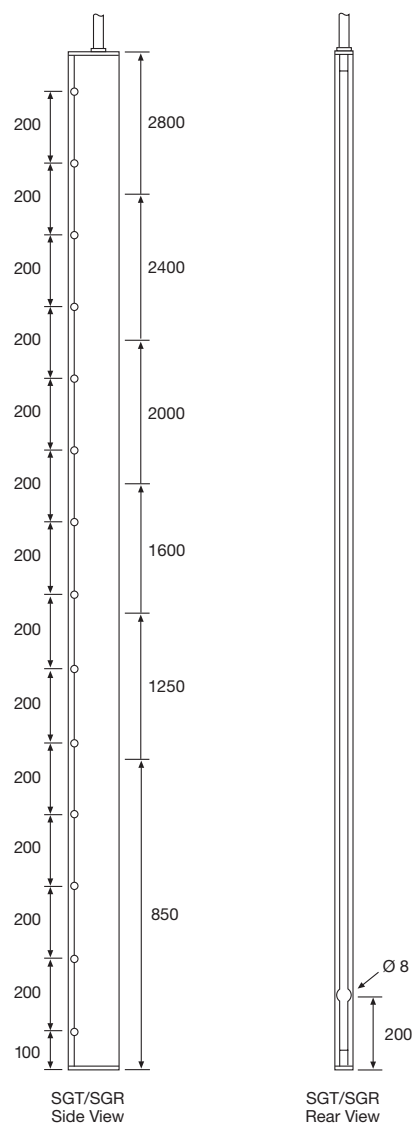
### Dimensions and Descriptions

### Slim Line C

## Details



Note: Drawing shows model with M12 plug.

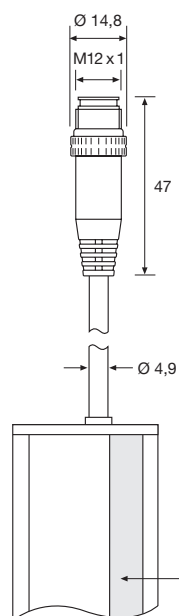
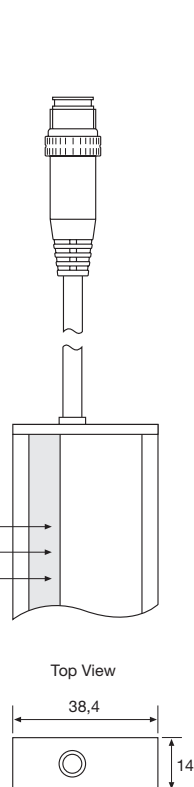


(Units in mm)

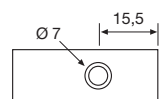
## Dimensions and Descriptions

## Leading Edge D

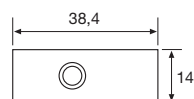
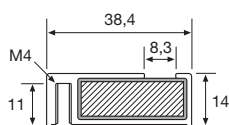
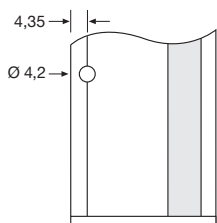
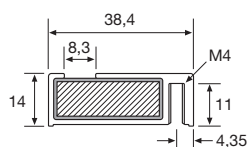
## Details

SGT  
Top Front ViewSGR  
Top Front View

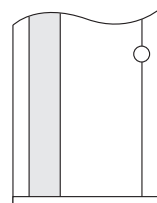
Top View



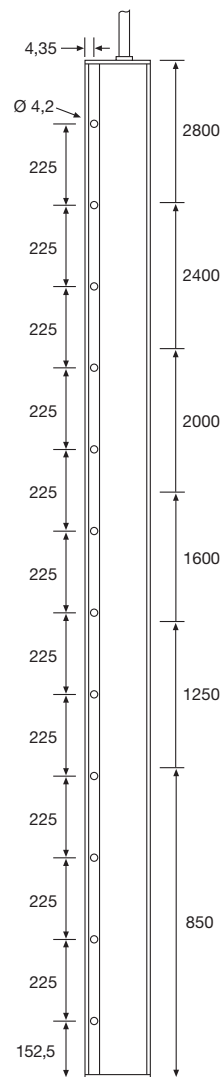
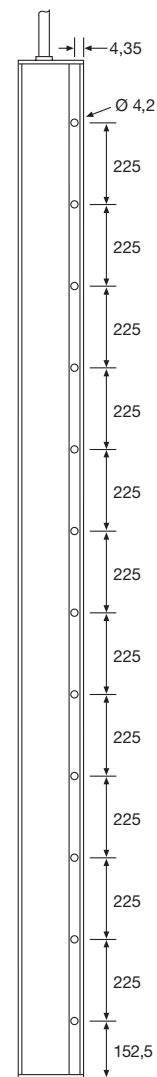
Top View

Bottom View  
Cross SectionBottom View  
Cross Section

Bottom Front View



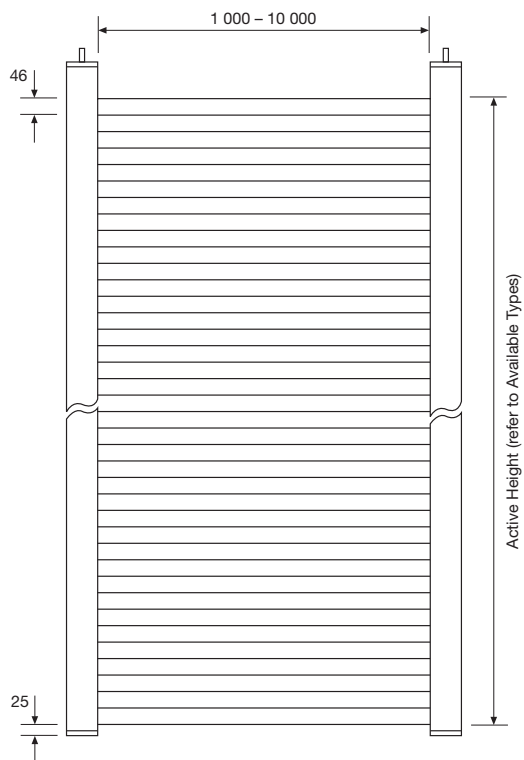
Bottom Front View

SGR  
Rear ViewSGT  
Rear View

Note: Drawing shows model with M12 plug.

(Units in mm)

## Beam Patterns

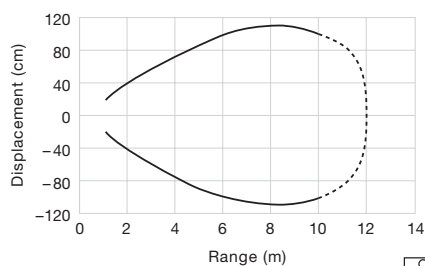


46 mm channel spacing

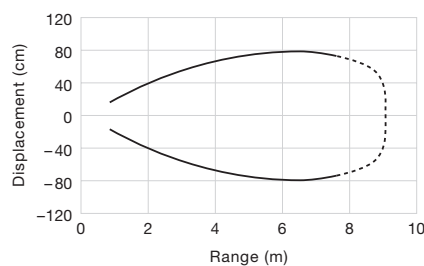
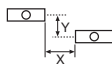
(Units in mm)

## Sensing Characteristics

## Parallel Displacement



Slim Line C



Leading Edge D



Telco reserves the right to change specifications without notice.

**Description**

- 115 V ac or 230 V ac supply voltage
- Relay output
- Nudging time-out relay output
- Switch selectable light or dark function
- Switch selectable receiver control function
- Switch selectable output reset function
- Switch selectable buzzer
- Adjustable nudging time-out delay
- Test push button
- Power, output and nudging output indicators
- Spring-clamp terminal connection



The SGC 1 power supply / controller unit is intended to be used in conjunction with the SG 1, SG 10 or SG 14 self-contained light curtain series, where a DC supply voltage is not available and where an electromechanical relay output is required. The controller series is supplied with a fixed 24 V dc output voltage. Light or dark function and receiver control function is switch selectable.

The series is available with a nudging time-out feature which allows a

separate relay output to activate after a pre-set delay time after the signal output has been permanently activated. Nudging time-out delay is potentiometer adjustable from 3 to 60 seconds. The controller is available with a buzzer which may be activated to indicate a nudging time-out output.

The SGC 1 offers a test button, which may be used for disabling the transmitting power temporarily for test purposes.

**Technical Data**

|                            |                                                |
|----------------------------|------------------------------------------------|
| Supply voltage             | 115 V ac or 230 V ac                           |
| Voltage tolerance          | +/- 10 %                                       |
| Current consumption        | Max. 250 mA                                    |
| Relay output               | 1 open / 1 close, 250 V ac / 3A, 120 V ac / 5A |
| Nudging relay output       | 1 open / 1 close, 250 V ac / 3A, 120 V ac / 5A |
| Supply output voltage      | 24 V dc                                        |
| Supply output current      | 150 mA                                         |
| Power on indicator         | Green LED                                      |
| Output indicator           | Yellow LED                                     |
| Nudging time-out indicator | Yellow LED                                     |
| Housing material           | ABS                                            |

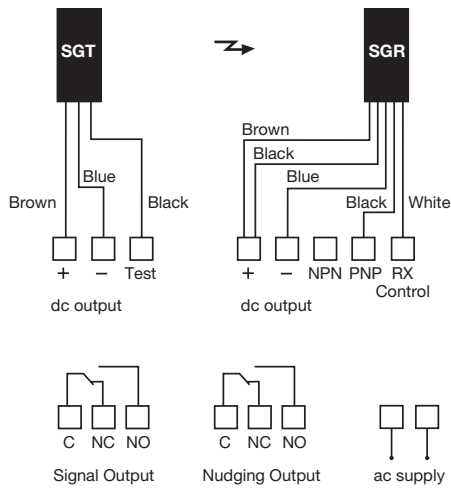
**Environmental Data**

|                        |                                                                                          |
|------------------------|------------------------------------------------------------------------------------------|
| Vibration              | 10-55 Hz, 1,5 mm                                                                         |
| Shock                  | 30 g                                                                                     |
| Temperature, operation | -20 to +65 °C                                                                            |
| Temperature, storage   | -40 to +80 °C                                                                            |
| Sealing class          | IP 54                                                                                    |
| Approvals              | CE  |

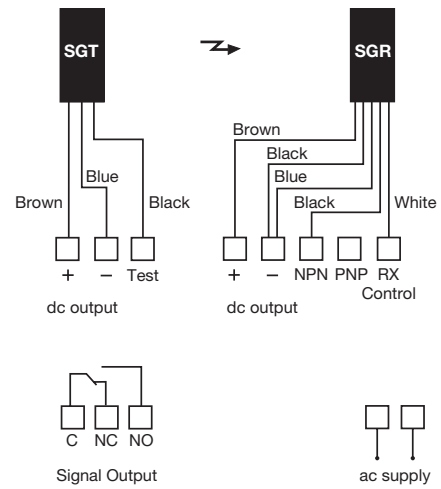
**Available Types**

| Model   | Connection            | Output | Supply Voltage            | 115 V ac        | 230 V ac    |
|---------|-----------------------|--------|---------------------------|-----------------|-------------|
|         |                       |        | Feature                   | Order Reference |             |
| SGC 1 A | Spring-clamp terminal | Relay  | Nudging time-out function | SGC 1 A 501     | SGC 1 A 500 |
| SGC 1 B |                       |        | —                         | SGC 1 B 501     | SGC 1 B 500 |

## Wiring Diagrams

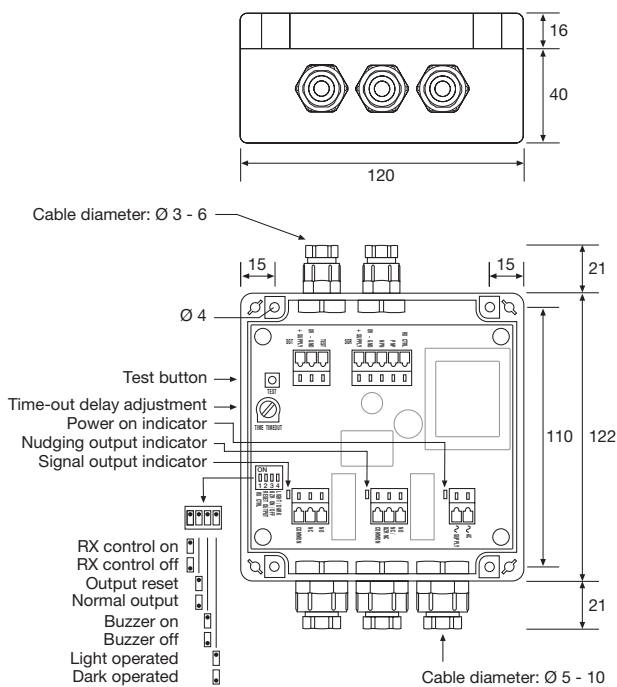


**SGC 1 A**  
(Shown connected as PNP)

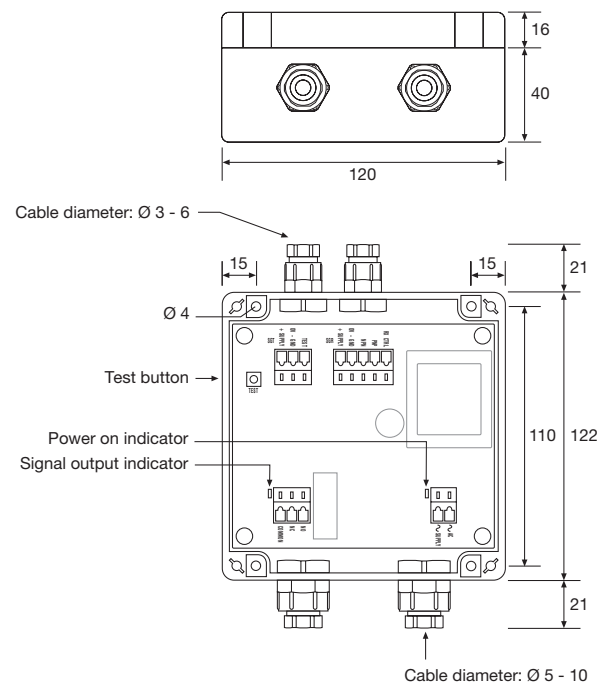


**SGC 1 B**  
(Shown connected as NPN)

## Dimensions and Descriptions



**SGC 1 A**



**SGC 1 B**

(Units in mm)

Telco reserves the right to change specifications without notice.

**Description**

- 5 m sensing range
- 16 to 64 parallel beams
- 28 or 56 mm beam spacing
- Active height of 425 mm to 1770 mm
- Length of 570 mm to 2105 mm
- Flexible cable
- Plug connection to controller
- Slim line (10x28 mm) or leading edge (37,5x13 mm) housing
- Power indicator
- Static and dynamic applications



The SpaceGuard SG 11 light curtain series, which consists of a transmitter SGT and receiver SGR, is made to operate in conjunction with a controller SGC 11. The light curtains are housed in an aluminium profile available in a slim line design (10 x 28 mm) or a leading edge design (37,5 x 13 mm). The system can be used both in static and dynamic installations.

**Technical Data**

|                                          |                | 28 mm channel spacing                           |                      | 56 mm channel spacing |                      |
|------------------------------------------|----------------|-------------------------------------------------|----------------------|-----------------------|----------------------|
|                                          |                | SGT                                             | SGR                  | SGT                   | SGR                  |
| Light source                             |                | Infrared (940 nm)                               | –                    | Infrared (940 nm)     | –                    |
| Number of channels (diodes per detector) |                | 16, 24, 32, 48, 56 or 64                        |                      | 16, 24 or 32          |                      |
| Number of parallel beams                 |                | 16, 24, 32, 48, 56 or 64                        |                      | 16, 24 or 32          |                      |
| Active height                            |                | 425, 650, 875, 1100, 1320, 1545 or 1770 mm      |                      | 845, 1295 or 1740 mm  |                      |
| Channel spacing                          |                | 28 mm                                           |                      | 56 mm                 |                      |
| Bottom spacing to Ch 1                   |                | 22 mm                                           |                      |                       |                      |
| Power on indicator                       |                | Red LED                                         |                      |                       |                      |
| Housing dimensions (w x d)               | Slim Line A    | 10 x 28 mm                                      |                      |                       |                      |
|                                          | Leading Edge B | 37,5 x 13 mm                                    |                      |                       |                      |
| Housing material                         | Profile        | Aluminium (black anodised)                      |                      |                       |                      |
|                                          | Lens cover     | Acrylic (A housing) / Polycarbonate (B housing) |                      |                       |                      |
| Connection                               |                | 5 pin, 240° DIN plug                            | 5 pin, 180° DIN plug | 5 pin, 240° DIN plug  | 5 pin, 180° DIN plug |
| Cable, PUR Ø 5,2 mm                      |                | 5 x 0,14 mm²                                    |                      |                       |                      |

**Environmental Data**

|                                |  | SGT           | SGR        |
|--------------------------------|--|---------------|------------|
| Light immunity @ 20° incidence |  | –             | 10 000 lux |
| Temperature, operation         |  | –20 to +55 °C |            |
| Temperature, storage           |  | –40 to +80 °C |            |
| Sealing class A / B housing    |  | IP 54         |            |
| Approvals                      |  | CE            |            |

## Available Types

## Slim Line A

| Transmitter | Housing Length | Active Height | Connection  |                     | 4 m flexible cable    | 0.5 m flexible cable  | Range |
|-------------|----------------|---------------|-------------|---------------------|-----------------------|-----------------------|-------|
|             |                |               | No of Beams | Beam Spacing        | Order Reference       |                       |       |
|             | 570 mm         | 425 mm        | 16          | 28 mm               | SGT 057-016-A1-A-4F   | SGT 057-016-A1-A-0.5F | 5 m   |
|             | 795 mm         | 650 mm        | 24          |                     | SGT 080-024-A1-A-4F   | SGT 080-024-A1-A-0.5F |       |
|             | 1020 mm        | 845 mm        | 16          | 56 mm               | SGT 102-016-B1-A-4F   | SGT 102-016-B1-A-0.5F |       |
|             |                | 875 mm        | 32          |                     | 28 mm                 | SGT 102-032-A1-A-4F   |       |
|             | 1245 mm        | 1100 mm       | 40          | SGT 125-040-A1-A-4F |                       | SGT 125-040-A1-A-0.5F |       |
|             | 1470 mm        | 1295 mm       | 24          | 56 mm               | SGT 147-024-B1-A-4F   | SGT 147-024-B1-A-0.5F |       |
|             |                | 1320 mm       | 48          | 28 mm               | SGT 147-048-A1-A-4F   | SGT 147-048-A1-A-0.5F |       |
|             | 1695 mm        | 1545 mm       | 56          |                     | SGT 170-056-A1-A-4F   | SGT 170-056-A1-A-0.5F |       |
| 1995 mm     | 1740 mm        | 32            | 56 mm       | SGT 200-032-B1-A-4F | SGT 200-032-B1-A-0.5F |                       |       |
|             | 1770 mm        | 64            | 28 mm       | SGT 200-064-A1-A-4F | SGT 200-064-A1-A-0.5F |                       |       |
| 2105 mm     | 1740 mm        | 32            | 56 mm       | SGT 210-032-B1-A-4F | SGT 210-032-B1-A-0.5F |                       |       |
|             | 1770 mm        | 64            | 28 mm       | SGT 210-064-A1-A-4F | SGT 210-064-A1-A-0.5F |                       |       |

|          |         |         |    |       |                     |                       |     |
|----------|---------|---------|----|-------|---------------------|-----------------------|-----|
| Receiver | 570 mm  | 425 mm  | 16 | 28 mm | SGR 057-016-A1-A-4F | SGR 057-016-A1-A-0.5F | 5 m |
|          | 795 mm  | 650 mm  | 24 |       | SGR 080-024-A1-A-4F | SGR 080-024-A1-A-0.5F |     |
|          | 1020 mm | 845 mm  | 16 | 56 mm | SGR 102-016-B1-A-4F | SGR 102-016-B1-A-0.5F |     |
|          |         | 875 mm  | 32 |       | SGR 102-032-A1-A-4F | SGR 102-032-A1-A-0.5F |     |
|          | 1245 mm | 1100 mm | 40 | 28 mm | SGR 125-040-A1-A-4F | SGR 125-040-A1-A-0.5F |     |
|          | 1470 mm | 1295 mm | 24 |       | SGR 147-024-B1-A-4F | SGR 147-024-B1-A-0.5F |     |
|          |         | 1320 mm | 48 | 28 mm | SGR 147-048-A1-A-4F | SGR 147-048-A1-A-0.5F |     |
|          | 1695 mm | 1545 mm | 56 |       | SGR 170-056-A1-A-4F | SGR 170-056-A1-A-0.5F |     |
|          | 1995 mm | 1740 mm | 32 | 56 mm | SGR 200-032-B1-A-4F | SGR 200-032-B1-A-0.5F |     |
|          |         | 1770 mm | 64 | 28 mm | SGR 200-064-A1-A-4F | SGR 200-064-A1-A-0.5F |     |
|          | 2105 mm | 1740 mm | 32 | 56 mm | SGR 210-032-B1-A-4F | SGR 210-032-B1-A-0.5F |     |
|          |         | 1770 mm | 64 | 28 mm | SGR 210-064-A1-A-4F | SGR 210-064-A1-A-0.5F |     |

## Leading Edge B

|             |         |         |    |       |                     |                       |       |
|-------------|---------|---------|----|-------|---------------------|-----------------------|-------|
| Transmitter | 570 mm  | 425 mm  | 16 | 28 mm | SGT 057-016-A1-B-4F | SGT 057-016-A1-B-0.5F | 3,5 m |
|             | 795 mm  | 650 mm  | 24 |       | SGT 080-024-A1-B-4F | SGT 080-024-A1-B-0.5F |       |
|             | 1020 mm | 845 mm  | 16 | 56 mm | SGT 102-016-B1-B-4F | SGT 102-016-B1-B-0.5F |       |
|             |         | 875 mm  | 32 |       | SGT 102-032-A1-B-4F | SGT 102-032-A1-B-0.5F |       |
|             | 1245 mm | 1100 mm | 40 | 28 mm | SGT 125-040-A1-B-4F | SGT 125-040-A1-B-0.5F |       |
|             | 1470 mm | 1295 mm | 24 |       | SGT 147-024-B1-B-4F | SGT 147-024-B1-B-0.5F |       |
|             |         | 1320 mm | 48 | 28 mm | SGT 147-048-A1-B-4F | SGT 147-048-A1-B-0.5F |       |
|             | 1695 mm | 1545 mm | 56 |       | SGT 170-056-A1-B-4F | SGT 170-056-A1-B-0.5F |       |
|             | 1995 mm | 1740 mm | 32 | 56 mm | SGT 200-032-B1-B-4F | SGT 200-032-B1-B-0.5F |       |
|             |         | 1770 mm | 64 | 28 mm | SGT 200-064-A1-B-4F | SGT 200-064-A1-B-0.5F |       |
|             | 2105 mm | 1740 mm | 32 | 56 mm | SGT 210-032-B1-B-4F | SGT 210-032-B1-B-0.5F |       |
|             |         | 1770 mm | 64 | 28 mm | SGT 210-064-A1-B-4F | SGT 210-064-A1-B-0.5F |       |

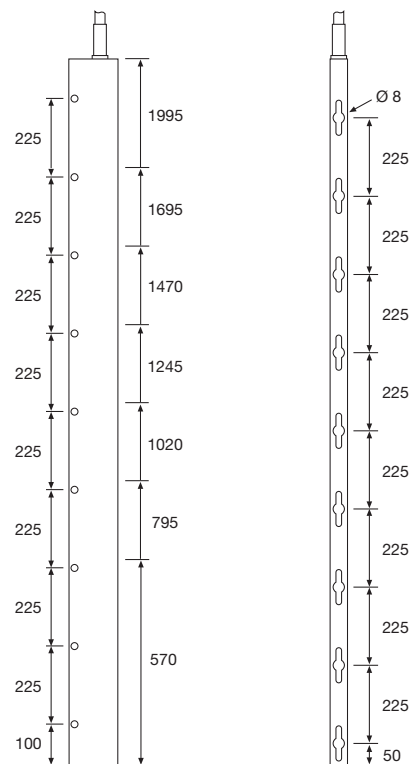
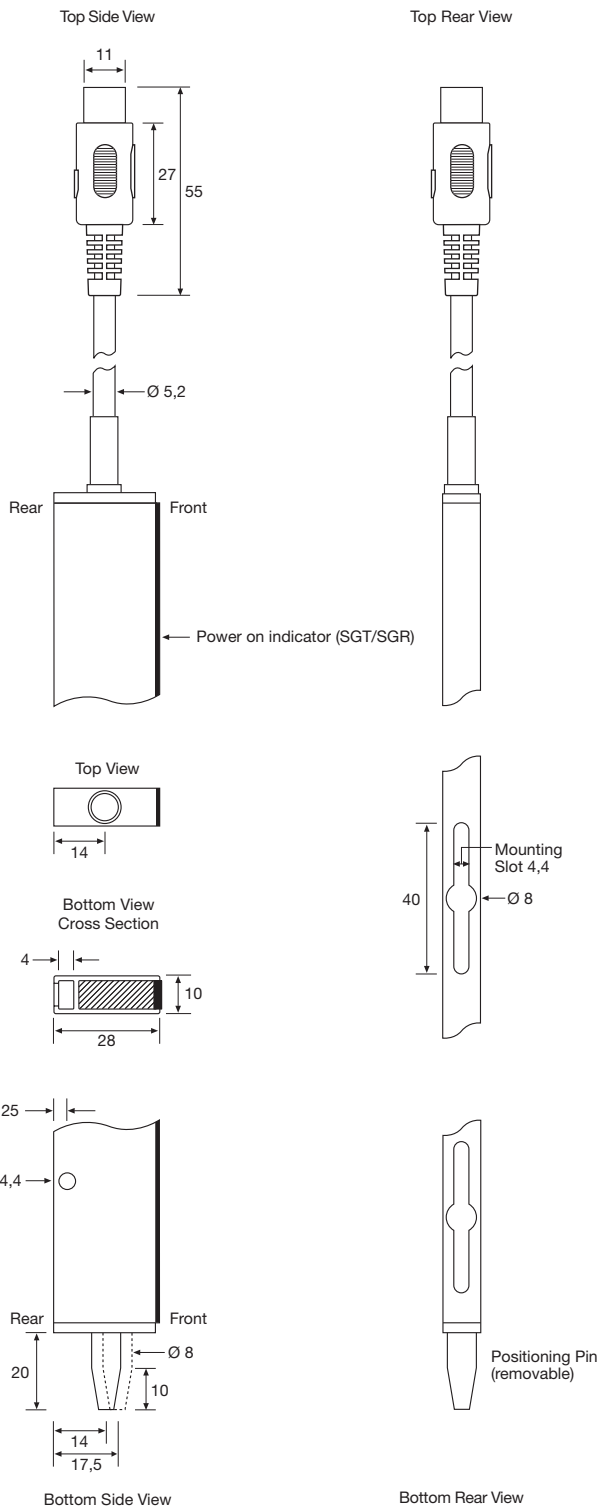
|          |         |         |    |       |                     |                       |       |
|----------|---------|---------|----|-------|---------------------|-----------------------|-------|
| Receiver | 570 mm  | 425 mm  | 16 | 28 mm | SGR 057-016-A1-B-4F | SGR 057-016-A1-B-0.5F | 3,5 m |
|          | 795 mm  | 650 mm  | 24 |       | SGR 080-024-A1-B-4F | SGR 080-024-A1-B-0.5F |       |
|          | 1020 mm | 845 mm  | 16 | 56 mm | SGR 102-016-B1-B-4F | SGR 102-016-B1-B-0.5F |       |
|          |         | 875 mm  | 32 |       | SGR 102-032-A1-B-4F | SGR 102-032-A1-B-0.5F |       |
|          | 1245 mm | 1100 mm | 40 | 28 mm | SGR 125-040-A1-B-4F | SGR 125-040-A1-B-0.5F |       |
|          | 1470 mm | 1295 mm | 24 |       | SGR 147-024-B1-B-4F | SGR 147-024-B1-B-0.5F |       |
|          |         | 1320 mm | 48 | 28 mm | SGR 147-048-A1-B-4F | SGR 147-048-A1-B-0.5F |       |
|          | 1695 mm | 1545 mm | 56 |       | SGR 170-056-A1-B-4F | SGR 170-056-A1-B-0.5F |       |
|          | 1995 mm | 1740 mm | 32 | 56 mm | SGR 200-032-B1-B-4F | SGR 200-032-B1-B-0.5F |       |
|          |         | 1770 mm | 64 | 28 mm | SGR 200-064-A1-B-4F | SGR 200-064-A1-B-0.5F |       |
|          | 2105 mm | 1740 mm | 32 | 56 mm | SGR 210-032-B1-B-4F | SGR 210-032-B1-B-0.5F |       |
|          |         | 1770 mm | 64 | 28 mm | SGR 210-064-A1-B-4F | SGR 210-064-A1-B-0.5F |       |

- Note: 1. The transmitter SGT and the receiver SGR set must always have the same number of light beams and the same beam spacing.  
 2. Special lengths are available upon request.  
 3. Special epoxy moulding for IP 65 rating, in Slim Line A-profile, is available upon request.

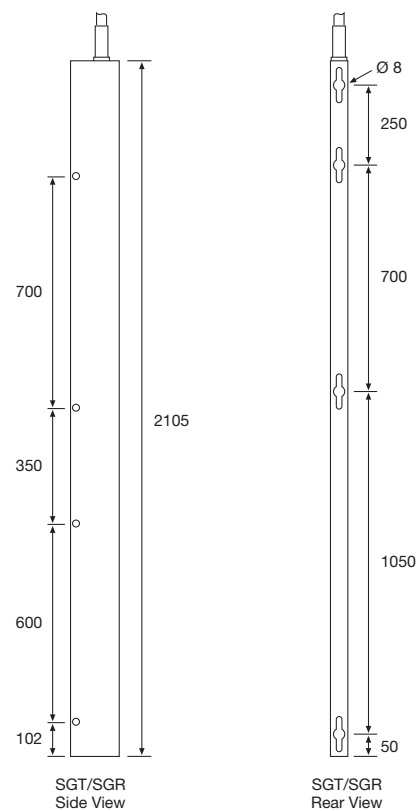
## Dimensions and Descriptions

## Slim Line A

## Details



## SGT/SGR 057 to 200



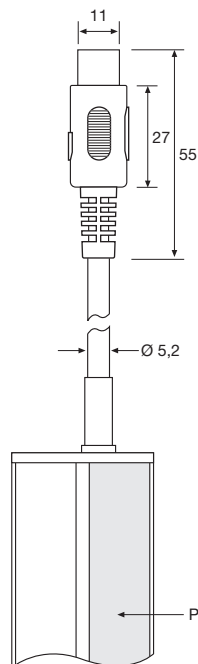
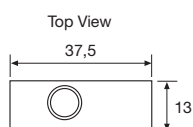
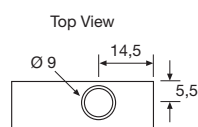
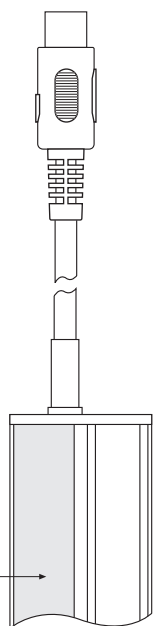
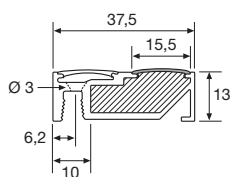
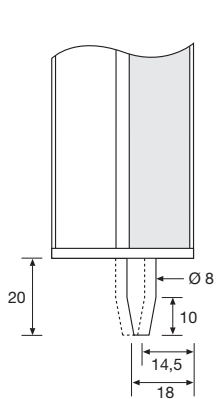
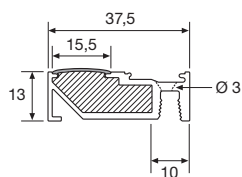
## SGT/SGR 210

(Units in mm)

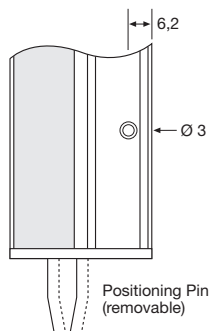
## Dimensions and Descriptions

## Leading Edge B

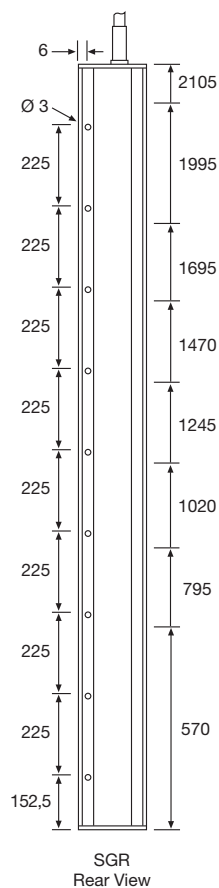
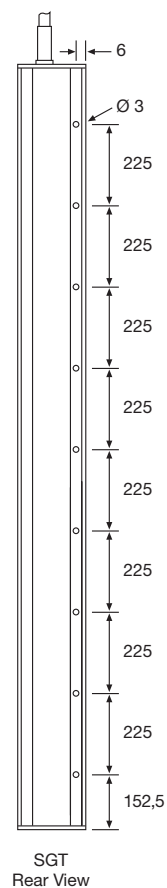
## Details

SGT  
Top Front View  
(shown with screw cover strip)SGR  
Top Front View  
(shown without screw cover strip)Bottom View  
Cross SectionBottom View  
Cross Section

Bottom Front View



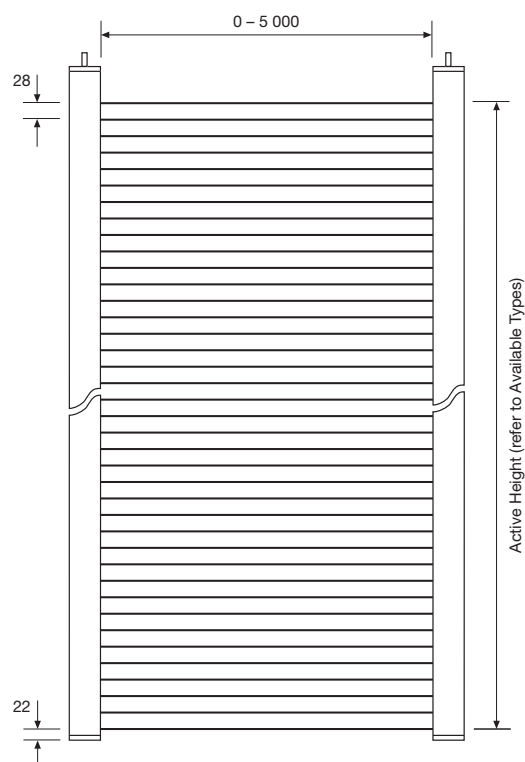
Bottom Front View

SGR  
Rear ViewSGT  
Rear View

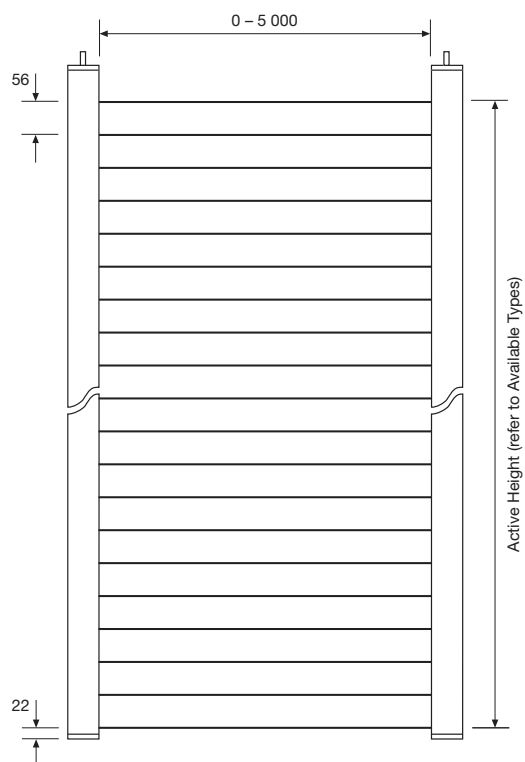
SGT/SGR 057 to 210

(Units in mm)

## Beam Patterns



28 mm channel spacing

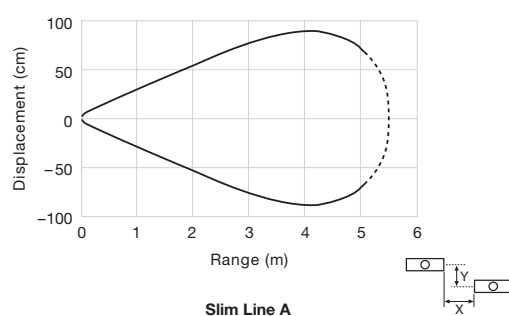


56 mm channel spacing

(Units in mm)

## Sensing Characteristics

## Parallel Displacement



## Extension Cables

| Dimension Drawing<br>(Units in mm) | Cable Type | Installation       | Sealing Class | Length | Connector | Transmitter          | Receiver             |
|------------------------------------|------------|--------------------|---------------|--------|-----------|----------------------|----------------------|
|                                    |            |                    |               |        |           | 5 pin, 240° DIN plug | 5 pin, 180° DIN plug |
| <p>Male Female</p>                 | Flexible   | Dynamic and Static | IP 67         | 4 m    | PUR       | <b>CBG 5 S 4</b>     | <b>CBH 5 S 4</b>     |
|                                    |            |                    |               |        |           | Order Reference      |                      |

Telco reserves the right to change specifications without notice.

**Description**

- 0-5 m sensing range
- 230 V ac, 115 V ac or 24 V ac – all with 24 V dc supply voltage
- Manual and automatic sensitivity adjustment
- Automatic detector test
- 1 relay and/or 1 transistor output
- Switch selectable light or dark function
- Switch selectable long or short range
- Switch selectable buzzer
- Selectable time-out function
- Power, output, alarm, time-out and detector failure indicators
- Alarm and time-out output
- Plug connection to SG 11 light curtains



The SGC 11 is to be used in conjunction with a set of light curtain transmitter SGT and receiver SGR, from the SG 11 series.

The series offers automatic and manual sensitivity adjustment via an integral potentiometer. Output can be selected from either a relay or NPN transistor output. Light or dark function and long or short range is switch selectable. The time-out function is switch selectable for 4 to 32 channels, which allows the selected number of channels to be automatically ignored if permanently obstructed for a pre-set period of time, switch selectable from 0.3 to 10 minutes.

The microprocessor controlled detector test ensures that the system will

automatically detect and indicate a faulty transmitter or receiver detector, cable break or electrical failure – during operation. The output relay will revert to safe position and the failure will be indicated by the detector failure indicators or alarm indicator. The controller is available with a time-out and alarm NPN transistor output.

The time-out output is activated when one or more channels are timed out, and the alarm output is activated when more than 75% of the channels are timed-out or when the controller detects a system fault.

The controller features a buzzer, which may be activated to indicate a signal output and/or an alarm.

**Technical Data**

|                                   |                |                                                  |
|-----------------------------------|----------------|--------------------------------------------------|
| Supply voltage                    | ac             | 24 V ac, 115 V ac or 230 V ac                    |
|                                   | dc             | 24 V dc                                          |
| Voltage tolerance                 | ac             | -12 % / +6 %                                     |
|                                   | dc             | +/- 15 %                                         |
| Current consumption               |                | Max. 15 VA                                       |
| Output                            | Relay          | 1 open / 1 close, 250 V ac / 3 A, 120 V ac / 5 A |
|                                   | Transistor NPN | Max 24 V dc / 100 mA                             |
| Power on indicator                |                | Green LED                                        |
| Output indicator                  |                | Yellow LED                                       |
| Alarm indicator                   |                | Red LED                                          |
| Time-out indicator                |                | Red LED                                          |
| SGR receiver failure indicator    |                | Red LED                                          |
| SGT transmitter failure indicator |                | Red LED                                          |
| Time-out function                 |                | 4 to 32 channels, selectable                     |
| Max. response time                | Relay          | (Number of channels x 2 ms) + 10 ms              |
|                                   | Transistor NPN | (Number of channels x 2 ms) + 2 ms               |
| Housing material                  |                | Polycarbonate                                    |

**Environmental Data**

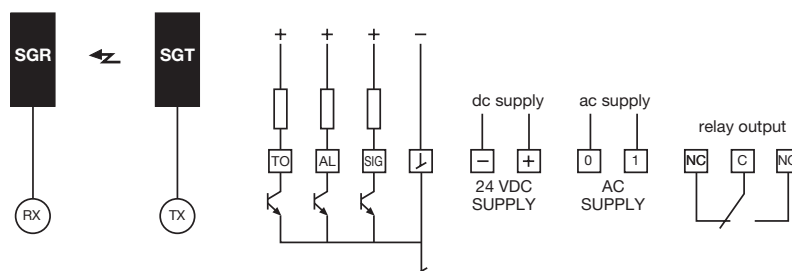
|                        |                                                                                          |
|------------------------|------------------------------------------------------------------------------------------|
| Vibration              | 10-55 Hz, 1,5 mm                                                                         |
| Shock                  | 30 g                                                                                     |
| Temperature, operation | -10 to +40 °C                                                                            |
| Temperature, storage   | -40 to +80 °C                                                                            |
| Sealing class          | IP 20                                                                                    |
| Approvals              | CE  |

## Available Types

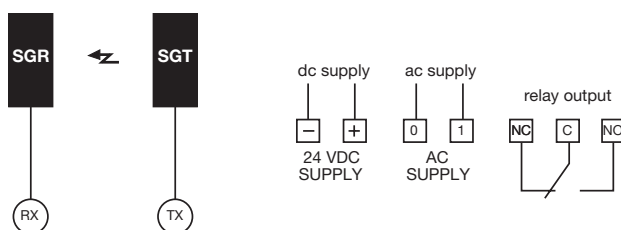
| Model    | Connection                     | Output        | Supply Voltage             | 24 V ac / 24 V dc | 115 V ac / 24 V dc | 230 V ac / 24 V dc |
|----------|--------------------------------|---------------|----------------------------|-------------------|--------------------|--------------------|
|          |                                |               | Feature                    | Order Reference   |                    |                    |
| SGC 11 A | Spring-clamp and DIN terminals | Relay and NPN | Alarm and time out outputs | SGC 11 A 302      | SGC 11 A 301       | SGC 11 A 300       |
|          |                                | Relay         | –                          | SGC 11 A 502      | SGC 11 A 501       | SGC 11 A 500       |

Note: Light curtain units to be ordered separately.

## Wiring Diagrams

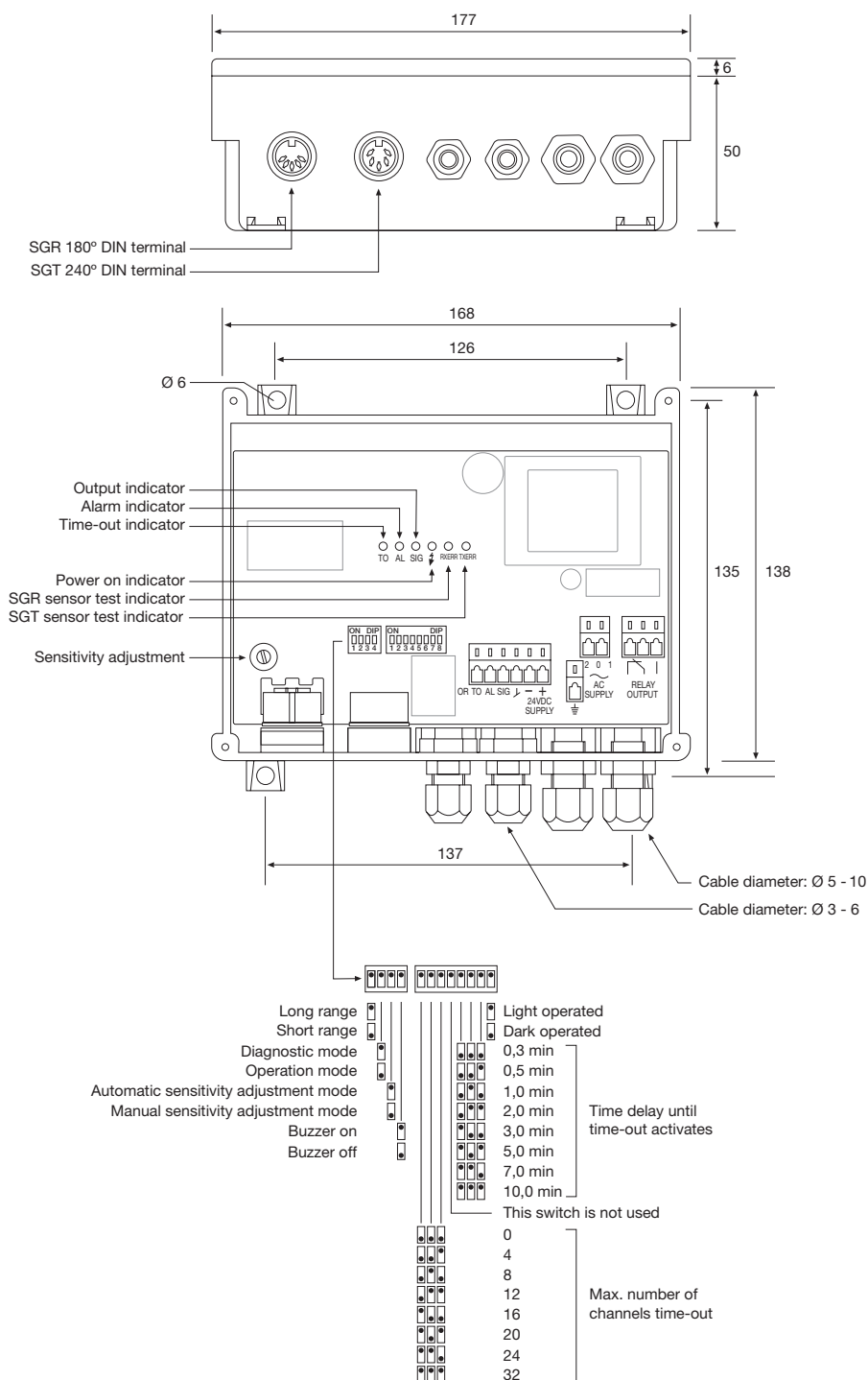


SGC 11 A 30x (Relay and NPN output)



SGC 11 A 50x (Relay output)

## Dimensions and Descriptions



(Units in mm)

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