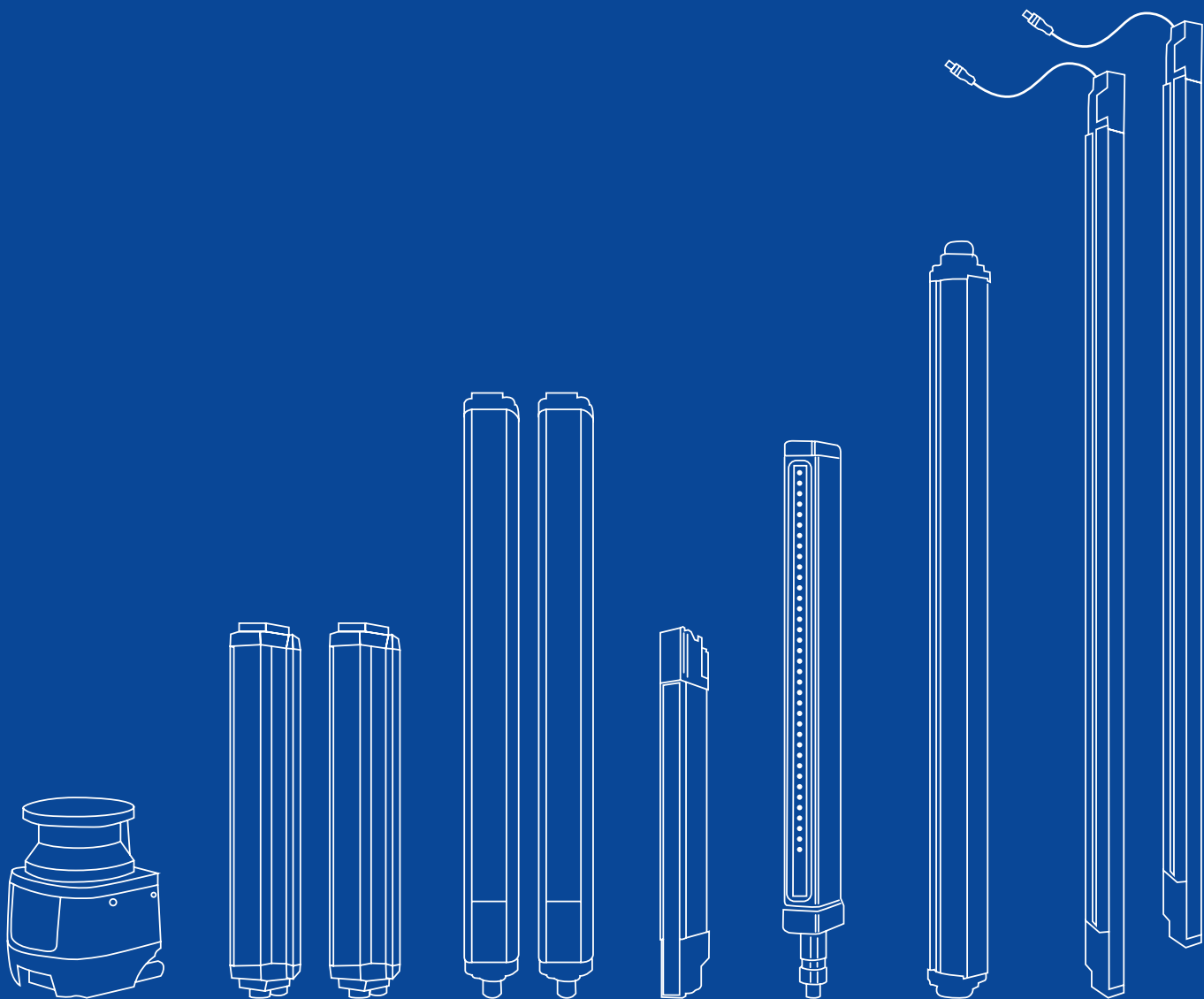


CATALOG

Safety



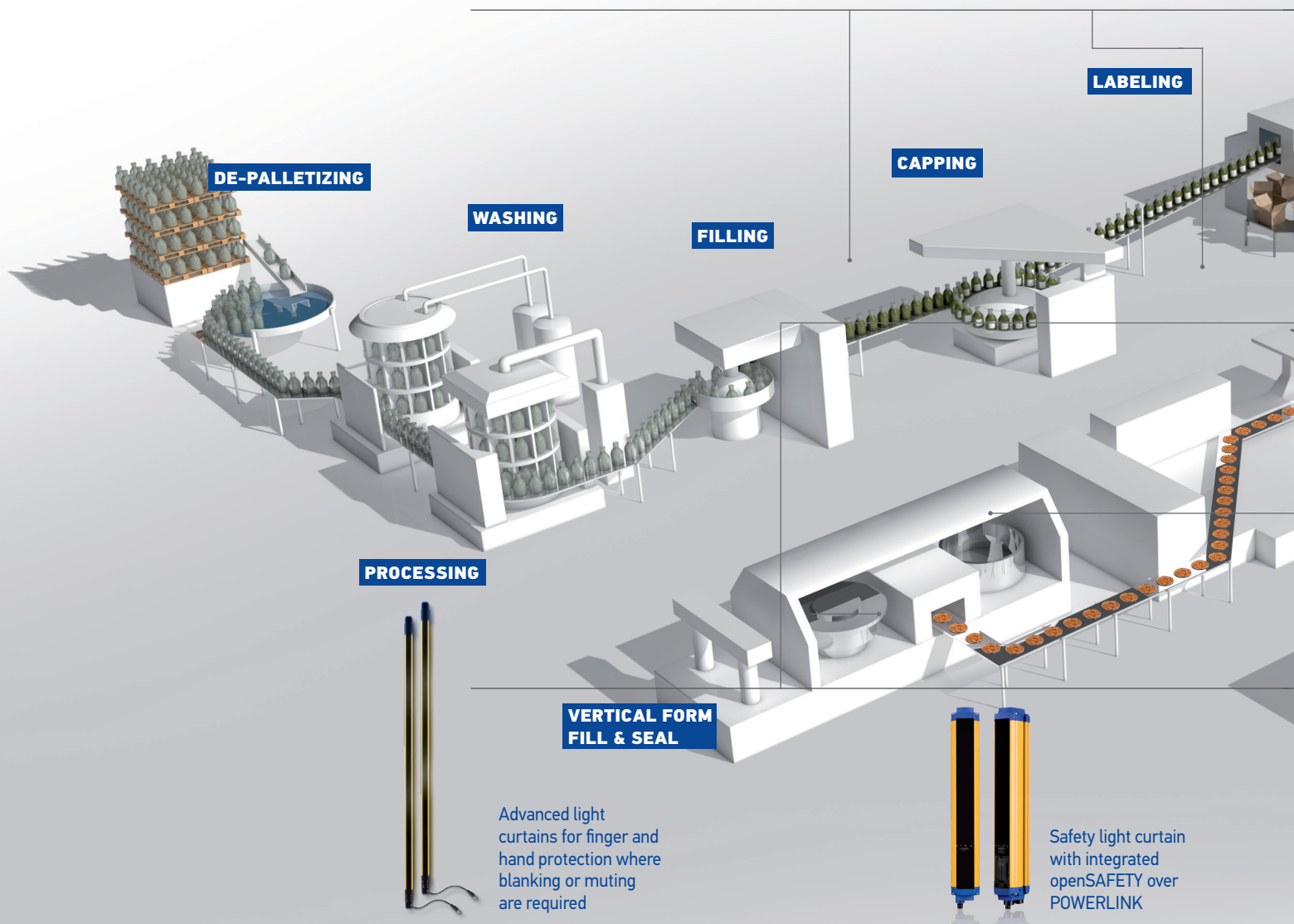
SAFETY



High performance
protection tube for
harsh environments



Interfaces
between light
curtains and
safety system



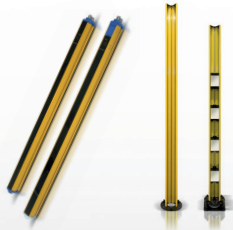
Applications

- De-Palletizing
- Washing
- Filling
- Capping
- Labeling
- Case Packing
- Stretch-wrapping
- Palletizing
- Storage & Retrieval
- Cartoning
- Wrapping
- Vertical Form Fill & Seal
- Processing

Datalogic has more than 40 years of experience in the sensors and safety sector, developing their first product, a **Photoelectric Sensor**, in 1972. Today, Datalogic is one of the largest manufacturers of sensor and safety products worldwide.

Datalogic is the market leader in Italy for photoelectric sensors and safety light curtains, ranking among the **top-10 manufacturers** in Europe by market share.

Datalogic's **Sensors and Safety** portfolio solves customer applications in **Factory Automation**, specializing in Processing and Packaging machinery, and Automated Material Handling Systems related to manufacturing industries such as Automotive, Electronics, Pharmaceutical, Food & Beverage, Paper and Printing, Wood-working, Ceramics, Glass, and Textiles.



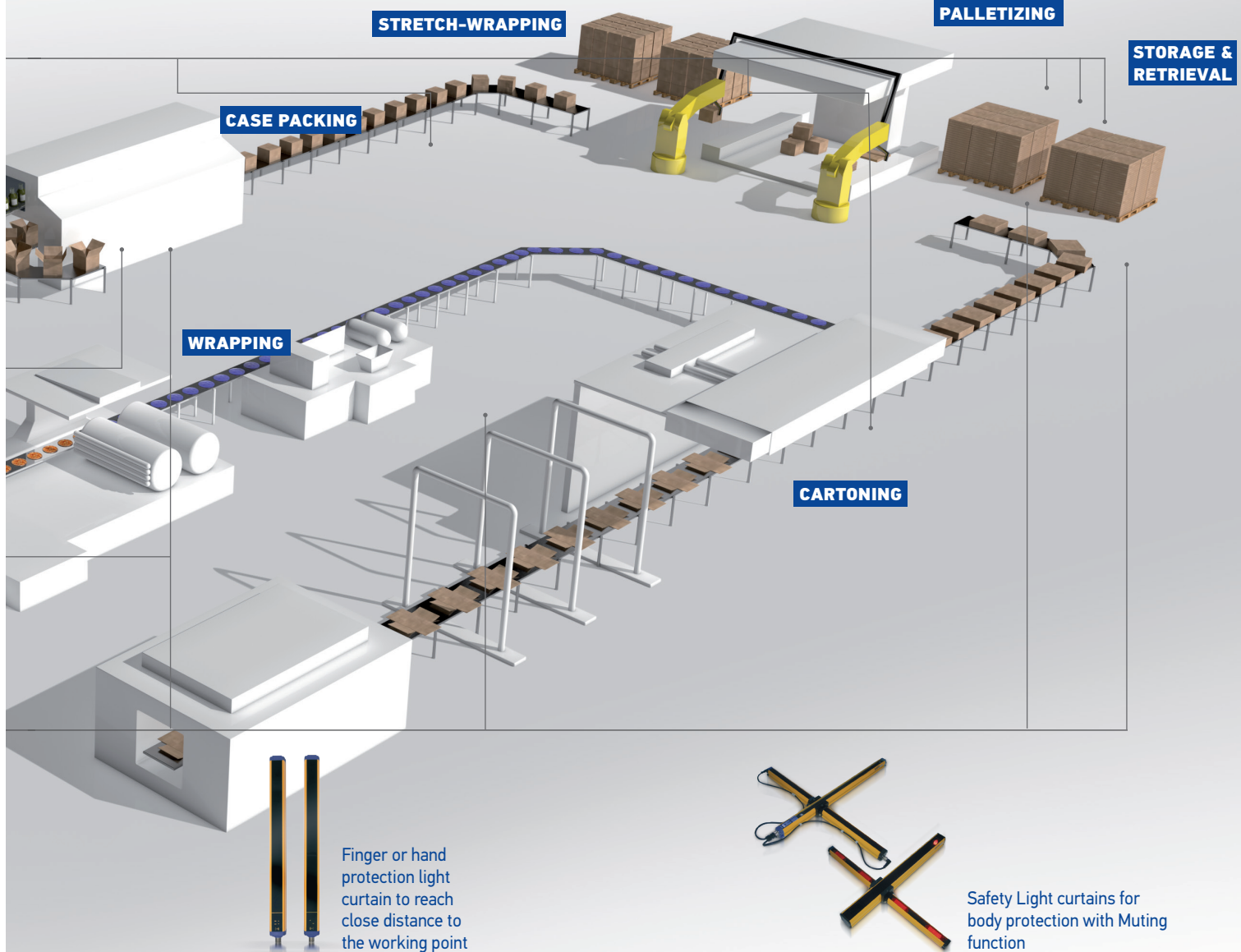
Long distance
light curtains,
stands and
mirrors for
perimetral
protection



Operator interfaces to
control light curtains
and indicate muting
status



Safety laser
scanner
for area protection



SAFETY PRODUCT RANGE

SAFETY PRODUCT RANGE

| | | | | | | | | | |
|--------------------------------------------|------------------------------------|--------------------------|--------------------|---------------------|----------|------------|-------------|-----------------------|----------------------|
| Safety Light Curtains Type 2 and Type 4 | HIGH / LOW RESOLUTION | | | | | | | other safety products | Controller |
| | FINGER PROTECTION | HAND PROTECTION | BODY PROTECTION | PRESENCE CONTROL | | | | | Light beam Module |
| | BASE / EXTENDED FUNCTIONALITIES | | | | | | | | Relay unit |
| | AUTO / MAN RESTART | EXT DEVICE MONITORING | MUTING | OVERRIDE | BLANKING | CASCADABLE | Accessories | | |
| Safety Laser Scanner | STAND ALONE | | | | | | | | |
| | MASTER/SLAVE | | | | | | | | |

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SELECTION GUIDE

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| · Detection capability (or resolution) | |
| · Detection zone | |
| · Retroreflective light curtains | |
| · Cascading | |
| · Response time | |
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Information in this publication is provided to guide customers in the choice of products in DATALOGIC portfolio. It has to be considered indicative and concise. For the correct use of safety components described, please always refer to additional information you can find on products datasheets and manuals, as well as to the legislation in force at the moment and in the country of their use.

You can find more detailed informations (manuals and datasheets) about products described in this reference guide on the DATALOGIC website (www.datalogic.com).



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- Stands
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ACCESSORIES FOR MUTING 98

- Muting arms, brackets, cables
- Muting lamps



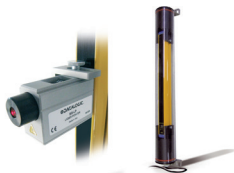
SG-M 102

- SG-M muting kit, SG-M connection box
- SG-M-ARM, SG-M bracket



SAFETY UNITS AND INTERFACES 110

- Connection boxes



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SAFETY LIGHT CURTAINS SELECTION GUIDE

The selection of safety sensors for use in machinery is part of the overall risk reduction process, which starts with the analysis and evaluation of all possible risks the machine presents and ends with the validation and testing of the safety system. The sensors chosen should fulfill any safety requirements specific to the machine they will be mounted on. If there are no machine-specific requirements, the safety system should be designed to comply with all general safety and health standards. The overall system design dictates the parameters the safety sensors must meet. The following list of parameters and functions related to safety sensors can serve as a checklist to help in the selection process.

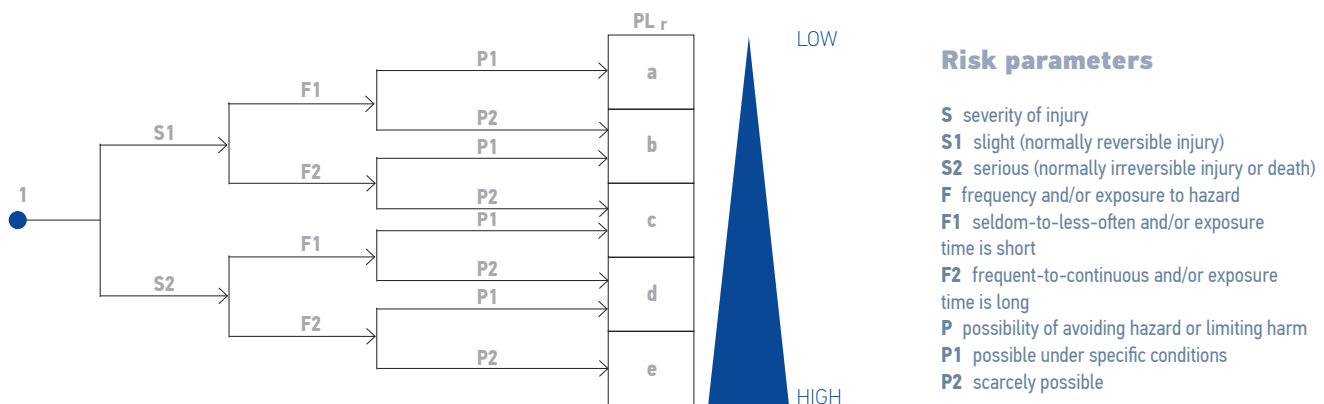
| N. | DEFINITION | VALUES | | | | | |
|----|----------------------------------|------------------------|-------|-------------------|-------------------|--------------------|---|
| 1 | Performance level required | a | b | | c | d | e |
| 2 | Type | 2 | | | 4 | | |
| 3 | DETECTION CAPABILITY | | | | | | |
| | Finger protection | 14 mm | | | | | |
| | Hand protection | 14 mm | 24 mm | 30 mm | 34 mm | | |
| | Arm protection/Presence | | | | 50 mm | 90 mm | |
| | Body protection | 2 beams 500 mm | | 3 beams 800 mm | 4 beams 900 mm | 4 beams 1200 mm | |
| 4 | DETECTION ZONE | | | | | | |
| | Height | from 150 mm to 1800 mm | | | | | |
| | Operating range | from 0.2 m to 60 m | | | | | |
| | Zero dead zone | yes | | | | no | |
| 5 | Retroreflective light curtains | yes | | | | no | |
| 6 | Cascading | yes | | | | no | |
| 7 | Response time | from 7 ms to 33 ms | | | | | |
| 8 | Manual or automatic restart | Manual | | | | Automatic | |
| 9 | External Device Monitoring (EDM) | yes | | | | no | |
| 10 | MUTING | | | | | | |
| | Type of muting | T | | | | L | |
| | Integrated muting lamp | yes | | | | no | |
| | Partial muting | yes | | | | no | |
| 11 | Override | yes | | | | no | |
| 12 | BLANKING | | | | | | |
| | Fixed Blanking | yes | | | | no | |
| | Floating Blanking | yes | | | | no | |
| | Reduced resolution | yes | | | | no | |
| 13 | Software configuration | yes | | | | no | |

1. Performance level (pl) and required performance level (plr)

Performance level is one of five discrete levels (a, b, c, d, e) that specify the ability of the safety-related part of a control system to perform a specific safety function. The performance level depends on the system design, the reliability of components used, the diagnostic coverage of dangerous faults, and on the ability of the safety parts to avoid common cause and systematic faults.

The minimum required Performance Level (PLr) to reduce a risk is determined by following the diagram in fig. 1, which takes into account three factors: the severity of injury, the frequency of exposure to hazard, and the possibility to avoid the hazard. Performance level and its calculation methods are described in EN ISO 13849-1.

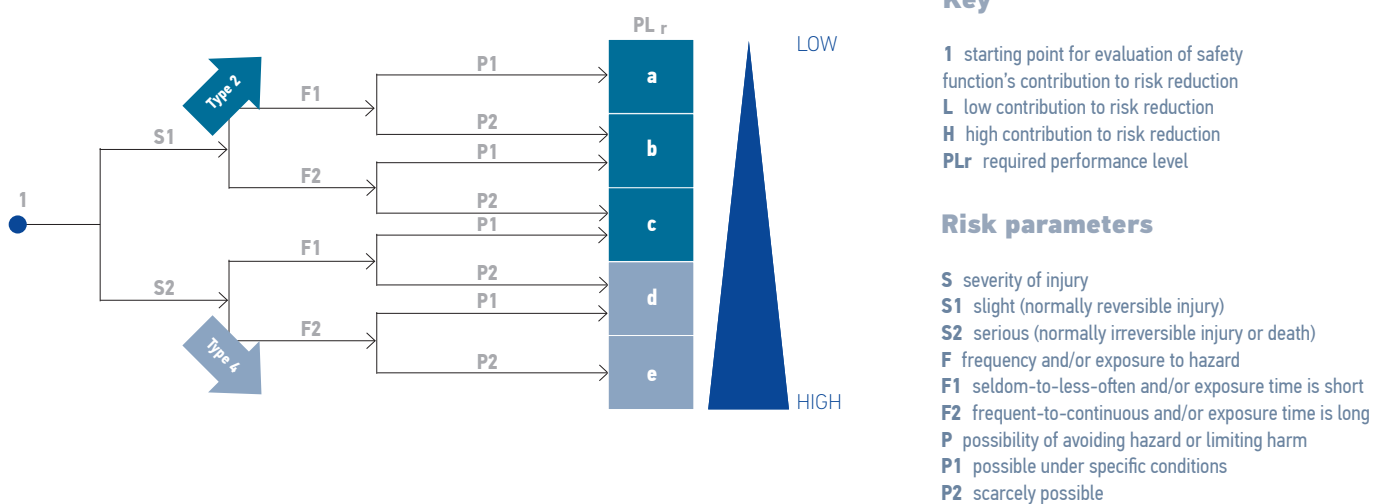
Fig. 1 Required Performance Level



2. Type

Safety sensors whose function is to detect the interruption of beams by an object are called Active Optoelectronic Protective Devices (AOPD). AOPDs are classified in two Types (Type 2 and Type 4) depending on their design and optical performance. The optical performance is dependent on the maximum limit of the effective aperture angle (EAA), that is $\pm 5^\circ$ for Type 2, and $\pm 2.5^\circ$ for Type 4. A lower EAA results in a more focused beam. Type and Performance Level are directly correlated. The maximum PL that can be reached for a safety function that includes the use of a Type 2 AOPD is PL c, while for a Type 4 AOPD, the maximum is PL e. Based on these considerations, to reduce the highest risks on machines, Type 4 AOPDs should be used (see Fig. 2). Active optoelectronic protective devices and corresponding Types are described in IEC 61496-1 and IEC 61496-2.

Fig. 2 AOPD Type and Performance Level



3. Detection Capability (or Resolution)

The detection capability of a light curtain is the diameter of the smaller object that will activate the device when it's placed in any point of the detection zone.

The value of the detection capability, together with response time, is crucial to calculating the minimum safety distance required between the light curtain and the dangerous zone.

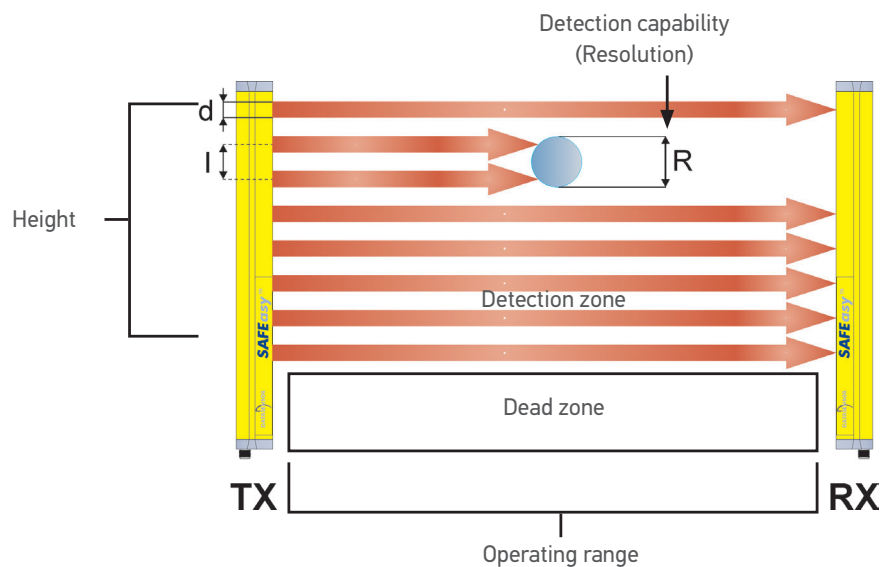
For single light beam sensors and for multiple light beams sensors (2, 3 or 4 beams), in place of detection capability, it's common to use the number of light beams. In this case, their purpose is to provide "body protection", detecting the passage of the entire body of a person.

For an introduction to the minimum safety distance calculation rules (described in EN 13855) see page 94 and the light curtain's technical documentation.

4. Detection zone

The detection zone is the area where any object whose dimensions are at least equal to the detection capability activates the light curtain. It is defined by its height and by the distance between the emitter and the receiver element ("operating range").

Fig. 3 Detection Zone



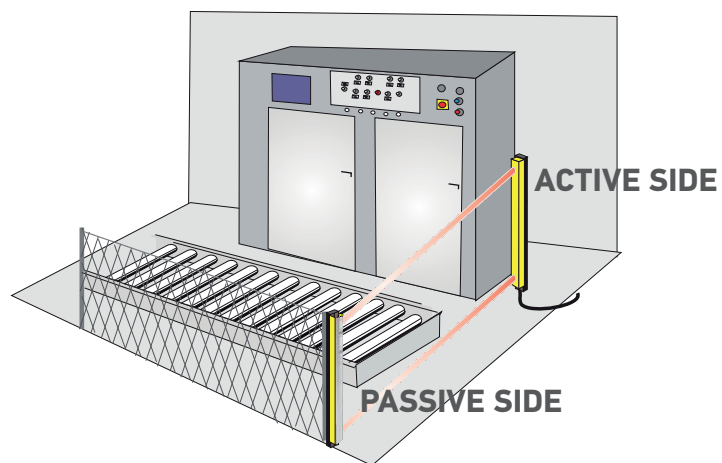
If the light curtain is retroreflective, the operating range is the distance between the active and the passive element.

Light curtains can have a "dead zone", in which they are not able to detect the object due to the absence of beams. When it is required that the dimension of the light curtain corresponds exactly to the height of its detection zone, the light curtain is said to have zero dead zone.

5. Retroreflective light curtains

2, 3 and 4 beams light curtains can be manufactured with all emitters and receivers on one side, and passive elements (mirrors) on the other side. The advantage of using a retroreflective light curtain is that only one side needs to be powered on.

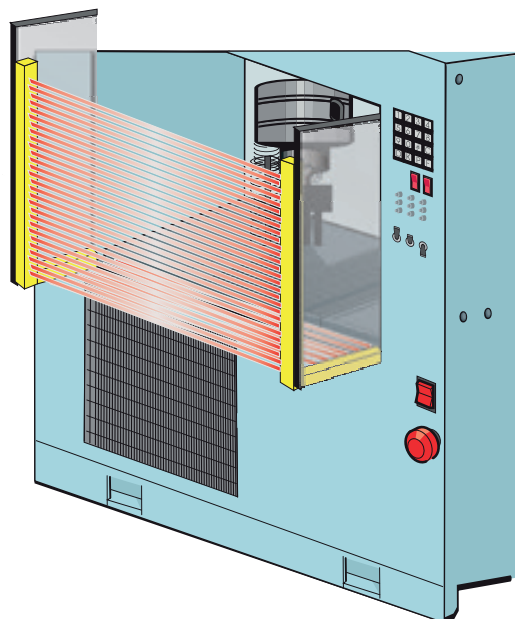
Fig. 4 Retroreflective Light Curtain



6. Cascading

Cascading is when two or more light curtains are connected to each other, resulting in one system that functions as a single light curtain. Advantages of cascading are: better monitoring of dangerous areas with presence detection beyond the vertical detection zone and space and cost savings by using a single safety unit.

Fig. 5 Cascading



7. Response time

The response time is the maximum time occurring between the detection of the test object in the detection zone and the activation of the light curtain's outputs.

It is a safety relevant parameter, and its value must be taken in account when calculating the position in which the safety sensor will be placed in relation to the dangerous area.

8. Manual or automatic restart

Depending on the initial risk analysis of the machine, a start or restart interlock can be a safety requirement of the control system. It prevents an automatic restart of the machine during a dangerous part of the operating cycle after activation of the sensing device, or when the electrical supply of the sensor is switched on or restored after interruption.

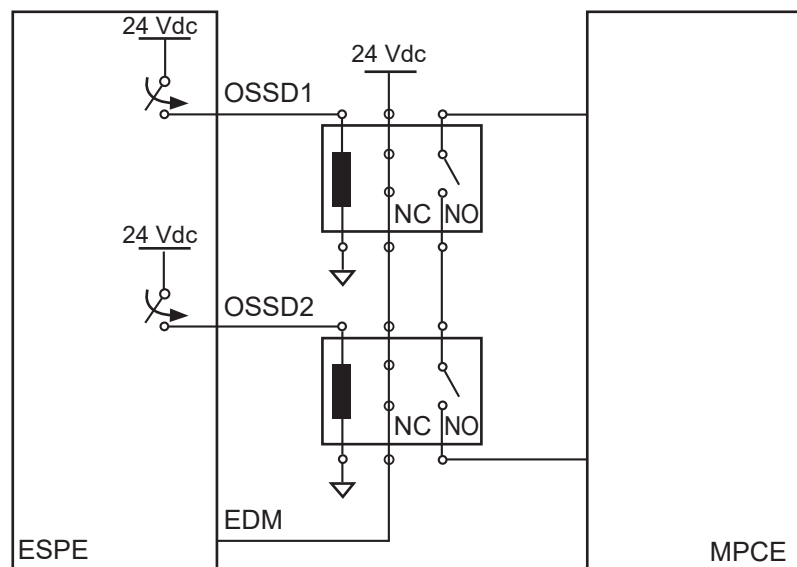
This interlock can be implemented by a manual restart of the safety controller or by the light curtain itself.

9. External Device Monitoring (EDM)

EDM is a function that allows the electro-sensitive protective equipment (ESPE) to monitor the state of control devices (i.e. contactors, actuators) that are driven by its outputs.

This function can be achieved by the safety controller or directly by the light curtain.

Fig. 6 External Device Monitoring wiring diagram



10. Muting

Muting is the temporary automatic suspension of a safety function. When a light curtain is muted, its outputs will remain ON even if an object is detected in the detection zone.

Because muting suspends a safety function, it must be implemented with all necessary precautions and in compliance with the machine-specific safety requirements.

T muting is a specific kind of muting that can be used to allow the passage of material through an opening in direction of the dangerous area or in both directions. L muting can be used only if material exits the dangerous area.

Fig. 7 Safety Light Curtain with Integrated L muting actuator

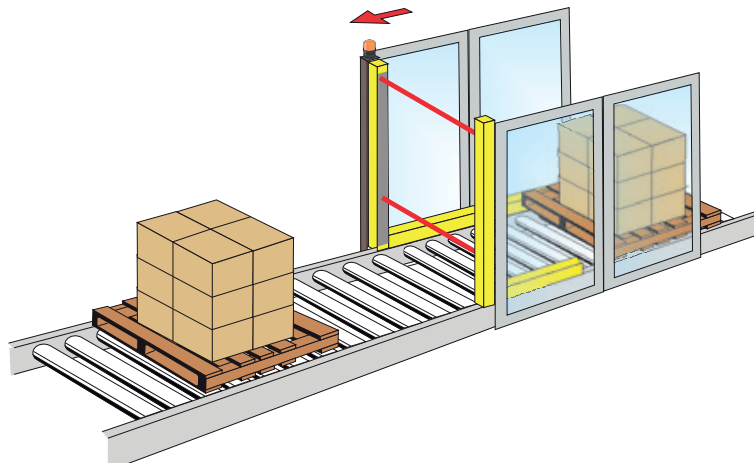
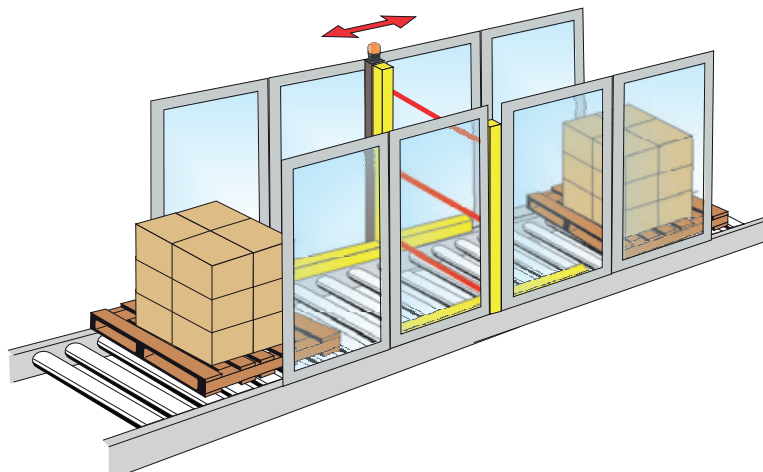
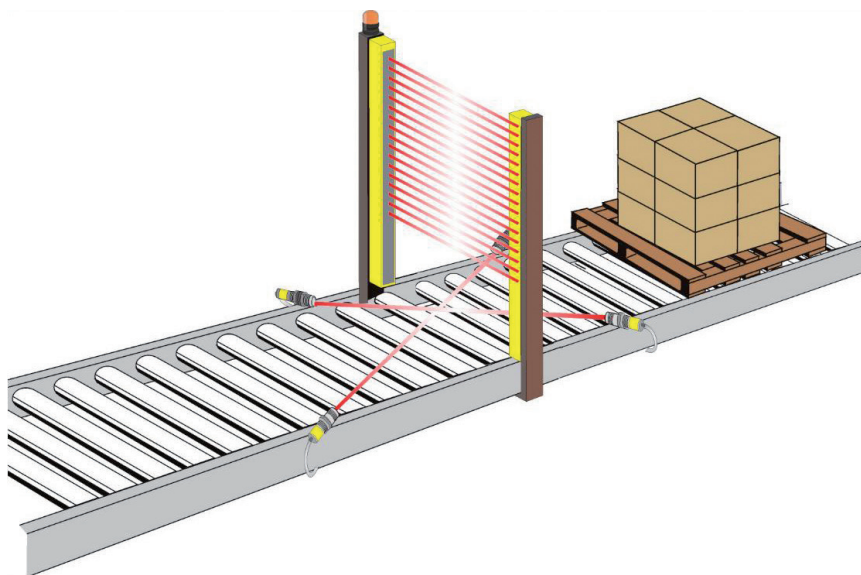


Fig. 8 Safety Light Curtain with Integrated T muting actuator



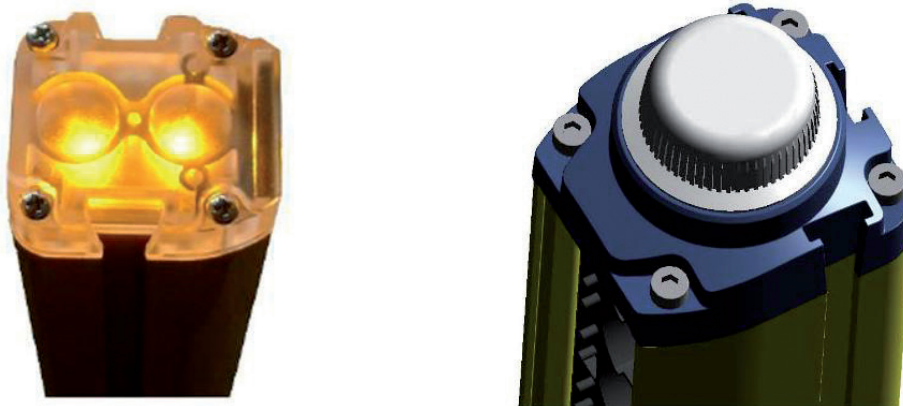
Light curtains can be provided with muting arms, with pre-wired sensors detecting the passage of material, or can be used with external muting sensors.

Fig. 9 Safety light curtain with external crossed beams muting sensors



Muting lamps integrated in the light curtains, or installed external to them, are designed to flash as long as the muting is active.

Fig. 10 Integrated muting lamps



To maintain the safety of the application, light curtains can be configured to perform the muting function only on the number of beams needed for the passage of the material (Partial Muting), keeping the others active.

11. Override

Override function is a mute dependent bypass of the light curtain, that can be provided for some applications (for example conveyor and packaging machinery) in order to clear a blockage in the area of the machine where sensors are located. The activation of the bypass function should be possible for a limited amount of time, only when at least one muting sensor is activated, and will require the use of a device located where operator can see the point of hazard.

12. Blanking

The blanking function is used when an object detected in a defined part of the detection zone must not cause an OFF-state of the light curtains outputs.

Blanked beams are monitored so that the absence or a change in the size or location of the object causes the light curtain's outputs to go to the OFF-state.

Fixed blanking is when the object must remain in a fixed position, with a given tolerance.

Floating blanking is when the object can move along the detection zone.

Depending on the configuration of the light curtain, in floating blanking the object can also leave the detection zone or not.

Reduced resolution is a particular kind of floating blanking, with light curtain outputs going OFF-state only when a pre-defined number of beams adjacent are interrupted, in any position along the light curtain. When reduced resolution is active, more than one small object can interrupt the light curtain beams without its output going OFF.

Blanking can affect the detection capability of the light curtain and can result in a recalculation of the minimum safety distance.

Fig. 11 Floating blanking

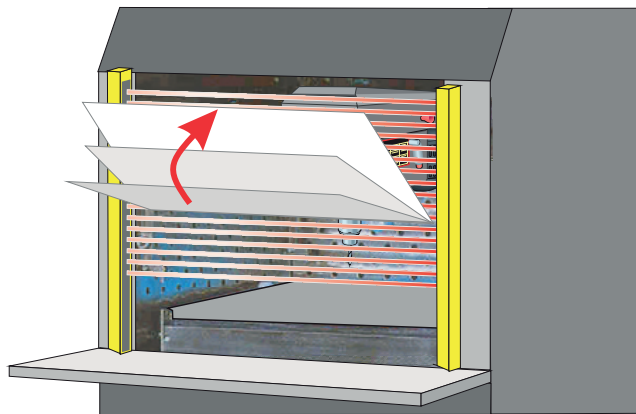
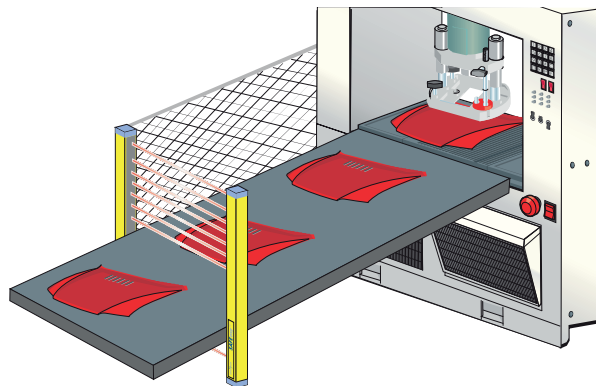


Fig. 12 Fixed blanking with tolerance



13. Software configuration

Setting DIP-Switch or through wiring, it is possible to set typical parameters like manual or auto reset, EDM enable or disable, muting type selection, as well as auto-teach blanking function.

A software configurator (Graphic User Interface, GUI) is required for more advanced functionality, such as setting the muting timeout with 1-second steps, or designing complex patterns for floating or fixed blanking.

SAFETY LIGHT CURTAINS SELECTION TABLE

| Resolution (mm) | Type | Range (m) | Height (mm) |
|-----------------|------|-----------------------------------------|------------------|
| 14 | 2/4 | 0.2 ... 6 | 150 ... 1200 |
| | 4 | 0.2 ... 6 | 150 ... 1800 |
| | | 0.2 ... 7 | 300 ... 1800 |
| | | 0.2 ... 6 | 150 ... 1800 |
| | | 0.2 ... 6 | 150 ... 450 |
| 24 | 2/4 | 0.2 ... 6 | 150 ... 1200 |
| 30 | 2 | 0.2 ... 19 | 150 ... 1800 |
| | | 0.2 ... 19 | 150 ... 1800 |
| | | 0.2 ... 20 | 300 ... 1800 |
| | 4 | 0.2 ... 19 | 150 ... 1800 |
| | | 0.2 ... 20 | 300 ... 1800 |
| | | 0.2 ... 6 | 150 ... 1800 |
| 34 | 2/4 | 0.2 ... 6 | 150 ... 1200 |
| 40 | 4 | 6 ... 60 | 660/960/1260 |
| 50/90 | 2 | 0.2 ... 19 | 150 ... 1800 |
| | | 0.2 ... 19 | 150 ... 1800 |
| 2/3/4 beams | 2/4 | 0.5 ... 50 | 500/800/900/1200 |
| | | 0.5 ... 50 0.5 ... 3* 0.5 ... 7** | 500/800/900/1200 |
| | | 0.5 ... 60 | 500/800/900/1200 |
| | | 0.5 ... 60 0.5 ... 3* 0.5 ... 7** | 500/800/900/1200 |
| | | 0.5 ... 8 | 500/800/900/1200 |
| | | 0.5 ... 8 0.5 ... 3* | 500/800/900/1200 |
| | | 0 ... 8*** 0 ... 40*** | flexible |
| 2/3/4 beams | 4 | 0.2 ... 19 | 600/800/900/1200 |

NOTES

* With retroreflective muting arms

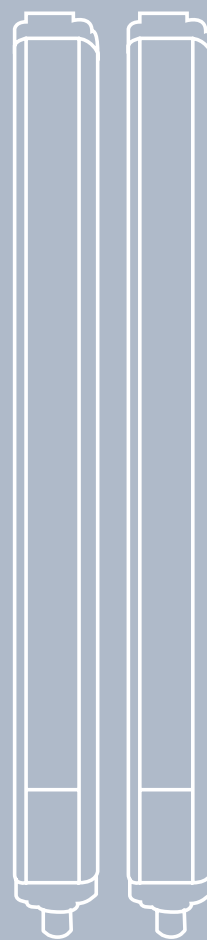
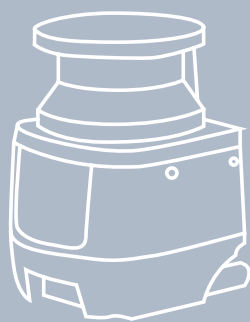
** With emitter / receiver muting arms

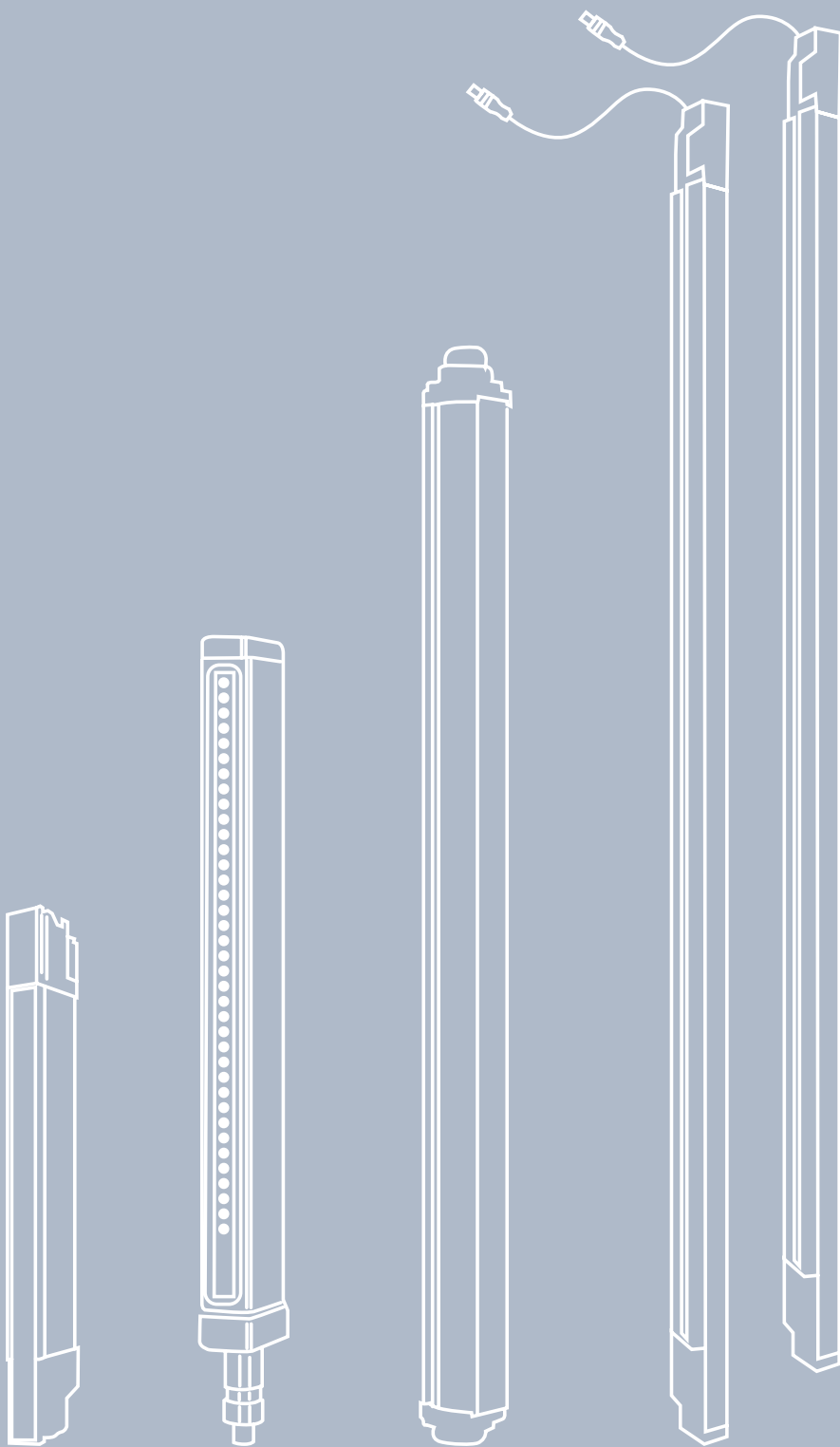
*** Depending on models

**** The safety functions have to be implemented in the safety PLC that read the status of the light curtain through openSAFETY

| Functions | Additional HW features | Family | Page |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------|------|
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| External Device Monitoring (EDM) | | | |
| Manual / Auto Restart | Zero dead zone Cascade Advanced Programmable Configuration Monitoring via Ethernet/IP Error logging | SG4 EXTENDED | 54 |
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| Partial Muting | | | |
| Override | | | |
| Fixed blanking | | | |
| Floating Blanking | Integrated openSAFETY over POWERLINK | SG4 FIELDBUS **** | 60 |
| Manual / Auto Restart | | | |
| External Device Monitoring (EDM) | | | |
| T, L Muting function | | | |
| Partial Muting | | | |
| Override | | | |
| Fixed / floating blanking | | | |
| Auto restart | Stainless stees housing Glass window | SG4-H (PHARMA) | 24 |
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| External Device Monitoring (EDM) | | | |
| Auto restart | | SG2 BASE | 18 |
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| External Device Monitoring (EDM) | | | |
| T, L Muting function | | | |
| Partial Muting | | | |
| Override | | | |
| Manual / Auto Restart | | SG4 BASE | 54 |
| External Device Monitoring (EDM) | | | |
| Manual / Auto Restart | Zero dead zone Cascade Advanced Programmable Configuration Monitoring via Ethernet/IP Error logging | SG4 EXTENDED | 54 |
| External Device Monitoring (EDM) | | | |
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| Partial Muting | | | |
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| External Device Monitoring (EDM) | | | |
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| Partial Muting | | | |
| Override | | | |
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| Manual / Auto Restart | | SG4 LONG RANGE BASE | 40 |
| External Device Monitoring (EDM) | | SG2 BASE | 18 |
| Auto restart | | SG2 EXTENDED | 18 |
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| External Device Monitoring (EDM) | | | |
| T, L Muting function | | | |
| Override | | | |
| Manual / Auto Restart | | SG BODY BIG BASE | 40 |
| External Device Monitoring (EDM) | Integrated muting lamp | SG BODY BIG MUTING | 40 |
| Manual / Auto Restart | | | |
| External Device Monitoring (EDM) | | | |
| T, L Muting function | | | |
| Override | | | |
| Manual / Auto Restart | Retroreflective | SG BODY REFLECTOR BASE | 46 |
| External Device Monitoring (EDM) | Retroreflective Integrated muting lamp Integrated mugin arms*** | SG BODY REFLECTOR MUTING | 46 |
| Manual / Auto Restart | | | |
| External Device Monitoring (EDM) | | | |
| T, L Muting function | | | |
| Override | | | |
| Manual / Auto Restart | Double muting function Low temperature Defogging Separated control unit | SINGLE BEAM SENSORS | 66 |
| External Device Monitoring (EDM) | | | |
| T, L Muting function | | | |
| Override | Integrated openSAFETY over POWERLINK | SG4 FIELDBUS **** | 60 |
| Manual / Auto Restart | | | |
| External Device Monitoring (EDM) | | | |
| T, L Muting function | | | |
| Override | | | |

SAFETY LIGHT CURTAINS





SG2 BASE / SG2 EXTENDED SG4 BASE



High reliability
Easy installation and alignment
Cost effective

- Finger, hand, arm detection with basic functions
- 90 mm version for presence detection
- Up to 19 m operating distance
- Compact dimensions (32.3 x 36.9 mm section)
- Anti-interference coding
- IP65 Protection; IP69K with optional tube
- Unshielded cables
- Rotating and anti-vibration brackets

APPLICATIONS

- Automatic machines: cutting, packing, material handling and storing.
- Automatic and semi-automatic assembling lines;
- Milling, lathe and shearing machines
- Bending and metal-working machines

INDUSTRIES

- Food & Beverage
- Textile
- Metalworking
- Ceramic
- Metal
- Automotive
- Electronics

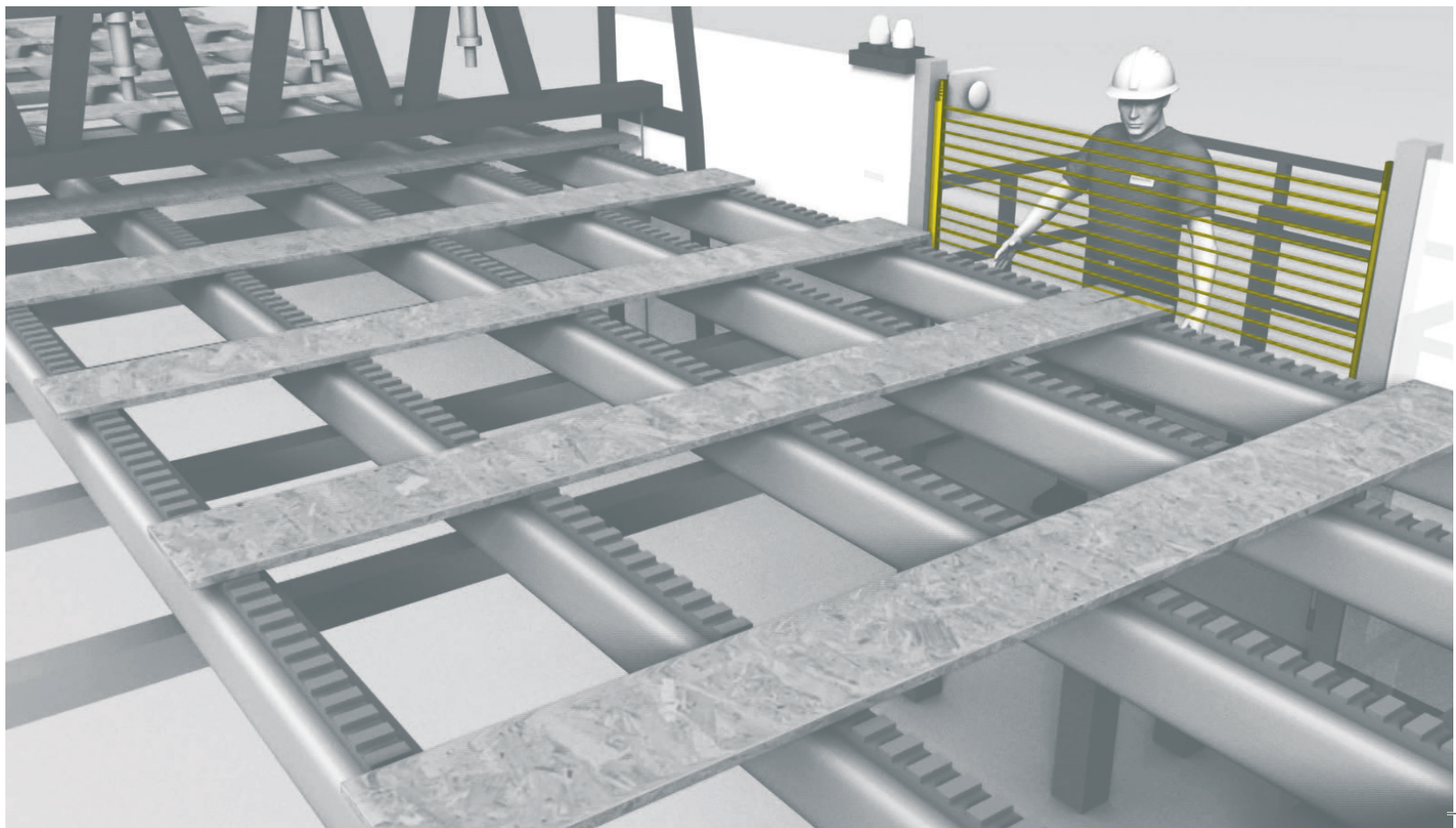
| | FINGER | HAND | ARM | BODY |
|--------|--------|------|-----|------|
| Type 2 | | x | x | |
| Type 4 | x | x | | x |

SG 2 - 30 - 015 - 00 - E

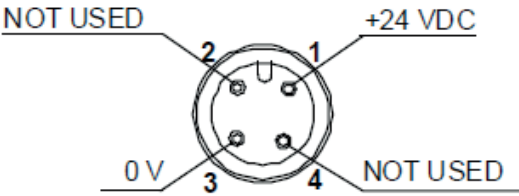
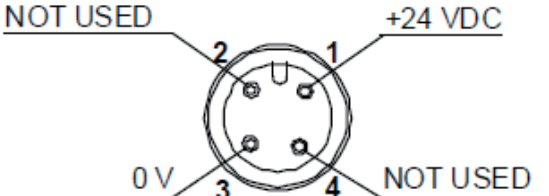
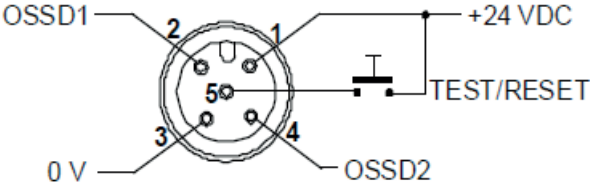
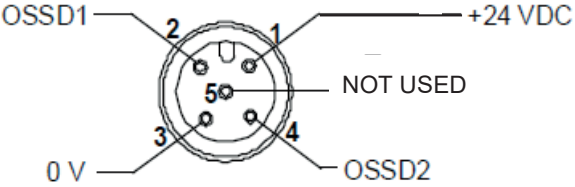
| TYPE | | RESOLUTION | | MONITORED HEIGHT | | VERSION | |
|------|--------|------------|--------------------------|------------------|--------|---------|-------------------|
| 2 | Type 2 | 14 | Finger: 14 mm | 15 | 150 mm | E | Type4, EDM, Coded |
| 4 | Type 4 | 30 | Hand: 30 mm | 30 | 300 mm | E-C | Type2, EDM, Coded |
| | | 50 | Arm: 50 mm (only Type 2) | ... | ... | X | Basic Function |
| | | 90 | Arm: 90 mm (only Type 2) | 180 | 1800mm | | |

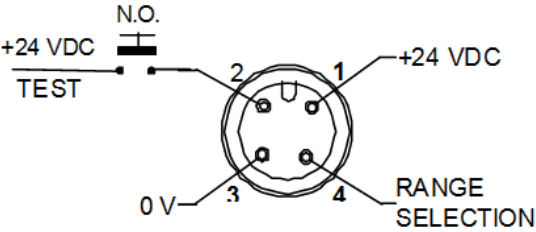
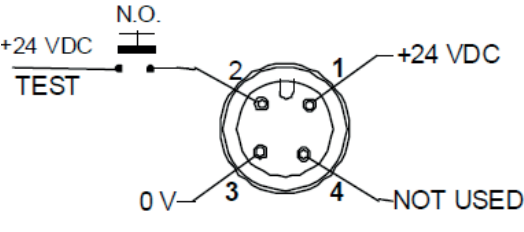
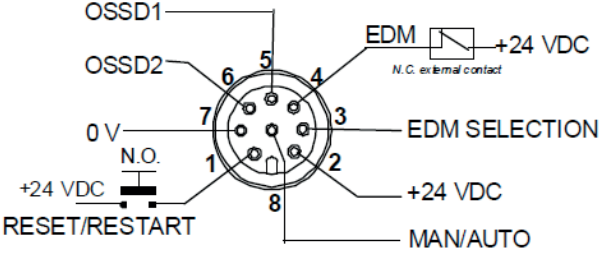
TECHNICAL DATA

| | SG2 BASE [SG2-xx-xxx-00-X] | SG2 EXTENDED [SG2-xx-xxx-00-E-C] | SG4 BASE [SG4-xx-xxx-00-X] | SG4 BASE [SG4-xx-xxx-00-E] |
|-----------------------------------|------------------------------------|-------------------------------------|------------------------------------------------------------------|-------------------------------|
| GENERAL DATA | | | | |
| Type (EN61496-1) | 2 | | 4 | |
| PL (EN ISO 13849-1) | c | | e | |
| SIL (IEC 61508) | 1 | | 3 | |
| Resolution | 30 - 50 - 90 mm | | 14 - 30 mm | |
| Protected height | 150 ...1800 mm (with 150 mm steps) | | | |
| Operating distance | 0.2 ...19 m | | 0.2 ... 6 m (resolution 14 mm) 0.2 ...19 m (resolution 30 mm) | |
| ELECTRICAL DATA | | | | |
| Power supply (Vdd) | 24 Vdc ± 20 | | | |
| Outputs | 2 PNP | | | |
| Output current | 0.5 A max / each output | | | |
| Capacitive load | 2.2 uF @ 24Vdc max | | | |
| Response time | 8 ... 24 ms | | 9 ... 50 ms | |
| Cables length (for power supply) | 50 m max | | | |
| MECHANICAL AND ENVIRONMENTAL DATA | | | | |
| Operating temperature | -10 ...+55 °C | | 0 ...+55 °C | |
| Humidity | 15 ... 95 % (no condensation) | | | |
| Mechanical protection | IP 65 (EN 60529) | | | |
| Housing Material | Painted aluminium, Polycarbonate | | | |
| Window material | PMMA | | | |
| FUNCTION | | | | |
| Test Input | On Receiver | On Emitter | N/A | On Emitter |
| Restart | Automatic | Manual / Automatic | Automatic | Manual / Automatic |
| EDM (External Device Monitoring) | N/A | On Receiver | N/A | On Receiver |
| Selectable Operating Distance | N/A | On Emitter | N/A | |



CONNECTION

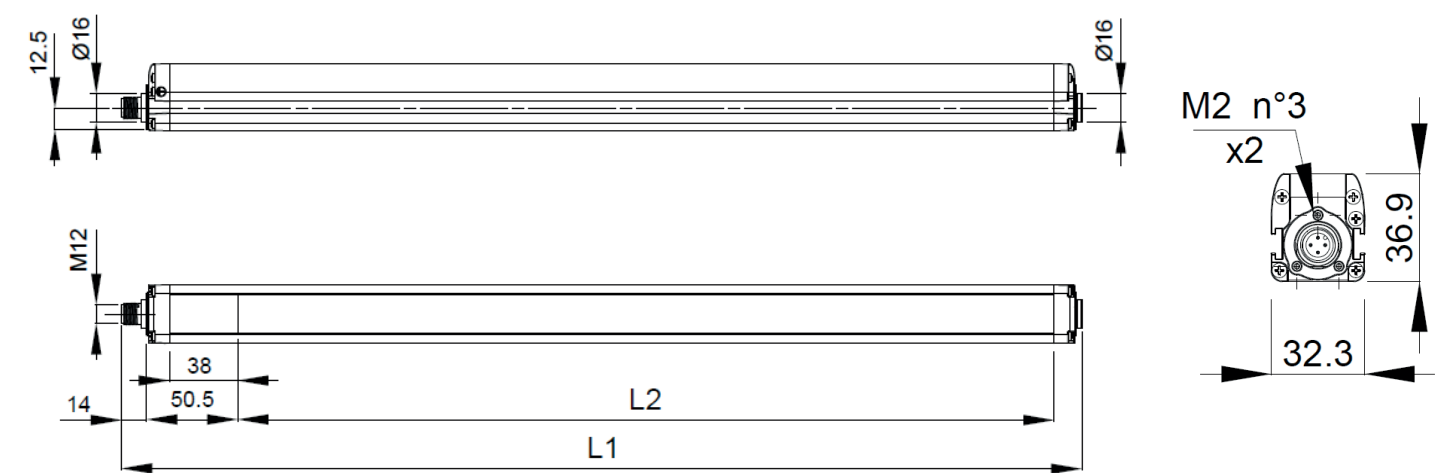
| | SG2 BASE [SG2-XX-XXX-00-X] | SG4 BASE [SG4-XX-XXX-00-X] |
|----------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| EMITTER |  |  |
| RECEIVER |  |  |

| | SG2 EXTENDED [SG2-XX-XXX-00-E-C] | SG4 BASE [SG4-XX-XXX-00-E] |
|----------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| EMITTER |  |  |
| RECEIVER |  | |

NOTES

- To set manual restart, connect Pin 8 (MAN/AUTO) with Pin 6 (OSSD2)
- To deactivate EDM function, connect Rx Pin 3 to 24Vdc on Receiver

DIMENSION



| MODEL | L1 (MM) | L2 (MM) |
|-------------------|---------|---------|
| SGx-yy-150-00-kkk | 233.3 | 153.3 |
| SGx-yy-030-00-kkk | 383.2 | 303.2 |
| SGx-yy-045-00-kkk | 533.2 | 453.3 |
| SGx-yy-060-00-kkk | 683.2 | 603.2 |
| SGx-yy-075-00-kkk | 833.2 | 753.3 |
| SGx-yy-090-00-kkk | 983.2 | 903.2 |
| SGx-yy-105-00-kkk | 1133.2 | 1053.2 |
| SGx-yy-120-00-kkk | 1283.3 | 1203.3 |
| SGx-yy-135-00-kkk | 1433.2 | 1353.2 |
| SGx-yy-150-00-kkk | 1583.3 | 1503.3 |
| SGx-yy-165-00-kkk | 1733.3 | 1653.3 |
| SGx-yy-180-00-kkk | 1883.3 | 1803.3 |

INDICATORS



MODEL SELECTION AND ORDER INFORMATION

| | SG2 BASE [SG2-XX-XXX-00-X] | ORDER CODE | SG2 EXTENDED [SG2-XX-XXX-00-E-C] | ORDER CODE | SG4-XX-XXX-00-X | ORDER CODE | SG4 BASE [SG4-XX-XXX-00-E] | ORDER CODE |
|--------------------------|-------------------------------|---------------|-------------------------------------|---------------|-----------------|---------------|-------------------------------|---------------|
| FINGER PROTECTION | --- | --- | --- | --- | SG4-14-015-00-X | 957901460 | SG4-14-015-00-E | 957901000 |
| | --- | --- | --- | --- | SG4-14-030-00-X | 957901470 | SG4-14-030-00-E | 957901010 |
| | --- | --- | --- | --- | SG4-14-045-00-X | 957901480 | SG4-14-045-00-E | 957901020 |
| | --- | --- | --- | --- | SG4-14-060-00-X | 957901490 | SG4-14-060-00-E | 957901030 |
| | --- | --- | --- | --- | SG4-14-075-00-X | 957901500 | SG4-14-075-00-E | 957901040 |
| | --- | --- | --- | --- | SG4-14-090-00-X | 957901510 | SG4-14-090-00-E | 957901050 |
| | --- | --- | --- | --- | SG4-14-105-00-X | 957901520 | SG4-14-105-00-E | 957901060 |
| | --- | --- | --- | --- | SG4-14-120-00-X | 957901530 | SG4-14-120-00-E | 957901070 |
| | --- | --- | --- | --- | SG4-14-135-00-X | 957901540 | SG4-14-135-00-E | 957901080 |
| | --- | --- | --- | --- | SG4-14-150-00-X | 957901550 | SG4-14-150-00-E | 957901090 |
| | --- | --- | --- | --- | SG4-14-165-00-X | 957901560 | SG4-14-165-00-E | 957901100 |
| HAND PROTECTION | --- | --- | --- | --- | SG4-14-180-00-X | 957901570 | SG4-14-180-00-E | 957901110 |
| | SG2-30-015-00-X | 957801000 | SG2-30-015-00-E-C | 957801340 | SG4-30-015-00-X | 957901690 | SG4-30-015-00-E | 957901120 |
| | SG2-30-030-00-X | 957801010 | SG2-30-030-00-E-C | 957801350 | SG4-30-030-00-X | 957901580 | SG4-30-030-00-E | 957901130 |
| | SG2-30-045-00-X | 957801020 | SG2-30-045-00-E-C | 957801360 | SG4-30-045-00-X | 957901590 | SG4-30-045-00-E | 957901140 |
| | SG2-30-060-00-X | 957801030 | SG2-30-060-00-E-C | 957801370 | SG4-30-060-00-X | 957901600 | SG4-30-060-00-E | 957901150 |
| | SG2-30-075-00-X | 957801040 | SG2-30-075-00-E-C | 957801380 | SG4-30-075-00-X | 957901610 | SG4-30-075-00-E | 957901160 |
| | SG2-30-090-00-X | 957801050 | SG2-30-090-00-E-C | 957801390 | SG4-30-090-00-X | 957901620 | SG4-30-090-00-E | 957901170 |
| | SG2-30-105-00-X | 957801060 | SG2-30-105-00-E-C | 957801400 | SG4-30-105-00-X | 957901630 | SG4-30-105-00-E | 957901180 |
| | SG2-30-120-00-X | 957801070 | SG2-30-120-00-E-C | 957801410 | SG4-30-120-00-X | 957901640 | SG4-30-120-00-E | 957901190 |
| | SG2-30-135-00-X | 957801080 | SG2-30-135-00-E-C | 957801420 | SG4-30-135-00-X | 957901650 | SG4-30-135-00-E | 957901200 |
| | SG2-30-150-00-X | 957801090 | SG2-30-150-00-E-C | 957801430 | SG4-30-150-00-X | 957901660 | SG4-30-150-00-E | 957901210 |
| PRESENCE / ARM DETECTION | SG2-30-165-00-X | 957801100 | SG2-30-165-00-E-C | 957801440 | SG4-30-165-00-X | 957901670 | SG4-30-165-00-E | 957901220 |
| | SG2-30-180-00-X | 957801110 | SG2-30-180-00-E-C | 957801450 | SG4-30-180-00-X | 957901680 | SG4-30-180-00-E | 957901230 |
| | SG2-50-030-00-X | 957801120 | SG2-50-030-00-E-C | 957801460 | --- | --- | --- | --- |
| | SG2-50-045-00-X | 957801130 | SG2-50-045-00-E-C | 957801470 | --- | --- | --- | --- |
| | SG2-50-060-00-X | 957801140 | SG2-50-060-00-E-C | 957801480 | --- | --- | --- | --- |
| | SG2-50-075-00-X | 957801150 | SG2-50-075-00-E-C | 957801490 | --- | --- | --- | --- |
| | SG2-50-090-00-X | 957801160 | SG2-50-090-00-E-C | 957801500 | --- | --- | --- | --- |
| | SG2-50-105-00-X | 957801170 | SG2-50-105-00-E-C | 957801510 | --- | --- | --- | --- |
| | SG2-50-120-00-X | 957801180 | SG2-50-120-00-E-C | 957801520 | --- | --- | --- | --- |
| | SG2-50-135-00-X | 957801190 | SG2-50-135-00-E-C | 957801530 | --- | --- | --- | --- |
| | SG2-50-150-00-X | 957801200 | SG2-50-150-00-E-C | 957801540 | --- | --- | --- | --- |
| | SG2-50-165-00-X | 957801210 | SG2-50-165-00-E-C | 957801550 | --- | --- | --- | --- |
| | SG2-50-180-00-X | 957801220 | SG2-50-180-00-E-C | 957801560 | --- | --- | --- | --- |
| | SG2-90-030-00-X | 957801230 | SG2-90-030-00-E-C | 957801570 | --- | --- | --- | --- |
| | SG2-90-045-00-X | 957801240 | SG2-90-045-00-E-C | 957801580 | --- | --- | --- | --- |
| | SG2-90-060-00-X | 957801250 | SG2-90-060-00-E-C | 957801590 | --- | --- | --- | --- |
| | SG2-90-075-00-X | 957801260 | SG2-90-075-00-E-C | 957801600 | --- | --- | --- | --- |
| | SG2-90-090-00-X | 957801270 | SG2-90-090-00-E-C | 957801610 | --- | --- | --- | --- |
| | SG2-90-105-00-X | 957801280 | SG2-90-105-00-E-C | 957801620 | --- | --- | --- | --- |
| | SG2-90-120-00-X | 957801290 | SG2-90-120-00-E-C | 957801630 | --- | --- | --- | --- |
| | SG2-90-135-00-X | 957801300 | SG2-90-135-00-E-C | 957801640 | --- | --- | --- | --- |
| | SG2-90-150-00-X | 957801310 | SG2-90-150-00-E-C | 957801650 | --- | --- | --- | --- |
| | SG2-90-165-00-X | 957801320 | SG2-90-165-00-E-C | 957801660 | --- | --- | --- | --- |
| | SG2-90-180-00-X | 957801330 | SG2-90-180-00-E-C | 957801670 | --- | --- | --- | --- |

CABLES

| | POLES | TRANSMITTER CABLE | LENGTH (M) | ORDER CODE |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------|------------|------------|
| SG2 BASE [SG2-xx-xxx-00-X] SG2 EXTENDED [SG2-xx-xxx-00-E-C] SG4 BASE [SG4-xx-xxx-00-X] [SG4-xx-xxx-00-E] | 4 | CS-A1-02-U-03 | 3 | 95ASE1120 |
| | | CS-A1-02-U-05 | 5 | 95ASE1130 |
| | | CS-A1-02-U-10 | 10 | 95ASE1140 |
| | | CS-A1-02-U-15 | 15 | 95ASE1150 |
| | | CS-A1-02-U-25 | 25 | 95ASE1160 |
| | | RECEIVER CABLE | LENGTH (M) | ORDER CODE |
| SG4 BASE [SG4-xx-xxx-00-X] | 4 | CS-A1-02-U-03 | 3 | 95ASE1120 |
| | | CS-A1-02-U-05 | 5 | 95ASE1130 |
| | | CS-A1-02-U-10 | 10 | 95ASE1140 |
| | | CS-A1-02-U-15 | 15 | 95ASE1150 |
| | | CS-A1-03-U-03 | 3 | 95ASE1170 |
| SG2 BASE [SG2-xx-xxx-00-X] | 5 | CS-A1-03-U-05 | 5 | 95ASE1180 |
| | | CS-A1-03-U-10 | 10 | 95ASE1190 |
| | | CS-A1-03-U-15 | 15 | 95ASE1200 |
| | | CS-A1-03-U-25 | 25 | 95ASE1210 |
| | | CS-A1-06-U-03 | 3 | 95ASE1220 |
| SG2 EXTENDED [SG2-xx-xxx-00-E-C] SG4 BASE [SG4-xx-xxx-00-E] | 8 | CS-A1-06-U-05 | 5 | 95ASE1230 |
| | | CS-A1-06-U-10 | 10 | 95ASE1240 |
| | | CS-A1-06-U-15 | 15 | 95ASE1250 |
| | | CS-A1-06-U-25 | 25 | 95ASE1260 |

NOTE
All cables have axial connectors

ACCESSORIES

| | SG2 BASE [SG2-xx-xxx-00-X] | | SG2 EXTENDED [SG2-xx-xxx-00-E-C] | SG4 BASE [SG4-xx-xxx-00-X] | SG4 BASE [SG4-xx-xxx-00-E] |
|---------------------------------------------------------|--------------------------------------------|------------------|-------------------------------------|-------------------------------|-------------------------------|
| BRACKETS | | | | | |
| Standard angled brackets | ST-KSTD (outfit for SG2 Base and SG4 Base) | | | | |
| Rotating brackets | ST-K4ROT (outfit for SG2 Extended) | | | | |
| Antivibration support (4 pcs / 6 pcs)* | ST-K4AV ST-K6AV | | | | |
| Plastic brackets (4 pcs / 6 pcs)* | ST-KP4MP ST-KP6MP | | | | |
| PROTECTION TUBES AND STANDS | | | | | |
| IP67/IP69K Tubes | SG-IP69K series | | | | |
| Protective Stands | SG-PSB series | | | | |
| Stand Plate for SG-PSB | SG-P | | | | |
| Protective Stands Mounting Brackets (4 pcs / 6 pcs)* | ST-PS4-SG-SE ST-PS6-SG-SE | | | | |
| Floor Columns | SE-S Series | | | | |
| MIRRORS | | | | | |
| Deviating Mirrors | SG-DM Series | | | | |
| Deviating Mirrors mounting kit for SG-PSB | ST-PS-DM | | | | |
| Mirror Mounting Bracket | ST-DM | | | | |
| SAFETY UNITS | | | | | |
| Safety Unit | SE-SR2 | | | | |
| EDM Relay Box** | ----- | CS ME-03VU24-Y14 | | ----- | CS ME-03VU24-Y14 |
| Safety control unit for single beams and SLC | SG-BWS-T4-MT | | | | |
| ALIGNMENT TOOL | | | | | |
| LASER Pointer | SG-LP | | | | |

NOTES

* Use 6 brackets for light curtains with length >= 1200 mm

** When using EDM Relay Box or Muting connection box, connect EDM input, and be sure EDM function is active on the safety light curtain

For accessories part number, please refer to Safety Reference Guide

Rev. 06, 08/2019

SG4-H



Stainless steel housing
Hygienic design
No need for additional protection tubes

- IP69K full protection
- Housing: AISI316L stainless steel with roughness under 0.8 micron
- Window: Optical glass
- Rounded surfaces with no gaps or sharp edges
- No labels: All information laser marked
- Maximum safety: Type 4, finger resolution
- Three protection heights: 150, 300 and 450 mm
- 50 x 30 mm profile
- 4 LEDs and 7-segment display alignment aiding

APPLICATIONS

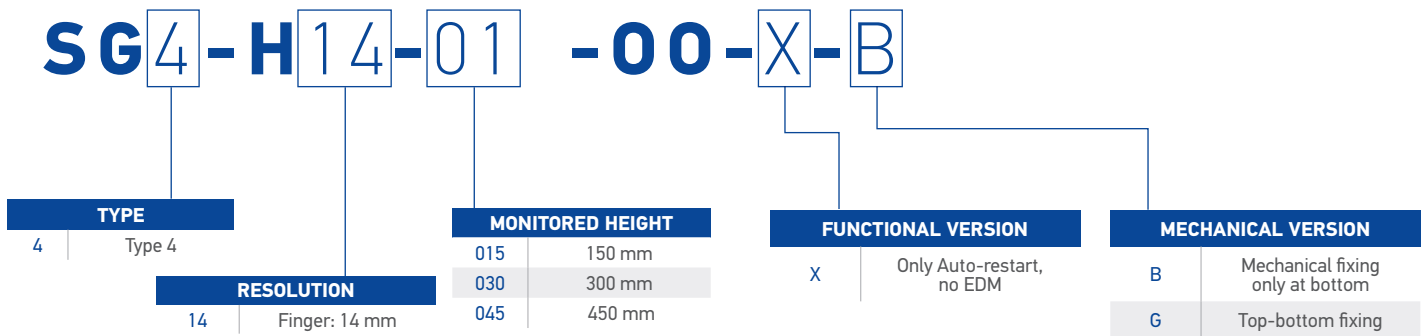
- Primary packaging and filling machinery
Liquid aseptic processing: syringe filling
- Solid dose processing: tablet blistering
- RABS (Restricted Access Barrier Systems)



INDUSTRIES

- Pharmaceutical Industry

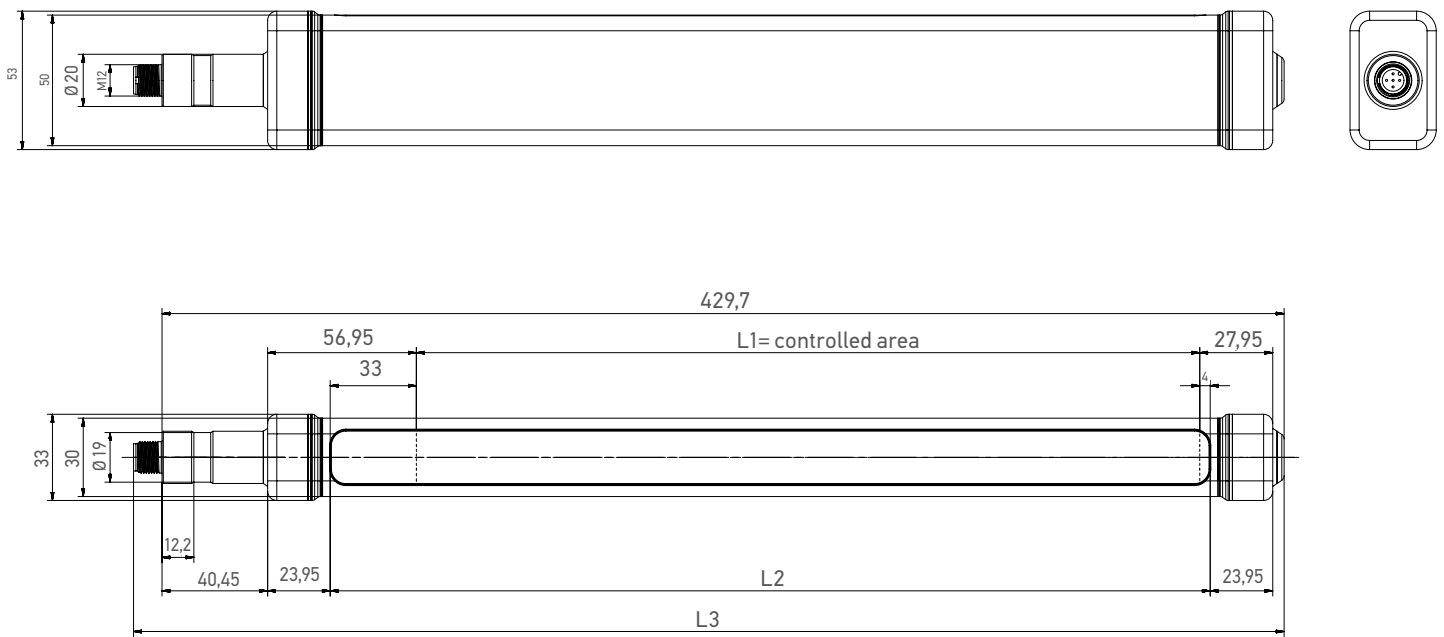
| | FINGER | HAND | ARM | BODY |
|--------|--------|------|-----|------|
| Type 2 | | | | |
| Type 4 | x | | | |



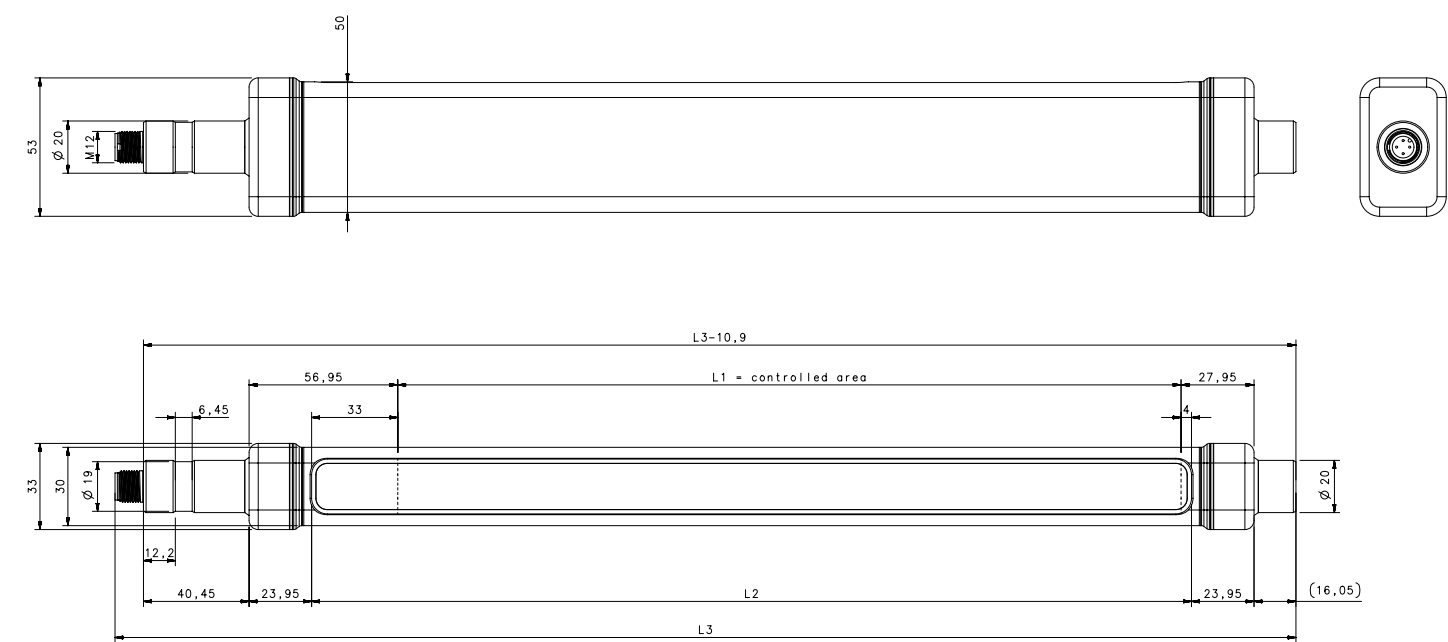
TECHNICAL DATA

| SG4-H [SG4-14-xxx-00-X-B] | |
|-----------------------------------|--------------------------------------|
| GENERAL DATA | |
| Type (EN61496-1) | 4 |
| PL (EN ISO 13849-1) | e |
| SIL (IEC 61508) | 3 |
| Resolution | 14 mm |
| Protected height | 150 / 300 / 450 mm |
| Operating distance | 0.2 ... 6 m |
| ELECTRICAL DATA | |
| Power supply (Vdd) | 24 Vdc ± 20 |
| Outputs | 2 PNP, with short circuit protection |
| Output current | 0.5 A max / each output |
| Capacitive load | 2.2 uF @ 24Vdc max |
| Response time | 11 / 15 / 18 ms depending on model |
| Cables length (for power supply) | 50 m max |
| MECHANICAL AND ENVIRONMENTAL DATA | |
| Operating temperature | 0 ... +55 °C |
| Humidity | 15 ... 95 % (no condensation) |
| Mechanical protection | IP 65 / IP 69K |
| Housing material | Stainless steel AISI316L |
| Window material | Optical glass |
| FUNCTIONS | |
| | Automatic Restart |

DIMENSIONS SG4-14-XXX-00-X-B

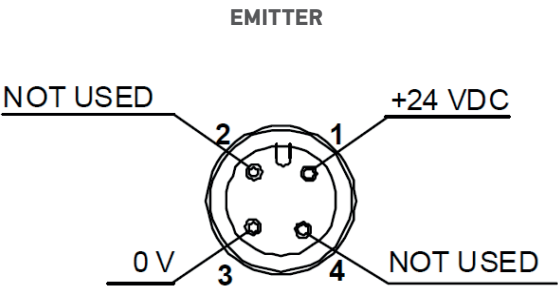


MODEL SELECTION AND ORDER INFORMATION



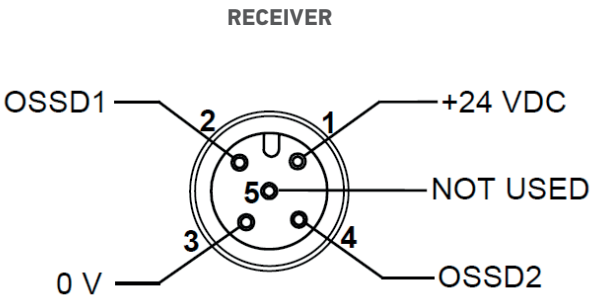
| SG4-H | L1 (mm) | L2 (mm) | L3 (mm) |
|-------------------|---------|---------|---------|
| SG4-14-150-00-X-B | 150 | 187 | 290.6 |
| SG4-14-300-00-X-B | 300 | 337 | 440.6 |
| SG4-14-450-00-X-B | 450 | 487 | 590.6 |
| SG4-14-150-00-X-G | 150 | 187 | 302.3 |
| SG4-14-300-00-X-G | 300 | 337 | 487 |
| SG4-14-450-00-X-G | 450 | 487 | 602.3 |

CONNECTION



M12, 4 poles, male

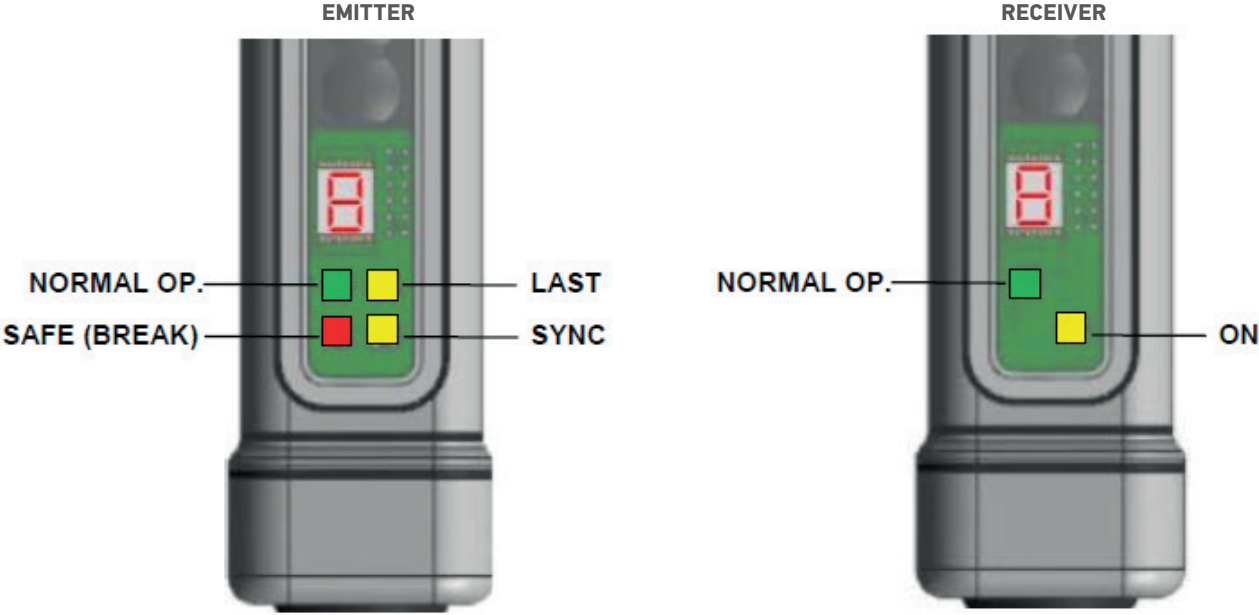
1 = brown = 24Vdc
3 = blue = 0V



M12, 5 poles, male

1 = brown = 24Vdc
2 = white = OSSD1
3 = blue = 0V
4 = green = OSSD2

INDICATORS



MODEL SELECTION AND ORDER INFORMATION

| DESCRIPTION | ORDER No. |
|--------------------|-----------|
| SG4-H14-015-00-X-B | 957901760 |
| SG4-H14-030-00-X-B | 957901700 |
| SG4-H14-045-00-X-B | 957901710 |
| SG4-H14-015-00-X-G | 957902330 |
| SG4-H14-030-00-X-G | 957901720 |
| SG4-H14-045-00-X-G | 957901730 |

ACCESSORIES SELECTION AND ORDER INFORMATION

| BRACKETS | |
|---------------------------------------------------------------------------------------------------------------------------|--------------|
| SG4-H-14-XXX-00-X-x is sold without brackets. Its bottom and top shape is designed to be hold by a cylindrical holder. | |
| MIRRORS | |
| Deviating Mirrors | SG-DM Series |
| SAFETY UNITS AND INTERFACES | |
| Safety Unit | SE-SR2 |
| OTHERS | |
| Test Piece | TP-14 |

CABLES

| | TRANSMITTER/RECEIVER CABLE | DESCRIPTION* | LENGTH (m) | Order code |
|-------|----------------------------|--------------|------------|------------|
| SG4-H | CS-A1-02-U-03 | M12, 4 Poles | 3 | 95ASE1120 |
| | CS-A1-02-U-05 | M12, 4 Poles | 5 | 95ASE1130 |
| | CS-A1-02-U-10 | M12, 4 Poles | 10 | 95ASE1140 |
| | CS-A1-02-U-15 | M12, 4 Poles | 15 | 95ASE1150 |
| | CS-A1-02-U-25 | M12, 4 Poles | 25 | 95ASE1160 |

NOTE

* M12 connector has a fifth hole not used, in order to be compatible with 5 pins connectors

SLIM



Highest mechanical flexibility for a perfect fit into machine structures

Simple commissioning and maintenance

High functional performance

- SLIM profile: 15 x 32 mm
- Pigtail cable with 5-pole M12 connectors
- Same cable for Emitter and Receiver
- No Dead Zone
- 14, 24 and 34 mm resolution
- 34 different protection lengths, with 30 mm modularity
- 3 different brackets shapes
- Cascadable up to 3 units
- Auto/Manual restart and EDM function configuration by wiring
- LED display messages diagnosis

APPLICATIONS

- Primary packaging machinery (packing, filling, labelling, etc...)
- Cutting machinery
- Automatic assembly machines and lines
- Automatic and semi-automatic quality inspection machinery
- Material handling machinery
- Bending and metal-working machinery
- Process lines



INDUSTRIES

- Food & Beverage
- Electronics
- Automotive
- Metal working

| | FINGER | HAND | ARM | BODY |
|--------|--------|------|-----|------|
| Type 2 | x | x | | |
| Type 4 | x | x | | |

SL2-14-0150-E

| TYPE | |
|------|--------|
| 2 | Type 2 |
| 4 | Type 4 |

| RESOLUTION | |
|------------|----------------|
| 14 | Finger : 14 mm |
| 24 | Hand: 24 mm |
| 34 | Hand: 34 mm |

| MONITORED HEIGHT | |
|------------------|---------|
| 0150 | 150 mm |
| 0210 | 210 mm |
| 0270 | 270 mm |
| 0300 | 300 mm |
| ... | |
| 1200 | 1200 mm |

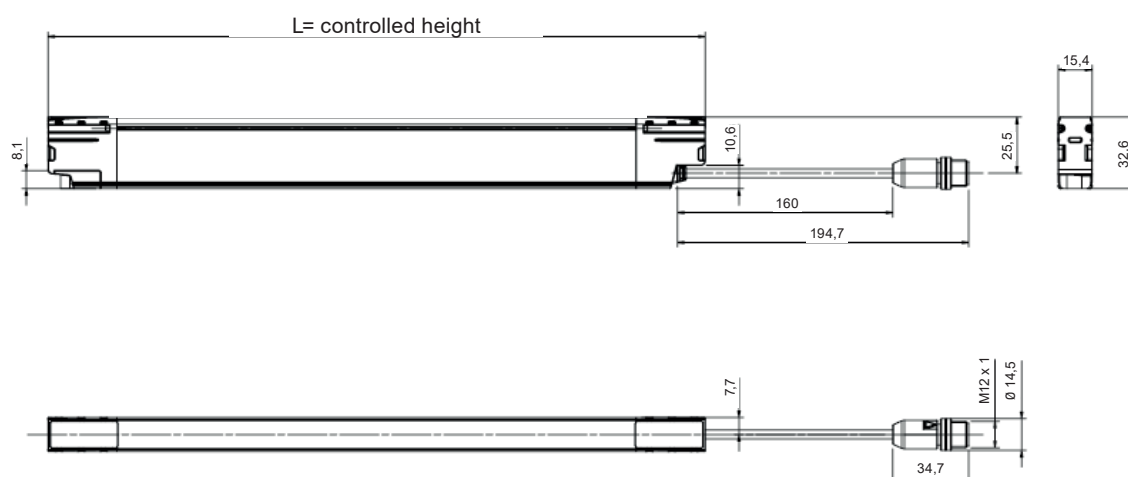
| VERSION | |
|---------|--------------|
| E | EDM, Restart |

TECHNICAL DATA

| | SL2 [SL2-xx-xxxx-E] | SL4 [SL4-xx-xxxx-E] |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| GENERAL DATA | | |
| Type (EN61496-1) | 2 | 4 |
| PL (EN ISO 13849-1) | c | e |
| SIL (IEC 61508) | 1 | 3 |
| Resolution | 14 - 24 - 34 mm | |
| Protected heights | 150 210 270 ... 1200 (with 30 mm steps) | |
| Operating distance | 0.2 ...6 m | |
| ELECTRICAL DATA | | |
| Power supply (Vdd) | 24 Vdc ± 20% | |
| Outputs | 2 PNP | |
| Output current | 0.3 A max / each output | |
| Capacitive load | 1 uF @ 24Vdc max | |
| Response time* | RT = 7 ... 17 ms (14 mm resolution) RT = 7 ... 13 ms (24 mm resolution) RT = 7 ... 15 ms (34 mm resolution) Cascade Response time (up to 3 units) <= 20ms | |
| Cables length (for power supply) | 20 m max | |
| MECHANICAL AND ENVIRONMENTAL DATA | | |
| Operating temperature | -10 ...+55 °C | |
| Storage temperature | -25° ... 70°C | |
| Humidity | 15 ... 95 % (no condensation) | |
| Mechanical protection | IP65 (EN 60529) | |
| Housing material | Painted Aluminium, Painted Zamak | |
| Window material | PMMA | |
| FUNCTIONS | | |
| | Manual/Automatic restart | |
| | External Device Monitoring (EDM) | |
| | Alignment mode | |
| NOTE | | |

* Response time is dependent on height: for more details refer to product manual

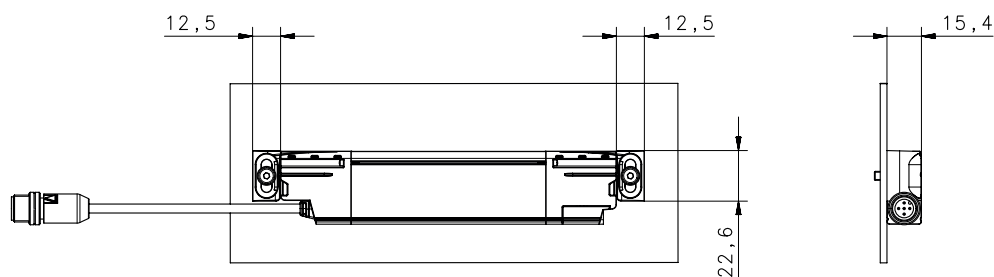
DIMENSIONS



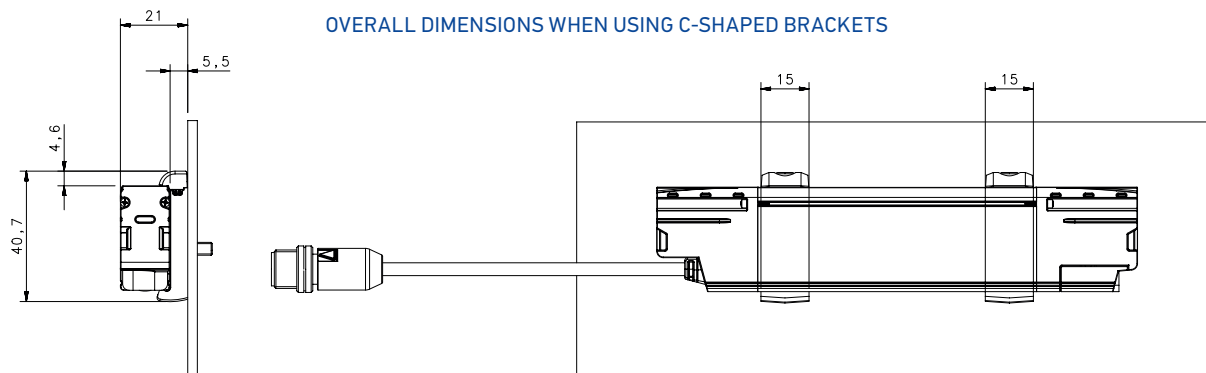
| MODEL | L (mm) |
|---------------|--------|
| SLx-yy-0150-E | 150 |
| SLx-yy-0210-E | 210 |
| SLx-yy-0270-E | 270 |
| SLx-yy-0300-E | 300 |
| SLx-yy-0330-E | 330 |
| SLx-yy-0360-E | 360 |
| SLx-yy-0390-E | 390 |
| SLx-yy-0420-E | 420 |
| SLx-yy-0450-E | 450 |
| SLx-yy-0480-E | 480 |
| SLx-yy-0510-E | 510 |
| SLx-yy-0540-E | 540 |
| SLx-yy-0570-E | 570 |
| SLx-yy-0600-E | 600 |
| SLx-yy-0630-E | 630 |
| SLx-yy-0660-E | 660 |
| SLx-yy-0690-E | 690 |
| SLx-yy-0720-E | 720 |
| SLx-yy-0750-E | 750 |
| SLx-yy-0780-E | 780 |
| SLx-yy-0810-E | 810 |
| SLx-yy-0840-E | 840 |
| SLx-yy-0870-E | 870 |
| SLx-yy-0900-E | 900 |
| SLx-yy-0930-E | 930 |
| SLx-yy-0960-E | 960 |
| SLx-yy-0990-E | 990 |
| SLx-yy-1020-E | 1020 |
| SLx-yy-1050-E | 1050 |
| SLx-yy-1080-E | 1080 |
| SLx-yy-1110-E | 1110 |
| SLx-yy-1140-E | 1140 |
| SLx-yy-1170-E | 1170 |
| SLx-yy-1200-E | 1200 |

DIMENSIONS

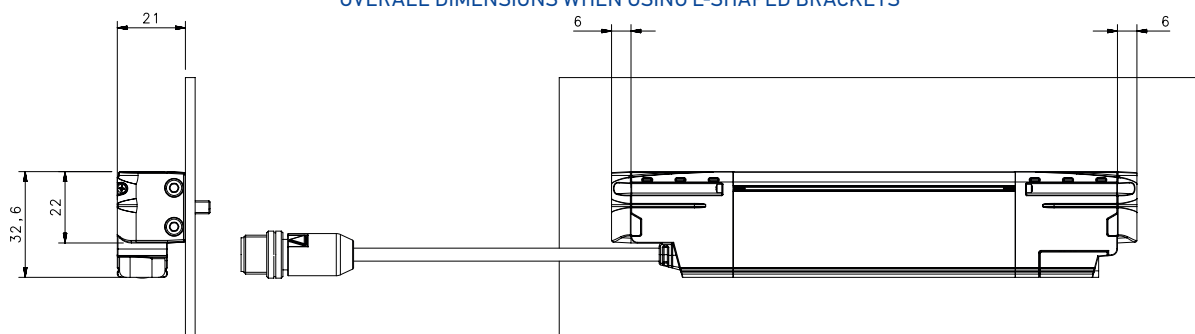
OVERALL DIMENSIONS WHEN USING O-SHAPED BRACKETS



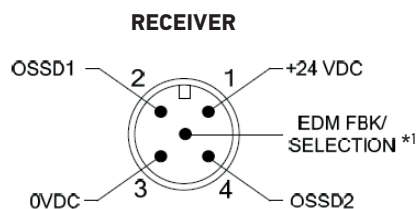
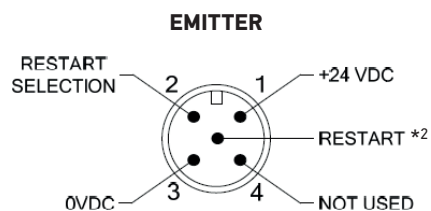
OVERALL DIMENSIONS WHEN USING C-SHAPED BRACKETS



OVERALL DIMENSIONS WHEN USING L-SHAPED BRACKETS



CONNECTIONS

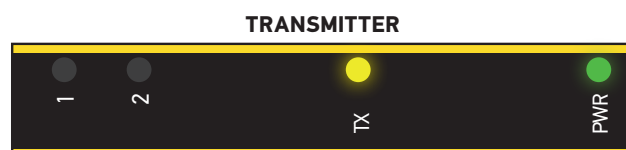
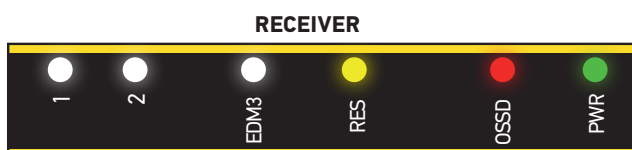


NOTES:

EDM : If connected to NC contact of a forced-guided relay, EDM function is ON; if connected to OSSD1, EDM function is OFF.

RESTART: if connected through NC contact to 24Vdc: MANUAL RESTART; if connected to RESTART SELECTION: AUTOMATIC RESTART; if left unconnected (floating): ALIGNMENT MODE.

INDICATORS



MODEL SELECTION AND ORDER INFORMATION

| FINGER PROTECTION - 14 mm RESOLUTION | | HAND PROTECTION - 24 mm RESOLUTION | | HAND PROTECTION - 34 mm RESOLUTION | |
|--------------------------------------|--------------|------------------------------------|--------------|------------------------------------|--------------|
| SL2 [SL2-14-xxxx-E] | Order number | SL2 [SL2-24-xxxx-E] | Order number | SL2 [SL2-34-xxxx-E] | Order number |
| SL2-14-0150-E | 957911020 | SL2-24-0150-E | 957911360 | SL2-34-0150-E | 957911700 |
| SL2-14-0210-E | 957911030 | SL2-24-0210-E | 957911370 | SL2-34-0210-E | 957911710 |
| SL2-14-0270-E | 957911040 | SL2-24-0270-E | 957911380 | SL2-34-0270-E | 957911720 |
| SL2-14-0300-E | 957911050 | SL2-24-0300-E | 957911390 | SL2-34-0300-E | 957911730 |
| SL2-14-0330-E | 957911060 | SL2-24-0330-E | 957911400 | SL2-34-0330-E | 957911740 |
| SL2-14-0360-E | 957911070 | SL2-24-0360-E | 957911410 | SL2-34-0360-E | 957911750 |
| SL2-14-0390-E | 957911080 | SL2-24-0390-E | 957911420 | SL2-34-0390-E | 957911760 |
| SL2-14-0420-E | 957911090 | SL2-24-0420-E | 957911430 | SL2-34-0420-E | 957911770 |
| SL2-14-0450-E | 957911100 | SL2-24-0450-E | 957911440 | SL2-34-0450-E | 957911780 |
| SL2-14-0480-E | 957911110 | SL2-24-0480-E | 957911450 | SL2-34-0480-E | 957911790 |
| SL2-14-0510-E | 957911120 | SL2-24-0510-E | 957911460 | SL2-34-0510-E | 957911800 |
| SL2-14-0540-E | 957911130 | SL2-24-0540-E | 957911470 | SL2-34-0540-E | 957911810 |
| SL2-14-0570-E | 957911140 | SL2-24-0570-E | 957911480 | SL2-34-0570-E | 957911820 |
| SL2-14-0600-E | 957911150 | SL2-24-0600-E | 957911490 | SL2-34-0600-E | 957911830 |
| SL2-14-0630-E | 957911160 | SL2-24-0630-E | 957911500 | SL2-34-0630-E | 957911840 |
| SL2-14-0660-E | 957911170 | SL2-24-0660-E | 957911510 | SL2-34-0660-E | 957911850 |
| SL2-14-0690-E | 957911180 | SL2-24-0690-E | 957911520 | SL2-34-0690-E | 957911860 |
| SL2-14-0720-E | 957911190 | SL2-24-0720-E | 957911530 | SL2-34-0720-E | 957911870 |
| SL2-14-0750-E | 957911200 | SL2-24-0750-E | 957911540 | SL2-34-0750-E | 957911880 |
| SL2-14-0780-E | 957911210 | SL2-24-0780-E | 957911550 | SL2-34-0780-E | 957911890 |
| SL2-14-0810-E | 957911220 | SL2-24-0810-E | 957911560 | SL2-34-0810-E | 957911900 |
| SL2-14-0840-E | 957911230 | SL2-24-0840-E | 957911570 | SL2-34-0840-E | 957911910 |
| SL2-14-0870-E | 957911240 | SL2-24-0870-E | 957911580 | SL2-34-0870-E | 957911920 |
| SL2-14-0900-E | 957911250 | SL2-24-0900-E | 957911590 | SL2-34-0900-E | 957911930 |
| SL2-14-0930-E | 957911260 | SL2-24-0930-E | 957911600 | SL2-34-0930-E | 957911940 |
| SL2-14-0960-E | 957911270 | SL2-24-0960-E | 957911610 | SL2-34-0960-E | 957911950 |
| SL2-14-0990-E | 957911280 | SL2-24-0990-E | 957911620 | SL2-34-0990-E | 957911960 |
| SL2-14-1020-E | 957911290 | SL2-24-1020-E | 957911630 | SL2-34-1020-E | 957911970 |
| SL2-14-1050-E | 957911300 | SL2-24-1050-E | 957911640 | SL2-34-1050-E | 957911980 |
| SL2-14-1080-E | 957911310 | SL2-24-1080-E | 957911650 | SL2-34-1080-E | 957911990 |
| SL2-14-1110-E | 957911320 | SL2-24-1110-E | 957911660 | SL2-34-1110-E | 957912000 |
| SL2-14-1140-E | 957911330 | SL2-24-1140-E | 957911670 | SL2-34-1140-E | 957912010 |
| SL2-14-1170-E | 957911340 | SL2-24-1170-E | 957911680 | SL2-34-1170-E | 957912020 |
| SL2-14-1200-E | 957911350 | SL2-24-1200-E | 957911690 | SL2-34-1200-E | 957912030 |
| SL4 [SL4-14-xxxx-E] | Order number | SL4 [SL4-24-xxxx-E] | Order number | SL4 [SL4-34-xxxx-E] | Order number |
| SL4-14-0150-E | 957910000 | SL4-24-0150-E | 957910340 | SL4-34-0150-E | 957910680 |
| SL4-14-0210-E | 957910010 | SL4-24-0210-E | 957910350 | SL4-34-0210-E | 957910690 |
| SL4-14-0270-E | 957910020 | SL4-24-0270-E | 957910360 | SL4-34-0270-E | 957910700 |
| SL4-14-0300-E | 957910030 | SL4-24-0300-E | 957910370 | SL4-34-0300-E | 957910710 |
| SL4-14-0330-E | 957910040 | SL4-24-0330-E | 957910380 | SL4-34-0330-E | 957910720 |
| SL4-14-0360-E | 957910050 | SL4-24-0360-E | 957910390 | SL4-34-0360-E | 957910730 |
| SL4-14-0390-E | 957910060 | SL4-24-0390-E | 957910400 | SL4-34-0390-E | 957910740 |
| SL4-14-0420-E | 957910070 | SL4-24-0420-E | 957910410 | SL4-34-0420-E | 957910750 |
| SL4-14-0450-E | 957910080 | SL4-24-0450-E | 957910420 | SL4-34-0450-E | 957910760 |
| SL4-14-0480-E | 957910090 | SL4-24-0480-E | 957910430 | SL4-34-0480-E | 957910770 |
| SL4-14-0510-E | 957910100 | SL4-24-0510-E | 957910440 | SL4-34-0510-E | 957910780 |
| SL4-14-0540-E | 957910110 | SL4-24-0540-E | 957910450 | SL4-34-0540-E | 957910790 |
| SL4-14-0570-E | 957910120 | SL4-24-0570-E | 957910460 | SL4-34-0570-E | 957910800 |
| SL4-14-0600-E | 957910130 | SL4-24-0600-E | 957910470 | SL4-34-0600-E | 957910810 |
| SL4-14-0630-E | 957910140 | SL4-24-0630-E | 957910480 | SL4-34-0630-E | 957910820 |
| SL4-14-0660-E | 957910150 | SL4-24-0660-E | 957910490 | SL4-34-0660-E | 957910830 |
| SL4-14-0690-E | 957910160 | SL4-24-0690-E | 957910500 | SL4-34-0690-E | 957910840 |
| SL4-14-0720-E | 957910170 | SL4-24-0720-E | 957910510 | SL4-34-0720-E | 957910850 |
| SL4-14-0750-E | 957910180 | SL4-24-0750-E | 957910520 | SL4-34-0750-E | 957910860 |
| SL4-14-0780-E | 957910190 | SL4-24-0780-E | 957910530 | SL4-34-0780-E | 957910870 |
| SL4-14-0810-E | 957910200 | SL4-24-0810-E | 957910540 | SL4-34-0810-E | 957910880 |
| SL4-14-0840-E | 957910210 | SL4-24-0840-E | 957910550 | SL4-34-0840-E | 957910890 |
| SL4-14-0870-E | 957910220 | SL4-24-0870-E | 957910560 | SL4-34-0870-E | 957910900 |
| SL4-14-0900-E | 957910230 | SL4-24-0900-E | 957910570 | SL4-34-0900-E | 957910910 |
| SL4-14-0930-E | 957910240 | SL4-24-0930-E | 957910580 | SL4-34-0930-E | 957910920 |
| SL4-14-0960-E | 957910250 | SL4-24-0960-E | 957910590 | SL4-34-0960-E | 957910930 |
| SL4-14-0990-E | 957910260 | SL4-24-0990-E | 957910600 | SL4-34-0990-E | 957910940 |
| SL4-14-1020-E | 957910270 | SL4-24-1020-E | 957910610 | SL4-34-1020-E | 957910950 |
| SL4-14-1050-E | 957910280 | SL4-24-1050-E | 957910620 | SL4-34-1050-E | 957910960 |
| SL4-14-1080-E | 957910290 | SL4-24-1080-E | 957910630 | SL4-34-1080-E | 957910970 |
| SL4-14-1110-E | 957910300 | SL4-24-1110-E | 957910640 | SL4-34-1110-E | 957910980 |
| SL4-14-1140-E | 957910310 | SL4-24-1140-E | 957910650 | SL4-34-1140-E | 957910990 |
| SL4-14-1170-E | 957910320 | SL4-24-1170-E | 957910660 | SL4-34-1170-E | 957911000 |
| SL4-14-1200-E | 957910330 | SL4-24-1200-E | 957910670 | SL4-34-1200-E | 957911010 |

ACCESSORIES SELECTION AND ORDER INFORMATION

| BRACKETS | | ORDER NUMBER |
|------------------------------------------------------------|---------------|--------------|
| C-shaped Brackets (included): 2 pcs kit | ST-K2-SL-C | 95ASE2510 |
| O-shaped Brackets (included): 4 pcs kit | ST-K4-SL-O | 95ASE2520 |
| L-shaped Brackets: 2 pcs kit | ST-K2-SL-L | 95ASE2540 |
| C-shaped Orientable Brackets: 2 pcs kit | ST-K2-SL-C-OR | 95ASE2530 |
| MIRRORS | | |
| Deviating Mirrors | SG-DM Series | See NOTE 1 |
| Deviating Mirrors mounting kit for SG-PSB | ST-PS-DM | See NOTE 1 |
| Mirror Mounting Bracket | ST-DM | See NOTE 1 |
| SAFETY UNITS | | |
| Safety Unit | SE-SR2 | 95ACC6170 |
| EDM Relay Box** | CS-ME | 95ASE1270 |
| Safety control unit for single beams and SLC (with muting) | SG-BWS-T4-MT | 957051010 |
| TEST PIECES | | |
| Test Piece 14mm L=300mm | TP-14 | 95ACC1630 |
| Test Piece 24mm L=200mm | TP-24 | 95ASE2570 |
| Test Piece 34mm L=200mm | TP-34 | 95ASE2580 |
| NOTES | | |

NOTE 1 : For order numbers of these accessories refer to SAFETY REFERENCE GUIDE or to datasheets of SG-DM accessories

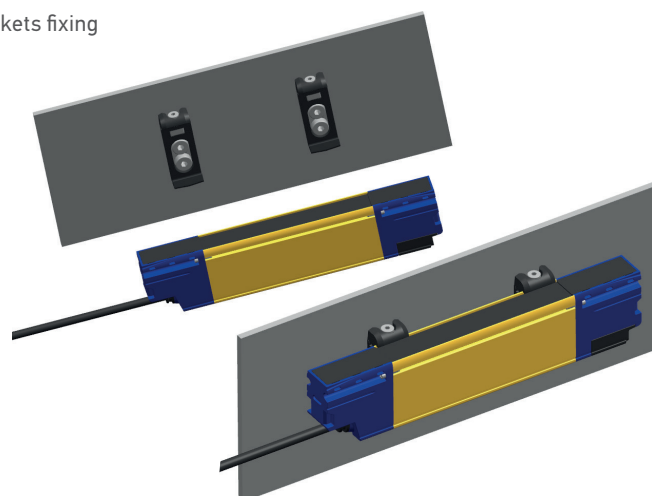
NOTE 2: When using EDM Relay Box or Muting connection box, connect EDM input, and be sure EDM function is active on the safety light curtain

BRACKETS

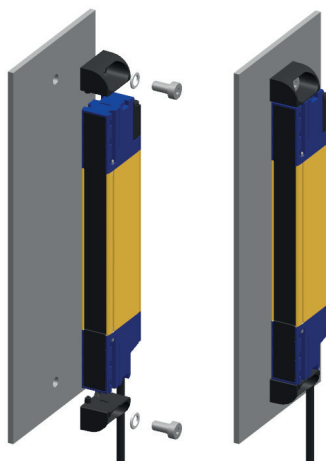
C-shaped bracket



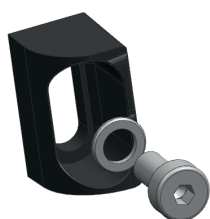
C-shaped brackets fixing



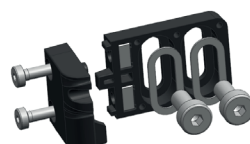
O-shaped brackets fixing



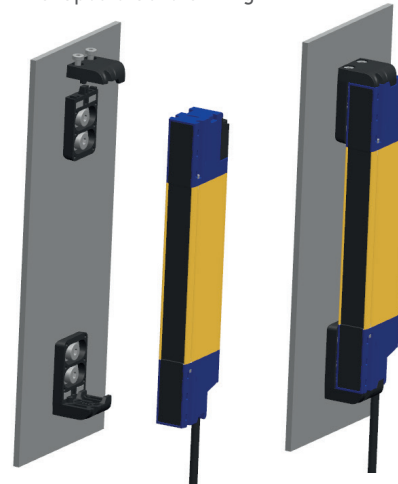
O-shaped bracket



L-shaped bracket



L-shaped brackets fixing

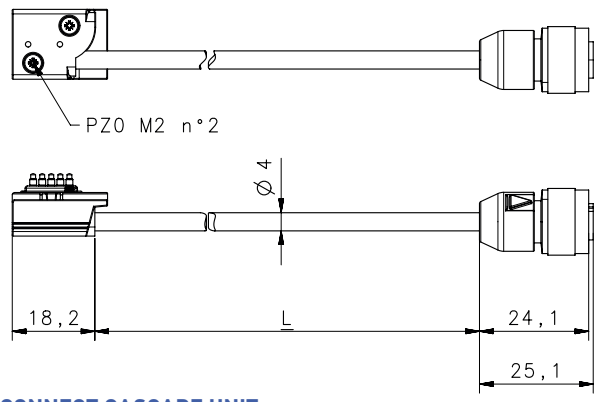


CABLES

| | RECEIVER/TRANSMITTER CABLE | LENGTH (m) | Order Number |
|----------------------------|----------------------------|------------|--------------|
| SL2/SL4 [SLx-xx-xxxx-E] | CS-A1-03-U-03 | 3 | 95ASE1170 |
| | CS-A1-03-U-05 | 5 | 95ASE1180 |
| | CS-A1-03-U-10 | 10 | 95ASE1190 |
| | CS-A1-03-U-15 | 15 | 95ASE1200 |
| | CASCADE CABLES | LENGTH (m) | Order Number |
| SL2/SL4 [SLx-xx-xxxx-E] | CS-H1-03-B-001 | 0.1 | 95A252950 |
| | CS-H1-03-B-005 | 0.5 | 95ASE2550 |
| | CS-H1-03-B-01 | 1 | 95ASE2560 |

NOTE
All cables have axial connectors

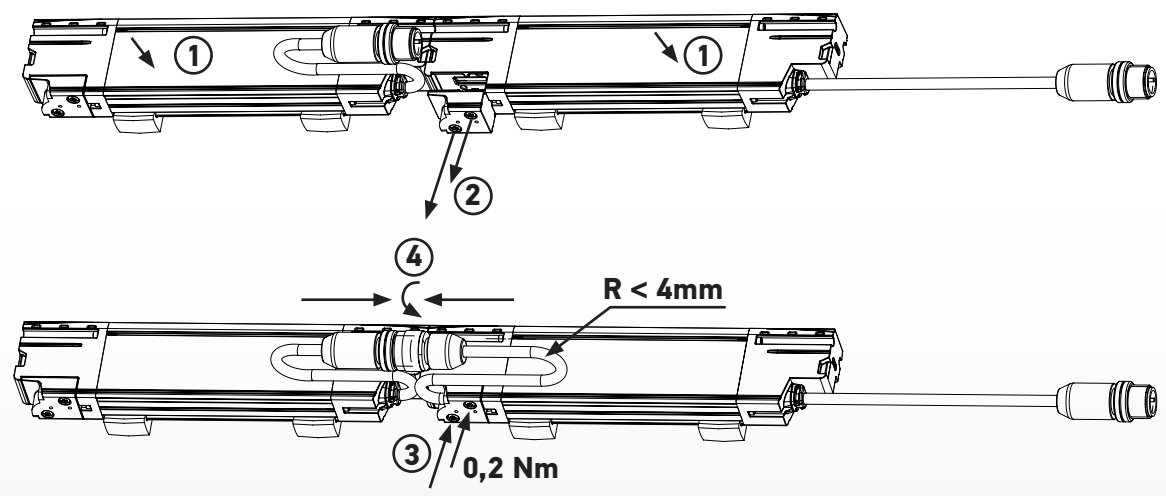
CASCADE CABLE DIMENSIONS



| CASCADE CABLES | L +/- 10 (mm) |
|----------------|---------------|
| CS-H1-03-B-001 | 90 |
| CS-H1-03-B-005 | 490 |
| CS-H1-03-B-01 | 990 |

TO CONNECT CASCADE UNIT:

- Fix all cascade units with proper brackets. (1)
- Remove Terminator Caps at the end of Master by loosening the two fixing screws for both emitter and receiver. (2)
- Fasten the cascade cables in place of removed terminator caps, ensure all cables bend radius it's not less than 4mm. (3)
- Connect Slaves M12 male connectors to M12 Female connectors from cascade cables. (4)



Rev. 05, 05/2016

SG BODY COMPACT BASE SG BODY COMPACT MUTING

DATALOGIC



Body access detection

Perimeter control

Rapid solution for access control with muting

Easy installation and alignment

L and T muting models provided with
Retroreflective Muting Arms

- Two, three or four beams for body protection
- Controlled heights of 500, 800, 900 and 1200 mm
- Long operating distance: up to 50 m
- Simple configuration through DIP switches
- Integrated muting lamp (only on muting models)



APPLICATIONS

- Automatic machines
- Robots
- Automatic assembly lines
- Palletizers and depalletizers
- Material handling

INDUSTRIES

- Food & Beverage
- Metalworking
- Automotive
- Wood
- Ceramics

| | FINGER | HAND | ARM | BODY |
|--------|--------|------|-----|------|
| Type 2 | | | | x |
| Type 4 | | | | x |

SG2-S2-050-PP-E

| TYPE | |
|------|--------|
| 2 | Type 2 |
| 4 | Type 4 |

| BEAMS AND MUTING ARMS | |
|-----------------------|----------------------------------|
| S2 | 2 Beams |
| S3 | 3 Beams |
| S4 | 4 Beams |
| T2 | 2 Beams with T muting arms (RRX) |
| T3 | 3 Beams with T muting arms (RRX) |
| L2 | 2 Beams with L muting arms (RRX) |
| L3 | 3 Beams with L muting arms (RRX) |

| MONITORED HEIGHT | |
|------------------|-------------------|
| 050 | 500 mm (2 beams) |
| 080 | 800 mm (3 beams) |
| 090 | 900 mm (4 beams) |
| 120 | 1200 mm (4 beams) |

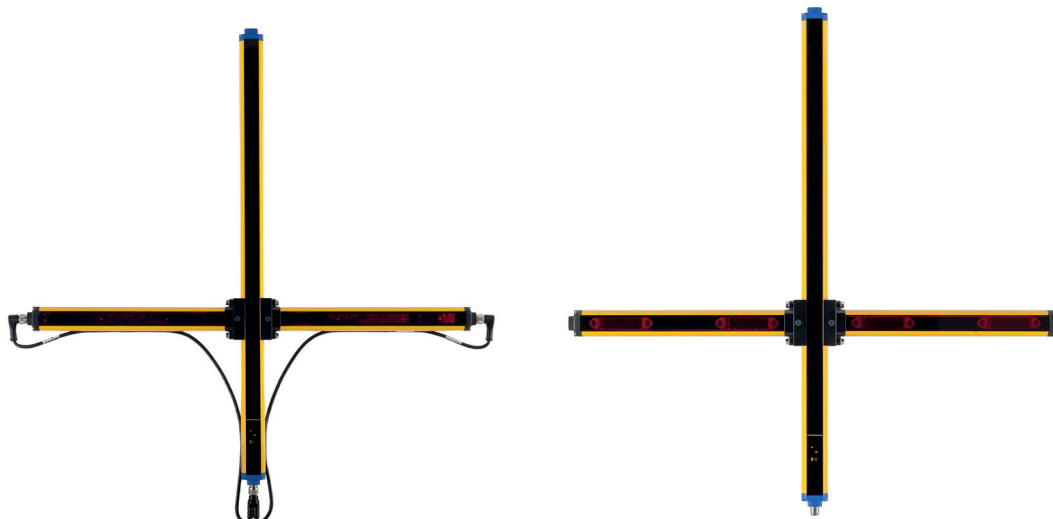
| VERSION | |
|---------|-----------------------------------------------------------------------|
| X | Base: only automatic restart |
| E | Base: auto/man restart, EDM |
| W | Muting: with muting function |
| N | SG4-N Body Compact Muting: muting function with single main connector |

TECHNICAL DATA

| | SG2 BODY COMPACT BASE [SG2-Sx-xxx-PP-E] | SG2 BODY COMPACT MUTING [SG2-S/L/Tx-xxx-PP-W] | SG4 BODY COMPACT BASE [SG4-Sx-xxx-PP-X] | SG4 BODY COMPACT BASE [SG4-Sx-xxx-PP-E] | SG4 BODY COMPACT MUTING [SG4-S/L/Tx-xxx-PP-W] | SG4-N BODY COMPACT MUTING [SG4-Sx-xxx-PP-N] |
|-------------------------------------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------|--------------------------------------------------|--------------------------------------------------------|------------------------------------------------------|
| GENERAL DATA | | | | | | |
| Type (EN61496-1) | 2 | | 4 | | | |
| PL (EN ISO 13849-1) | c | | e | | | |
| SIL (IEC 61508) | 1 | | 3 | | | |
| Resolution | 315 mm (4 beams) 415 mm (3 and 4 beams) 515 mm (2 beams) | | | | | |
| Protected height | 515 mm (2 beams) 815 mm (3 beams) 915 mm or 1215 (4 beams) | | | | | |
| Operating distance | 0.5 ...50 m | | | | | |
| Retroreflective muting arms operating distance (included in L and T versions) | ----- | 0.5 ... 3 m | ----- | 0.5 ... 3 m | | |
| Emitter-Receiver muting arms operating distance | ----- | 0.5 ... 7 m | ----- | 0.5 ... 7 m | | |
| ELECTRICAL DATA | | | | | | |
| Power supply (Vdd) | 24 Vdc ± 20% | | | | | |
| Outputs | 2 PNP | | | | | |
| Output current | 0.5 A max / each output | | | | | |
| Capacitive load | 65 nF max at 25°C | | | | | |
| Response time | 14 ... 16 ms depending on model * | | | | | |
| Cables length (for power supply) | 50 m max. | | | | | |
| MECHANICAL AND ENVIRONMENTAL DATA | | | | | | |
| Operating temperature | 0 ...+55 °C | | | | | |
| Humidity | 15 ... 95 % (no condensation) | | | | | |
| Mechanical protection | IP 65 (EN 60529) | | | | | |
| Housing Material | Painted aluminium, Polycarbonate | | | | | |
| Window material | PMMA | | | | | |
| FUNCTIONS | | | | | | |
| Test Input | On Receiver | | N/A | On Receiver | | |
| Restart | Automatic / Manual | | Automatic | Automatic / Manual | | |
| EDM (External Device Monitoring) | On Receiver | | N/A | On Receiver | | |
| Muting type (Selectable with DIP-sw)* | ----- | T-Muting / L-Muting | N/A | ----- | T-Muting / L-Muting | |
| Muting time-out (Selectable with DIP-sw)* | ----- | 10 min. or ∞ | N/A | ----- | 10 min. or ∞ | |
| Override | ----- | On Receiver | N/A | ----- | On Receiver | ----- |
| Impulsive Override (single wire) | ----- | | | | | On Receiver |
| NOTES | | | | | | |

NOTES

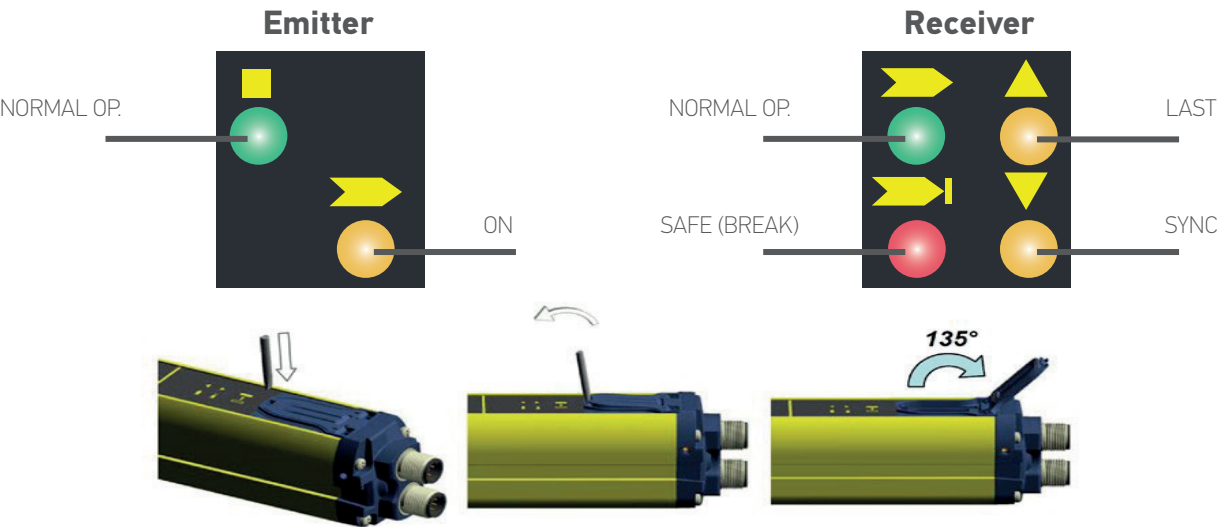
* For detailed informations refer to related Product Manual



CONNECTIONS

| | SG4 BODY COMPACT BASE [SG4-SX-XXX-PP-X] | SG2 BODY COMPACT BASE [SG2-SX-XXX-PP-E] SG4 BODY COMPACT BASE [SG4-SX-XXX-PP-E] | SG2 BODY COMPACT MUTING [SG2-S/L/TX-XXX-PP-W] | SG4 BODY COMPACT MUTING [SG4-S/L/TX-XXX-PP-W] | SG4-N BODY COMPACT MUTING [SG4-SX-XXX-PP-N] |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| EMITTER MAIN CONNECTOR | <div>M12, 4 poles, male</div> <div>1 = Brown = 24Vdc</div> <div>3 = Blue = 0 V</div> <div>NOT USED</div> <div></div> | | | | |
| EMITTER SECONDARY CONNECTOR | ----- | | <div>M12, 5 poles, male</div> <div>1 = Brown = 24 Vdc</div> <div>3 = Blue = 0 V</div> <div>NOT USED</div> <div></div> | | |
| RECEIVER MAIN CONNECTOR | <div>M12, 5 poles, male</div> <div>1 = Brown = 24Vdc</div> <div>2 = White = OSSD1</div> <div>3 = Blue = 0 V</div> <div>4 = Black = OSSD2</div> <div></div> | <div>M12, 8 poles, male</div> <div>1 = white = TEST / START</div> <div>2 = brown = 24 Vdc</div> <div>4 = yellow = EDM</div> <div>5 = grey = OSSD 1</div> <div>6 = pink = OSSD 2</div> <div>7 = blue = 0V</div> <div>8 = red = OSSD 2</div> <div></div> | <div>M12, 8 poles, male</div> <div>1 = white = TEST / START</div> <div>2 = brown = 24 VDC</div> <div>3 = green = OVERRIDE 1</div> <div>4 = yellow = EDM</div> <div>5 = grey = OSSD 1</div> <div>6 = pink = OSSD 2</div> <div>7 = blue = 0V</div> <div>8 = red = OVERRIDE 2</div> <div></div> | <div>M12, 8 poles, male</div> <div>1 = white = RESTART / RE-SET / EDM / OVERRIDE</div> <div>2 = brown = 24 VDC</div> <div>3 = green = MUTING 1</div> <div>4 = yellow = MUTING 2</div> <div>5 = grey = OSSD 1</div> <div>6 = pink = OSSD 2</div> <div>7 = blue = 0V</div> <div>8 = red = MUTING LAMP</div> <div></div> | |
| RECEIVER SECONDARY CONNECTOR | ----- | | <div>M12, 5 poles, male</div> <div>1 = Brown = 24 Vdc</div> <div>2 = White = MUTING2</div> <div>3 = Blue = 0 V</div> <div>4 = Black = MUTING1</div> <div></div> | | |

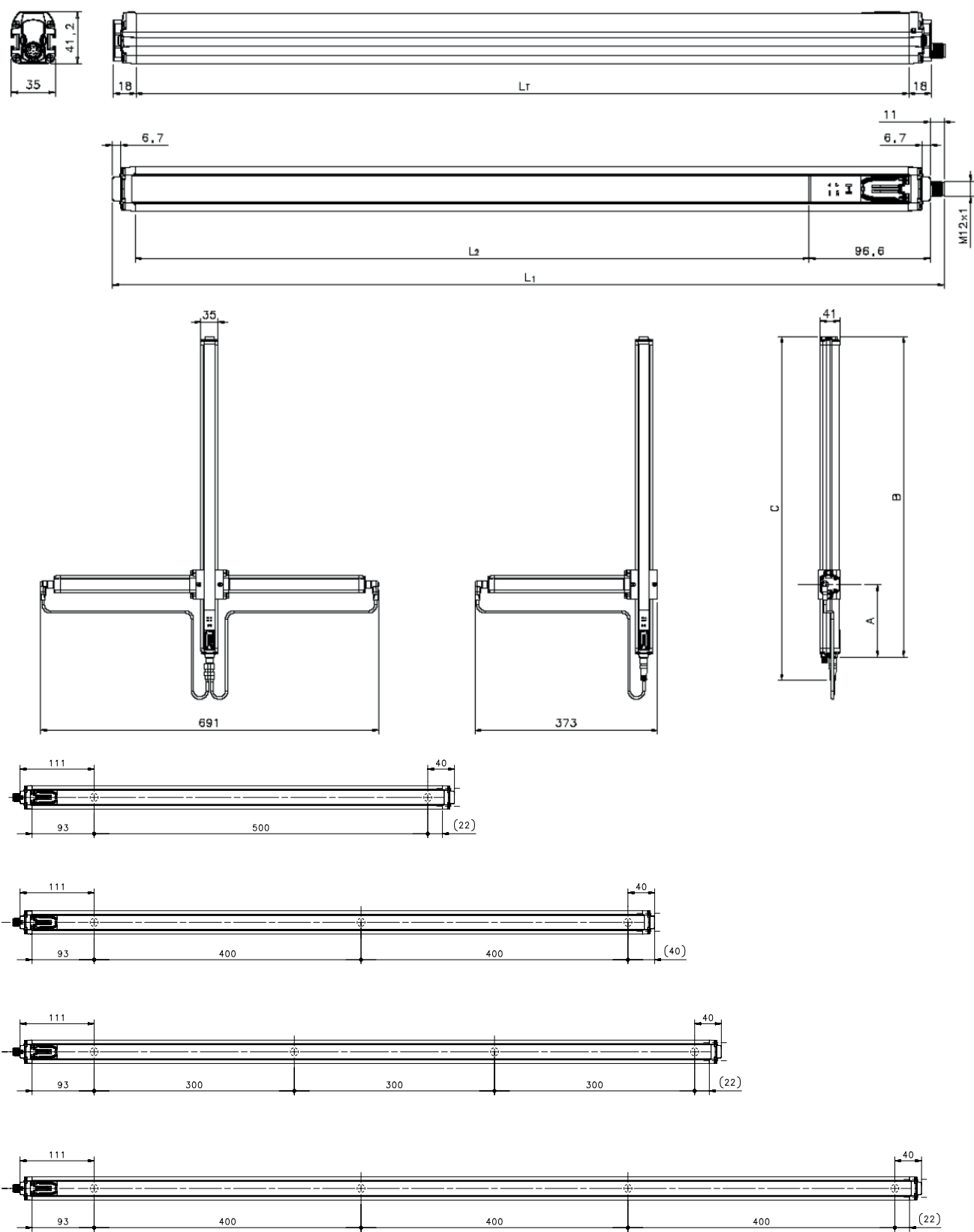
INDICATORS AND DIP SWITCHES



| DIP-SW | FUNCTION | ON | OFF |
|--------|----------|-------------|-----------|
| 1, 5 | | | |
| 2, 6 | | | |
| 3, 7 | EDM | Deactivated | Activated |
| 4, 8 | Restart | Automatic | Manual |

NOTE
DIP SW are not present on SG4 BODY COMPACT BASE models with -X final: [SGx-Sx-xxx-PP-X]

DIMENSIONS



| MODEL | L1 (mm) | L2 (mm) | A (mm) | B (mm) | C (mm) |
|---------------------|---------|---------|---------|--------|--------|
| SGx-S/L/Tx-050-PP-x | 662 | 538.4 | 120-260 | 653 | 700 |
| SGx-S/L/Tx-080-PP-x | 962 | 838.4 | 120-260 | 953 | 1000 |
| SGx-S/L/Tx-090-PP-x | 1062.5 | 938.4 | 120-260 | 1053 | 1100 |
| SGx-S/L/Tx-120-PP-x | 1362.5 | 1238.4 | 120-260 | 1353 | 1400 |

MODEL SELECTION AND ORDER INFORMATION

| | | SG2 BODY COMPACT BASE [SG2-SX-XXX-PP-E] | ORDER CODE | SG4 BODY COMPACT BASE [SG4-SX-XXX-PP-E] | ORDER CODE |
|------------------------------------------------------|---------------------------|--------------------------------------------------|------------|--------------------------------------------------|------------|
| ONLY AUTOMATIC RESTART NO EDM | | | | SG4-S2-050-PP-X | 957851600 |
| | | | | SG4-S3-080-PP-X | 957851610 |
| | | | | SG4-S4-090-PP-X | 957851620 |
| | | | | SG4-S4-120-PP-X | 957851630 |
| WITH EDM AND MANUAL RESTART | | SG2-S2-050-PP-E | 957851000 | SG4-S2-050-PP-E | 957851040 |
| | | SG2-S3-080-PP-E | 957851010 | SG4-S3-080-PP-E | 957851050 |
| | | SG2-S4-090-PP-E | 957851020 | SG4-S4-090-PP-E | 957851060 |
| | | SG2-S4-120-PP-E | 957851030 | SG4-S4-120-PP-E | 957851070 |
| WITH INTEGRATED MUTING | WITHOUT MUTING ARMS | SG2 BODY COMPACT MUTING [SG2-S/L/TX-XXX-PP-W] | ORDER CODE | SG4 BODY COMPACT MUTING [SG4-S/L/TX-XXX-PP-W] | ORDER CODE |
| | | SG2-S2-050-PP-W | 957851080 | SG4-S2-050-PP-W | 957851160 |
| | | SG2-S3-080-PP-W | 957851090 | SG4-S3-080-PP-W | 957851170 |
| | | SG2-S4-090-PP-W | 957851100 | SG4-S4-090-PP-W | 957851180 |
| | WITH L MUTING ARMS | SG2-S4-120-PP-W | 957851110 | SG4-S4-120-PP-W | 957851190 |
| | | SG2-L2-050-PP-W | 957851120 | SG4-L2-050-PP-W | 957851200 |
| | WITH T MUTING ARMS | SG2-L3-080-PP-W | 957851130 | SG4-L3-080-PP-W | 957851210 |
| | | SG2-T2-050-PP-W | 957851140 | SG4-T2-050-PP-W | 957851220 |
| | | SG2-T3-080-PP-W | 957851150 | SG4-T3-080-PP-W | 957851230 |
| WITH INTEGRATED MUTING ON MAIN CONNECTOR | WITHOUT MUTING ARMS | | | SG4 BODY COMPACT MUTING [SG4-S/L/TX-XXX-PP-W] | ORDER CODE |
| | | | | SG4-S2-050-PP-N | 957851640 |
| | | | | SG4-S3-080-PP-N | 957851650 |
| | | | | SG4-S4-090-PP-N | 957851660 |
| | | | | SG4-S4-120-PP-N | 957851670 |

CABLES

| | POLES | CONNECTOR | LENGHT (M) | MODEL | ORDER NUMBER |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------|------------|---------------|--------------|
| SG BODY COMPACT BASE/MUTING EMITTER MAIN CONNECTOR [SG2\4-SX-XXX-PP-X/E/W/N] SG BODY COMPACT BASE RECEIVER MAIN CONNECTOR [SG2\4-SX-XXX-PP-X] SG BODY COMPACT MUTING EMITTER AND RECEIVER SECONDARY CONNECTORS [SG2\4-S/L/TX-XXX-PP-W] | 4 | Axial | 3 | CV-A1-22-B-03 | 95ACC1480 |
| | | | 5 | CV-A1-22-B-05 | 95ACC1490 |
| | | | 10 | CV-A1-22-B-10 | 95ACC1500 |
| | | | 15 | CV-A1-22-B-15 | 95ACC2070 |
| | | | 25 | CV-A1-22-B-25 | 95ACC2090 |
| | | Radial | 3 | CV-A2-22-B-03 | 95ACC1540 |
| | | | 5 | CV-A2-22-B-05 | 95ACC1550 |
| | | | 10 | CV-A2-22-B-10 | 95ACC1560 |
| | | | | | |
| | | | | | |
| SG BODY COMPACT BASE/MUTING RECEIVER MAIN CONNECTOR [SG2\4-SX-XXX-PP-E] [SG2\4-S/L/TX-XXX-PP-W] [SG4-SX-XXX-PP-N] | 8 | Axial | 3 | CV-A1-26-B-03 | 95ACC1510 |
| | | | 5 | CV-A1-26-B-05 | 95ACC1520 |
| | | | 10 | CV-A1-26-B-10 | 95ACC1530 |
| | | | 15 | CV-A1-26-B-15 | 95ACC2080 |
| | | | 25 | CV-A1-26-B-25 | 95ACC2100 |
| | | Radial | 3 | CV-A2-26-B-03 | 95ACC1600 |
| | | | 5 | CV-A2-26-B-05 | 95ACC1610 |
| | | | 10 | CV-A2-26-B-10 | 95ACC1620 |

NOTE

The cables for the secondary connector of SG BODY COMPACT MUTING T and L are provided within the package

ACCESSORIES

| | SG4 BODY COMPACT BASE [SG4-SX-XXX-PP-X] | SG2 BODY COMPACT BASE SG4 BODY COMPACT BASE [SG2/4-SX-XXX-PP-E] | SG2 BODY COMPACT MUTING SG4 BODY COMPACT MUTING [SG2/4-S/L/TX-XXX-PP-W] | SG4-N BODY COMPACT MUTING [SG4-SX-XXX-PP-N] |
|------------------------------------------------------------------|--------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------------|---------------------------------------------------|
| BRACKETS | | | | |
| Standard angled brackets (4 pcs) ¹ | ST-KSTD (included) | | | |
| Rotating brackets (4 pcs) | ST-K4ROT-SG BODY COMPACT | | | |
| Antivibration support (4 Pcs / 6 pcs) ³ | ST-K4AV ST-K6AV | | | |
| Orientable support (4 pcs / 6 pcs) ³ | ST-K4OR ST-K6OR | | | |
| Plastic brackets (4 pcs / 6 pcs) ³ | ST-KP4MP ST-KP6MP | | | |
| PROTECTION TUBES AND STANDS | | | | |
| IP67/IP69K tubes | ----- | | | |
| Protective stands | SG-PSB series ² | | | |
| Stand plate for SG-PSB | SG-P | | | |
| Protective stands mounting brackets (4 pcs / 6 pcs) ³ | ST-PS4-SG-SE ST-PS6-SG-SE | | | |
| Floor columns | SE-S Series | | | |
| MIRRORS | | | | |
| Protective stands with single mirrors | SG-PSM series | | | |
| Deviating mirrors mounting kit for SG-PSB | ST-PS-DM | | | |
| Deviating mirrors | SG-DM series | | | |
| Mirror mounting bracket | ST-DM | | | |
| SAFETY UNITS | | | | |
| Safety unit | SE-SR2 | | | |
| Edm relay box ⁴ | --- | CS ME-03VU24-Y14 | | |
| Safety control unit for single beams and SLC | SG-BWS-T4-MT | | | |
| ALIGNMENT TOOL | | | | |
| Laser pointer | SG-LP | | | |
| ACCESSORIES FOR MUTING | | | | |
| Muting arms, brackets and cables | --- | See page 77 | --- | |
| Muting connection box | --- | SG-SRT-1 **** | --- | |
| External muting lamps | --- | LMS Series | | |

NOTES

¹ 1200 mm models are provided with 6 pcs standard brackets

² Not possible with T or L muting arms mounted

³ Use 6 brackets for light curtains with length >= 1200 mm

⁴ When using EDM Relay Box or Muting connection box, connect EDM input, and be sure EDM function is active on the safety light curtain

SG BODY BIG BASE SG BODY BIG MUTING



Robust housing for harsh environments
Long operating range for perimeter control
Rapid solution for access control with muting
Easy installation and alignment

- 2, 3, 4 beams for body protection
- 40 mm resolution for arm protection and presence detection
- Controlled heights 500, 800, 900 and 1200 mm
- Long operating distance: up to 60 m
- Simple configuration through DIP switches
- Integrated muting lamp (only muting models)
- Anti-interference coding
- External muting enable signal
- Edged or triggered muting dependent override



APPLICATIONS

- Automatic machines
- Robots
- Automatic assembly lines
- Palletizers and depalletizers
- Material handling

INDUSTRIES

- Food & Beverage
- Metalworking
- Automotive
- Wood
- Ceramics

| | FINGER | HAND | ARM | BODY |
|--------|--------|------|-----|------|
| Type 2 | | | | x |
| Type 4 | | | x | x |

SG2-B2-050-00-E

| TYPE | |
|------|--------|
| 2 | Type 2 |
| 4 | Type 4 |

| MONITORED HEIGHT | |
|------------------|-------------------|
| 050 | 500 mm (2 beams) |
| 080 | 800 mm (3 beams) |
| 090 | 900 mm (4 beams) |
| 120 | 1200 mm (4 beams) |

| VERSION | |
|---------|-----------------------------------------|
| E | Base: without muting function |
| W-C | Muting: with integrated muting function |

| BEAMS AND RANGE | |
|-----------------|-----------------------------------|
| B2 | 2 Beams |
| B3 | 3 Beams |
| B4 | 4 Beams |
| BSR2 | 2 Beams Short Range (only type 4) |
| BSR3 | 3 Beams Short Range (only type 4) |
| BSR4 | 4 Beams Short Range (only type 4) |
| BLR2 | 2 Beams Long Range (only type 4) |
| BLR3 | 3 Beams Long Range (only type 4) |
| BLR4 | 4 Beams Long Range (only type 4) |

SG4-40-060-00-E

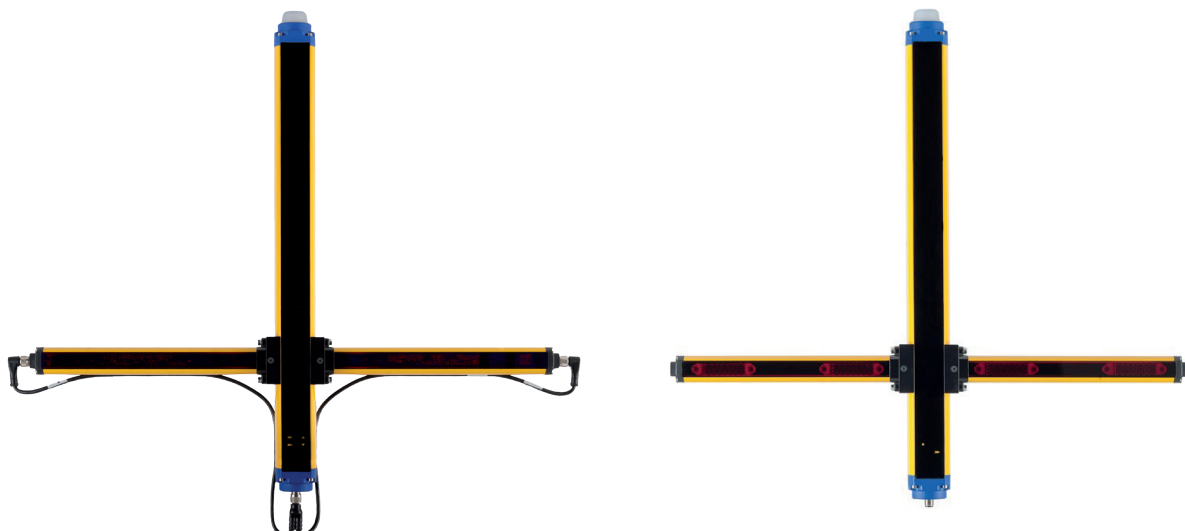
| MONITORED HEIGHT | |
|------------------|---------|
| 060 | 660 mm |
| 090 | 960 mm |
| 120 | 1260 mm |

TECHNICAL DATA



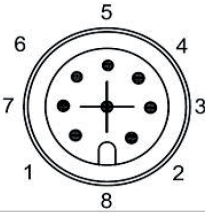
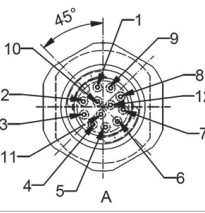

| | SG2 BODY BIG BASE [SG2-Bx-xxx-00-E] | SG2 BODY BIG MUTING [SG2-Bxxx-xxx-00-W-C] | SG4 BODY BIG BASE [SG4-Bx-xxx-00-E] | SG4 BODY BIG MUTING [SG4-Bxxx-xxx-00-W-C] | SG4 LONG RANGE BASE [SG4-40-xxx-00-E] |
|---------------------------------------------------------------------|-------------------------------------------------------------------------|----------------------------------------------|----------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------|
| GENERAL DATA | | | | | |
| Type (EN61496-1-2) | 2 | | 4 | | |
| PL (EN ISO 13849-1) | c | | e | | |
| SIL (IEC 61508) | 1 | | 3 | | |
| Resolution | 319,75 mm (4 beams) 419,75 mm (3 and 4 beams) 519,75 mm (2 beams) | | | | 40 mm |
| Operating distance | 0.5 ... 60 m | | 6 ... 60 m | 0.5 ... 30 m (Short Range model) 6 ... 60 m (Long Range model) | 6 ... 60 m |
| Retroreflective muting arms operating distance (not included) | --- | 0.5 ... 3 m | --- | 0.5 ... 3 m (Only for Short Range model) | --- |
| Emitter-Receiver muting arms operating distance | --- | 0.5 ... 7 m | --- | 0.5 ... 7 m | --- |
| Protected height | 500 mm (2 beams) 800 mm (3 beams) 900 mm or 1200 (4 beams) | | | | 660 mm 960 mm 1260 mm |
| ELECTRICAL DATA | | | | | |
| Power supply (Vdd) | 24 Vdc ± 20% | | | | |
| Outputs | 2 PNP | | | | |
| Output current | 0.5 A max/each output | | | | |
| Capacitive load | 2,2 uF max at 25°C | | | | |
| Response time | 11 ... 24 ms depending on model ^A | | | | 20 ... 24 ms depending on model ^A |
| Cables length (for power supply) | 70 m max. | | | | |
| MECHANICAL AND ENVIRONMENTAL DATA | | | | | |
| Operating temperature | 0 ...+55 °C | | | | |
| Humidity | 15 ... 95 % (no condensation) | | | | |
| Mechanical protection | IP 65 (EN 60529) | | | | |
| Housing Material | Painted aluminium, PBT | | | | |
| Window material | PMMA | | | | |
| FUNCTIONS | | | | | |
| | Test input | | | | |
| | Manual/Automatic restart | | | | |
| | External Device Monitoring (EDM) | | | | |
| | Coding selection with DIP-SW | | | | |
| | --- | T-Muting/L-Muting | --- | T-Muting/L-Muting | --- |
| | --- | Muting timeout: 10 min. or ∞ | --- | Muting timeout: 10 min. or ∞ | --- |
| | --- | Integrated muting lamp | --- | Integrated muting lamp | --- |
| | --- | Override | --- | Override | --- |
| | --- | Muting enable input | --- | Muting enable input | --- |
| | --- | Override status output | --- | Override status output | --- |
| | --- | Muting lamp output | --- | Muting lamp output | --- |

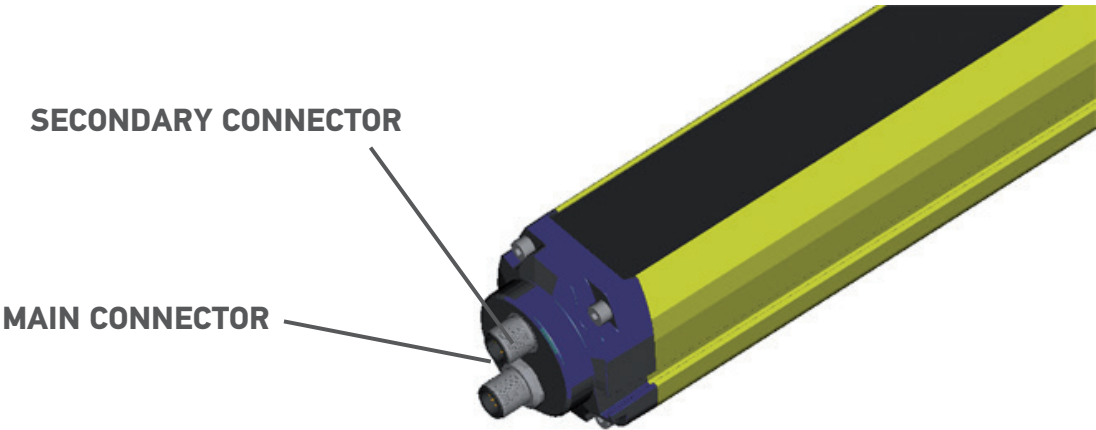
NOTES

^A For detailed informations refer to related Product Datasheet or Manual



CONNECTIONS

| | SG BODY BIG BASE [SG2/4-Bx-xxx-00-E] SG4 LONG RANGE BASE [SG4-40-xxx-00-E] | SG BODY BIG MUTING [SG2/4-Bxxx-xxx-00-W-C] |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | M12, 5 poles, male 1 = brown = 24Vdc; 2 = white = TEST; 3 = blue = 0V; 4 = black = EARTH | |
| EMITTER MAIN CONNECTOR |  | |
| EMITTER SECONDARY CONNECTOR | --- | M12, 5 poles, male 1 = brown = 24Vdc; 3 = blue = 0V |
| | --- |  |
| RECEIVER MAIN CONNECTOR | M12, 8 poles, male 1 = white = RESET/RESTART/RESTART MODE; 2 = brown = 24Vdc; 3 = green = EDM ENABLE; 4 = yellow = EDM; 5 = grey = OSSD1; 6 = pink = OSSD2; 7 = blue = 0V; 8 = red = EARTH | M12 12-pole connector 1 = Brown = 24Vdc; 2 = Blue = 0V; 3 = White = RESET/RESTART/RESTART MODE; 4 = Green = OVERRIDE 1; 5 = Pink = OSSD 2; 6 = Yellow = EDM; 7 = Black = MUTING ENABLE; 8 = Grey = OSSD 1; 9 = Red = OVERRIDE 2; 10 = Violet = LAMP OUTPUT; 11 = Grey-Pink = OVERRIDE STATUS; 12 = Red-Blue = EARTH |
| |  |  |
| RECEIVER SECONDARY CONNECTOR | --- | M12, 5 poles, male 1 = brown = 24Vdc; 2 = white = MUTING2; 3 = blue = 0V; 4 = black = MUTING 1 |
| | --- |  |



ACCESSORIES

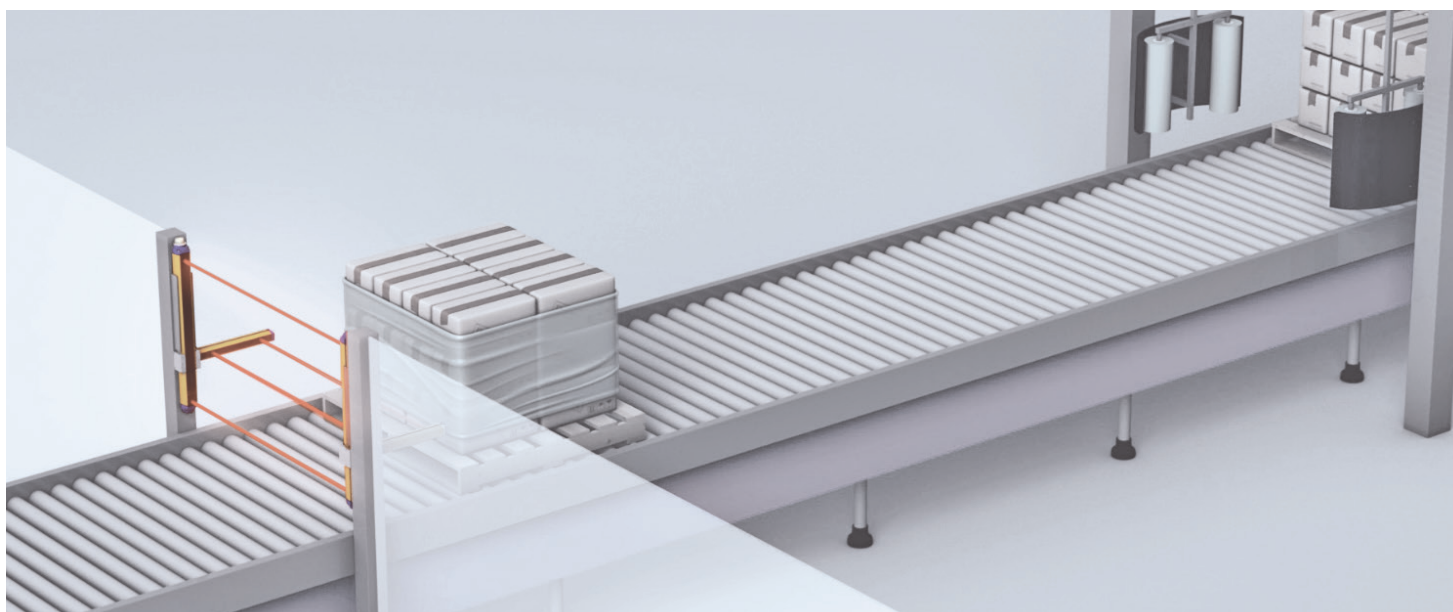
| | SG BODY BIG BASE [SG2/4-Bx-xxx-00-E] | SG BODY BIG MUTING [SG2/4-Bxxx-xxx-00-W-C] | SG4 LONG RANGE BASE [SG4-40-xxx-00-E] |
|----------------------------------------------------------------|-----------------------------------------|-----------------------------------------------|------------------------------------------|
| | BRACKETS | | |
| Included with the light curtain | None | | |
| Standard angled brackets (4 pcs) | ST-K4STD-SG-BODY BIG | | |
| Rear fixing bracket mounting (4 pcs) | ST-K4REAR-SG BODY BIG | | |
| Rotating brackets (4 pcs) | ST-K4ROT-SG BODY BIG | | |
| Antivibration support (4 pcs/6 pcs) ^c | ST-K4AV ST-K6AV | | |
| Plastic brackets (4 pcs/6 pcs) ^c | ST-KP4MP ST-KP6MP | | |
| | PROTECTION TUBES, STANDS | | |
| IP67/IP69K tubes | --- | | |
| Protective stands | SG-PSB series ^B | | |
| Stand plate for SG-PSB | SG-P | | |
| Protective stands mounting brackets (4 Pcs/6 pcs) ^c | ST-PS4-SG BODY ST-PS6-SG BODY | | |
| Floor columns | SE-S Series | | |
| | MIRRORS | | |
| Protective stands with single mirrors | SG-PSM series | | --- |
| Deviating mirrors mounting kit for SG-PSB | | ST-PS-DM | |
| Deviating mirrors | | SG-DM series | |
| Mirror mounting bracket | | ST-DM | |
| | SAFETY UNIT | | |
| Safety unit | | SE-SR2 | |
| Edm relay box ^d | | CS ME-03VU24-Y14 | |
| Safety control unit for single beams and SLC | | SG-BWS-T4-MT | |
| | ALIGNMENT TOOL | | |
| Laser pointer | | SG-LP | |
| | ACCESSORIES FOR MUTING | | |
| Muting arms, brackets and cables | --- | See page 70 | --- |
| Muting connection box ^d | --- | SG-SRT-1 | --- |
| External muting lamps | --- | LMS series | |

NOTES

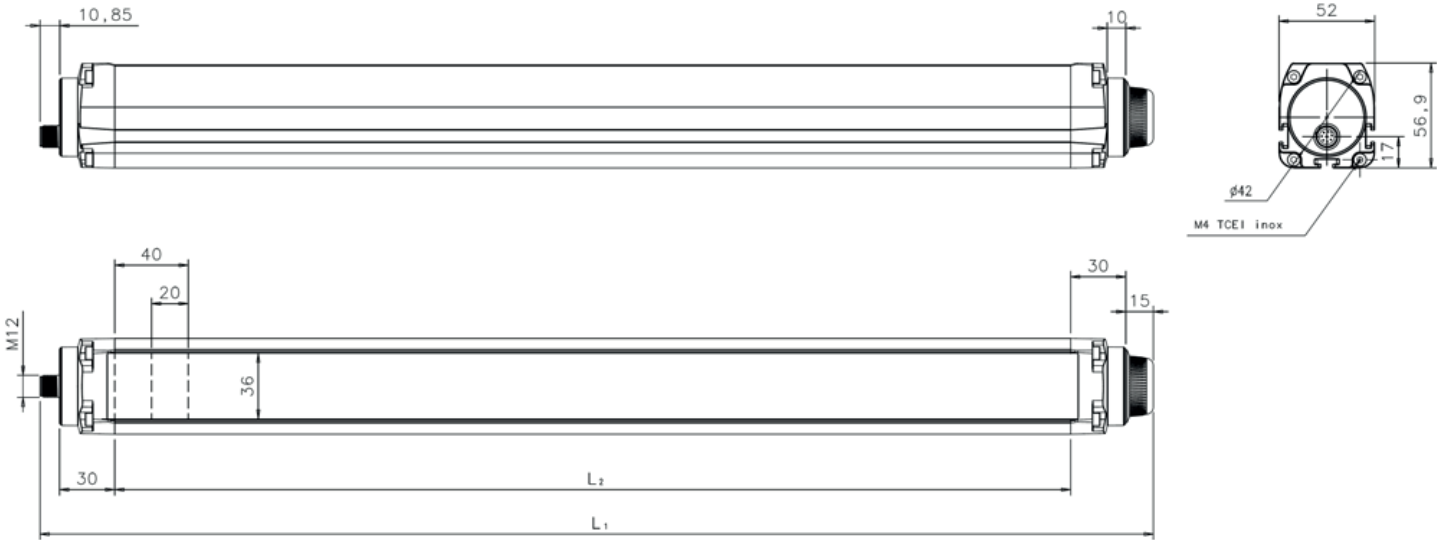
^B Not possible with T or L muting arms mounted

^c Use 6 brackets for light curtains with length ≥ 1200 mm

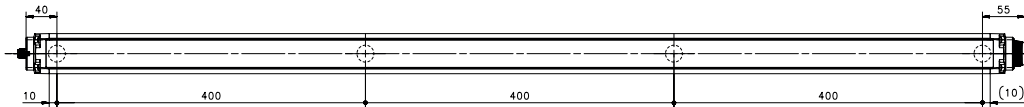
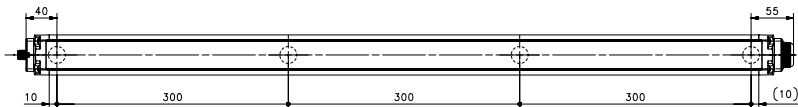
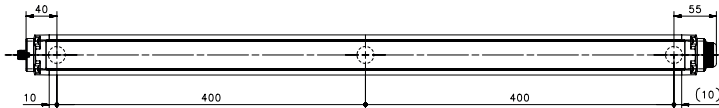
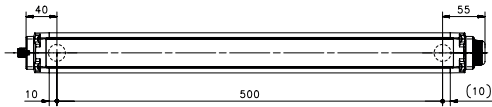
^d When using EDM Relay Box or Muting connection box, connect EDM input, and be sure EDM function is active on the safety light curtain



DIMENSIONS (MM)

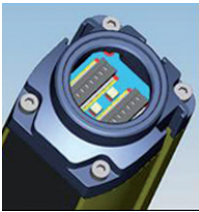


DIMENSIONS (MM)



| MODEL | L1 [mm] | L2 [mm] |
|---------------------|---------|---------|
| SGx-B2-050-00-E | 606,35 | 520,5 |
| SGx-B3-080-00-E | 906,35 | 820,5 |
| SGx-B4-090-00-E | 1006,35 | 920,5 |
| SGx-B4-120-00-E | 1306,35 | 1220,5 |
| SG4-40-060-00-E | 783,35 | 700,5 |
| SG4-40-090-00-E | 1083,35 | 1000,5 |
| SG4-40-120-00-E | 1383,35 | 1300,5 |
| SGx-Byy2-050-00-W-C | 609,35 | 520,5 |
| SGx-Byy3-080-00-W-C | 909,35 | 820,5 |
| SGx-Byy4-090-00-W-C | 1009,35 | 920,5 |
| SGx-Byy4-120-00-W-C | 1309,35 | 1220,5 |

INDICATORS



MODEL SELECTION AND ORDER INFORMATION

| | | BODY PROTECTION | | | | ARM PROTECTION PRESENCE DETECTION | | |
|------------------------|----------------------------------------------|-----------------|---------------------|----------------------------------------------|------------|-----------------------------------|------------------------------------------|------------|
| WITHOUT MUTING | SG2 BODY BIG BASE [SG2-BX-XXX-00-E] | ORDER CODE | WITHOUT MUTING | SG4 BODY BIG BASE [SG4-BX-XXX-00-E] | ORDER CODE | LONG RANGE | SG4 LONG RANGE BASE [SG4-40-XXX-00-E] | ORDER CODE |
| | SG2-B2-050-00-E | 957851240 | | SG4-B2-050-00-E | 957851280 | | SG4-40-060-00-E | 957851570 |
| | SG2-B3-080-00-E | 957851250 | | SG4-B3-080-00-E | 957851290 | | SG4-40-090-00-E | 957851580 |
| | SG2-B4-090-00-E | 957851260 | | SG4-B4-090-00-E | 957851300 | | SG4-40-120-00-E | 957851590 |
| | SG2-B4-120-00-E | 957851270 | | SG4-B4-120-00-E | 957851310 | | --- | --- |
| WITH INTEGRATED MUTING | SG2 BODY BIG MUTING [SG2-BXXX-XXX-00-W-C] | ORDER CODE | SHORT RANGE | SG4 BODY BIG MUTING [SG4-BXXX-XXX-00-W-C] | ORDER CODE | | | |
| | SG2-B2-050-00-W-C | 957851320 | | SG4-BSR2-050-00-W-C | 957851400 | | --- | --- |
| | SG2-B3-080-00-W-C | 957851330 | | SG4-BSR3-080-00-W-C | 957851410 | | --- | --- |
| | SG2-B4-090-00-W-C | 957851340 | | SG4-BSR4-090-00-W-C | 957851420 | | --- | --- |
| | SG2-B4-120-00-W-C | 957851350 | | SG4-BSR4-120-00-W-C | 957851430 | | --- | --- |
| | | | LONG RANGE | | | | | |
| | --- | --- | | SG4-BLR2-050-00-W-C | 957851360 | | --- | --- |
| | --- | --- | | SG4-BLR3-080-00-W-C | 957851370 | | --- | --- |
| | --- | --- | | SG4-BLR4-090-00-W-C | 957851380 | | --- | --- |
| | | | SG4-BLR4-120-00-W-C | 957851390 | | --- | --- | |

CABLES

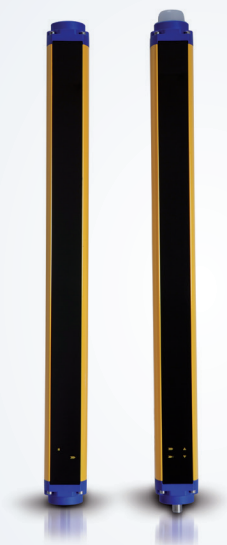
| | TRANSMITTER CABLE (MAIN CONNECTOR) | LENGTH (m) | ORDER CODE |
|--------------------------------------------------------------------|--------------------------------------------|------------|------------|
| SG BODY BIG BASE [SG2-Bx-xxx-00-E] [SG4-Bx-xxx-00-E] | CS -A1-03-U-03 | 3 | 95ASE 1170 |
| | CS -A1-03-U-05 | 5 | 95ASE 1180 |
| SG4 LONG RANGE BASE [SG4-40-xxx-00-E] | CS -A1-03-U-10 | 10 | 95ASE 1190 |
| | CS -A1-03-U-15 | 15 | 95ASE 1200 |
| SG BODY BIG MUTING [SG2-Bx-xxx-00-W-C] [SG4-Bxxx-xxx-00-W-C] | CS -A1-03-U-25 | 25 | 95ASE 1210 |
| | CS -A1-03-U-50 | 50 | 95A252700 |
| | RECEIVER CABLE (MAIN CONNECTOR) | LENGTH (m) | ORDER CODE |
| SG BODY BIG BASE [SG2-Bx-xxx-00-E] [SG4-Bx-xxx-00-E] | CS -A1-06-U-03 | 3 | 95ASE1220 |
| | CS -A1-06-U-05 | 5 | 95ASE1230 |
| | CS -A1-06-U-10 | 10 | 95ASE1240 |
| SG4 LONG RANGE BASE [SG4-40-xxx-00-E] | CS -A1-06-U-15 | 15 | 95ASE1250 |
| | CS -A1-06-U-25 | 25 | 95ASE1260 |
| | CS -A1-06-U-50 | 50 | 95A252710 |
| SG BODY BIG MUTING [SG2-Bx-xxx-00-W-C] [SG4-Bxxx-xxx-00-W-C] | CS -A1-10-U-03 | 3 | 95A252720 |
| | CS -A1-10-U-05 | 5 | 95A252730 |
| | CS -A1-10-U-10 | 10 | 95A252740 |
| | CS -A1-10-U-15 | 15 | 95A252750 |
| | CS -A1-10-U-25 | 25 | 95A252760 |
| | CS -A1-10-U-50 | 50 | 95A252770 |
| | TRANSMITTER CABLE (SECONDARY CONNECTOR) | LENGTH (m) | ORDER CODE |
| | RECEIVER CABLE (SECONDARY CONNECTOR) | | |
| SG BODY BIG MUTING [SG2-Bx-xxx-00-W-C] [SG4-Bxxx-xxx-00-W-C] | CS -A1-03-U-03 | 3 | 95ASE 1170 |
| | CS -A1-03-U-05 | 5 | 95ASE 1180 |
| | CS -A1-03-U-10 | 10 | 95ASE 1190 |
| | CS -A1-03-U-15 | 15 | 95ASE 1200 |
| | CS -A1-03-U-25 | 25 | 95ASE 1210 |
| | CS -A1-03-U-50 | 50 | 95A252700 |

NOTES

All cables have axial connectors

Rev. 05, 05/2016

SG BODY REFLECTOR BASE SG BODY REFLECTOR MUTING



One active and one passive unit to reduce wiring and installation costs

Robust housing for harsh environments

Easy installation and alignment

Reflective muting arms included in L and T muting version

All advanced features associated to muting function

- 2, 3, 4 beams for body protection
- Controlled heights 500, 800, 900 and 1200 mm
- Up to 8 m operating distance
- Simple configuration through DIP switches
- Integrated muting lamp (muting models)
- Anti-interference coding
- External muting enable signal
- Edged or triggered muting dependent override



APPLICATIONS

- Automatic machines
- Robots
- Automatic assembling lines
- Palletizers and Depalletizers

INDUSTRIES

- Food & Beverage, Metalworking, Automotive, Wood, Ceramics

| | FINGER | HAND | ARM | BODY |
|--------|--------|------|-----|------|
| Type 2 | | | | |
| Type 4 | | | | x |

Active unit

SG4-RB2L-050-00-W

| TYPE | BEAMS AND RANGE | MUTING ARMS | MONITORED HEIGHT | VERSION |
|------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4 Type 4 | 2 2 Beams 3 3 Beams 4 4 Beams | --- Linear version: no muting arms included L L muting arms included T T muting arms included | 050 500 mm (2 beams) 080 800 mm (3 beams) 090 900 mm (4beams) 120 1200 mm (4 beams) | E Base: without integrated muting function W Muting: with integrated muting function N SG4-N Body Reflector Muting: muting function with single main connector |

Passive unit

SG4-RDB2L-090

| TYPE | BEAMS AND RANGE | MUTING ARMS | MONITORED HEIGHT |
|------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 4 Type 4 | 2 2 Beams 3 3 Beams 4 4 Beams | --- Linear version: no muting arms included L L muting arms included T T muting arms included | --- 500 mm (2 beams) or 800 mm (3 beams) 090 900 mm (4 beams) 120 1200 mm (4 beams) |

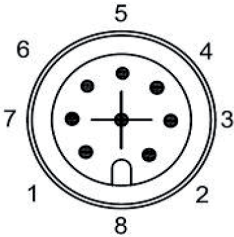
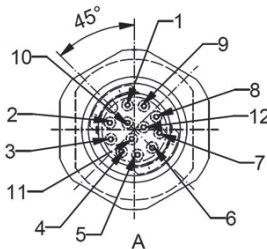
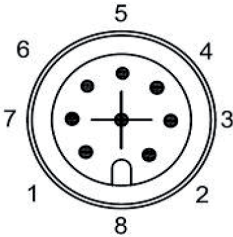

TECHNICAL DATA

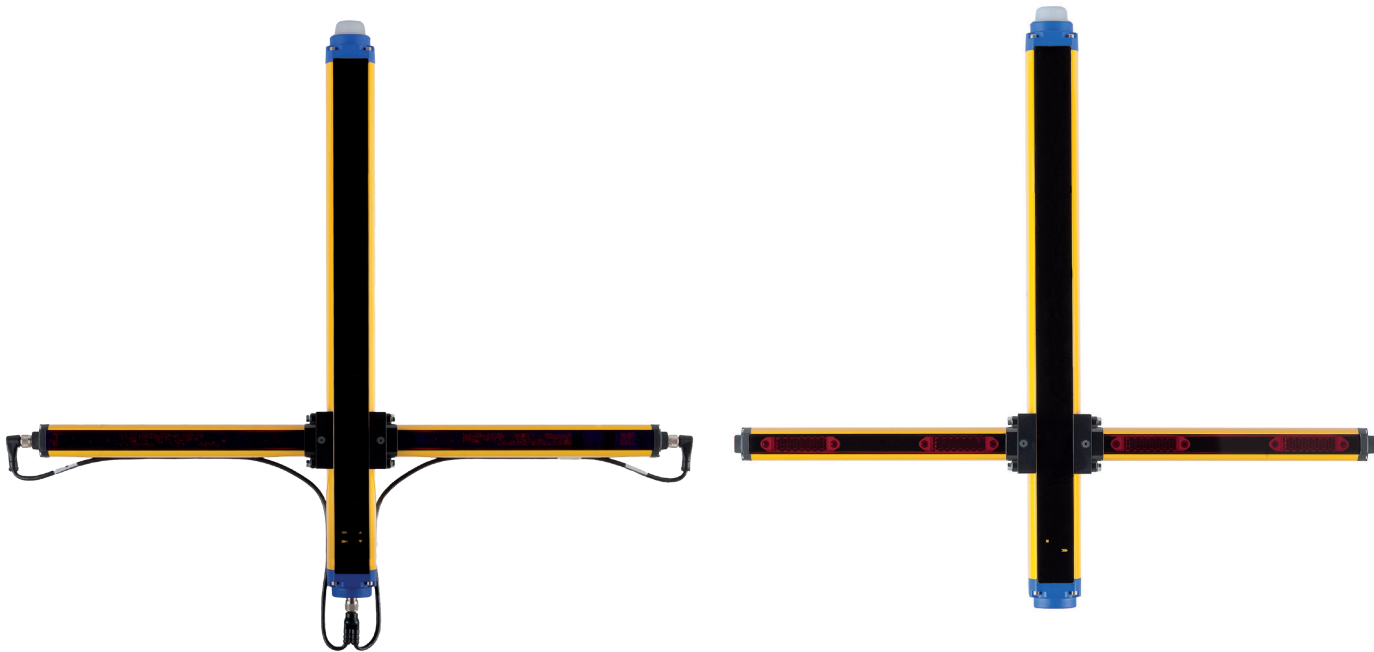
| | SG BODY REFLECTOR BASE [SG4-RBx-xxx-00-E] + [SG4-RDBx] | | SG BODY REFLECTOR MUTING [SG4-RBx-xxx-00-W] + [SG4-RDBx] [SG4-RBxL/T-xxx-00-W] + [SG4-RDBxL/T] | SG4-N BODY REFLECTOR MUTING [SG4-RBx-xxx-00-N] + [SG4-RDBx] |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| GENERAL DATA | | | | |
| Type (EN61496-1) | 4 | | | |
| PL (EN ISO 13849-1) | e | | | |
| SIL (IEC 61508) | 3 | | | |
| Resolution | 319,75 mm (4 beams) 419,75 mm (3 and 4 beams) 519,75 mm (2 beams) | | | |
| Protected height | 500 mm (2 beams) 800 mm (3 beams) 900 mm or 1200 (4 beams) | | | |
| Operating distance | 0.5 ... 8 m 0.5 ... 6.5 m (for SG4-RB4-090-00-E) | 0.5 ... 8 m (for SG4-RBx-xxx-00-W) 0.5 ... 6.5 m (for SG4-RB4-090-00-W) 0.5 ... 3 m (for SG4-RBxL/T-00-W) | 0.5 ... 8 m (for SG4-RBx-xxx-00-N) 0.5 ... 6.5 m (for SG4-RB4-090-00-N) | |
| Retroreflective muting arms operating distance (included in T and L models) | --- | 0.5 ... 3 m | --- | |
| Emitter-Receiver muting arms operating distance (not included) | --- | 0.5 ... 7 m | --- | |
| ELECTRICAL DATA | | | | |
| Power supply (Vdd) | 24 Vdc ± 20% | | | |
| Outputs | 2 PNP | | | |
| Output current | 0.5 A max / each output | | | |
| Capacitive load | 2,2 uF max at 25°C | | | |
| Response time | 11 ... 12 ms depending on model * | | | |
| Cables length (for power supply) | 70 m max. | | | |
| MECHANICAL AND ENVIRONMENTAL DATA | | | | |
| Operating temperature | 0 ...+55 °C | | | |
| Humidity | 15 ... 95 % (no condensation) | | | |
| Mechanical protection | IP 65 (EN 60529) | | | |
| Housing Material | Painted aluminium, PBT | | | |
| Window material | PMMA | | | |
| FUNCTIONS | | | | |
| | Manual / Automatic restart | | | |
| | External Device Monitoring (EDM) | | | |
| | Coding selection with DIP-SW | | | |
| --- | --- | T-Muting / L-Muting | | |
| --- | --- | Integrated muting lamp | | |
| --- | --- | Muting filter | | |
| --- | --- | Muting timeout: 10 min. or ∞ | | |
| --- | --- | Muting enable input | --- | |
| --- | --- | Override status output | --- | |
| --- | --- | External muting lamp output | --- | |
| --- | --- | Override | --- | |
| | --- | | | Impulsive Override |

NOTES

* For detailed informations refer to related Product Datasheet or Manual

CONNECTIONS

| | SG BODY REFLECTOR BASE [SG4-RBX-XXX-00-E] | SG BODY REFLECTOR MUTING [SG4-RBX-XXX-00-W] [SG4-RBXL/T-XXX-00-W] | SG4-N BODY REFLECTOR MUTING [SG4-RBX-XXX-00-N] + [SG4-RDBX] |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ACTIVE UNIT MAIN CONNECTOR | M12, 8 poles, male 1. white = RESET/RESTART/RESTART MODE 2. brown = 24V 3. green = EDM ENABLE 4. yellow = EDM 5. grey = OSSD1 6. pink = OSSD2 7. blue = 0V 8. red = EARTH | M12, 12 poles, male 1. brown = 24Vdc 2. blue = 0 V 3. white = RESET/RESTART/RESTART MODE 4. green = OVERRIDE1 5. pink = OSSD2 6. yellow = EDM 7. black = MUTING ENABLE 8. grey = OSSD1 9 = red = OVERRIDE2 10 = violet = LAMP INPUT 11. grey-pink = OVERRIDE STATUS 12. red-blue = EARTH | 1. white = START / RESET / EDM / OVERRIDE 2. brown = +24 VDC 3. green = MUTING 4. yellow = MUTING 2 5. grey = OSSD1 6. pink = OSSD2 7. blue = 0 V 8. red = MUTING LAMP |
| |  |  |  |
| ACTIVE UNIT SECONDARY CONNECTOR | --- | M12, 5 poles, male 1 = brown = 24Vdc 2 = white = MUTING2 3 = blue = 0V 4 = black = MUTING1 | --- |
| | --- |  | --- |

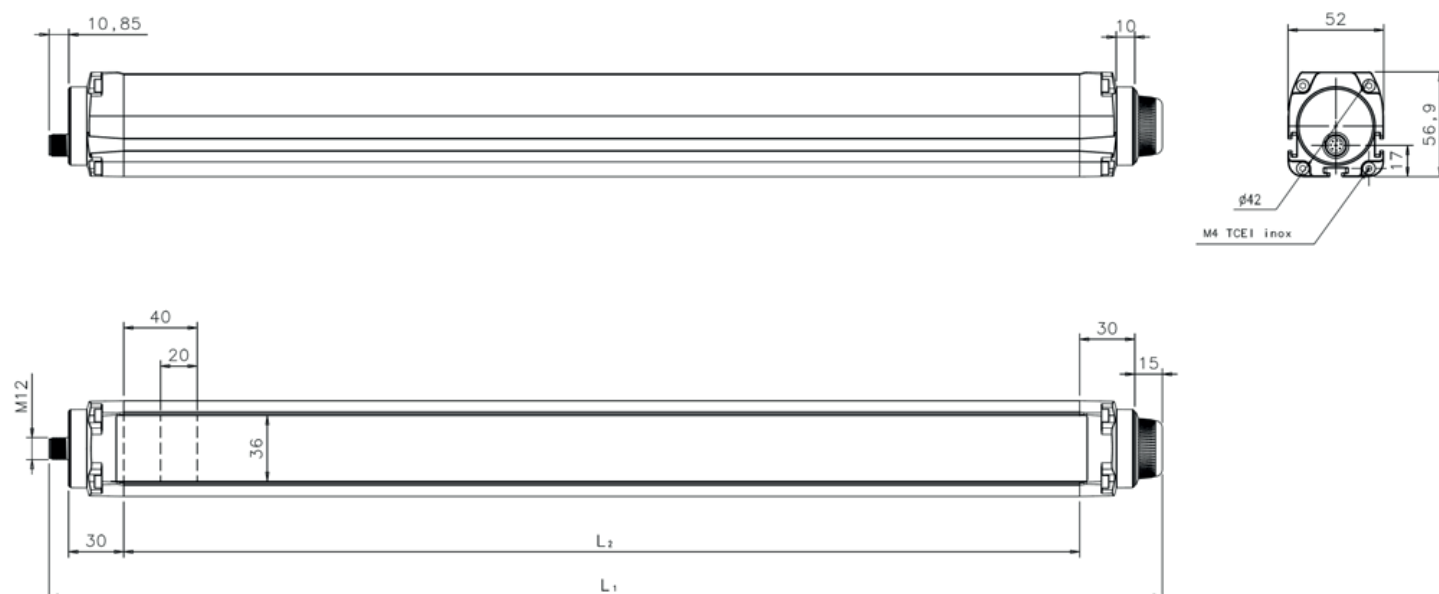


ACCESSORIES

| | SG BODY REFLECTOR BASE [SG4-RBX-XXX-00-E] + [SG4-RDBX] | SG BODY REFLECTOR MUTING [SG4-RBX-XXX-00-W] + [SG4-RDBX] [SG4-RBXL/T-XXX-00-W] + [SG4-RDBXL/T] | SG4-N BODY REFLECTOR MUTING [SG4-RBX-XXX-00-N] + [SG4-RDBX] |
|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| BRACKETS | | | |
| Included with the light curtain | None | | |
| Standard angled brackets (4 pcs) | ST-K4STD-SG-BODY BIG | | |
| Rear fixing bracket mounting (4 pcs) | ST-K4REAR-SG BODY BIG | | |
| Rotating brackets (4 pcs) | ST-K4ROT-SG BODY BIG | | |
| Antivibration support (4 pcs/6 pcs) *** | ST-K4AV ST-K6AV | | |
| Plastic brackets (4 pcs/6 pcs) *** | ST-KP4MP ST-KP6MP | | |
| PROTECTION TUBES, STANDS | | | |
| IP67/IP69K Tubes | --- | | |
| Protective Stands | SG-PSB series * | | |
| Stand Plate for SG-PSB | SG-P | | |
| Protective Stands Mounting Brackets (4 pcs/6 pcs) *** | ST-PS4-SG BODY ST-PS6-SG BODY | | |
| Floor columns | SE-S Series | | |
| SAFETY UNITS | | | |
| Safety Unit | SE-SR2 | | |
| EDM Relay Box *** | CS ME-03VU24-Y14 | | |
| Safety control unit for single beams and SLC | SG-BWS-T4-MT | | |
| ALIGNMENT TOOL | | | |
| LASER Pointer | SG-LP | | |
| ACCESSORIES FOR MUTING | | | |
| Muting arms, brackets and cables | --- | See accessories section | --- |
| Muting Connection box *** | --- | SG-SRT-1 or SG-SRT-2 | --- |
| External muting lamps | --- | LMS Series | |
| NOTES | | | |
| * Not possible with T or L muting arms mounted | | | |
| ** Use 6 brackets for light curtains with length ≥ 1200 mm | | | |
| *** When using EDM Relay Box or Muting connection boxes, connect EDM input, and be sure EDM function is active on the safety light curtain | | | |

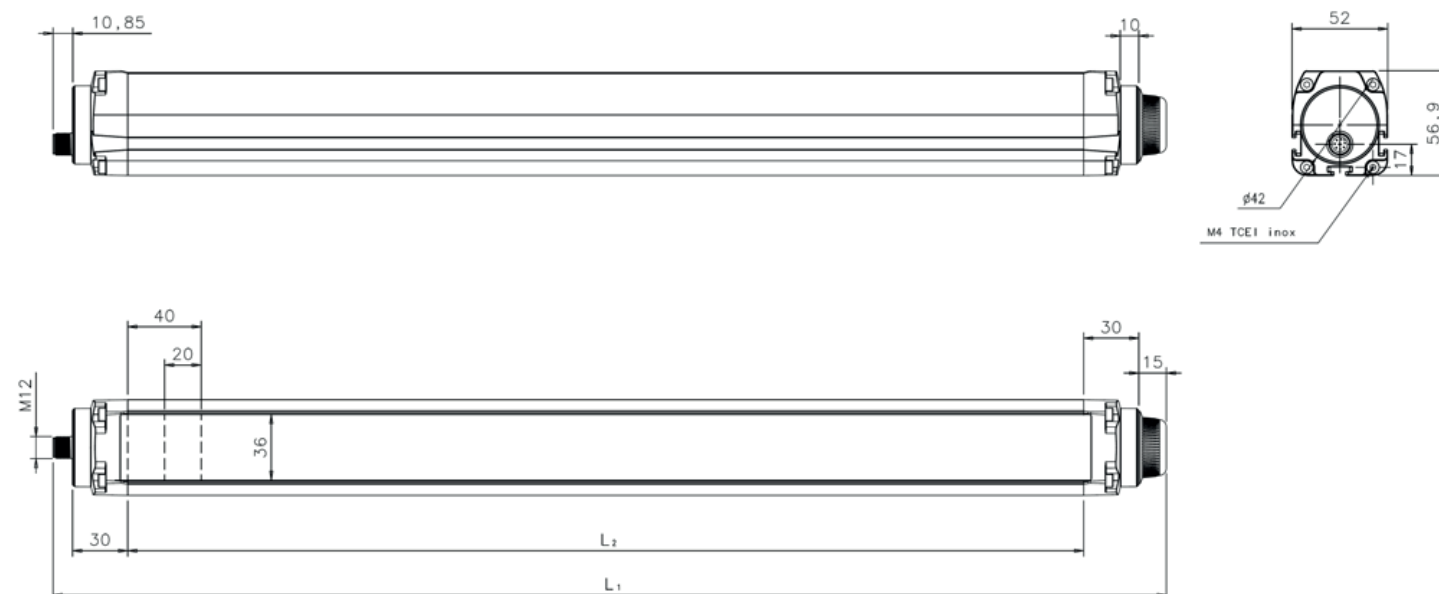
DIMENSIONS

SG BODY REFLECTOR BASE - ACTIVE UNIT



| MODEL | L1 [mm] | L2 [mm] |
|------------------|---------|---------|
| SGx-RB2-050-00-E | 606,35 | 520,5 |
| SGx-RB3-080-00-E | 906,35 | 820,5 |
| SGx-RB4-090-00-E | 1006,35 | 920,5 |
| SGx-RB4-120-00-E | 1306,35 | 1220,5 |

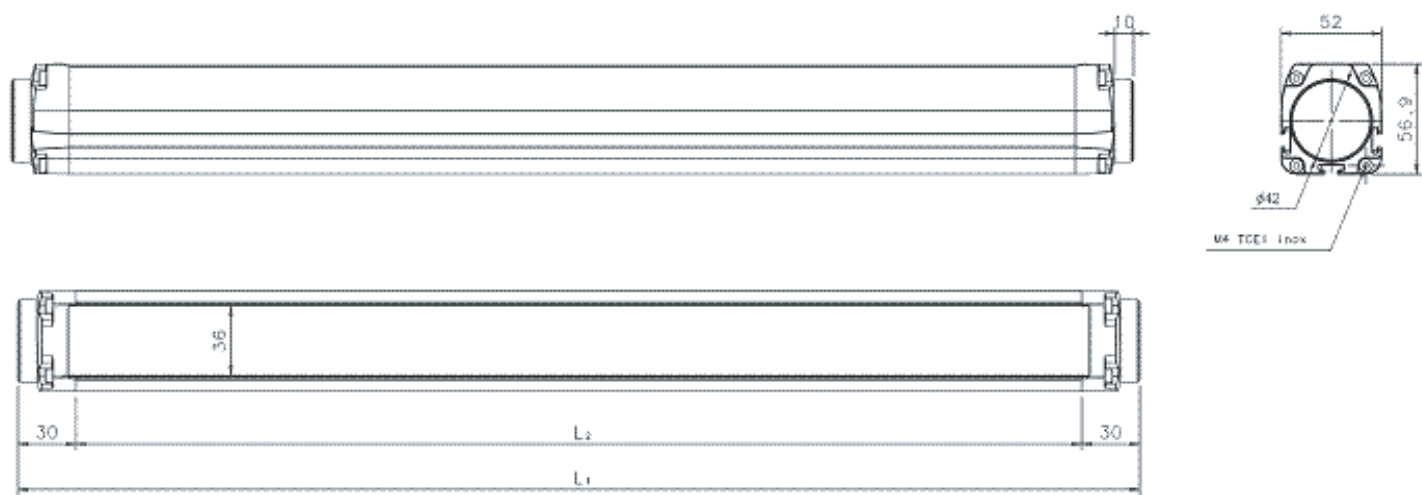
SG BODY REFLECTOR MUTING - ACTIVE UNIT



| MODEL | L1 [mm] | L2 [mm] |
|-------------------|---------|---------|
| SGx-RB2y-050-00-W | 609,35 | 520,5 |
| SGx-RB3y-080-00-W | 909,35 | 820,5 |
| SGx-RB4y-090-00-W | 1009,35 | 920,5 |
| SGx-RB4y-120-00-W | 1309,35 | 1220,5 |

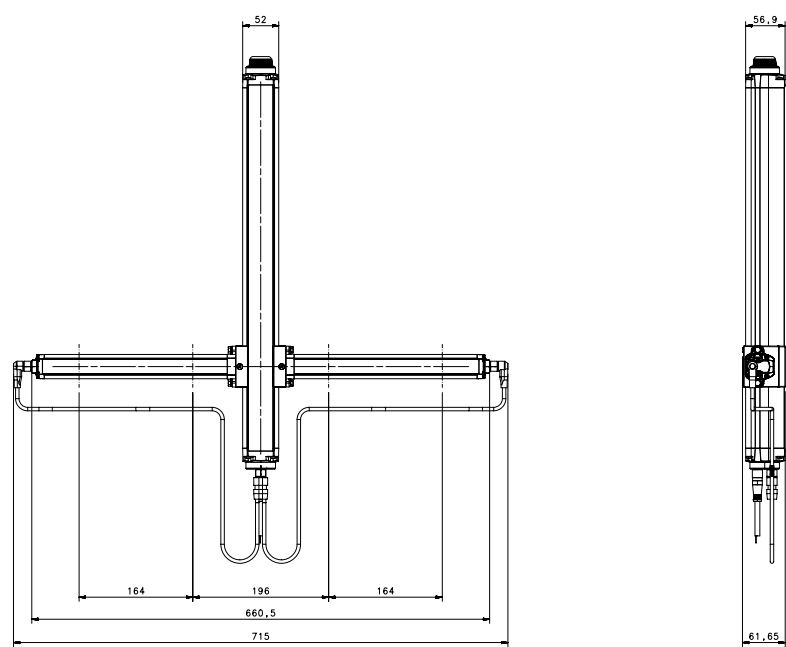
DIMENSIONS

SG BODY REFLECTOR BASE - PASSIVE UNIT • SG BODY REFLECTOR MUTING - PASSIVE UNIT



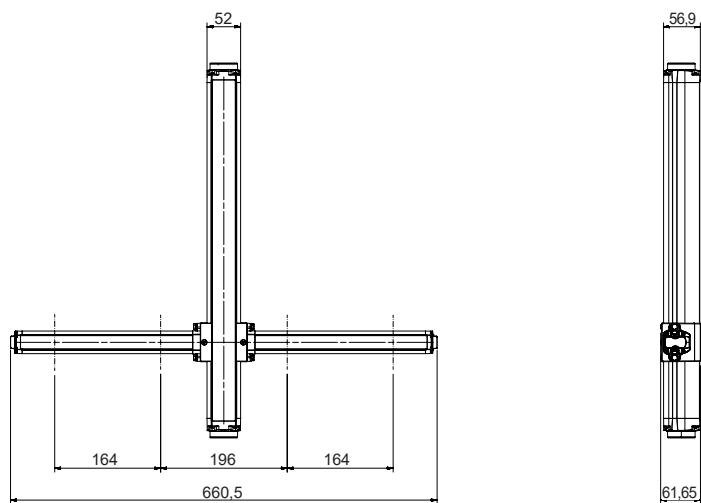
| MODEL | L1 [mm] | L2 [mm] |
|--------------|---------|---------|
| SG4-RDB2 | 580,5 | 520,5 |
| SG4-RDB2L | 580,5 | 520,5 |
| SG4-RDB2T | 580,5 | 520,5 |
| SG4-RDB3 | 880,5 | 820,5 |
| SG4-RDB3L | 880,5 | 820,5 |
| SG4-RDB3T | 880,5 | 820,5 |
| SG4-RDB4-090 | 980,5 | 920,5 |
| SG4-RDB4-120 | 1280,5 | 1220,5 |

SG BODY REFLECTOR BASE WITH T MUTING ARMS - ACTIVE SIDE



DIMENSIONS

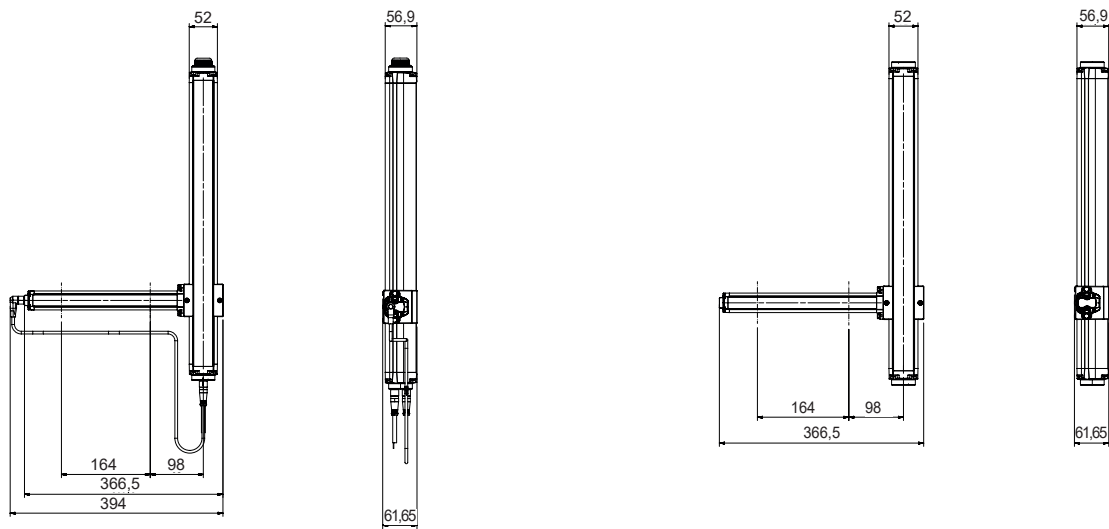
SG BODY REFLECTOR MUTING WITH T MUTING ARMS - PASSIVE SIDE



SG BODY REFLECTOR MUTING WITH L MUTING ARM

ACTIVE SIDE

PASSIVE SIDE



INDICATORS



MODEL SELECTION AND ORDER INFORMATION

| SG4 BODY REFLECTOR BASE [SG4-RBX-XXX-00-E] | | ORDER NUMBER | SG4 BODY REFLECTOR MUTING [SG4-RBX-XXX-00-W] | | ORDER NUMBER | SG4-N BODY REFLECTOR MUTING [SG4-RBX-XXX-00-N] + [SG4-RDBX] | | ORDER NUMBER |
|-----------------------------------------------|---------------------------------------------------------|-----------------|----------------------------------------------------|--|-----------------|-------------------------------------------------------------------|--|-----------------|
| ACTIVE SIDE | SG4-RB2-050-00-E | 957951000 | LINEAR (WITHOUT MUTING ARMS) | | | LINEAR (WITHOUT MUTING ARMS) | | |
| | SG4-RB3-080-00-E | 957951010 | SG4-RB2-050-00-W | | 957951030 | SG4-RB2-050-00-N | | 957951220 |
| | SG4-RB4-090-00-E | 957951190 | SG4-RB3-080-00-W | | 957951040 | SG4-RB3-080-00-N | | 957951230 |
| | SG4-RB4-120-00-E | 957951020 | SG4-RB4-090-00-W | | 957951180 | SG4-RB4-090-00-N | | 957951240 |
| | --- | --- | SG4-RB4-120-00-W | | 957951050 | SG4-RB4-120-00-N | | 957951250 |
| | --- | --- | WITH T MUTING ARMS | | | | | |
| | --- | --- | SG4-RB2T-050-00-W | | 957951080 | | | |
| | --- | --- | SG4-RB3T-080-00-W | | 957951090 | | | |
| | --- | --- | WITH L MUTING ARMS | | | | | |
| | --- | --- | SG4-RB2L-050-00-W | | 957951060 | | | |
| | --- | --- | SG4-RB3L-080-00-W | | 957951070 | | | |
| PASSIVE SIDE | SG4 BODY REFLECTOR BASE [SG4-RDBX] [SG4-RDBX-XXX] | ORDER NUMBER | SG4 BODY BIG MUTING [SG4-RDBX] [SG4-RDBXL/T] | | ORDER NUMBER | SG4 BODY REFLECTOR BASE [SG4-RDBX] [SG4-RDBX-XXX] | | ORDER NUMBER |
| | SG4-RDB2 | 957951100 | LINEAR (WITHOUT MUTING ARMS) | | | | | |
| | SG4-RDB3 | 957951110 | SG4-RDB2 | | 957951100 | SG4-RDB2 | | 957951100 |
| | SG4-RDB4-090 | 957951170 | SG4-RDB3 | | 957951110 | SG4-RDB3 | | 957951110 |
| | SG4-RDB4-120 | 957951120 | SG4-RDB4-090 | | 957951170 | SG4-RDB4-090 | | 957951170 |
| | --- | --- | SG4-RDB4-120 | | 957951120 | SG4-RDB4-120 | | 957951120 |
| | --- | --- | WITH T MUTING ARMS | | | | | |
| | --- | --- | SG4-RDB2T | | 957951150 | | | |
| | --- | --- | SG4-RDB3T | | 957951160 | | | |
| | --- | --- | WITH L MUTING ARMS | | | | | |
| | --- | --- | SG4-RDB2L | | 957951130 | | | |
| | --- | --- | SG4-RDB3L | | 957951140 | | | |

IMPORTANT NOTES

- 1) Active and passive sides must be ordered separately
- 2) Brackets are not included in the SG4 BODY REFLECTOR packing and must be ordered separately (see accessories table)

CABLES

| | ACTIVE UNIT (MAIN CONNECTOR) | LENGTH (M) | ORDER CODE |
|---------------------------------------------------|--------------------------------------|------------|------------|
| SG4 BODY REFLECTOR BASE [SG4-RBX-XXX-00-E] | CS-A1-06-U-03 | 3 | 95ASE1220 |
| | CS-A1-06-U-05 | 5 | 95ASE1230 |
| | CS-A1-06-U-10 | 10 | 95ASE1240 |
| SG4-N BODY REFLECTOR MUTING [SG4-RBX-XXX-00-N] | CS-A1-06-U-15 | 15 | 95ASE1250 |
| | CS-A1-06-U-25 | 25 | 95ASE1260 |
| | CS-A1-06-U-50 | 50 | 95A252710 |
| SG4 BODY REFLECTOR MUTING [SG4-RBX-XXX-00-W] | CS-A1-10-U-03 | 3 | 95A252720 |
| | CS-A1-10-U-05 | 5 | 95A252730 |
| | CS-A1-10-U-10 | 10 | 95A252740 |
| | CS-A1-10-U-15 | 15 | 95A252750 |
| | CS-A1-10-U-25 | 25 | 95A252760 |
| | CS-A1-10-U-50 | 50 | 95A252770 |
| | ACTIVE UNIT (SECONDARY CONNECTOR) | LENGTH (M) | ORDER CODE |
| SG4 BODY REFLECTOR MUTING [SG4-RBX-XXX-00-W] | CS-A1-03-U-03 | 3 | 95ASE1170 |
| | CS-A1-03-U-05 | 5 | 95ASE1180 |
| | CS-A1-03-U-10 | 10 | 95ASE1190 |
| | CS-A1-03-U-15 | 15 | 95ASE1200 |
| | CS-A1-03-U-25 | 25 | 95ASE1210 |
| | CS-A1-03-U-50 | 50 | 95A252700 |

NOTES

All cables have axial connectors

SG2 MUTING SG4 EXTENDED



State-of-the-art technology and versatility

Easily adaptable to the machine structure

Maximum application flexibility with configurable advanced functions

Complete diagnostic and monitoring online

- No dead zone
- Pigtail cable with M12 connector
- Cascade connection of up to 3 units
- Up to 20m operating range and 1800m protected height
- Compact dimensions (35 x 41 mm section)
- Anti-interference coding
- Integrated Muting function
- Floating Blanking, Fixed Blanking and Reduced Resolution
- Configurable with:
 - Autoteaching
 - Pushbuttons for common configuration
 - Graphic User Interface for complete parametrisation
- Ethernet Interface for programming, monitoring and error logging

APPLICATIONS

- Automatic machines Robots
- Automatic assembling lines
- Palletizers and Depalletizers



INDUSTRIES

- Food & Beverage
- Metalworking
- Automotive
- Wood
- Ceramics

| | FINGER | HAND | ARM | BODY |
|--------|--------|------|-----|------|
| Type 2 | | x | | |
| Type 4 | x | x | | |

SG4-14-030-00-P

| TYPE | |
|------|--------|
| 2 | Type 2 |
| 4 | Type 4 |

| MONITORED HEIGHT | |
|------------------|---------|
| 030 | 300 mm |
| 045 | 450 mm |
| ... | |
| 180 | 1800 mm |

| RESOLUTION | |
|------------|-----------------------------|
| 14 | Finger: 14 mm (only Type 4) |
| 30 | Hand: 30 mm |

| VERSION | |
|---------|--------------------------------------------------------------------|
| W | Basic Configuration Mode |
| P | Cascadable Advanced Configuration Mode Programmable with GUI |
| N | SG4-N: muting function with single main connector |

TECHNICAL DATA

| | SG2 MUTING [SG2-30-xxx-00-W] | SG4 EXTENDED [SG4-xx-xxx-00-P] | SG4-N [SG4-xx-xxx-00-N] |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-------------------------------------------------------------------|-----------------------------------|
| GENERAL DATA | | | |
| Type (EN61496-1-2) | 2 | 4 | |
| PL (EN ISO 13849-1) | c | e | |
| SIL (IEC 61508) | 1 | 3 | |
| Resolution | 30 mm | 14, 30 mm | |
| Protected height | 300 ... 1800 mm (with 150 mm steps) | | |
| Operating distance | 0.2 ... 20 m | 0.2 ... 7 m (14 mm resolution) 0.2 ... 20 m (30 mm resolution) | |
| Dead Zone | No dead zone | | |
| Cascade connection | --- | Up to 3 units | --- |
| ELECTRICAL DATA | | | |
| Power supply (Vdd) | 24 Vdc ± 20 | | |
| Outputs | 2 PNP, with short circuit protection 2 PNP | | |
| Output current | 0.5 A max/each output | | |
| Capacitive load | 2.2 uF @ 24Vdc max | | |
| Response time | 13 ... 22 ms depending on model * | 13 ... 33 ms depending on model * | 15 ... 33 ms depending on model * |
| Cables length (for power supply) | 50 m max | | |
| MECHANICAL AND ENVIRONMENTAL DATA | | | |
| Operating temperature | 0 ...+50 °C | | |
| Humidity | 15 ... 95 % (no condensation) | | |
| Mechanical protection | IP 65 (EN 60529) | | |
| Housing Material | Painted aluminium, Polycarbonate, PBT | | |
| Window material | PMMA | | |
| FUNCTIONS | | | |
| | Test input | | |
| | Manual/Automatic Restart | | |
| | External Device Monitoring (EDM) | | |
| | Anti-interference coding | | |
| | Range reduction | | |
| | T Muting/L Muting | | |
| | --- | Partial Muting | |
| | --- | Filter on muting signals | |
| | Muting dependent Override | | |
| | Floating Blanking | | --- |
| | Fixed Blanking | | --- |
| Max. Number of Blanking Areas | 2 | 5 | --- |
| | --- | Reduced Resolution | --- |
| NOTES | | | |
| * The response time depends on model; when a cascaded system is used, depends also on the number of units connected. For detailed informations refer to related Product Datasheet or Manual. | | | |
| 1) The use of any type of blanking is not compatible with the use of Muting and Muting dependent Override. 2) In order to use Muting or Blanking with SG4 EXTENDED, the correct pigtail cable must be used (see accessories table) | | | |

CONNECTIONS

| | SG2 MUTING [SG2-30-XXX-00-W] | SG4 EXTENDED [SG4-XX-XXX-00-P] | SG4 EXTENDED [SG4-XX-XXX-00-P] | SG4-N [SG4-XX-XXX-00-N] | | | | | | | | |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-----------------------------------|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| | CONFIGURATION FOR MUTING | | | | CONFIGURATION FOR BLANKING | | | | | | | |
| PIGTAIL CABLE FOR EMITTER* | CS-G1-50-B-002 (Order Number 95A252820) | | | | | | | | | | | |
| EMITTER | M12, 5 poles, male 1 = brown = 24Vdc; 2 = white = TEST; 3 = blue = 0V; 4 = black = EARTH; 5 = grey = RANGE REDUCTION. | | | | | | | | | | | |
| | | | | | | | | | | | | |
| PIGTAIL CABLE FOR RECEIVER ^ | CS -R1-75-B-002 (Order Number 95A252810) | | | | CS -G1-70-B-002 (Order Number 95A252830) | | | | CS -G1-60-B-002 (Order Number 95A252910) | | | |
| RECEIVER MAIN CONNECTOR | M12, 12 poles, male 1 = brown = 24Vdc 2 = blue = 0V 3 = white = RESET/RESTART/ALIGN 4 = green = OVERRIDE1 5 = pink = OSSD2 6 = yellow = EDM 7 = black = MUTING DISABLE 8 = grey = OSSD1 9 = red = OVERRIDE2 10 = violet = MUTING LAMP 11 = grey-pink = OVERRIDE STATUS 12 = red-blue = EARTH | | | | M12, 12 poles, male 1 = brown = 24Vdc 2 = blue = 0V 3 = white = RESET/RESTART/ALIGN 4 = green = TEACH IN 5 = pink = OSSD2 6 = yellow = EDM 8 = grey = OSSD1 9 = red = TOLERANCE 10 = violet = LAMP 12 = red-blue = EARTH | | | | M12, 8 poles, male 1 = white = RESTART/RESET/EDM/ OVERRIDE 2 = brown = +24Vdc 3 = green = MUTING1 4 = yellow = MUTING2 5 = grey = OSSD1 6 = pink = OSSD2 7 = blue = 0Vdc 8 = red = MUTING LAMP | | | |
| | | | | | | | | | | | | |
| RECEIVER SECONDARY CONNECTOR | --- | | | | M12, 5 poles, male 1 = brown = 24Vdc 2 = white = MUTING2 3 = blue = 0V 4 = black = MUTING1 | | | | --- | | | |
| | --- | | | | | | | | --- | | | |

^ IMPORTANT NOTES

^A IMPORTANT NOTES

1) The light curtain SG4 EXTENDED and SG2 MUTING are sold without pigtail cables : they must be ordered separately for Transmitter and Receiver : see the cable order codes table for further informations.
SG4-N are sold with pigtail cables included.

ACCESSORIES

| | SG2 MUTING [SG2-30-XXX-00-W] | SG4 EXTENDED [SG4-XX-XXX-00-P] | SG4-N [SG4-XX-XXX-00-N] |
|-----------------------------------------------------|---------------------------------|----------------------------------------|----------------------------|
| BRACKETS | | | |
| Standard angled brackets (included) | | ST-KSTD | |
| Antivibration support (4 pcs/6 pcs) * | | ST-K4AV ST-K6AV | |
| Plastic brackets (4 pcs/6 pcs) * | | ST-KP4MP ST-KP6MP | |
| Orientable brackets (4 pcs/6 pcs) * | | ST-K4OR ST-K6OR | |
| STANDS | | | |
| Protective Stands | | SG-PSB series | |
| Stand Plate for SG-PSB | | SG-P | |
| Protective Stands Mounting Brackets (4 pcs/6 pcs) * | | ST-PS4-SG-SE ST-PS6-SG-SE | |
| Floor columns | | SE-S Series | |
| MIRRORS | | | |
| Deviating Mirrors | | SG-DM Series | |
| Deviating Mirrors mounting kit for SG-PSB | | ST-PS-DM | |
| Mirror Mounting Bracket | | ST-DM | |
| SAFETY UNITS | | | |
| Safety Unit | | SE-SR2 | |
| EDM Relay Box ** | | CS ME-03VU24-Y14 | |
| Safety control unit for single beams and SLC | | SG-BWS-T4-MT | |
| ALIGNMENT TOOL | | | |
| LASER Pointer | | SG-LP | |
| COMMUNICATION TOOLS | | | |
| Ethernet Adaptor (Dongle) | --- | SG4-DONGLE | --- |
| Ethernet Cable | --- | CAB-ETH-M01 | --- |
| CONFIGURATION SOFTWARE | | | |
| Monitoring and Programming Software *** | | SG EXTENDED Graphic User Interface *** | |
| MUTING ACCESSORIES | | | |
| External muting lamps | | LMS series | |

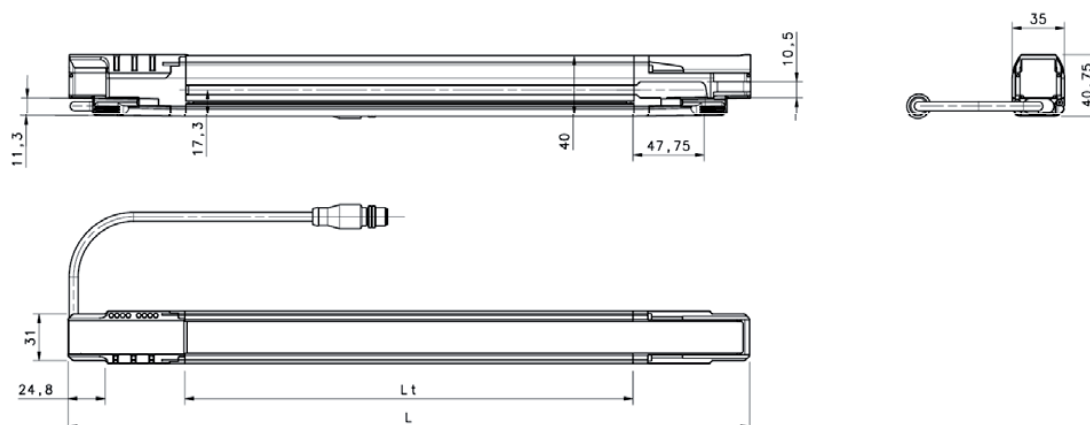
NOTES

* Use 6 brackets for light curtains with length ≥ 1200 mm

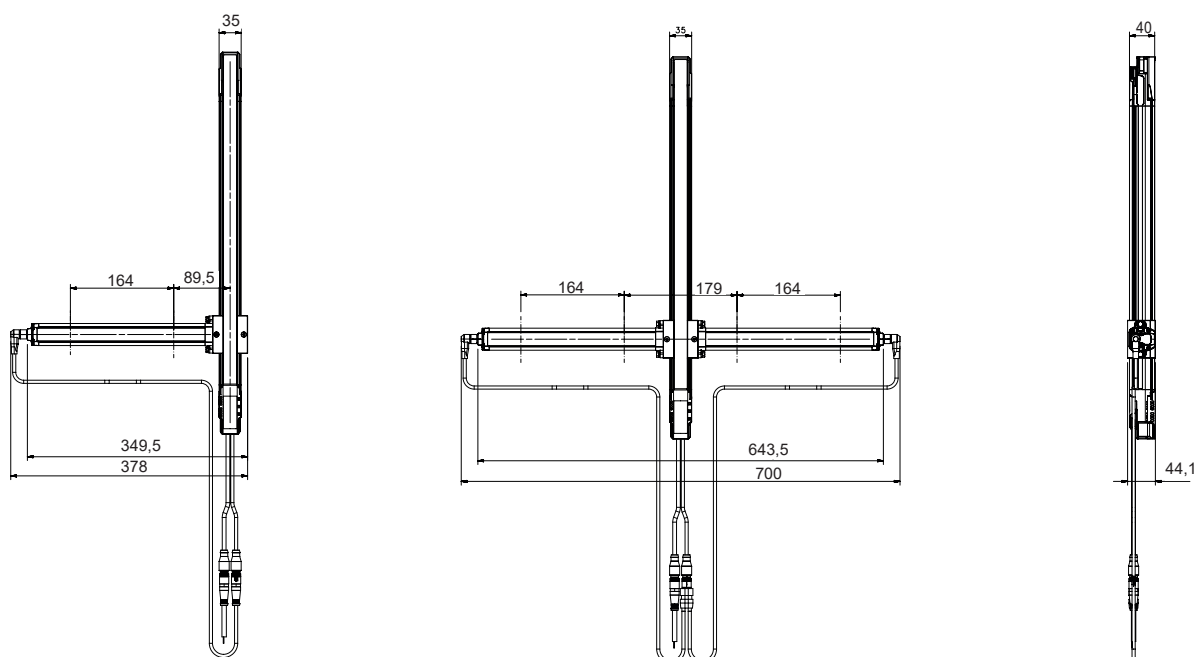
** When using EDM Relay Box, connect EDM input, and be sure EDM function is active on the safety light curtain

*** SG EXTENDED GUI is available from DATALOGIC website

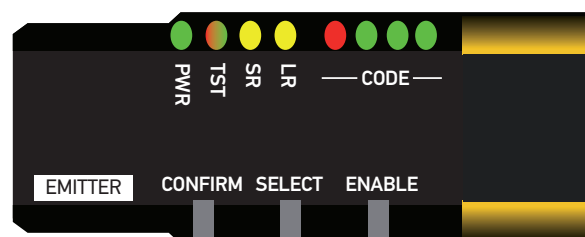
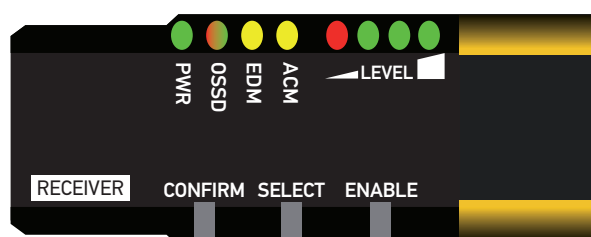
DIMENSIONS



| SG2 MUTING | SG4 EXTENDED | SG4-N | Lt (mm) | L (mm) |
|-----------------|-----------------|-----------------|---------|--------|
| SG2-xx-030-00-W | SG4-xx-030-00-P | SG4-xx-030-00-N | 150 | 306,3 |
| SG2-xx-045-00-W | SG4-xx-045-00-P | SG4-xx-045-00-N | 300 | 456,3 |
| SG2-xx-060-00-W | SG4-xx-060-00-P | SG4-xx-060-00-N | 450 | 606,3 |
| SG2-xx-075-00-W | SG4-xx-075-00-P | SG4-xx-075-00-N | 600 | 756,3 |
| SG2-xx-090-00-W | SG4-xx-090-00-P | SG4-xx-090-00-N | 750 | 906,3 |
| SG2-xx-105-00-W | SG4-xx-105-00-P | SG4-xx-105-00-N | 900 | 1056,3 |
| SG2-xx-120-00-W | SG4-xx-120-00-P | SG4-xx-120-00-N | 1050 | 1206,3 |
| SG2-xx-135-00-W | SG4-xx-135-00-P | SG4-xx-135-00-N | 1200 | 1356,3 |
| SG2-xx-150-00-W | SG4-xx-150-00-P | SG4-xx-150-00-N | 1350 | 1506,3 |
| SG2-xx-165-00-W | SG4-xx-165-00-P | SG4-xx-165-00-N | 1500 | 1656,3 |
| SG2-xx-180-00-W | SG4-xx-180-00-P | SG4-xx-180-00-N | 1650 | 1806,3 |



INDICATORS



AVAILABLE MODELS AND ORDER CODES

| | SG2 MUTING [SG2-30-XXX-00-W] | ORDER NUM- BER | SG4 EXTENDED [SG4-XX-XXX-00-P] | ORDER NUM- BER | SG4-N [SG4-XX-XXX-00-N] | ORDER NUM- BER |
|-------------------|---------------------------------|-------------------|-----------------------------------|-------------------|----------------------------|-------------------|
| FINGER PROTECTION | --- | | SG4-14-030-00-P | 957901240 | SG4-14-030-00-N | 957902350 |
| | --- | | SG4-14-045-00-P | 957901250 | SG4-14-045-00-N | 957902360 |
| | --- | | SG4-14-060-00-P | 957901260 | SG4-14-060-00-N | 957902370 |
| | --- | | SG4-14-075-00-P | 957901270 | SG4-14-075-00-N | 957902380 |
| | --- | | SG4-14-090-00-P | 957901280 | SG4-14-090-00-N | 957902390 |
| | --- | | SG4-14-105-00-P | 957901290 | SG4-14-105-00-N | 957902400 |
| | --- | | SG4-14-120-00-P | 957901300 | SG4-14-120-00-N | 957902410 |
| | --- | | SG4-14-135-00-P | 957901310 | SG4-14-135-00-N | 957902420 |
| | --- | | SG4-14-150-00-P | 957901320 | SG4-14-150-00-N | 957902430 |
| | --- | | SG4-14-165-00-P | 957901330 | SG4-14-165-00-N | 957902440 |
| HAND PROTECTION | --- | | SG4-14-180-00-P | 957901340 | SG4-14-180-00-N | 957902450 |
| | SG2-30-030-00-W | 957801700 | SG4-30-030-00-P | 957901350 | SG4-30-030-00-N | 957902460 |
| | SG2-30-045-00-W | 957801710 | SG4-30-045-00-P | 957901360 | SG4-30-045-00-N | 957902470 |
| | SG2-30-060-00-W | 957801720 | SG4-30-060-00-P | 957901370 | SG4-30-060-00-N | 957902480 |
| | SG2-30-075-00-W | 957801730 | SG4-30-075-00-P | 957901380 | SG4-30-075-00-N | 957902490 |
| | SG2-30-090-00-W | 957801740 | SG4-30-090-00-P | 957901390 | SG4-30-090-00-N | 957902500 |
| | SG2-30-105-00-W | 957801750 | SG4-30-105-00-P | 957901400 | SG4-30-105-00-N | 957902510 |
| | SG2-30-120-00-W | 957801760 | SG4-30-120-00-P | 957901410 | SG4-30-120-00-N | 957902520 |
| | SG2-30-135-00-W | 957801770 | SG4-30-135-00-P | 957901420 | SG4-30-135-00-N | 957902530 |
| | SG2-30-150-00-W | 957801780 | SG4-30-150-00-P | 957901430 | SG4-30-150-00-N | 957902540 |
| NOTES | SG2-30-165-00-W | 957801790 | SG4-30-165-00-P | 957901440 | SG4-30-165-00-N | 957902550 |
| | SG2-30-180-00-W | 957801800 | SG4-30-180-00-P | 957901450 | SG4-30-180-00-N | 957902560 |

* The light curtain SG4 EXTENDED and SG2 MUTING are sold without pigtail cables : they must be ordered separately for Transmitter and Receiver.
In case of SG4 EXTENDED, the choice of the Receiver pigtail determines in Muting configuration or Blanking configuration.
For cascade configurations, other cables are available to connect the cascaded units: refer to accessories table.

CABLE ORDER CODES

| PIGTAIL CABLES/INTERFACE SELECTION TABLE | | | | |
|------------------------------------------|-------------|-------------------------|------------|------------|
| | | PIGTAIL CABLE/INTERFACE | LENGTH (m) | ORDER CODE |
| SG2 MUTING [SG2-30-XXX-00-W] | TRANSMITTER | CS-G1-50-B-002 | 0.2 | 95A252820 |
| | RECEIVER | CS-R1-75-B-002 | 0.2 | 95A252810 |
| SG4 EXTENDED [SG4-XX-XXX-00-P] | TRANSMITTER | CS-G1-50-B-002 | 0.2 | 95A252820 |
| | RECEIVER | BLANKING CONFIGURATION | | |
| | | CS-G1-70-B-002 | 0.2 | 95A252830 |
| | | MUTING CONFIGURATION | | |
| | | CS-R1-75-B-002 | 0.2 | 95A252810 |
| | | DONGLE | | |
| | | SG4-DONGLE | --- | 95ASE2080 |

- NOTES
- 1) The light curtain is sold without pigtail cables: they must be ordered separately for Transmitter and Receiver.
- 2) For SG4 EXTENDED, the pigtail cable used determines if the light curtain will work in Muting configuration or in Blanking configuration. If, in place of the pigtail cable, the Dongle is used for receiver, the light curtain can work in both configurations. When muting and blanking are not needed, Dongle or pigtail cable CS-G1-70-B-002 are suggested
- 3) If SG4 EXTENDED receiver is connected to the programming and monitoring interface (DONGLE), the pigtail cable for Receiver isn't needed.
- 4) In order to install SG4 EXTENDED or SG2 MUTING in place of SE series safety light curtains, without changing any wiring, it can be used the cable CS-G1-60-B-002 (order n. 95A252910) for receiver. All functions of SE will be available, except Override.



CS-G1-50-B-002



CS-G1-70-B-002



CS-R1-75-B-002

| CABLES SELECTION TABLE | | | |
|------------------------------------------------------------------------------|------------------------------------------|------------|------------|
| | TRANSMITTER/RECEIVER SECONDARY CONNECTOR | LENGTH (m) | ORDER CODE |
| SG2 MUTING [SG2-30-XXX-00-W] SG4 EXTENDED [SG4-XX-XXX-00-P] | CS-A1-03-U-03 | 3 | 95ASE1170 |
| | CS-A1-03-U-05 | 5 | 95ASE1180 |
| | CS-A1-03-U-10 | 10 | 95ASE1190 |
| | CS-A1-03-U-15 | 15 | 95ASE1200 |
| | CS-A1-03-U-25 | 25 | 95ASE1210 |
| | CS-A1-03-U-50 | 50 | 95A252700 |
| | RECEIVER MAIN CONNECTOR | | |
| | LENGTH (m) | | ORDER CODE |
| | CS-A1-10-U-03 | 3 | 95A252720 |
| | CS-A1-10-U-05 | 5 | 95A252730 |
| | CS-A1-10-U-10 | 10 | 95A252740 |
| | CS-A1-10-U-15 | 15 | 95A252750 |
| SG4-N [SG4-XX-XXX-00-N] | CS-A1-10-U-25 | 25 | 95A252760 |
| | CS-A1-10-U-50 | 50 | 95A252770 |
| | CS-A1-06-U-03 | 3 | 95ASE1220 |
| | CS-A1-06-U-05 | 5 | 95ASE1230 |
| | CS-A1-06-U-10 | 10 | 95ASE1240 |
| | CS-A1-06-U-15 | 15 | 95ASE1250 |
| | CS-A1-06-U-25 | 25 | 95ASE1260 |
| | CS-A1-06-U-50 | 50 | 95A252710 |

| CASCADE CABLES | | |
|-----------------|------------|------------|
| MODEL | LENGTH (m) | ORDER CODE |
| CS-F1-80-B-01 | 1 | 95A252840 |
| CS-F1-80-B-005 | 0.5 | 95A252850 |
| CS-F1-80-B-0005 | 0.05 | 95A252860 |

| ETHERNET CABLES | | |
|----------------------|------------|------------|
| MODEL | LENGTH (m) | ORDER CODE |
| CAB-ETH-M01 M12-IP67 | 1 | 93A051346 |
| CAB-ETH-M03 M12-IP67 | 3 | 93A051347 |
| CAB-ETH-M05 M12-IP67 | 5 | 93A051348 |



Rev. 05, 05/2016

SG4 FIELDBUS



First safety light curtain with integrated openSAFETY over POWERLINK

Fast and easy installation, configuration and maintenance

Complete diagnostic and monitoring available over the communication bus

Basic models: classic functions available

Advanced models: each beam status safe information available

- Two M12 connectors on receiver side for POWERLINK connection
- M8 connectors on emitter and receiver for power supply
- Up to 19m operating range and 1800m protected height
- Finger, hand and body protection
- Compact dimensions (35 x 42 mm section)
- POWERLINK node address configurable with selector switches
- Functions available in combination with B&R safety controller SL and SLX: auto/manual restart, EDM, Muting, Override
- Functions available for advanced models in combination with B&R safety controller SL: fixed blanking, floating blanking, partial and dynamic muting, warning areas, measurement



APPLICATIONS

- Automatic and semi-automatic machines and lines
- Primary packaging machinery (packing, filling, labelling, etc...)
- Cutting machinery
- Bending and metal-working machines
- Material handling machinery
- Palletizers and depalletizers
- Material handling
- Robots cells

INDUSTRIE

- Food & Beverage, Metalworking, Automotive, Wood, Ceramics

| | FINGER | HAND | ARM | BODY |
|--------|--------|------|-----|------|
| Type 2 | | | | |
| Type 4 | x | x | | x |

SG4-14-015-OP-A

| TYPE | | MONITORED HEIGHT | | FIELDBUS PROTOCOL | FUNCTIONALITY | |
|------------|---------------|------------------|---------|-------------------|---------------------------|----------|
| 4 | Type 4 | 015 | 150 mm | | A | Advanced |
| | | 030 | 300 mm | | B | Basic |
| RESOLUTION | | ... | | OP | openSAFETY over POWERLINK | |
| 14 | Finger: 14 mm | 180 | 1800 mm | | | |
| 30 | Hand: 30 mm | | | | | |

SG4-S2-060-OP-B

| TYPE | | MONITORED HEIGHT | | FIELDBUS PROTOCOL | FUNCTIONALITY | |
|-------|---------|------------------|---------|-------------------|---------------------------|-------|
| 4 | Type 4 | 060 | 600 mm | | B | Basic |
| | | 080 | 800 mm | | | |
| BEAMS | | 090 | 900 mm | OP | openSAFETY over POWERLINK | |
| 2 | 2 Beams | 120 | 1200 mm | | | |
| 3 | 3 Beams | | | | | |
| 4 | 4 Beams | | | | | |

TECHNICAL DATA

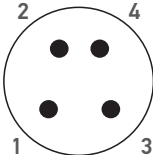
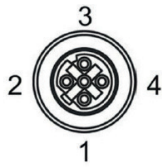
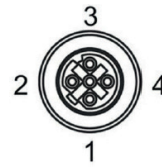
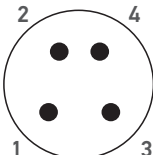
| SG4 FIELDBUS | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------------------------|
| | Finger and Hand resolution [SG4-xx-xxx-OP-x] | Body detection [SG4-Sx-xxx-OP-x] |
| GENERAL DATA | | |
| Type (EN61496-1) | | 4 |
| PL (EN ISO 13849-1) | | e |
| SIL (IEC 61508) | | 3 |
| Resolution | 14 mm [SG4-14-xxx-OP-x] 30 mm [SG4-30-xxx-OP-x] | 2 beams [SG4-S2-xxx-OP-x] 3 beams [SG4-S3-xxx-OP-x] 4 beams [SG4-S4-xxx-OP-x] |
| Protected height | 150 ... 1800 mm (with 150 mm steps) | 600 / 800 / 900 / 1200 mm |
| Operating distance | 0.2 ... 6 m [SG4-14-xxx-OP-x] 0.2 ... 19 m [SG4-30-xxx-OP-x] | 0.2 ... 19 m |
| ELECTRICAL DATA | | |
| Power supply (Vdd) | | 24 Vdc ± 20% |
| Consumption (Transmitter) | | 3 W max |
| Consumption (Receiver) | | 5 W max |
| Response time | | see response time table |
| Power supply cable length | | 50 m max |
| Ethernet cable length | | 100 m max |
| MECHANICAL AND ENVIRONMENTAL DATA | | |
| Operating temperature | | 0 ... +50 °C |
| Humidity | | 15 ... 95 % (no condensation) |
| Mechanical protection | | IP 65 (EN 60529) |
| Housing material | | Painted aluminium, Polycarbonate |
| Window material | | PMMA |
| FUNCTIONS | | |
| SG4 FIELDBUS can only be used in combination with a safety PLC to which it transmits safety information about its status through openSAFETY over POWERLINK. BASE models transmit only their ON/OFF status, ADVANCED models transmit also each beam status. Using appropriate functional blocks or instructions inside the safety PLC it is possible to implement the following functions: | | |
| BASE MODELS [SG4-xx-xxx-OP-B] ADVANCED MODELS [SG4-xx-xxx-OP-A] | | Automatic/Manual restart |
| | | External Device Monitoring |
| | | Total Muting |
| ADVANCED MODELS [SG4-xx-xxx-OP-A] | | Partial muting |
| | | Auto dynamic Partial muting |
| | | Fixed Blanking |
| | | Floating Blanking |
| | | Measurement |

| MODEL | RESPONSE TIME (ms) |
|-----------------|--------------------|
| SG4-14-015-OP-B | 19 |
| SG4-14-030-OP-B | 22 |
| SG4-14-045-OP-B | 25 |
| SG4-14-060-OP-B | 29 |
| SG4-14-075-OP-B | 31 |
| SG4-14-090-OP-B | 35 |
| SG4-14-105-OP-B | 38 |
| SG4-14-120-OP-B | 41 |
| SG4-14-135-OP-B | 44 |
| SG4-14-150-OP-B | 47 |
| SG4-14-165-OP-B | 51 |
| SG4-14-180-OP-B | 54 |
| SG4-30-015-OP-B | 19 |
| SG4-30-030-OP-B | 21 |
| SG4-30-045-OP-B | 22 |
| SG4-30-060-OP-B | 24 |
| SG4-30-075-OP-B | 25 |
| SG4-30-090-OP-B | 27 |
| SG4-30-105-OP-B | 29 |
| SG4-30-120-OP-B | 31 |
| SG4-30-135-OP-B | 32 |
| SG4-30-150-OP-B | 34 |
| SG4-30-165-OP-B | 36 |
| SG4-30-180-OP-B | 38 |
| SG4-S2-060-OP-B | 24 |
| SG4-S3-080-OP-B | 27 |
| SG4-S4-090-OP-B | 27 |
| SG4-S4-120-OP-B | 31 |

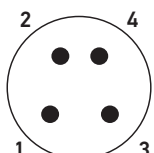
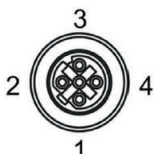
NOTE

The response time reported in this table is the part of the communication time depending only by the light curtain.
Additional time must be added, depending on configurable parameters of the POWERLINK network and safety PLC.

CONNECTIONS

| | CN1 | CN2 | CN3 |
|----------|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| RECEIVER |  POWER CONNECTOR: M8 4-pin male |  POWERLINK CONNECTOR: M12 D-coded female Ethernet |  POWERLINK CONNECTOR: M12 D-coded female Ethernet |
| EMITTER |  POWER CONNECTOR: M8 4-pin male | | |



| CN1 | SIGNAL | DESCRIPTION |
|-----|-----------------------|--------------------------------------------------------------------------------------------------------------------|
| 1 | 24 Vdc (BROWN) |  POWER CONNECTOR |
| 2 | NOT USED (WHITE) | |
| 3 | 0 Vdc (BLUE) | |
| 4 | NOT USED (BLACK) | |
| CN2 | SIGNAL | DESCRIPTION |
| 1 | TxD+, transmit data + |  ETHERNET POWERLINK PORT 1 |
| 2 | RxD+, receive data + | |
| 3 | TxD-, transmit data - | |
| 4 | RxD-, receive data - | |




INDICATORS

Receiver



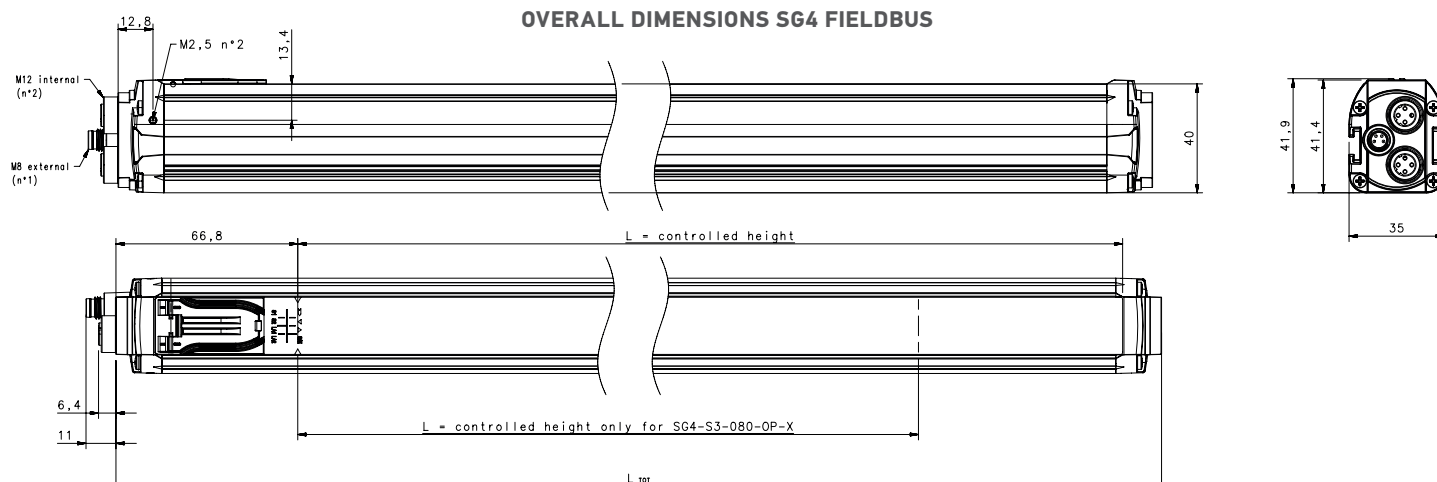
Emitter



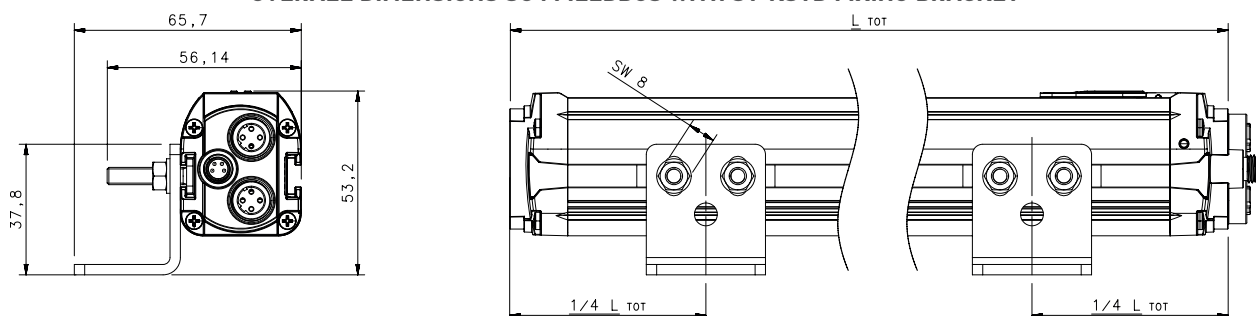
| LED | COLOR | NAME | FUNCTION (NORMAL OPERATION) | FUNCTION (ERROR) |
|-------------------------------------------------------------------------------------|-----------|------------------|-------------------------------------------------------------------|---------------------------------------------|
|  | Red/Green | BEAM STATUS | Red On: At least one beam intercepted Green On: All beams free | Red On |
|  | Yellow | SYNC BEAM | On: First beam intercepted or not aligned | Blinking: OPTIC , uP or openSAFETY ERROR |
|  | Yellow | LAST BEAM | On: Last beam intercepted or not aligned | |
| M | Red | MASTER uP STATUS | Off: Normal operation Blinking : Boot or pre-op | On: Error on MASTER uP Boot or Pre-op |
| P | Red/Green | POWERLINK STATUS | Green On: normal operation Green blinking: pre-op | Red On: Ethernet Powerlink Error |
| 1 | Green | EPL PORT 1 LINK | On: there is a link Blinking: there is activity on this link | N/A |
| 2 | Green | EPL PORT 2 LINK | On: there is a link Blinking: there is activity on this link | N/A |
| S | Red | SLAVE uP STATUS | Off: Normal operation Blinking: Boot or pre-op | On: Error on SLAVE uP Boot Pre-op |

DIMENSIONS

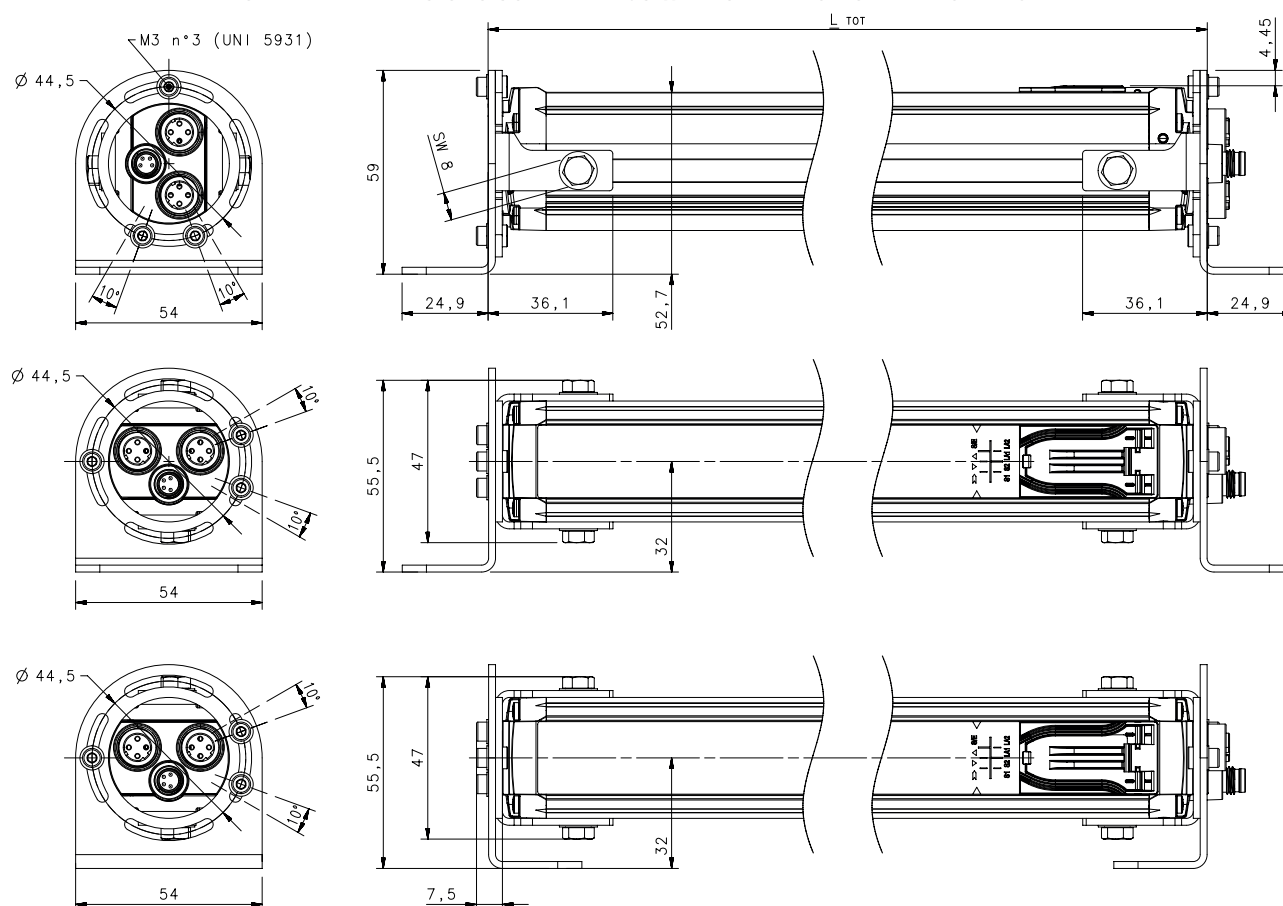
OVERALL DIMENSIONS SG4 FIELDBUS



OVERALL DIMENSIONS SG4 FIELDBUS WITH ST-KSTD FIXING BRACKET



OVERALL DIMENSIONS SG4 FIELDBUS WITH ST-K4-ROT-OP FIXING BRACKET



MODEL SELECTION AND ORDER INFORMATION

| | Basic functionality [SG4-xx-xxx-OP-B] [SG4-Sx-xxx-OP-B] | Order Number | Advanced functionality [SG4-xx-xxx-OP-A] | Order Number |
|-------------------|---------------------------------------------------------------|--------------|---------------------------------------------|--------------|
| FINGER PROTECTION | SG4-14-015-OP-B | 957901770 | SG4-14-015-OP-A | 957902050 |
| | SG4-14-030-OP-B | 957901780 | SG4-14-030-OP-A | 957902060 |
| | SG4-14-045-OP-B | 957901790 | SG4-14-045-OP-A | 957902070 |
| | SG4-14-060-OP-B | 957901800 | SG4-14-060-OP-A | 957902080 |
| | SG4-14-075-OP-B | 957901810 | SG4-14-075-OP-A | 957902090 |
| | SG4-14-090-OP-B | 957901820 | SG4-14-090-OP-A | 957902100 |
| | SG4-14-105-OP-B | 957901830 | SG4-14-105-OP-A | 957902110 |
| | SG4-14-120-OP-B | 957901840 | SG4-14-120-OP-A | 957902120 |
| | SG4-14-135-OP-B | 957901850 | SG4-14-135-OP-A | 957902130 |
| | SG4-14-150-OP-B | 957901860 | SG4-14-150-OP-A | 957902140 |
| HAND PROTECTION | SG4-14-165-OP-B | 957901870 | SG4-14-165-OP-A | 957902150 |
| | SG4-14-180-OP-B | 957901880 | SG4-14-180-OP-A | 957902160 |
| | SG4-30-015-OP-B | 957901890 | SG4-30-015-OP-A | 957902170 |
| | SG4-30-030-OP-B | 957901900 | SG4-30-030-OP-A | 957902180 |
| | SG4-30-045-OP-B | 957901910 | SG4-30-045-OP-A | 957902190 |
| | SG4-30-060-OP-B | 957901920 | SG4-30-060-OP-A | 957902200 |
| | SG4-30-075-OP-B | 957901930 | SG4-30-075-OP-A | 957902210 |
| | SG4-30-090-OP-B | 957901940 | SG4-30-090-OP-A | 957902220 |
| | SG4-30-105-OP-B | 957901950 | SG4-30-105-OP-A | 957902230 |
| | SG4-30-120-OP-B | 957901960 | SG4-30-120-OP-A | 957902240 |
| BODY PROTECTION | SG4-30-135-OP-B | 957901970 | SG4-30-135-OP-A | 957902250 |
| | SG4-30-150-OP-B | 957901980 | SG4-30-150-OP-A | 957902260 |
| | SG4-30-165-OP-B | 957901990 | SG4-30-165-OP-A | 957902270 |
| | SG4-30-180-OP-B | 957902000 | SG4-30-180-OP-A | 957902280 |
| | SG4-S2-060-OP-B | 957902010 | -- | -- |
| | SG4-S3-080-OP-B | 957902020 | -- | -- |
| | SG4-S4-090-OP-B | 957902030 | -- | -- |
| | SG4-S4-120-OP-B | 957902040 | -- | -- |

CABLES

| POWER SUPPLY CABLES | | | |
|---------------------|----------------------|------------|------------|
| | MODEL | LENGTH (m) | ORDER CODE |
| M8 AXIAL CONNECTOR | CS-B1-02-G-03 | 3 | 95A251420 |
| | CS-B1-02-G-05 | 5 | 95A251430 |
| | CS-B1-02-G-07 | 7 | 95A251440 |
| | CS-B1-02-G-10 | 10 | 95A251480 |
| M8 RADIAL CONNECTOR | CS-B2-02-G-03 | 3 | 95A251450 |
| | CS-B2-02-G-05 | 5 | 95A251460 |
| | CS-B2-02-G-07 | 7 | 95A251470 |
| | CS-B2-02-G-10 | 10 | 95A251530 |
| POWERLINK CABLES | | | |
| M12 AXIAL - RJ45 | CAB-ETH-M01 | 1 | 93A051346 |
| | CAB-ETH-M03 | 3 | 93A051347 |
| | CAB-ETH-M05 | 5 | 93A051348 |
| | CAB-ETH-M10 | 10 | 93A051391 |
| M12 AXIAL - M12 | ETH CABLE M12-M12 1M | 1 | 93A050065 |
| | ETH CABLE M12-M12 3M | 3 | 93A050066 |
| | ETH CABLE M12-M12 5M | 5 | 93A050067 |

ACCESSORIES

| | SG4 FIELDBUS [SG4-14-xxx-0P-x] [SG4-30-xxx-0P-x] | SG4 FIELDBUS [SG4-Sx-xxx-0P-x] |
|------------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
| BRACKETS | | |
| Standard angled brackets (included) | | ST-KSTD |
| Antivibration support (4 pcs / 6 pcs)* | | ST-K4AV ST-K6AV |
| Plastic brackets (4 pcs / 6 pcs)* | | ST-KP4MP ST-KP6MP |
| Orientable brackets (4 pcs) | | ST-K4ROT-OP |
| STANDS | | |
| Protective Stands | | SG-PSB series |
| Stand Plate for SG-PSB | | SG-P |
| Protective Stands Mounting Brackets (4 pcs / 6 pcs)* | | ST-PS4-SG-SE ST-PS6-SG-SE |
| Floor columns | | SE-S Series |
| MIRRORS | | |
| Protective stands with single mirrors | -- | SG-PSM series |
| Deviating Mirrors | | SG-DM Series |
| Deviating Mirrors mounting kit for SG-PSB | | ST-PS-DM |
| Mirror Mounting Bracket | | ST-DM |
| ALIGNMENT TOOL | | |
| LASER Pointer | | SG-LP |
| NOTES | | |
| * Use 6 brackets for light curtains with length >= 1200 mm | | |

COMPATIBILITY WITH B&R HARDWARE AND SOFTWARE

Due to the characteristics of the functional blocks that have been developed by B&R in order to communicate with DATALOGIC SG4 FIELDBUS safety light curtains, always check to have the following versions or newer:

1) SG4 Fieldbus Base:

HW: SafeLOGIC SL81xx, SLXxxx

SW: SafetyRelease 1.10, SafeDESIGNER 4.2.x, Automation Studio 4.2.8.x, SL Upgrades 1.10.x.x

2) SG4 Fieldbus Advanced:

HW: SL81xx only

SW: SafetyRelease 1.10, SafeDESIGNER 4.3.3, Automation Studio 4.3.3, SL Upgrades 1.10.2.x

Rev. 01, 06/2018

SINGLE BEAM SAFETY SENSORS SAFETY CONTROL UNITS

Installation Flexibility

Long distance

Low temperature with defogging function

4 safety areas controlled with one unit

Double muting

SENSORS:

- Emitter-receiver photocells with test input
- Type 2 and Type 4 models
- Plastic tubular and MAXI formats
- Up to 50m operating distance
- Class 1 red laser emission models up to 40
- Standard M12 connectors

CONTROL UNITS:

- Integrated control of 4 single beams and 2 light curtains
- Simple DIP Switch configuration
- Muting functions can be assigned to light curtains or single beams

APPLICATIONS

- Robots
- Automatic assembling lines
- Palletizers and Depalletizers



S5-5-G8-62-SG-ST2

| EMITTER/RECEIVER | |
|------------------|----------|
| G8-62 | Emitter |
| F8-92 | Receiver |

| TYPE | |
|------|--------|
| 2 | Type 2 |
| 4 | Type 4 |

SL5-5-G-82-SG-ST4

| EMITTER/RECEIVER | |
|------------------|----------|
| G-82 | Emitter |
| F-92 | Receiver |

S300-PR-5-G00-EX-M-SG-ST2

| EMITTER/RECEIVER | |
|------------------|----------|
| G00-EX | Emitter |
| F00-OC | Receiver |

| DEFOGGING FUNCTION | |
|--------------------|-----------|
| ... | Standard |
| M | Defogging |

| TYPE | |
|------|--------|
| 2 | Type 2 |
| 4 | Type 4 |

TECHNICAL DATA

| | S5 | SL5 | S300 |
|--------------------------------------|--------------------------------------------------------|----------------------------|----------------------------------------------------|
| GENERAL DATA | | | |
| Format | M18 Tubular | | Rectangular |
| Light Emission | Infrared LED 880 nm | Class 1 Red laser (650 nm) | Infrared LED 880 nm |
| Type (EN61496-1) | 2/4 depending on model | 4 | 2/4 depending on model |
| Effective Aperture Angle (EN61496-2) | -/+ 2.5° for Type 4 models -/+ 5° for Type 2 models | | |
| Operating distance | 0 ... 8 m | 0 ... 40 m | 0 ... 50 m (S300...ST2) 9 ... 40 m (S300...ST4) |
| ELECTRICAL DATA | | | |
| Power supply (Vdc) | 24 Vdc ± 15% | | |
| Outputs | PNP (short circuit protection) | | |
| Output current | 100 mA max. | | |
| Response time | 1 ms max. | | |
| MECHANICAL AND ENVIRONMENTAL DATA | | | |
| Operating temperature | -25 ... 55°C | -10 ... 50 °C | -40 ... 55 °C |
| Mechanical protection (EN 60529) | IP 67 | | |
| Housing Material | Polycarbonate, ABS | | PBT |
| Window material | PMMA | | Polycarbonate |

| | SG-BWS-T4 | SG-BWS-T4-2 | SG-BWS-T4-MT | SG-BWS-T4-2-MT |
|-------------------------------------------------------------------------------------------------------------|-------------------------------|-------------|-------------------|----------------|
| GENERAL DATA | | | | |
| PL (EN ISO 13849-1) | e | | | |
| SIL (IEC 61508) | 3 | | | |
| ELECTRICAL DATA | | | | |
| Power supply | 24 Vdc -15/+10% | | | |
| PNP Outputs from S5/SL5/S300 | 4 | | | |
| OSSDs couples from SLC | --- | | 2 | |
| Muting inputs | --- | | 4 | |
| Test, Reset, Override, EDM, Muting enable, Auto/Man Selector | 3 | | 9 | |
| Outputs | | | | |
| Safety outputs | 2 PNP | | 2 NO | |
| Muting lamps | --- | | 2 | |
| Test outputs | 4 | | 4 | |
| Response time ^A | 29 ms | 33 ms | 35 ms | 39 ms |
| MECHANICAL AND ENVIRONMENTAL DATA | | | | |
| Operating temperature | 0 ... +55°C | | | |
| Humidity | 15 ... 95 % (no condensation) | | | |
| Mechanical protection | IP20 | | | |
| FUNCTIONS ^B | | | | |
| Single beams pairs (Rx/Tx) monitored | 4 | 8 | 4 | 8 |
| | Automatic/Manual reset | | | |
| | External Device Monitoring | | | |
| | --- | | L/T Muting | |
| | --- | | Double muting | |
| | --- | | Muting Enable | |
| | --- | | Muting timeout | |
| | --- | | Override | |
| COMPATIBILITY | | | | |
| Single beam photocells | S5/SL5/S300 | | | |
| Safety light curtains | --- | | All DATALOGIC SLC | |
| NOTES | | | | |
| ^A includes response time of photocells | | | | |
| ^B Functions setting is done through DIP switches in SG-BWS-T4-MT and through wiring in SG-BWS-T4 | | | | |

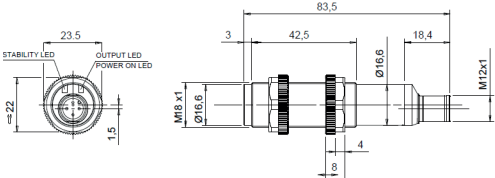
CONNECTIONS

| | EMITTER | RECEIVER |
|-------------------|---------|----------|
| S5 SL5 S300 | | |

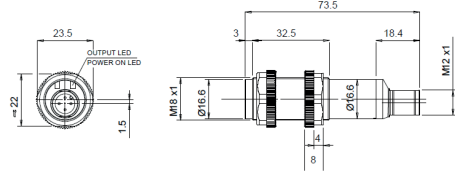
DIMENSIONS (mm)

S5

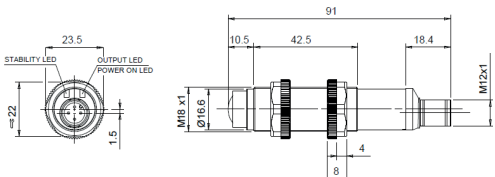
S5-5-F8-SG-ST2



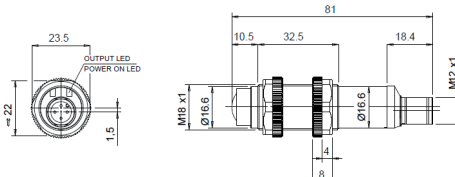
S5-5-G8-62-SG-ST2



S5-5-F8-92-SG-ST4

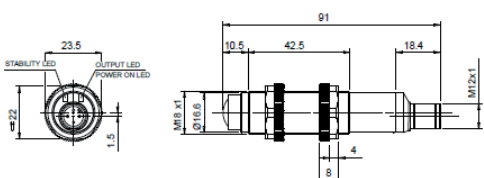


S5-5-G8-62-SG-ST4

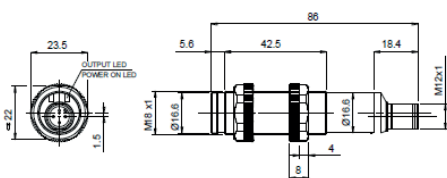


SL5

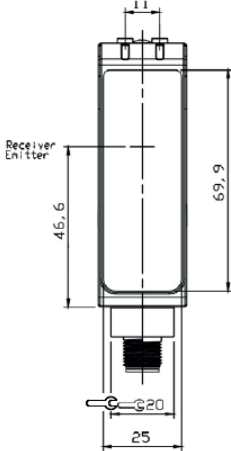
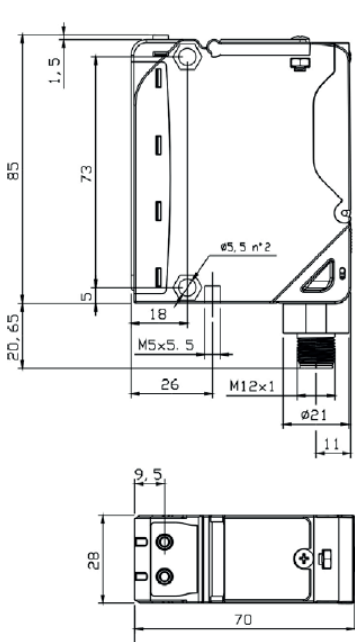
SL5-5-F-92-SG-ST4



SL5-5-G-82-SG-ST4



S300



ACCESSORIES

| MODEL | DESCRIPTION | ORDER NUMBER |
|--------------|-------------------------------------------------------------|--------------|
| SP-40 | Fixed support for tubular M18 sensors | 95ACC1370 |
| SWING-18 | Adjustable support for plastic tubular M18 sensors | 895000006 |
| MICRO-18 | Support with micrometric regulation for tubular M18 sensors | 95ACC1380 |
| ST-5099 | S300 Fixed bracket | 95ACC2830 |
| ST-5100 | S300 Fixed bracket | 95ACC2840 |
| DataVS-MK-01 | S300 Mounting kit | 95A901380 |

ORDER CODES

| SAFETY CONTROL UNITS | | |
|----------------------|-------------------------------------------------|--------------|
| MODEL | DESCRIPTION | ORDER NUMBER |
| SG-BWS-T4 | Safety control unit pl=e auto/man edm, 4 beams | 957051000 |
| SG-BWS-T4-2 | Safety control unit pl=e auto/man edm, 8 beams | 957051030 |
| SG-BWS-T4-MT | Safety control unit pl=e double muting, 4 beams | 957051010 |
| SG-BWS-T4-MT-2 | Safety control unit pl=e double muting, 8 beams | 957051040 |

| SINGLE BEAM SAFETY SENSORS | | | | |
|----------------------------|------|---------------------------|------------------|--------------|
| | TYPE | MODEL | EMITTER/RECEIVER | ORDER NUMBER |
| S5 | 2 | S5-5-G8-62-SG-ST2 | Emitter | 952051870 |
| | | S5-5-F8-92-SG-ST2 | Receiver | 952051890 |
| | 4 | S5-5-G8-62-SG-ST4 | Emitter | 952051910 |
| | | S5-5-F8-92-SG-ST4 | Receiver | 952051930 |
| SL5 | 4 | SL5-5-G-82-SG-ST4 | Emitter | 952501160 |
| | | SL5-5-F-92-SG-ST4 | Receiver | 952501170 |
| S300 | 2 | S300-PR-5-G00-EX-SG-ST2 | Emitter | 951451320 |
| | | S300-PR-5-F00-OC-SG-ST2 | Receiver | 951451340 |
| | 4 | S300-PR-5-G00-EX-SG-ST4 | Emitter | 951451360 |
| | | S300-PR-5-F00-OC-SG-ST4 | Receiver | 951451380 |
| S300 DEFOGGING | 2 | S300-PR-5-G00-EX-M-SG-ST2 | Emitter | 951451330 |
| | | S300-PR-5-F00-OC-M-SG-ST2 | Receiver | 951451350 |
| | 4 | S300-PR-5-G00-EX-M-SG-ST4 | Emitter | 951451370 |
| | | S300-PR-5-F00-OC-M-SG-ST4 | Receiver | 951451390 |

1) The photocells listed above are certified and must be used only with safety control units SG-BWS-T4 and SG-BWS-T4-MT.
Neither technical and functioning compatibility nor certifications are guaranteed if they are used with other brand control units or old/obsolete DATALOGIC control units.

CABLE ORDER CODES

| MODEL | DESCRIPTION | ORDER NUMBER |
|----------------|-------------------------------|--------------|
| CS -A1-02-U-03 | 4-pole M12 cable (axial) 3 m | 95ASE 1120 |
| CS -A1-02-U-05 | 4-pole M12 cable (axial) 5 m | 95ASE 1130 |
| CS -A1-02-U-10 | 4-pole M12 cable (axial) 10 m | 95ASE 1140 |
| CS -A1-02-U-15 | 4-pole M12 cable (axial) 15 m | 95ASE 1150 |
| CS -A1-02-U-25 | 4-pole M12 cable (axial) 25 m | 95ASE 1160 |

Rev. 05, 05/2016

SAFETY LASER SCANNER

LASER SENTINEL™ ENHANCED



Safety laser scanner based on Time Of Flight measurement
More than 72 m² safely monitored, with 5.5 m over 275°
High detection performances in compact size
Advanced dust filtering
Easy programming with intuitive Graphic User Interface



- Dimensions (w,d,h): 102 , 112.5, 152 mm
- I/O connection with standard M12 cables
- Up to 3 simultaneous safety zones
- 2 Warning zones up to 40 m
- 30/40/50/70/150 mm selectable detection capability
- Up to 70 zone sets
- Partial dynamic muting
- Metal brackets allowing full orientation and fast replacement
- Advanced measurement data protocol
- Colour graphic display for monitoring and diagnostics
- Speed measurement with encoder inputs



APPLICATIONS

- Robot cells (pick and place, inspection, testing, welding, etc)
- Palletizers / depalletizers
- Open machinery, process lines
- Automated Guided Vehicles (AGV)
- Automated Guided Carts (AGC)
- Mobile Industrial Robots

INDUSTRIES

- Automotive
- Material handling
- Secondary Packaging
- Food
- Wood
- Ceramics

| | FINGER | HAND | ARM | BODY |
|--------|--------|------|-----|------|
| Type 3 | | x | x | x |

SLS **M** **5** - **E** - **0812** - **E**

| MODEL | | MAX SAFETY RANGE | | ENCODER INPUTS | | I/O CONNECTORS | | ENHANCED VERSION | |
|-------|-------------------|------------------|-------|----------------|---------------------------------------|----------------|------------------------------------|------------------|---------------------------------|
| SA | Standalone | 5 | 5.5 m | E | Encoder inputs on secondary connector | 08 | M12 8-pin male | E | Master/Slave Enhanced version |
| M | Master | 3 | 3 m | -- | Not present | 0812 | M12 8-pin male OR M12 12-pin male | -- | Standalone Enhanced version (*) |
| R | Slave (or Remote) | | | | | 1708 | M12 17-pin male AND M12 8-pin male | | |

(*) only for models produced after 31/01/2020

TECHNICAL DATA

| | SLS-SA3-08 SLS-SA5-08 | SLS-M3-0812-E SLS-M5-0812-E | SLS-M3-1708-E SLS-M5-1708-E | SLS-M5-E-1708-E | SLS-R3-E SLS-R5-E | | | |
|------------------------------------------------------------------------------------|----------------------------------|--------------------------------|--------------------------------|----------------------------------------------------|---------------------------|-----------------------------------------|-------------------------------|--|
| Connector used | M12 8-pin | M12 8-pin | M12 12-pin | M12 17-pin | M12 17-pin + M12 8-pin | M12 17-pin + M12 8-pin high speed | N/A | |
| GENERAL DATA | | | | | | | | |
| Type (EN61496-1) | 3 | | | | | | | |
| PL (EN ISO 13849-1) | d | | | | | | | |
| SIL (IEC 61508) | 2 | | | | | | | |
| DETECTION DATA | | | | | | | | |
| Detection capability | 30/40/50/70/150 mm selectable | | | | | | | |
| Angular resolution | 0,1° | | | | | | | |
| Safety zone operating range | See Safety operating range table | | | | | | | |
| Warning zone max. operating range | 40 m | | | | | | | |
| Max. number of symultaneous safety zones | 1 | 1 | 2 | 3 | | | Depending on connected Master | |
| Max. number of symultaneous warning zones | 2 | 1 | 2 | 2 (if safety zones < 3) 1 (if safety zones = 3) | | | Depending on connected Master | |
| Max. opening angle | 275° | | | | | | | |
| Tolerance zone | 100 mm | | | | | | | |
| ELECTRICAL DATA | | | | | | | | |
| Power supply (Vdd) | 24 Vdc ± 20% | | | | | | | |
| Output current | 0.25 A max / each OSSD | | | | | | N/A | |
| Output Capacitive load | 2.2 uF @ 24Vdc max | | | | | | N/A | |
| Input Load current | 6 ... 15 mA | | | | | | N/A | |
| Input saturation voltage | > 15 V | | | | | | N/A | |
| Input Capacitive Load | 22 uF | | | | | | N/A | |
| MECHANICAL AND ENVIRONMENTAL DATA | | | | | | | | |
| Operating temperature | -10 ...+50 °C | | | | | | | |
| Storage temperature | -20 ... 70°C | | | | | | | |
| Humidity | 15 ... 95 % (no condensation) | | | | | | | |
| Mechanical protection | IP 65 (EN 60529) | | | | | | | |
| Housing material | Painted Aluminium, Polycarbonate | | | | | | | |
| Window material | PMMA | | | | | | | |
| INPUTS/OUTPUTS CONFIGURATION DATA | | | | | | | | |
| Connector | M12 8-pin | M12 8-pin | M12 12-pin | M12 17-pin | M12 17-pin + M12 8-pin | M12 17-pin + M12 8-pin | | |
| Safety Outputs (OSSDs) | 1 x 2 | 1 x 2 | 2 x 2 | 3 x 2 | 3 x 2 | 3 x 2 | N/A | |
| Configurable Inputs | 0 | 2 | 1 | 4 | 12 | 8 | N/A | |
| Configurable Outputs | 0 | 0 | v | 2 | 2 | 2 | N/A | |
| Configurable Inputs/Output | 3 | 1 | 4 | 2 | 2 | 2 | N/A | |
| High speed inputs (100kHz) | N/A | | | | | 4 | N/A | |
| Total configurable I/O | 5 | 5 | 7 | 10 | 18 | 18 | N/A | |
| CONFIGURABLE PARAMETERS | | | | | | | | |
| Response time for main unit | Min: 62 ms; Max: 482 ms | | | | | | | |
| for any additional slave unit | 10 ms | | | | | | | |
| Connector used | M12 8-pin | M12 8-pin | M12 12-pin | M12 17-pin | M12 17-pin + M12 8-pin | M12 17-pin + M12 8-pin high speed | | |
| Max. Zone sets number in any activation order (*1): | | | | | | | | |
| with 1 safety zone | 3 | 3 | 10 | 20 | 70 | 70 | N/A | |
| with 1 safety zone + 1 warning zone | 2 | 2 | 6 | 20 | 70 | 70 | | |
| with 1 safety zone + 2 warning zones | N/A | N/A | 3 | 20 | 70 | 70 | | |
| with 2 safety zones | N/A | N/A | 3 | 20 | 70 | 70 | | |
| with 2 safety zones + 1 warning zone | N/A | N/A | 2 | 10 | 70 | 70 | | |
| with 2 safety zones + 2 warning zones | N/A | N/A | 1 | 6 | 70 | 70 | | |
| with 3 safety zones | N/A | N/A | N/A | 6 | 70 | 70 | | |
| Max. Zone sets number in a particular activation order with 1 safety zone (*2): | 6 | | | N/A | | | | |
| Zone set input switching time | Min: 30 ms; Max: 5000 ms | | | | | | | |
| FUNCTIONS | | | | | | | | |
| Manual /automatic restart | Yes | | | | | | N/A | |
| Reset (power cycle) | Yes | | | | | | | |
| EDM (External Device Monitoring) | Yes | | | | | | | |
| Total Muting (monodirectional or bidirectional) | Yes | | | | | | | |
| Partial muting, dynamic for 1st OSSDs couple | Yes | | | | | | | |
| Reference Points | Yes | | | | | | | |
| Override | Yes (*3) | | | Yes | | | N/A | |
| Muting Lamp | Yes (*3) | | | Yes | | | | |
| Muting Enable | Yes (*3) | | | Yes | | | | |
| Clean Window Alarm | | | | Yes | | | | |
| Generic Fault Alarm | | | | Yes | | | | |
| Shut off | | | | Yes | | | | |
| Advanced measurement data | Yes (*4) | | | Yes (*5) | | | | |
| Measurement data max. angular resolution | 0.1° | | | | | | 0.5° | |
| APPLICATIONS | | | | | | | | |
| Horizontal static | Yes | | | | | | | |
| Vertical static | Yes | | | | | | | |
| Moving (simple AGVs) | Yes | | | | | | | |
| Moving (medium complexity AGVs) | No | | | Yes | | | | |

NOTES

(*1) The max number of zone sets switching is reached when all inputs are used for zone set switching. Using 8 inputs or encoder speed measurement the max. number of zone set of 70 can be reached.

(*2) With 1 safety zone only, up to 3 zone sets are available in any activation order. Up to 6 are available only using some allowed activation order. Refer to Manual and GUI for details.

(*3) Override input, Muting Enable input and Muting Lamp output on SLS-SAx are mutually exclusive

(*4) Using the programming connector on the front of the device

(*5) Using the rotating connector in the back of the device

(*6) Only using 12-pin connector

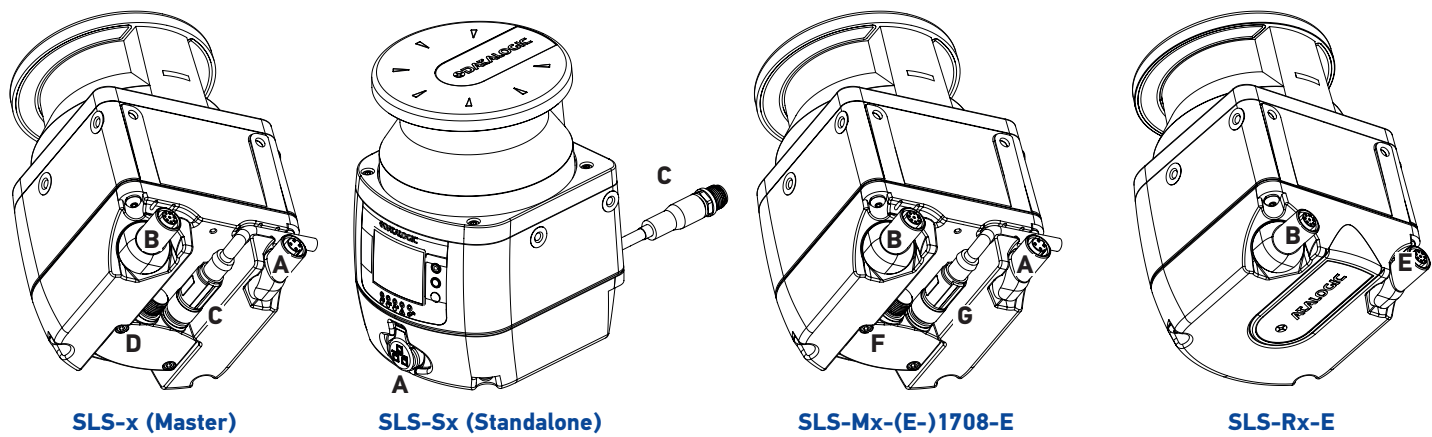
(*7) To use more than 2 OSSDs, they have to be selected between configurable outputs

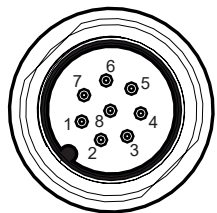
SAFETY OPERATING RANGE

| | SLS-SA3-08 SLS-M3-xxxx-E SLS-R3-E | SLS-SA5-08 SLS-M5-xxxx-E SLS-M5-E-xxxx-E SLS-R5-E |
|----------------------|-----------------------------------------|------------------------------------------------------------|
| Detection Capability | Safety Operating Range | |
| 30 mm | 0.05 ... 2.5 m | |
| 40 mm | 0.05 ... 3 m | 0.05 ... 3 m |
| 50 mm | | 0.05 ... 4 m |
| 70 mm | | 0.05 ... 5.5 m |
| 150 mm | | |

CONNECTIONS

| CONNECTOR | CHARACTERISTICS | SLS-SA _x | SLS-M _x -0812-E | SLS-M _x -(E-)-1708-E | SLS-R _x -E |
|-----------|-------------------|------------------------------|-------------------------------------------|------------------------------------------------------|----------------------------------------------------|
| A | M12 4-pins female | Ethernet port | Ethernet port | Ethernet port | N/A |
| B | M12 8-pins female | Not Present | Safe Connection to Slave device | Safe Connection to Slave device | Safe connection to next Slave device |
| D | M12 12 poles male | Not Present | Power and digital I/O in alternative to D | N/A | N/A |
| C | M12 8 poles male | Power supply and digital I/O | Power and digital I/O in alternative to C | N/A | N/A |
| E | M12 8-pins female | N/A | N/A | N/A | Safe connection to Master or previous Slave device |
| F | M12 17-pins male | N/A | N/A | Power and digital I/O alone or in combination with D | N/A |
| G | M12 8 poles male | N/A | N/A | Digital inputs in addition to F | N/A |



| C CONNECTOR (M12, 8-Pins) | | | | |
|-------------------------------------------------------------------------------------|------------------|-------------------|--------|------------|
|  | SIGNAL | DESCRIPTION | COLOR | PIN NUMBER |
| POWER | POWER SUPPLY | 24Vdc | BROWN | 2 |
| | GND_ISO | 0 V | BLUE | 7 |
| INPUT/OUTPUT | MULTI IN/OUT | Selectable by GUI | WHITE | 1 |
| | MULTI IN/OUT (*) | Selectable by GUI | GREEN | 3 |
| | MULTI IN/OUT (*) | Selectable by GUI | YELLOW | 4 |
| SAFETY OUTPUTS | OSSD11 | Safety Output | GRAY | 5 |
| | OSSD12 | Safety Output | PINK | 6 |
| OTHER | F_EARTH | Functional Earth | RED | 8 |
| NOTE | | | | |
| (*) Only MULTI IN and SLS-Mx | | | | |

D CONNECTOR (M12, 12-Pins)

| | SIGNAL | DESCRIPTION | COLOR | PIN NUMBER |
|----------------|--------------|-------------------|-----------|------------|
| POWER | POWER SUPPLY | 24Vdc | BROWN | 1 |
| | POWER SUPPLY | 24Vdc | GREEN | 4 |
| | GND_ISO | 0 V | BLUE | 2 |
| | GND_ISO | 0 V | YELLOW | 6 |
| INPUT | MULTI IN | Selectable by GUI | WHITE | 3 |
| INPUT/OUTPUT | MULTI IN/OUT | Selectable by GUI | BLACK | 7 |
| | MULTI IN/OUT | Selectable by GUI | RED | 9 |
| | MULTI IN/OUT | Selectable by GUI | VIOLET | 10 |
| | MULTI IN/OUT | Selectable by GUI | GREY/PINK | 11 |
| SAFETY OUTPUTS | OSSD11 | Safety Output | GRAY | 8 |
| | OSSD12 | Safety Output | PINK | 5 |
| OTHER | F_EARTH | Functional Earth | RED/BLUE | 12 |

F CONNECTOR (M12, 17-Pins)

| | SIGNAL | DESCRIPTION | COLOR | PIN NUMBER |
|----------------|--------------|-------------------|--------------|------------|
| POWER | POWER SUPPLY | 24Vdc | BROWN | 1 |
| | POWER SUPPLY | 24Vdc | BROWN | 10 |
| | POWER SUPPLY | 24Vdc | BROWN | 11 |
| | GND_ISO | 0 V | BLUE | 2 |
| | GND_ISO | 0 V | BLUE | 3 |
| | GND_ISO | 0 V | BLUE | 12 |
| INPUT | MULTI IN | Selectable by GUI | ORANGE | 6 |
| | MULTI IN | Selectable by GUI | BLACK | 7 |
| | MULTI IN | Selectable by GUI | WHITE | 14 |
| | MULTI IN | Selectable by GUI | VIOLET | 17 |
| OUTPUT | MULTI OUT | Selectable by GUI | GREEN | 4 |
| | MULTI OUT | Selectable by GUI | YELLOW | 15 |
| INPUT/OUTPUT | MULTI IN/OUT | Selectable by GUI | WHITE/BLACK | 5 |
| | MULTI IN/OUT | Selectable by GUI | RED | 9 |
| SAFETY OUTPUTS | OSSD11 | Safety Output | GRAY | 13 |
| | OSSD12 | Safety Output | PINK | 8 |
| OTHER | F_EARTH | Functional Earth | YELLOW/GREEN | 16 |

G CONNECTOR (M12, 8-Pins)

| | SIGNAL | DESCRIPTION | COLOR | PIN NUMBER |
|-----------------------|------------------|-------------------|--------|------------|
| HIGH SPEED INPUTS (*) | HIGH SPEED INPUT | Encoder input 11 | GRAY | 4 |
| | HIGH SPEED INPUT | Encoder input 12 | PINK | 6 |
| | HIGH SPEED INPUT | Encoder input 21 | YELLOW | 5 |
| | HIGH SPEED INPUT | Encoder input 22 | RED | 8 |
| INPUTS | MULTI IN | Selectable by GUI | GREEN | 3 |
| | MULTI IN | Selectable by GUI | BLUE | 7 |
| | MULTI IN | Selectable by GUI | BROWN | 2 |
| | MULTI IN | Selectable by GUI | WHITE | 1 |

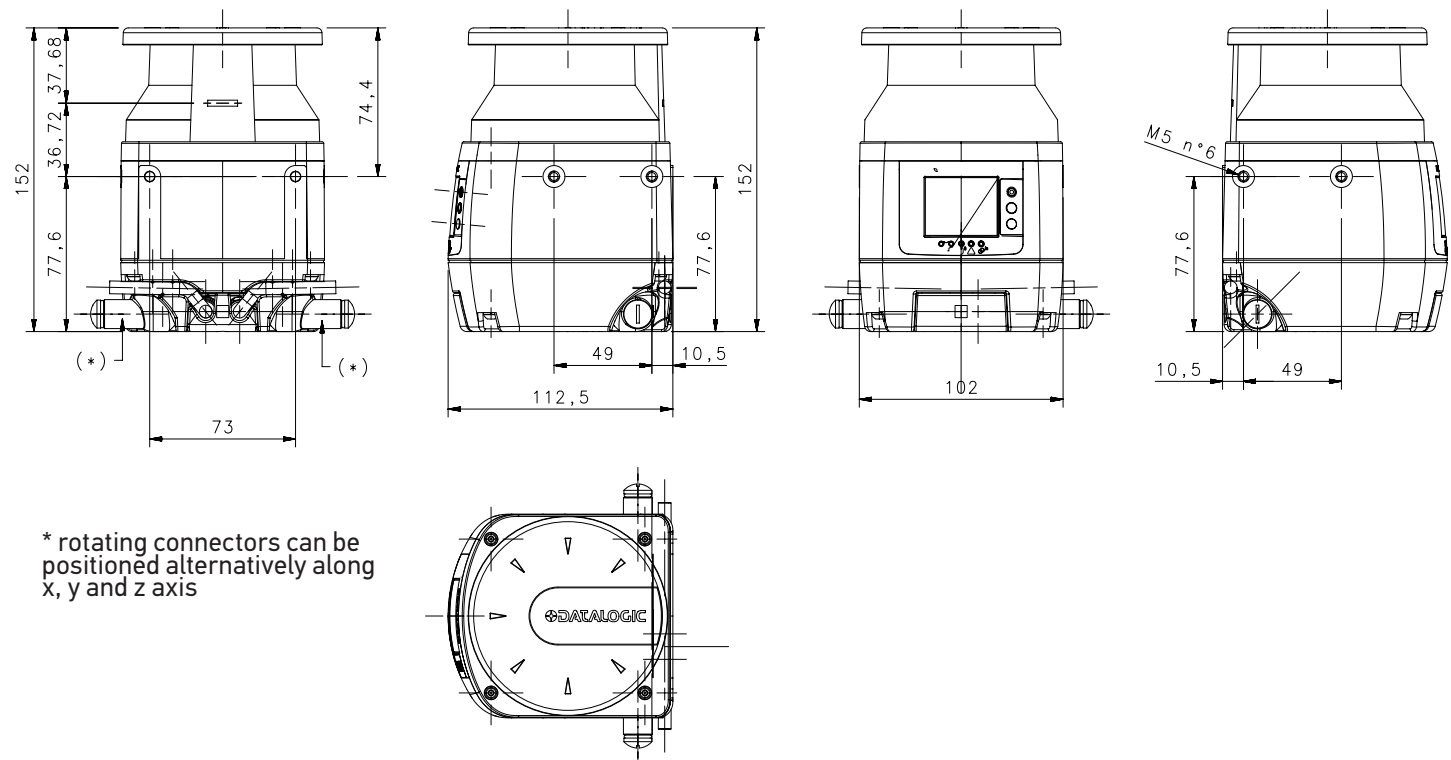
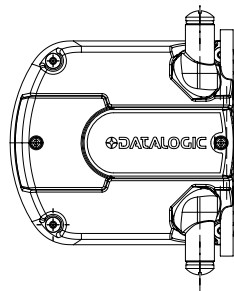
NOTE

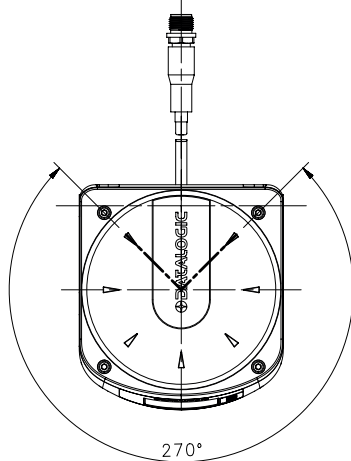
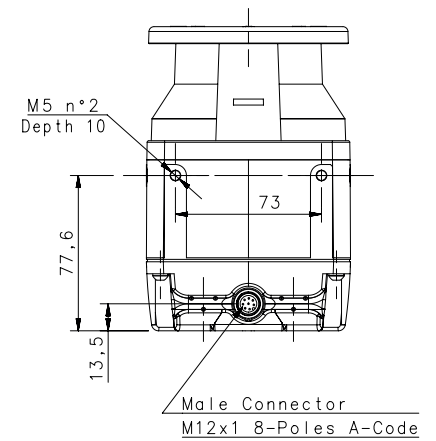
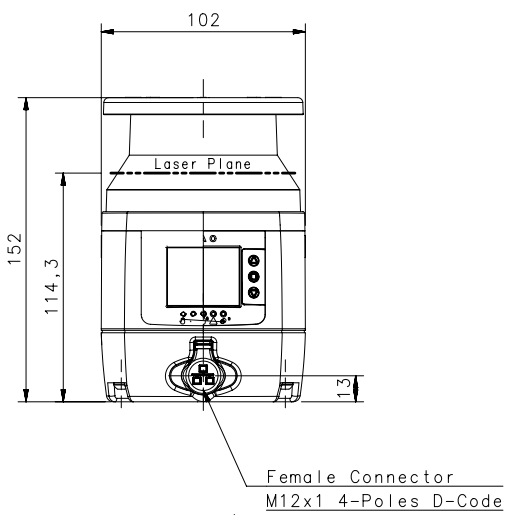
(*) Only for SLS-M5-E-1708-E. Otherwise they are standard digital inputs selectable by GUI

| SELECTABLE INPUTS AND OUPUTS | | | | | | | | |
|------------------------------|-------------------|---------|---------------|--------|---------------|------------|-----------------|--------------------------------------------------------------|
| IN /OUT | Signal | SLS-Sax | SLS-Mx-0812-E | | SLS-Mx-1708-E | | SLS-M5-E-1708-E | NOTES |
| | | 8-pin | 8-pin | 12 pin | 17-pin | 17 + 8 pin | 17 + 8 pin | |
| MULTI IN | Reset | | | | YES | | | |
| | Restart | | | | YES | | | |
| | Reset/Restart | | | | YES | | | |
| | EDM | | | | YES | | | |
| | Area Switch 1 | | | | YES | | | |
| | Area Switch 2 | | | | YES | | | |
| | Area Switch 3 | | | | YES | | | |
| | Area Switch 4 | N/A | | YES | | | | |
| | Area Switch 5 | N/A | | YES | | | | |
| | Muting Enable 1 | | | | YES | | | |
| | Muting 11 | | | | YES | | | In order to activate muting, both muting inputs must be used |
| | Muting 12 | | | | YES | | | |
| | Override 11 | | | | YES | | | |
| | Override 12 | | | | YES | | | |
| Muting Enable 2 | N/A | | | | YES | | | In order to activate muting, both muting inputs must be used |
| Muting 21 | N/A | | | | YES | | | |
| Muting 22 | N/A | | | | YES | | | |
| Override 21 | N/A | | | | YES | | | |
| Override 22 | N/A | | | | YES | | | |
| MULTI OUT | Warning 1 | | | | YES | | | |
| | Warning 2 | YES | NO | | | YES | | |
| | Muting lamp 1 | | | | YES | | | Can be used in combination with muting function |
| | Muting lamp 2 | N/A | | | YES | | | |
| | Override status 1 | | | | YES | | | |
| | Override status 2 | N/A | | | | YES | | |
| | Alarm 1 | | | | YES | | | Clean Window Alarm |
| | Alarm 2 | | | | YES | | | General Fault Alarm |
| OSSDs | OSSD 11 | | | | YES | | | |
| | OSSD 12 | | | | YES | | | |
| | OSSD 21 | N/A | | | | YES | | |
| | OSSD 22 | N/A | | | | YES | | |
| | OSSD 31 | | N/A | | | | YES | |
| | OSSD 32 | | N/A | | | | YES | |

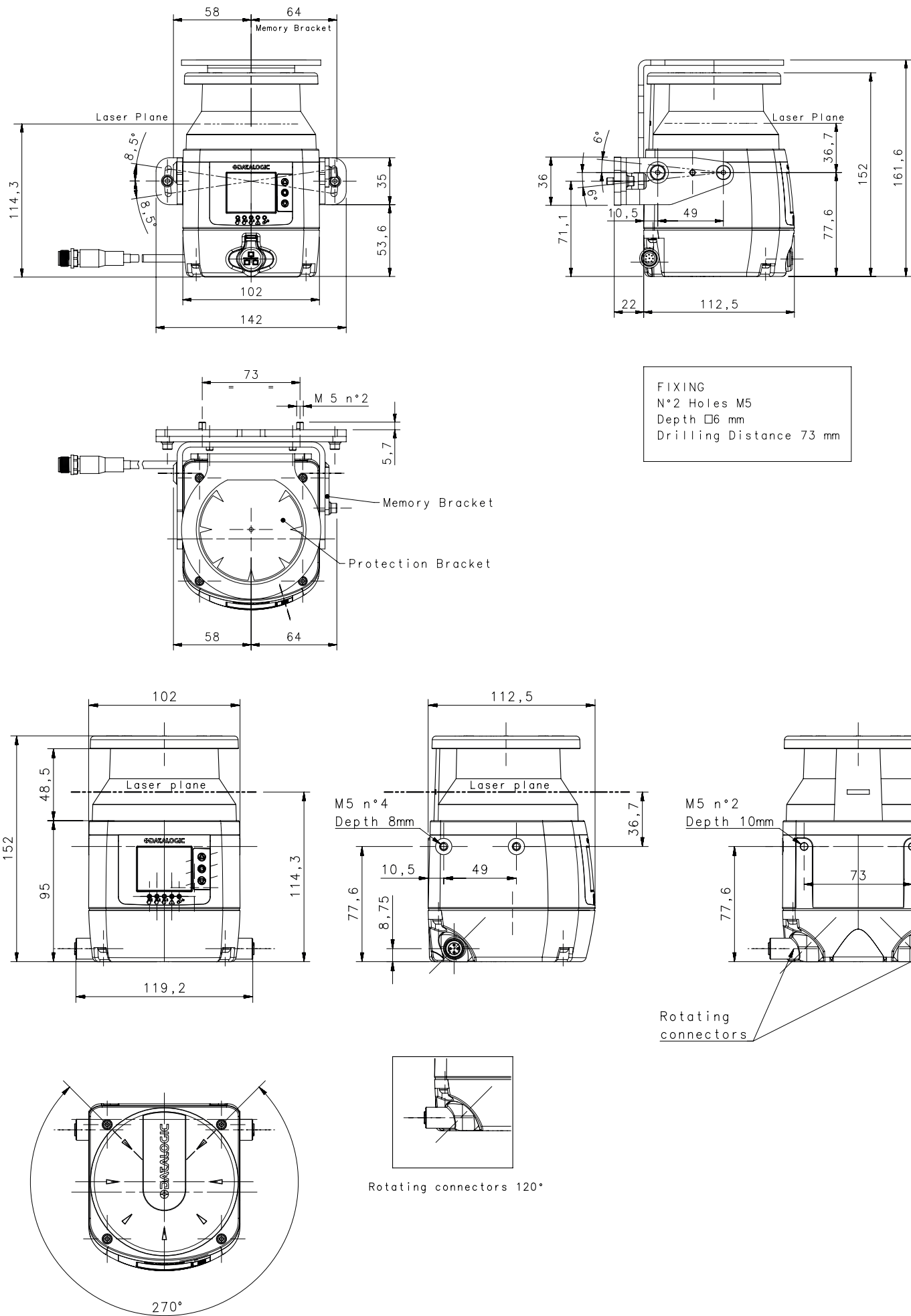
DIMENSIONS

SLS-Mx



[illegible]

DIMENSIONS



SLS-Rx

MODEL SELECTION - ORDER INFORMATION

| | MODEL | PRODUCT DESCRIPTION | ORDER NO. |
|------------|-----------------|-------------------------------------------|-----------|
| STANDALONE | SLS-SA3-08 | Standalone 3m 6 zone sets enhanced | 958001080 |
| | SLS-SA5-08 | Standalone 5.5m 6 zone sets enhanced | 958001090 |
| MASTER | SLS-M3-0812-E | Master 3m 10 zone sets enhanced | 958001020 |
| | SLS-M5-0812-E | Master 5.5m 10 zone sets enhanced | 958001110 |
| | SLS-M3-1708-E | Master 3m 70 zone sets enhanced | 958001010 |
| | SLS-M5-1708-E | Master 5.5m 70 zone sets enhanced | 958001030 |
| | SLS-M5-E-1708-E | Master 5.5m encoder 70 zone sets enhanced | 958001050 |
| SLAVE | SLS-R3-E | Remote 3m enhanced | 958001060 |
| | SLS-R5-E | Remote 5.5m enhanced | 958001120 |

NOTE: the standalone models have enhanced features if produced after 31.01.2020

ACCESSORIES

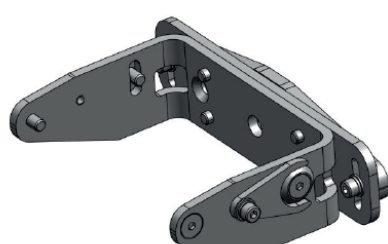
| | SLS-B5 / SLS-SA _x | ORDER NUMBER |
|--------------------------------------------|------------------------------|--------------|
| BRACKETS | | |
| Complete bracket system | SLS-BRACKET-A | 95ASE2920 |
| Pitch regulation bracket system | SLS-BRACKET-B | 95ASE2930 |
| Head protective bracket | SLS-BRACKET-C | 95ASE2940 |
| SAFETY UNITS | | |
| Safety Unit | SE-SR2 | 95ACC6170 |
| MAINTENANCE ACCESSORIES | | |
| Replacement window | SLS-WINDOW (*1) | 95ASE2971 |
| Memory group M12 8/12 pins | SLS-MG-0812 (*2) | 95ASE2960 |
| Memory group M12 17/8 pins | SLS-MG-1708 (*3) | 95ASE2950 |
| Liquid cleaner in spray bottle (1 lt) | SLS-CLEANER | 95ASE2990 |
| Cleaning cloth (22 cm x 22 cm), 100 pcs. | SLS-CLOTH | 95ASE3000 |

Note

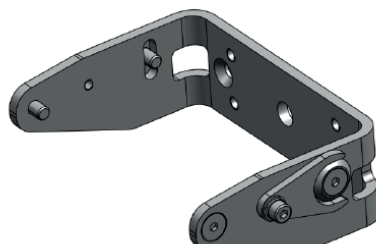
*1) The replacement of window is available only for SLS-Mx-xxxx-E, SLS-Rx-E (Enhanced models) and SLS-SA_x produced after 31.1.2020

*2) Only for SLS-Mx-0812-E

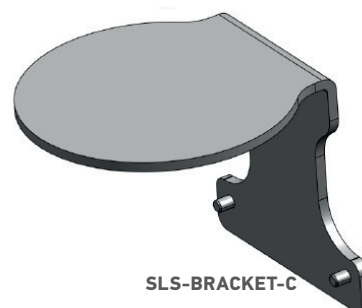
*3) Only for SLS-Mx-1708-E and SLS-Mx-E-1708-E



SLS-BRACKET-A



SLS-BRACKET-B



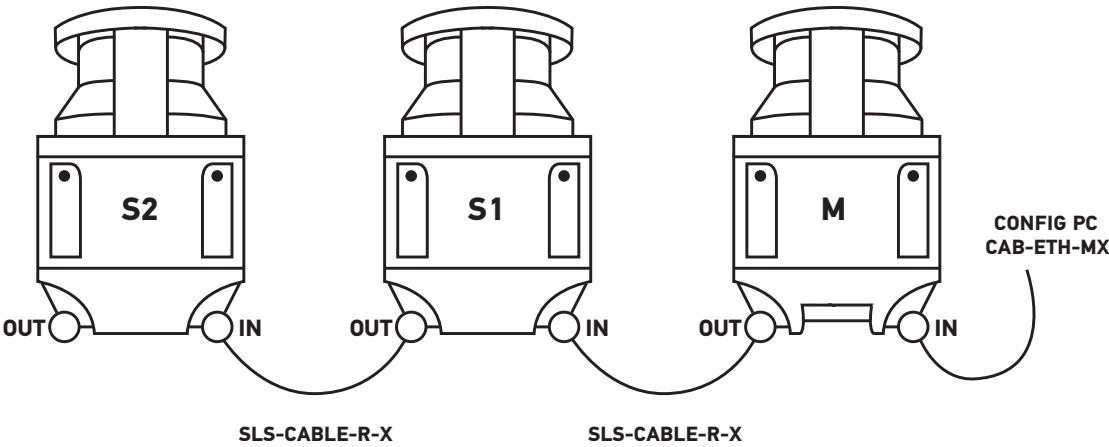
SLS-BRACKET-C

CABLES





| | MODEL | 1 st end | 2 nd end | LENGHT | CODE |
|-------------------------|------------------------------------------|---------------------|---------------------|--------|-----------|
| MAIN CABLES | CS-A1-06-U-03 | 8 pin female | free wires | 3 m | 95ASE1220 |
| | CS-A1-06-U-05 | | | 5 m | 95ASE1230 |
| | CS-A1-06-U-10 | | | 10 m | 95ASE1240 |
| | CS-A1-06-U-15 | | | 15 m | 95ASE1250 |
| | CS-A1-06-U-25 | | | 25 m | 95ASE1260 |
| | CS-A1-10-U-03 | 12 pin female | free wires | 3 m | 95A252720 |
| | CS-A1-10-U-05 | | | 5 m | 95A252730 |
| | CS-A1-10-U-10 | | | 10 m | 95A252740 |
| | CS-A1-10-U-15 | | | 15 m | 95A252750 |
| | CS-A1-10-U-25 | | | 25 m | 95A252760 |
| | CS-A1-15-U-03 | 17 pin female | free wires | 3 m | 95ASE3010 |
| | CS-A1-15-U-05 | | | 5 m | 95ASE3020 |
| | CS-A1-15-U-10 | | | 10 m | 95ASE3030 |
| | CS-A1-15-U-15 | | | 15 m | 95ASE3040 |
| | CS-A1-15-U-25 | | | 25 m | 95ASE3050 |
| ETHERNET TO HOST CABLES | CAB-ETH-M01 M12-IP67 ETHERNET CAB. (1M) | 4 pin male | RJ45 | 1 m | 93A051346 |
| | CAB-ETH-M03 M12-IP67 ETHERNET CAB. (3M) | | | 3 m | 93A051347 |
| | CAB-ETH-M05 M12-IP67 ETHERNET CAB. (5M) | | | 5 m | 93A051348 |
| | CAB-ETH-M10 M12-IP67 ETHERNET CAB. (10M) | | | 10 m | 93A051391 |
| CABLES TO REMOTE | SLS-CABLE-R-5 | 8 pin male | 8 pin male | 5 m | 95ASE2890 |
| | SLS-CABLE-R-10 | | | 10 m | 95ASE2900 |
| | SLS-CABLE-R-20 | | | 20 m | 95ASE2910 |






NOTES

ETHERNET TO HOST CABLES are used for programming and monitoring the device with DL Sentinel, and for reading the measurement data.
CABLES TO REMOTE are used to connect the Master models to the Slaves like in the following picture



The colour graphical display of LASER SENTINEL shows if any person has been detected in the safety or warning areas, causing by consequence the stopping of the machine or the warning signal to activate.
 The presence of 11 angular sectors allow to show the direction in which the person has been detected, and its colour indicate if it has been inside the safety (red) or the warning zone (yellow).

| DISPLAYED ICON | NAME | DESCRIPTION |
|------------------------------------------------------------------------------------------------|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
|  GO | ON state | The device is correctly functioning (OSSDs GO Condition). No presence detected in the Safety and Warning Area. (Configuration accepted) |
|  WARNING | OFF State for intrusion in Safety Area | The device is correctly functioning. The device has detected a presence in the Warning Area (Configuration accepted) |
|  STOP | Warning for intrusion in Warning Area | The device is correctly functioning (OSSDs STOP Condition). The device has detected a presence in the Safety Zone. (Configuration accepted) |
|  REFERENCE | OFF State for Reference Points | The device has detected that Reference Points have moved. The Display Sector in the direction of the moved reference point is lit in blue. |

| LED NUMBER | SYMBOL | DEFINITION | COLOR | MEANING | OUTPUT STATUS |
|------------|-------------------------------------------------------------------------------------|-----------------------------------------------------|-------|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| 1 |  | Object Detection in Safety Zone 1 (OSSD 11/12). | GREEN | No object detected | OSSDs OFF |
| | | | RED | Object detected | OSSDs ON |
| 2 |  | Object Detection in Safety Zone 2 (OSSD 21/22). | GREEN | No object detected | OSSDs OFF |
| | | | RED | Object detected | OSSDs ON |
| 3 |  | Object Detection in Safety Zone 3 or Warning Zone 2 | AMBER | Object detected | OSSDs OFF Warning 2 ON/OFF if set up |
| | | | OFF | No object detected | OSSDs ON Warning 2 output varies depending on warning function configuration |
| 4 |  | Object Detection in Warning Zone 1 | AMBER | Object detected in Warning Zone 1 | Warning 1 output varies depending on warning function configuration |
| | | | OFF | No object detected in Warning Zone 1 | Warning 1 output varies depending on warning function configuration |
| 5 |  | Interlock | AMBER | No Object detected in Safety Zone Device waiting for Manual Restart (LED1 RED) | OSSDs OFF |
| | | | OFF | No Object detected in Safety Zone Device in ON Status (LED 1 GREEN) | OSSDs ON |
| | | | | Object detected in Safety Zone Device in OFF Status (LED 1 RED) | OSSDs OFF |

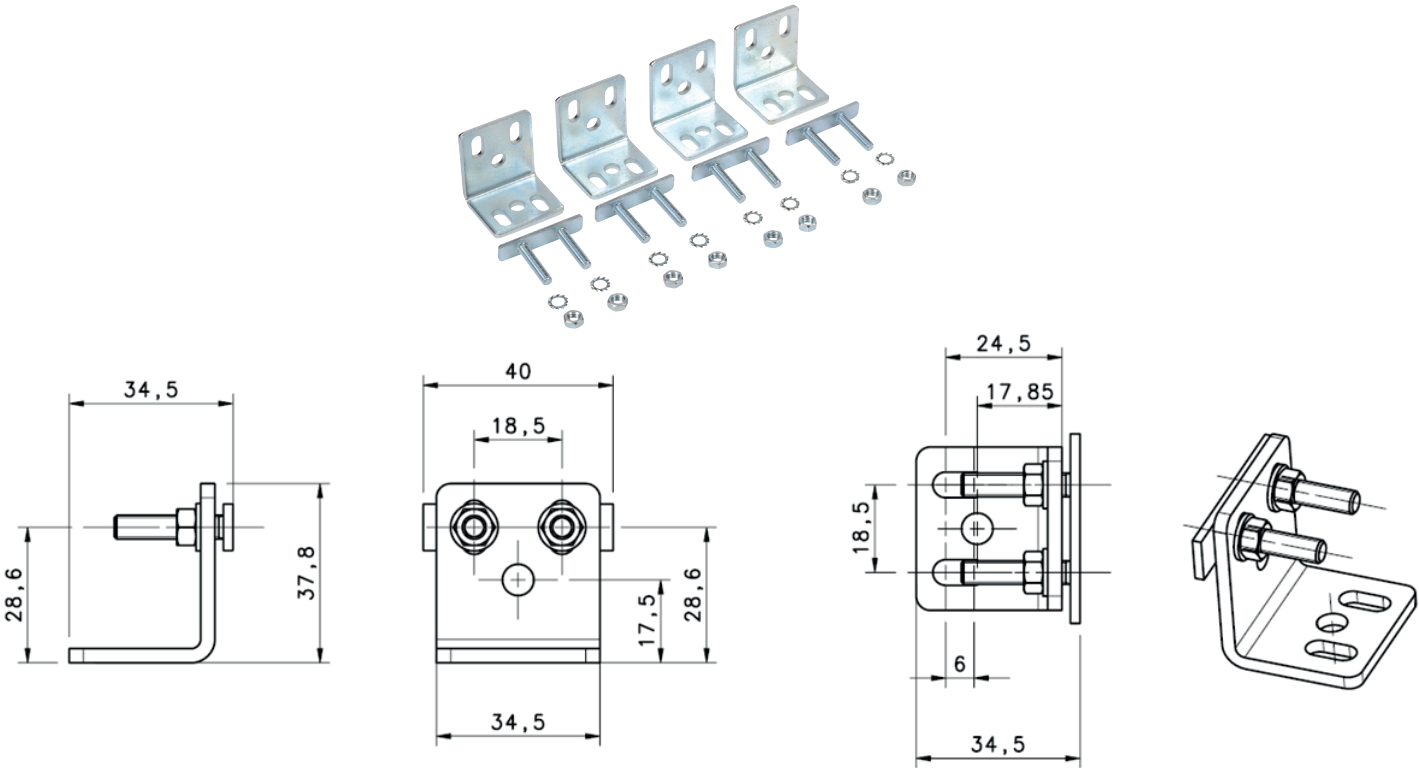
Rev. 05, 11/2019

ACCESSORIES

BRACKETS

Metal angled brackets

| MODEL | DESCRIPTION | ORDER NUMBER |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|--------------|
| ST-KSTD | Fixing brackets (4 pcs kit) | 95ACC1670 |
| COMPATIBILITY | | |
| SG2 BASE, SG4 BASE SG2 EXTENDED, SG4 EXTENDED SG2/4 COMPACT BODY SG2 MUTING SG2/4 BODY BIG, SG4 BODY REFLECTOR, SG4 LONG RANGE BASE. | | |
| NOTES | | |
| They can be used in combination with orientable (ST-K4OR/K6OR) or antivibration (ST-K4AV/K6AV) supports. | | |

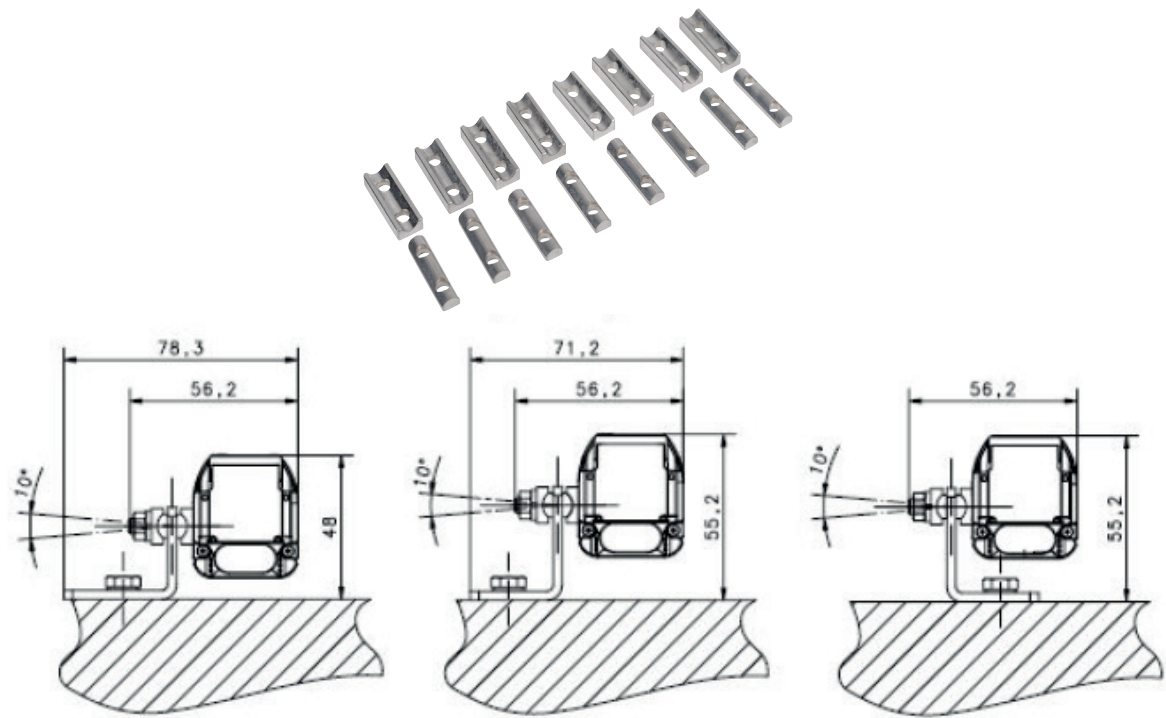


| MODEL | DESCRIPTION | ORDER NUMBER |
|----------------------|---------------------------------------------|--------------|
| ST-K4STD-SG BODY BIG | Fixing brackets (4 pcs kit) for SG BODY BIG | 95ASE1950 |
| COMPATIBILITY | | |
| SG BODY BIG | | |

| MODEL | DESCRIPTION | ORDER NUMBER |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| ST-K40R | Orientable supports (4 pcs kit) | 95ACC1680 |
| ST-K60R | Orientable supports (6 pcs kit) | 95ACC1690 |
| COMPATIBILITY | | |
| | SG2 BASE, SG4 BASE SG2 EXTENDED, SG4 EXTENDED SG2/4 COMPACT BODY SG2 MUTING SG2/4 BODY BIG, SG4 BODY REFLECTOR, SG4 LONG RANGE BASE. | |

NOTES

They can be used together with metal angled fixing brackets (ST-KSTD) or plastic angled mounting brackets (ST-KP4MP/KP6MP), also in combination with antivibration supports (ST-K4AV/K6AV)



Angled mounting bracket

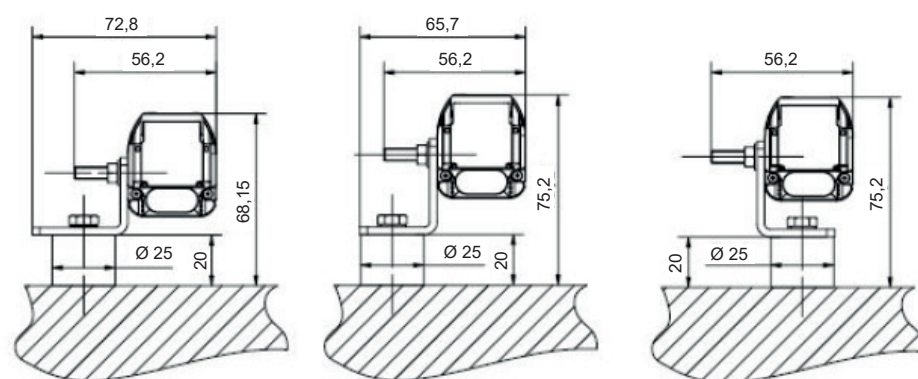
NOTE: the dimensions are related to SG4 EXTENDED. For other models of light curtains, refer to their manual.

| MODEL | DESCRIPTION | ORDER NUMBER |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| ST-K4AV | Anti-vibration supports (4 pcs kit) | 95ACC1700 |
| ST-K6AV | Anti-vibration supports (6 pcs kit) | 95ACC1710 |
| COMPATIBILITY | | |
| | SG2 BASE, SG4 BASE SG2 EXTENDED, SG4 EXTENDED SG2/4 COMPACT BODY SG2 MUTING SG2/4 BODY BIG, SG4 BODY REFLECTOR, SG4 LONG RANGE BASE. | |

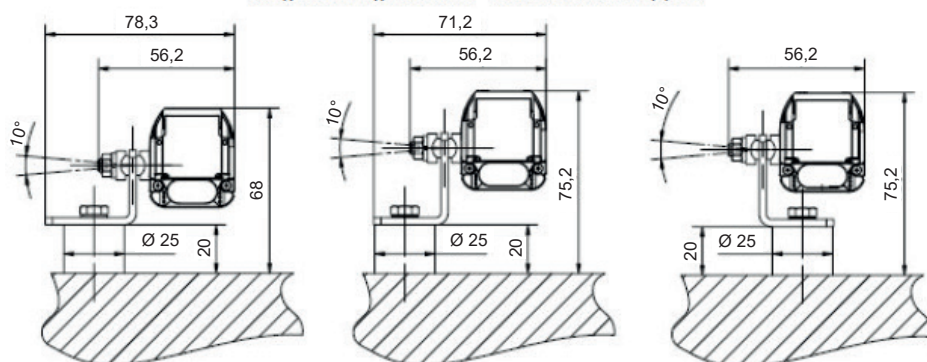
NOTES

Anti-vibration supports to be used together with metal angled mounting brackets (ST-KSTD, ST-K4STD-SG BODY BIG) or plastic angled mounting brackets (ST-KP4MP/KP6MP), also in combination with orientable supports (ST-K40R/K60R).





Angled fixing bracket + Antivibration support



Angled mounting bracket + Orientable support + Anti-vibration support

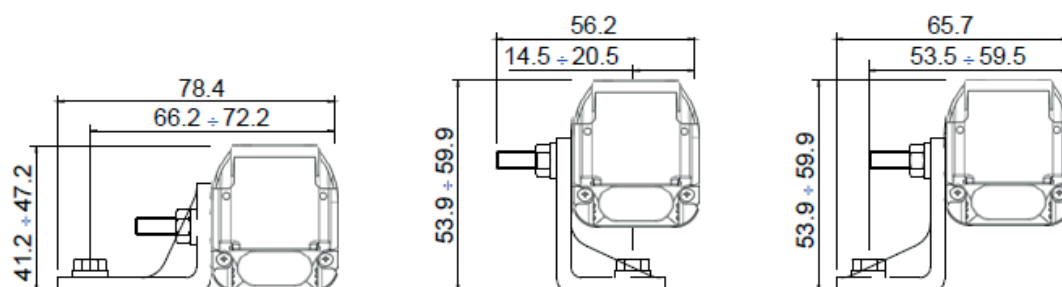
NOTE: the dimensions (mm) are related to SG4 EXTENDED. For other models of light curtains, refer to their manual.

Plastic angled brackets

| MODEL | DESCRIPTION | ORDER NUMBER |
|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|--------------|
| ST-KP4MP | Fixing brackets (4 pcs kit) | 95ASE1100 |
| ST-KP6MP | Fixing brackets (6 pcs kit) | 95ASE1110 |
| COMPATIBILITY | | |
| SG2 BASE, SG4 BASE SG2 EXTENDED, SG4 EXTENDED SG2/4 BODY COMPACT SG2 MUTING SG2/4 BODY BIG SG4 BODY REFLECTOR SG4 LONG RANGE BASE. | | |

NOTES

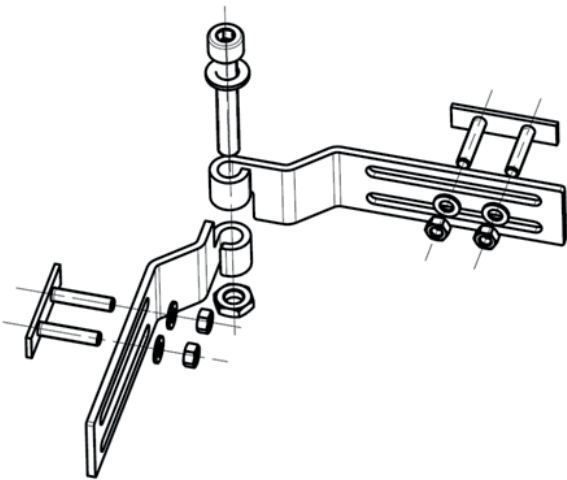
They can be used in combination with orientable (ST-K40R/K60R) or antivibration (ST-K4AV/K6AV) supports.



NOTE: the dimensions (mm) are related to SG4 EXTENDED. For other models of light curtains, refer to their manual.

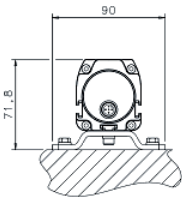
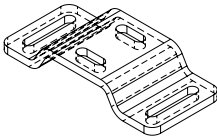
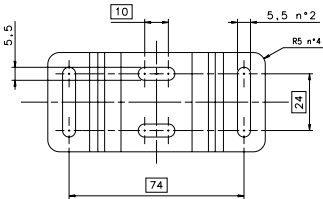
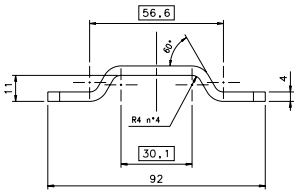
Cascade brackets

| MODEL | DESCRIPTION | ORDER NUMBER |
|-------------------------|---------------------------------------------|--------------|
| ST-KCASCADE-SG EXTENDED | Connection Bracket for SG4 EXTENDED Cascade | 95ASE2110 |
| COMPATIBILITY | | |
| SG4 EXTENDED | | |



Rear brackets

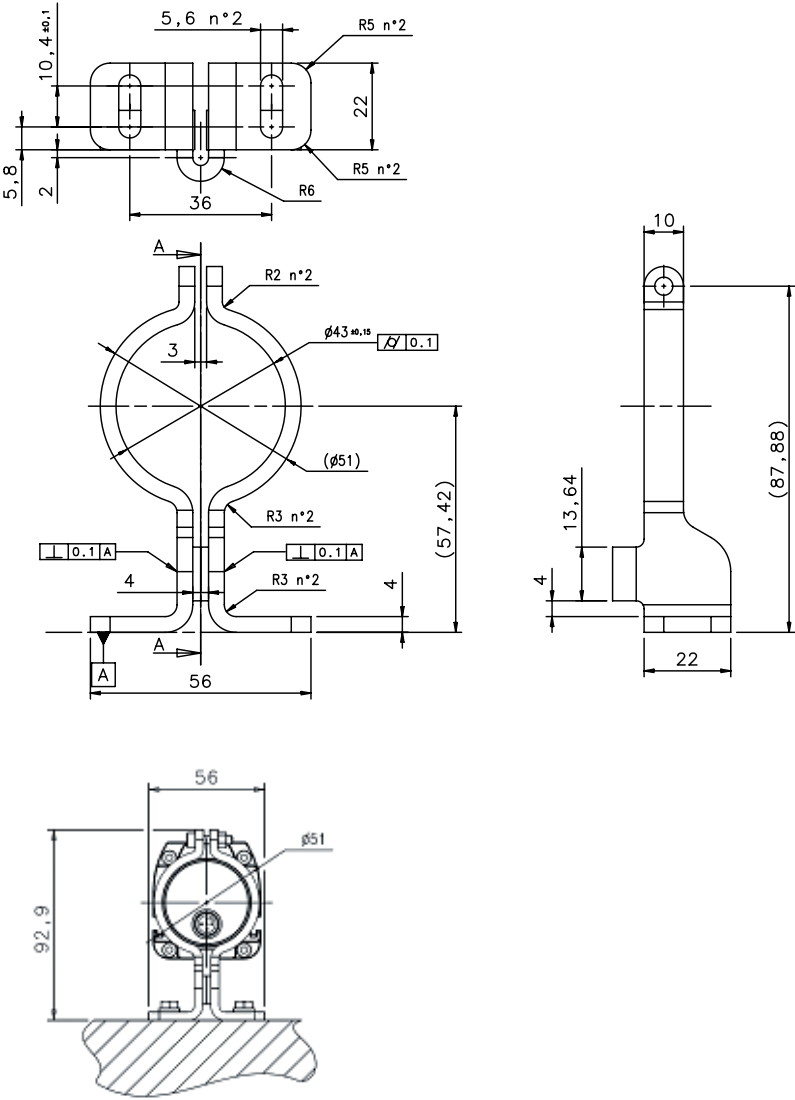
| MODEL | DESCRIPTION | ORDER NUMBER |
|----------------------------------------------------------|----------------------------------------------|--------------|
| ST-K4REAR-SG BODY BIG | Metal rear bracket mounting kit (4 brackets) | 95ASE1970 |
| COMPATIBILITY | | |
| SG BODY BIG SG BODY REFLECTOR SG4 LONG RANGE BASE. | | |



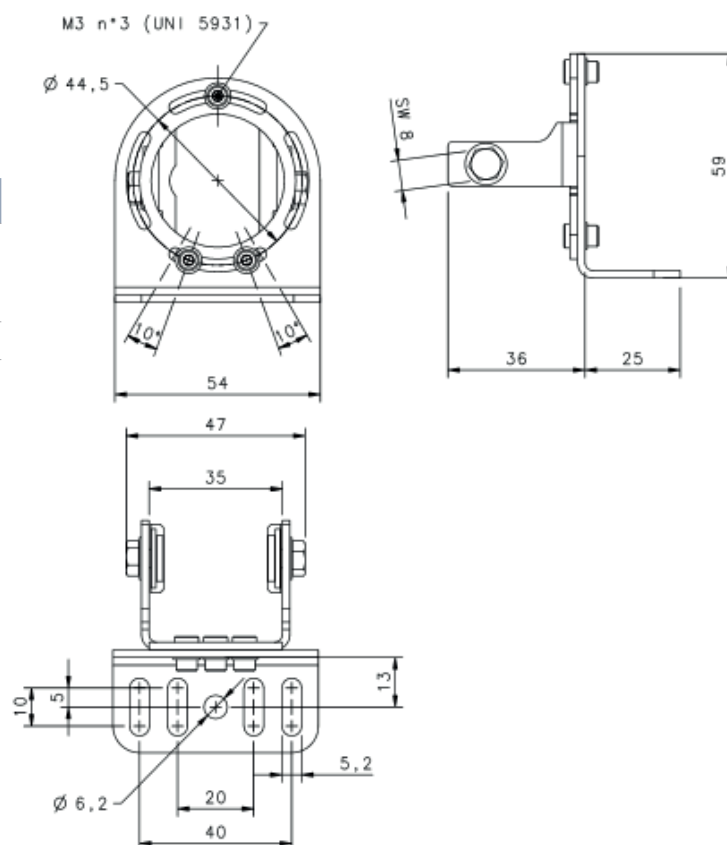
Rotative brackets

| MODEL | DESCRIPTION | ORDER NUMBER |
|----------------------|-----------------------------------------------------------------------|--------------|
| ST-K4ROT-SG BODY BIG | Metal top-bottom rotative fixing bracket mounting kit (4 brackets) | 95ASE1960 |
| COMPATIBILITY | | |

SG BODY BIG
SG BODY REFLECTOR
SG4 LONG RANGE BASE.

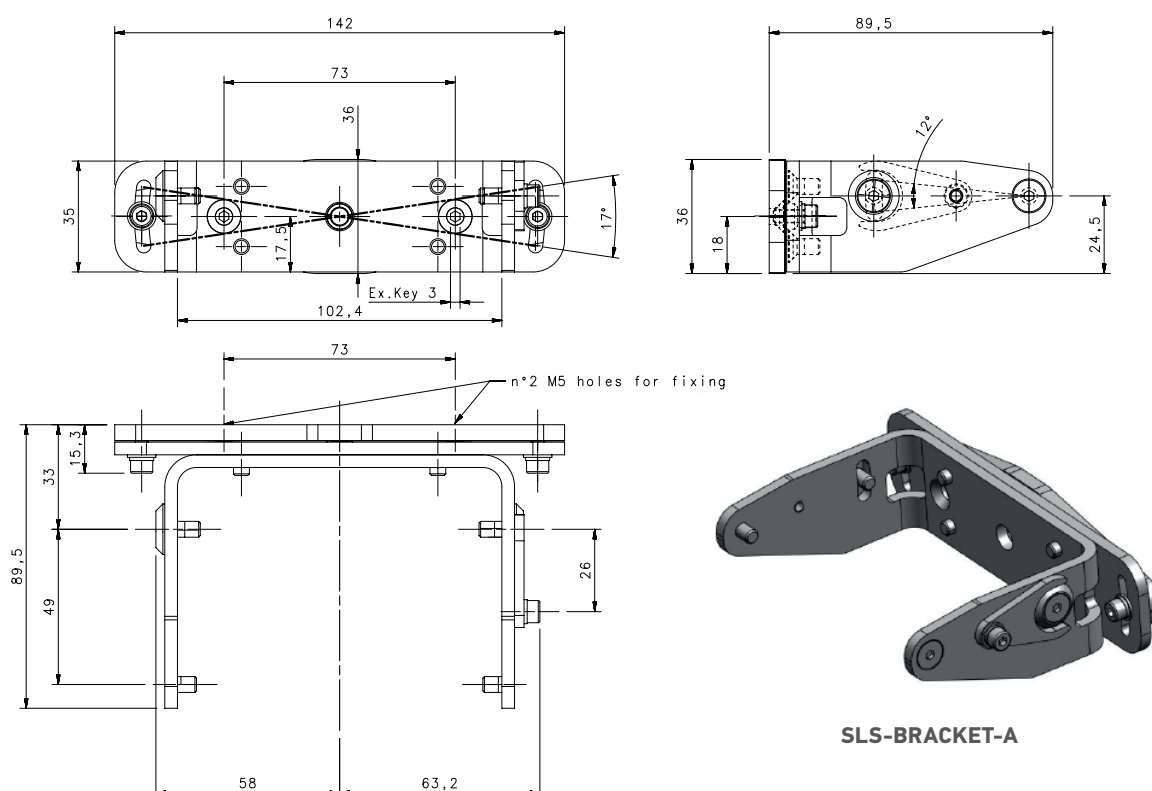


| MODEL | DESCRIPTION | ORDER NUMBER |
|----------------------|-----------------------------------------------------------------------------|--------------|
| ST-K4R0T-0P | Metal top-bottom rotating fixing brackets kit (4 brackets) for SG4 FIELDBUS | 95ASE2840 |
| COMPATIBILITY | | |
| SG4 FIELDBUS | | |

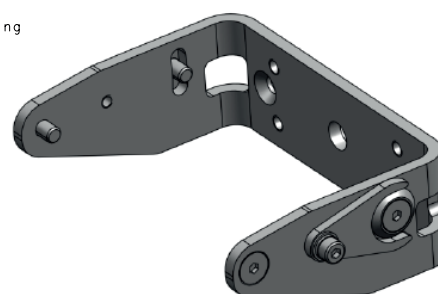
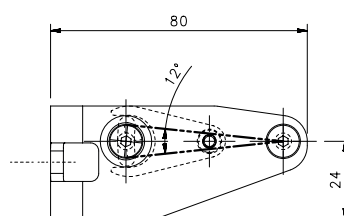
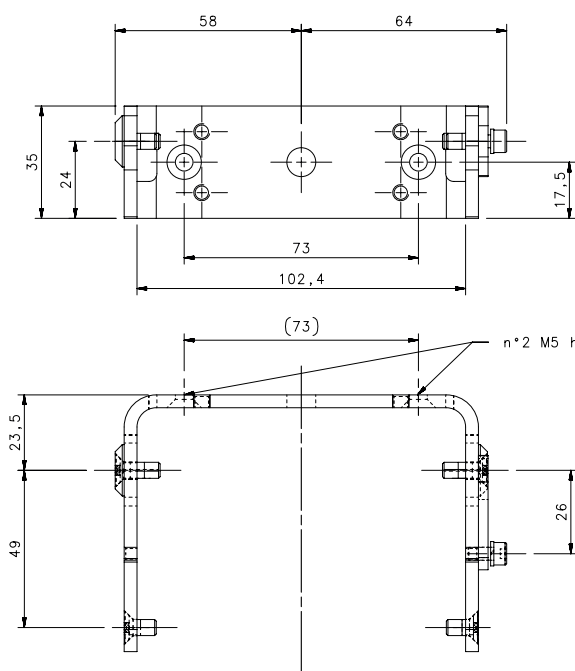


Safety Laser Scanner brackets

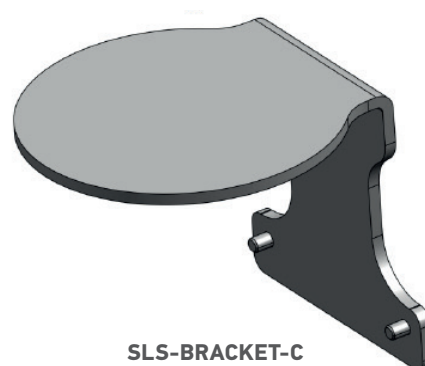
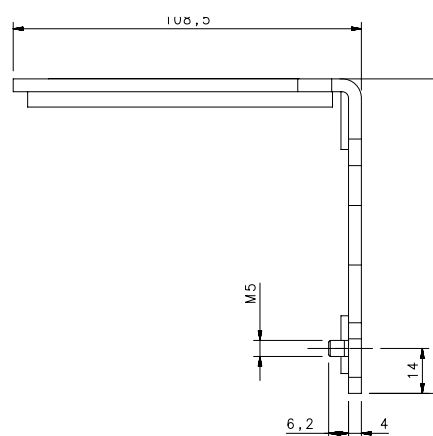
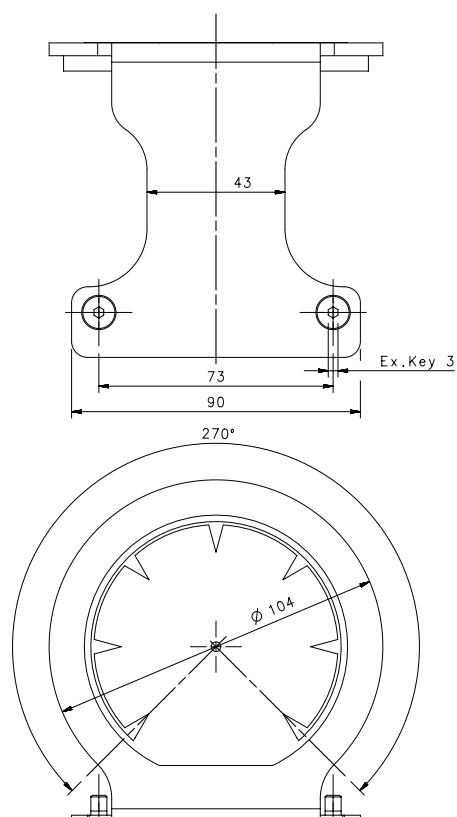
| MODEL | DESCRIPTION | ORDER NUMBER |
|----------------------|---------------------------------|--------------|
| SLS-BRACKET-A | Complete bracket system | 95ASE2920 |
| SLS-BRACKET-B | Pitch regulation bracket system | 95ASE2930 |
| SLS-BRACKET-C | Head protective bracket | 95ASE2940 |
| COMPATIBILITY | | |
| LASER SENTINEL | | |



SLS-BRACKET-A

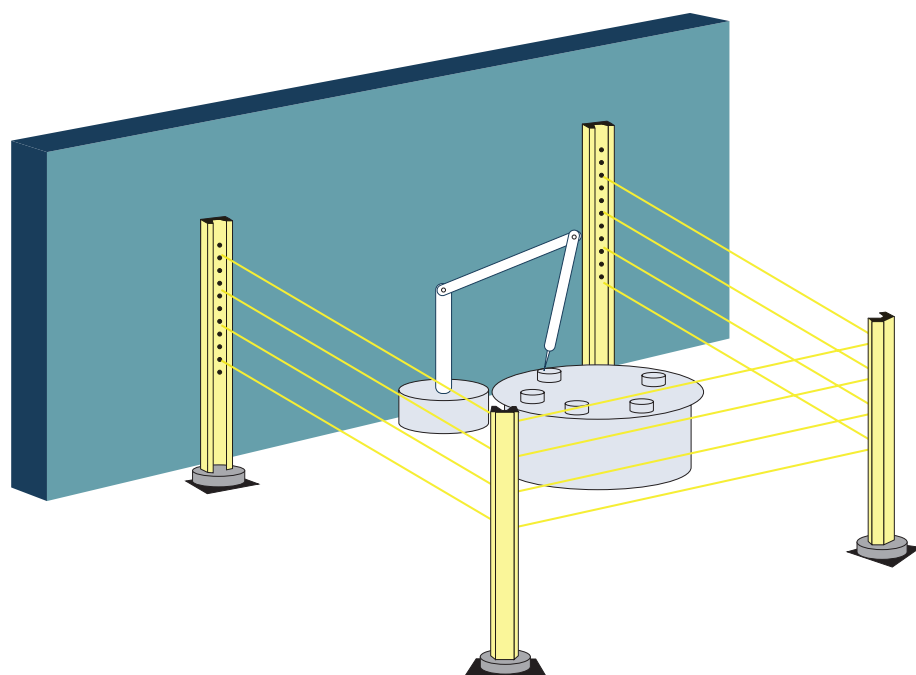


SLS-BRACKET-B



SLS-BRACKET-C

MIRRORS AND STANDS



In applications where the monitoring of an area is required, safety light curtains can be used together with mirror for perimetral protection.

DATALOGIC offers a series of stands with adjustable mirrors already in place for 2 , 3 , 4 beam safety light curtains (SG-PSM), or the option to build a configuration, applying SG-DM mirrors to SE-S or SG-PSB stands.

GUIDELINE FOR THE USE OF MIRRORS WITH SAFETY LIGHT CURTAINS

The alignment of safety light curtains can sometimes be critical because of the long distance that beams have to cover or because of environmental conditions like for example the presence of dust or the irregularity of the floor on which the stands are placed.

The reason behind this difficulty is that the beams of a safety light curtain can span in an angle that must be, for safety reasons, limited to values defined by technical standards, harmonized with Machine Directive (i.e. at 3 meters, the angle is 2.5° for a Type 4 safety light curtain).

If mirrors are used to deflect the beams between emitter and receiver, the intensity of the beams is reduced, and by consequence also the maximum reachable distance. Moreover, for inevitable tolerances in opto-mechanical assembly, it's not possible to guarantee that all light curtains beams are parallel to each other, and the use of mirrors always amplifies those unevennesses.

By consequence, the higher is the number of the beams, the bigger is the risk to lose alignment of one of them and, even if alignment is reached, to have an unstable alignment: if the light curtain or a mirror is hit, the alignment can be lost.

Finger and hand protection safety light curtains have so many beams that in case of several mirrors reflections, the risk of losing alignment is extremely high.

For all these reasons, since for finger or hand protection safety light curtains it is impossible to guarantee a stable alignment with more than one mirror, we exclude in these cases the use of more than one mirror.

The use of more than one mirror is possible only for body protection safety light curtains (that is, with 2, 3 or 4 beams), and when the mirrors used are belonging to DATALOGIC SG-PSM series, that allow the orientation of each single mirror independently.

The correct operating distance calculation (i.e. the maximum trajectory length of the beams between emitter and receiver, passing by the mirrors, in condition of perfect alignment and without presence of dust and fog), must consider a reflection factor of 80%, like in the following table:

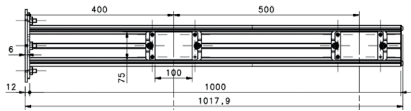
| Mirrors | RANGE BETWEEN TRANSMITTER AND RECEIVER | | | | | |
|---------|------------------------------------------------|-----|------|------------------------------------------|------|------|
| | FINGER HAND/RESOLUTION (SG-DM mirrors used) | | | BODY RESOLUTION (SG-PSM mirrors used) | | |
| 0 | 6,0 | 7,0 | 19,0 | 20,0 | 50,0 | 60,0 |
| 1 | 4,8 | 5,6 | 15,2 | 16,0 | 40,0 | 48,0 |
| 2 | N/A | N/A | N/A | N/A | 32,0 | 38,4 |
| 3 | N/A | N/A | N/A | N/A | 25,6 | 30,7 |

Stands with adjustable mirrors (SG-PSM)

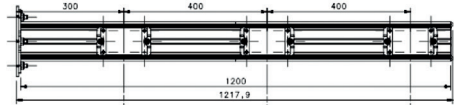
Stands with adjustable pre-mounted mirrors, to protect them from accidental collisions.
An industrial steel base made with 2 plates, dowels and spheric level for adjustment of the vertical axis, slots for angular adjustment. The effect of collisions, vibrations and uneven floor surfaces can be compensated by using SG-P plate kit (to be ordered separately).

| MODEL | DESCRIPTION | ORDER NUMBER |
|---------------|-------------------------------------------|--------------|
| SG-PSM-2-500 | Protective stand with 2 mirrors H=500 mm | 95ASE2300 |
| SG-PSM-3-800 | Protective stand with 3 mirrors H=800 mm | 95ASE2310 |
| SG-PSM-4-900 | Protective stand with 4 mirrors H=900 mm | 95ASE2320 |
| SG-PSM-4-1200 | Protective stand with 4 mirrors H=1200 mm | 95ASE2330 |

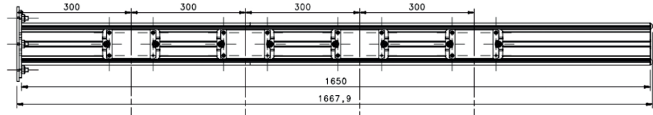
SG-PSM-2-500



SG-PSM-3-800



SG-PSM-4-900



SG-PSM-4-1200

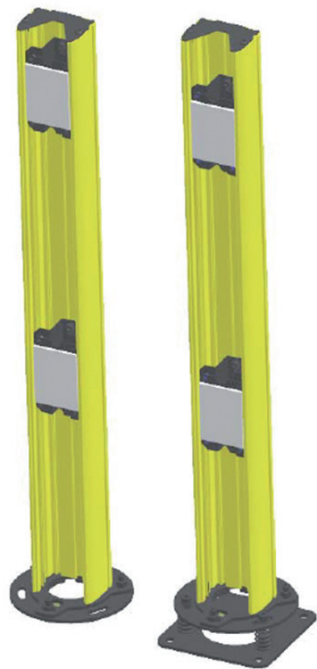
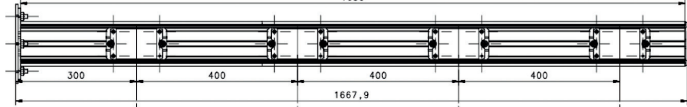
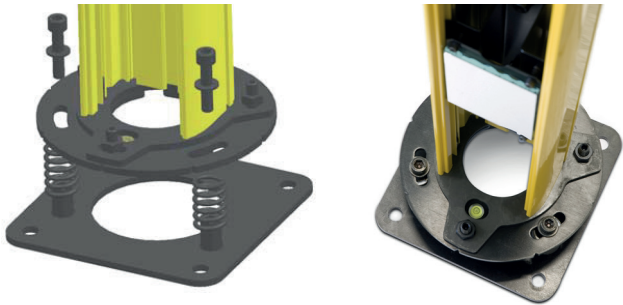


PLATE KIT SG-P

| MODEL | DESCRIPTION | ORDER NUMBER |
|--------------------------------------------------|---------------------------------|--------------|
| SG-P | Plate kit for protective stands | 95ASE2290 |
| COMPATIBILITY | | |
| protection stands SG-PSB mirror stands SG-PSM | | |

The kit includes two plates and three springs, to compensate the effect of collisions, vibrations and uneven floor surfaces.

The plate kit can be used with protection stands SG-PSB and with mirror stands SG-PSM



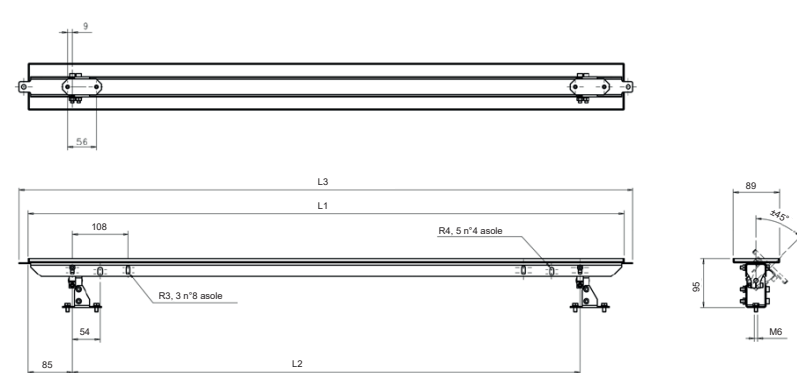
Mirrors

MIRRORS FOR FINGER AND HAND PROTECTION SAFETY LIGHT CURTAINS (SG-DM)

| MODEL | DESCRIPTION | ORDER NUMBER |
|------------|----------------------------------|--------------|
| SG-DM 600 | Deviating mirror version 600 mm | 95ASE1680 |
| SG-DM 900 | Deviating mirror version 900 mm | 95ASE1690 |
| SG-DM 1200 | Deviating mirror version 1200 mm | 95ASE1700 |
| SG-DM 1650 | Deviating mirror version 1650 mm | 95ASE1710 |
| SG-DM 1900 | Deviating mirror version 1900 mm | 95ASE1720 |

NOTES

- 1. To mount these mirrors into the stands SG-PSB, order ST-PS-DM mounting kit
- 2. To mount these mirrors to columns SE-S, order one ST-DM mounting kit
- 3. The mirror length has to be at least 100 mm greater than the length of the light curtain's protected area.
Ex. For a SG2-30-090-00-E (protection height = 900 mm), choose a SG-DM 1200



The image includes the mirror SG-DM and the bracket mounting kits ST-DM that includes two brackets.

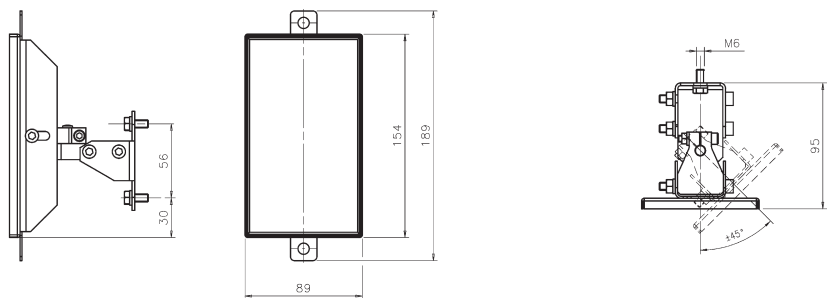
| | L1 (mm) | L2 (mm) | L3 (mm) |
|-------------|---------|---------|---------|
| SG -DM 600 | 545 | 376 | 580 |
| SG -DM 900 | 845 | 676 | 880 |
| SG -DM 1200 | 1145 | 976 | 1180 |
| SG -DM 1650 | 1595 | 1426 | 1630 |
| SG -DM 1900 | 1845 | 1676 | 1880 |

SINGLE BEAM MIRROR

| MODEL | DESCRIPTION | ORDER NUMBER |
|-----------|---------------------------------|--------------|
| SG-DM 150 | Deviating mirror version 150 mm | 95ASE1670 |

NOTES

- 1. To mount this mirror into the stands SG-PSB order ST-PS-DM mounting kit
- 2. To mount this mirrors to columns SE-S, order ST-DM mounting kit



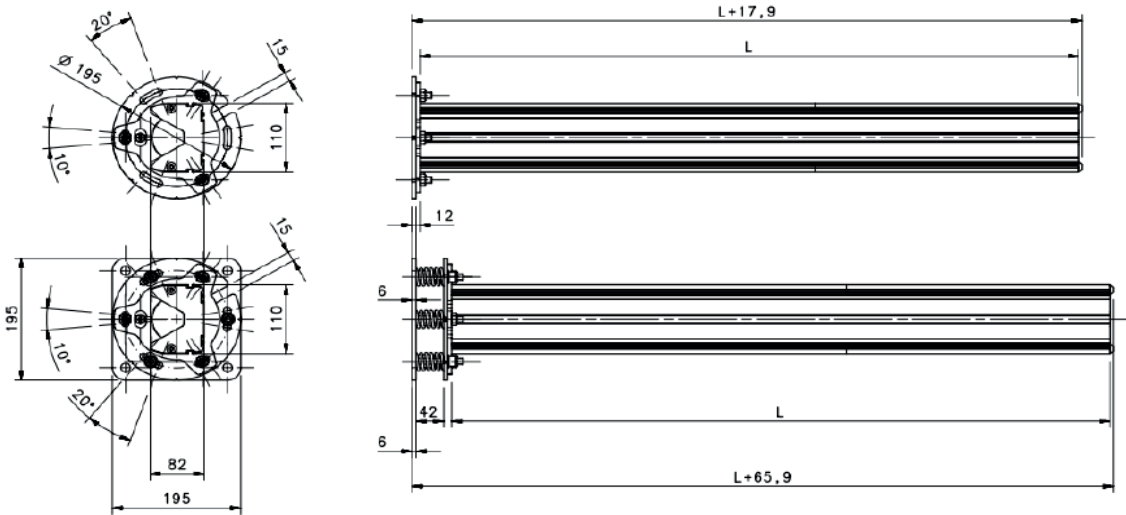
Stands

PROTECTIVE STANDS (SG-PSB) AND ACCESSORIES

| MODEL | DESCRIPTION | ORDER NUMBER |
|-------------|----------------------------|--------------|
| SG-PSB 600 | Protective Stand H=600 mm | 95ASE2240 |
| SG-PSB 1000 | Protective Stand H=1000 mm | 95ASE2250 |
| SG-PSB 1200 | Protective Stand H=1200 mm | 95ASE2260 |
| SG-PSB 1650 | Protective Stand H=1650 mm | 95ASE2270 |
| SG-PSB 1900 | Protective Stand H=1900 mm | 95ASE2280 |

COMPATIBILITY

All SG Series Light Curtains SG-DM Mirrors

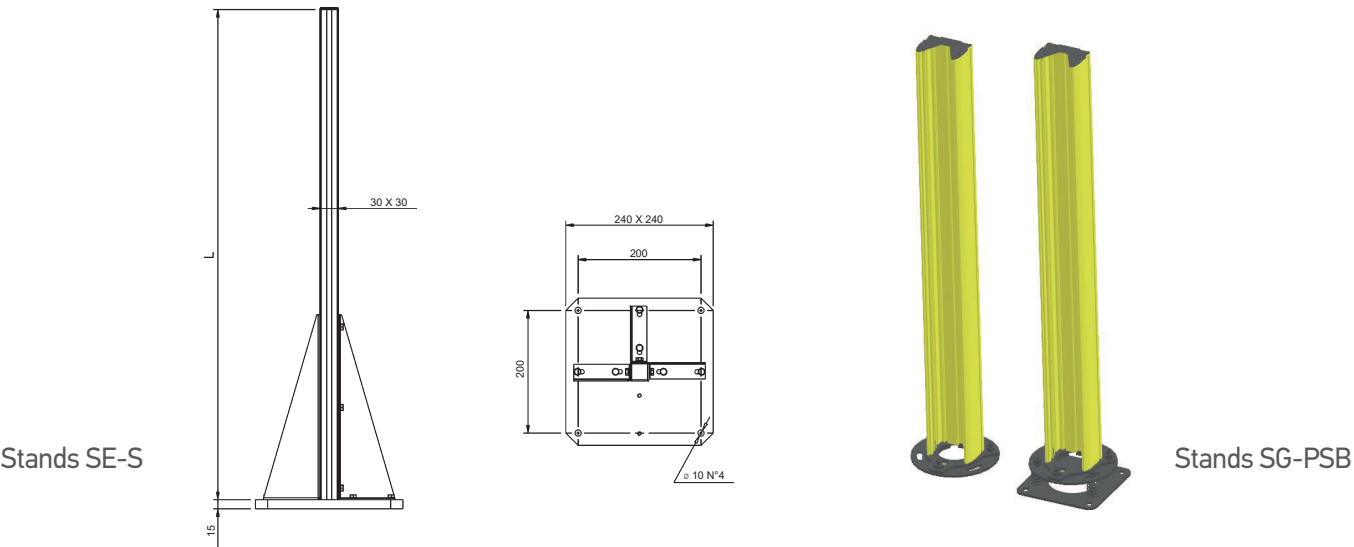


FLOOR COLUMNS (SE-S) AND ACCESSORIES

| MODEL | DESCRIPTION | ORDER NUMBER |
|-----------|------------------------------------|--------------|
| SE-S 800 | Column and floor stand H = 800 mm | 95ACC1730 |
| SE-S 1000 | Column and floor stand H = 1000 mm | 95ACC1740 |
| SE-S 1200 | Column and floor stand H = 1200 mm | 95ACC1750 |
| SE-S 1500 | Column and floor stand H = 1500 mm | 95ACC1760 |
| SE-S 1800 | Column and floor stand H = 1800 mm | 95ACC1770 |

COMPATIBILITY

All SG Series Light Curtains SG-DM Mirrors



Stands SE-S

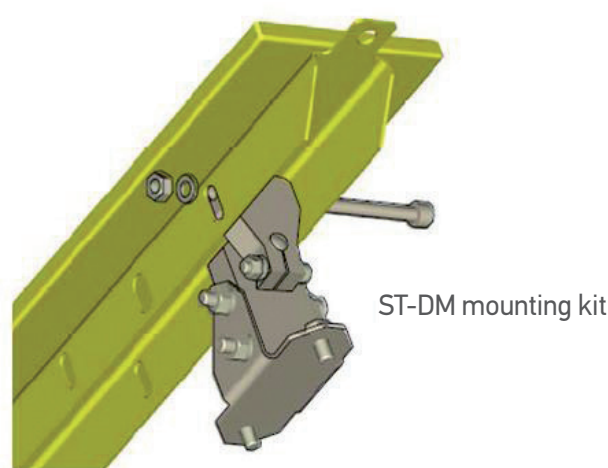
Stands SG-PSB

Mounting kits for mirrors

MOUNTING KIT FOR SG-DM MIRRORS ON SE-S FLOOR COLUMNS

| MODEL | DESCRIPTION | ORDER NUMBER |
|-------------------------------------|-------------------------------------|--------------|
| ST-DM | Deviating mirror SG-DM mounting kit | 95ASE1940 |
| COMPATIBILITY | | |
| SG-DM Mirrors on SE-S floor columns | | |
| NOTE | | |

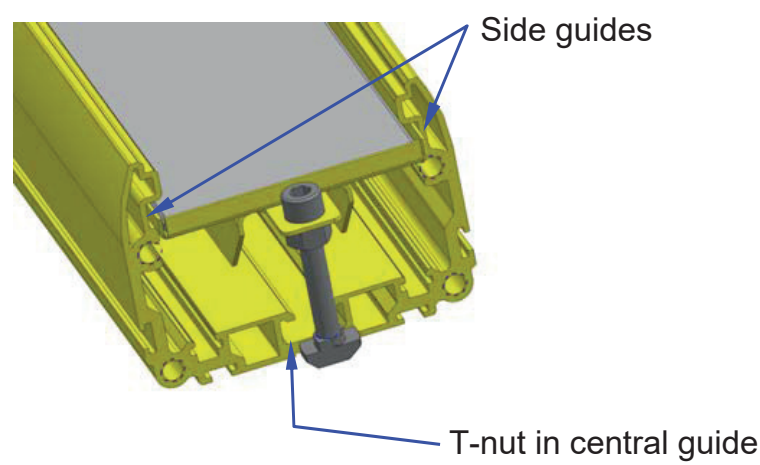
For each mirror (SG-DMxxx) order 1 kit.



MOUNTING KIT FOR SG-DM MIRRORS AND SG-PSB PROTECTIVE STANDS

| MODEL | DESCRIPTION | ORDER NUMBER |
|-------------------------------------------|---------------------------------------------------|--------------|
| ST-PS-DM | Deviating mirror mounting kit (contains 2 T-nuts) | 95ASE1770 |
| COMPATIBILITY | | |
| SG-DM Mirrors in SG-PSB protective stands | | |
| NOTE | | |

For each mirror (SG-DM xxx) order 1 kit.



Mounting kits for safety light curtains

| MODEL | DESCRIPTION | ORDER NUMBER |
|----------------|---------------------------------------------------------------------------------------|--------------|
| ST-PS4-SG BODY | Protective stand mounting kit for SG BODY BIG (4 brackets) | 95ASE1730 |
| ST-PS6-SG BODY | Protective stand mounting kit for SG BODY BIG (6 brackets) | 95ASE1740 |
| ST-PS4-SG-SE | Protective stands mounting kit for SG/SE (4 brackets) | 95ASE1750 |
| ST-PS6-SG-SE | Protective stands mounting kit for SG/SE (6 brackets) | 95ASE1760 |
| COMPATIBILITY | | |
| ST-PSx-SG-SE | SG2 BASE SG2 EXTENDED SG2 MUTING SG4 BASE SG4 EXTENDED SG BODY COMPACT | |
| ST-PSx-SG BODY | SG BODY BIG SG BODY REFLECTOR | |

| |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NOTES |
| 1) Each kit allows to install an element (emitter or receiver, active part or passive part) of a light curtain. To install both elements of the light curtain, order 2 kits of the same type. |
| 2) For light curtains with height ≥ 1200 mm, order the 6 brackets kits (ST-PS6-SG xxxx) |

ACCESSORIES FOR MUTING

Some models of Safety Light Curtains series SG BODY COMPACT MUTING and SG BODY REFLECTOR MUTING are provided with active/passive muting arms in the packaging, but it's also possible to add muting arms as accessories (if the light curtain has integrated muting function). Instead of using the active/passive arm couple, in which on side is an active sensor; and the other is a passive reflector, in order to reach longer operating distance or to contrast the effect of environmental conditions, is possible to order also "F/G" muting arm couples, composed by an emitter and a receiver arm.

IMPORTANT NOTICE: For safety reasons, L muting arms should be used only for openings through which goods must exit from the dangerous area: for openings in which goods must enter the dangerous area, as well as for bi-directional movements, use T muting arms.



Integrated Muting Arms

ACTIVE/PASSIVE ARMS

| MODEL | DESCRIPTION | ORDER NUMBER |
|--------------|-----------------------------------------|--------------|
| SG-L-ARMS V2 | Active/Passive arms Couple for L muting | 95ASE1861 |
| SG-T-ARMS V2 | Active/Passive arms Couple for T muting | 95ASE1871 |
| SG-AS-ARM V2 | Active sensor single arm | 95ASE1841 |
| SG-PR-ARM V2 | Passive reflector single arm | 95ASE1851 |

EMITTER/RECEIVER ARMS

| | | |
|---------------|----------------------------------------------|-----------|
| SG-F1-G1-ARMS | Emitter/Receiver arms couple (first couple) | 95ASE1880 |
| SG-F2-G2-ARMS | Emitter/Receiver arms couple (second couple) | 95ASE1890 |



SG-L-ARMS



SG-T-ARMS

BRACKETS AND CABLES

| MODEL | DESCRIPTION | ORDER NUMBER |
|----------------|-----------------------------------------------------|--------------|
| SG-CB-B | Muting arms mounting bracket kit for BIG series | 95ASE1920 |
| SG-CB-C | Muting arms mounting bracket kit for COMPACT series | 95ASE1930 |
| CV-Y1-02-B-007 | M12 4 pole T muting cable | 95ACC2560 |
| CV-L1-02-B-007 | M12 4 pole L muting cable | 95ACC2570 |



CV-L1-02-B-007



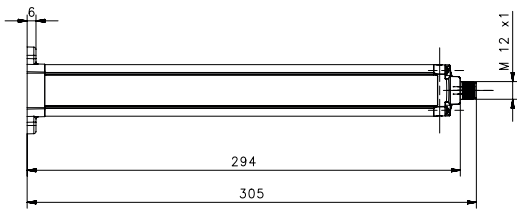
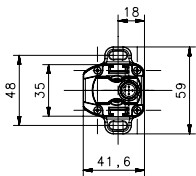
CV-Y1-02-B-007

COMPATIBILITY AND OPERATING DISTANCES

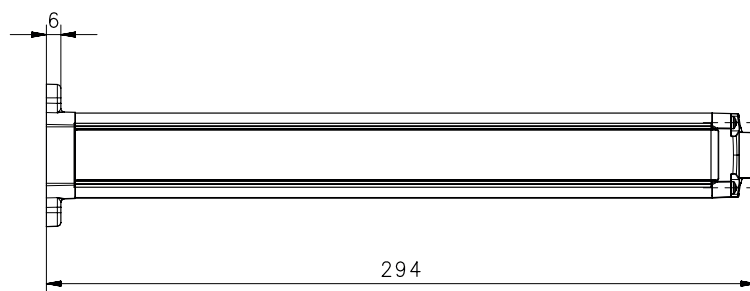
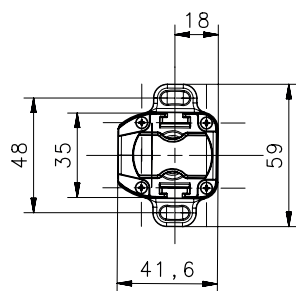
| MUTING ARM | LIGHT CURTAIN | OPERATING DISTANCE |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------|--------------------|
| SG-L-ARMS V2 SG-T-ARMS V2 | SG BODY COMPACT MUTING SG2 MUTING SG4 EXTENDED | 0.5 ... 3 m |
| SG-AS-ARM V2 SG-PR-ARM V2 | SG BODY COMPACT MUTING SG BODY REFLECTOR MUTING SG2 MUTING SG4 EXTENDED SG4 BODY BIG MUTING SHORT RANGE ^A | 0.5 ... 3 m |
| SG-F1-G1-ARMS SG-F2-G2-ARMS | SG2 BODY BIG MUTING SG4 BODY BIG MUTING SHORT RANGE ^A SG BODY COMPACT MUTING | 0.5 ... 7 m |

NOTES

^A SG4 BODY MUTING LONG RANGE (whose operating range is 6 ... 60 m) can't be used in combination with muting arms.

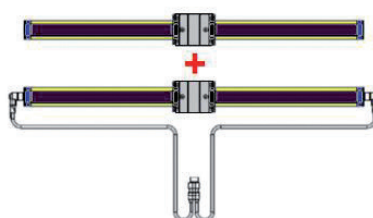


SG-AS-ARM V2

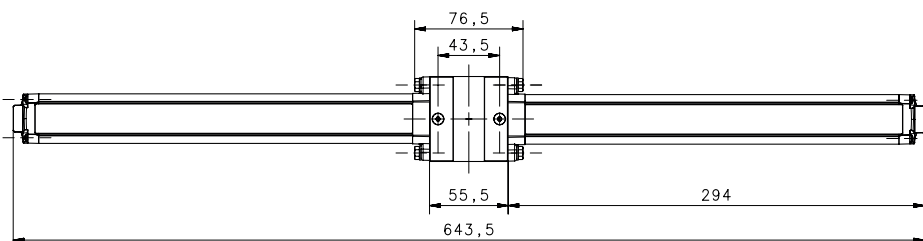
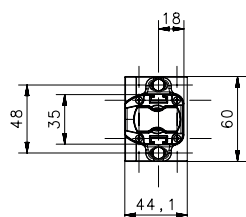
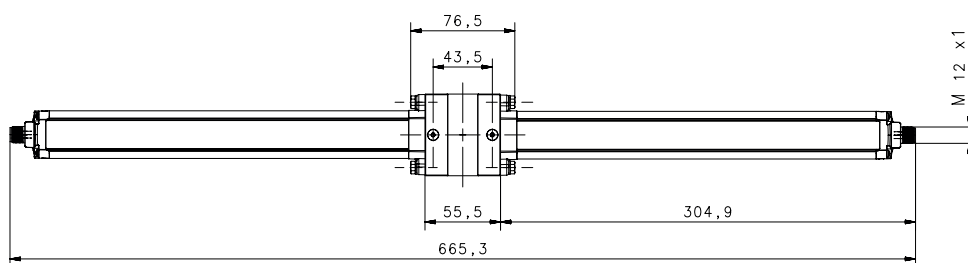
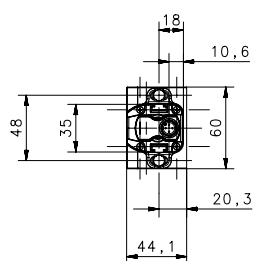
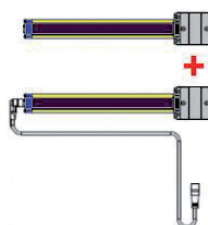


SG-PR-ARM V2

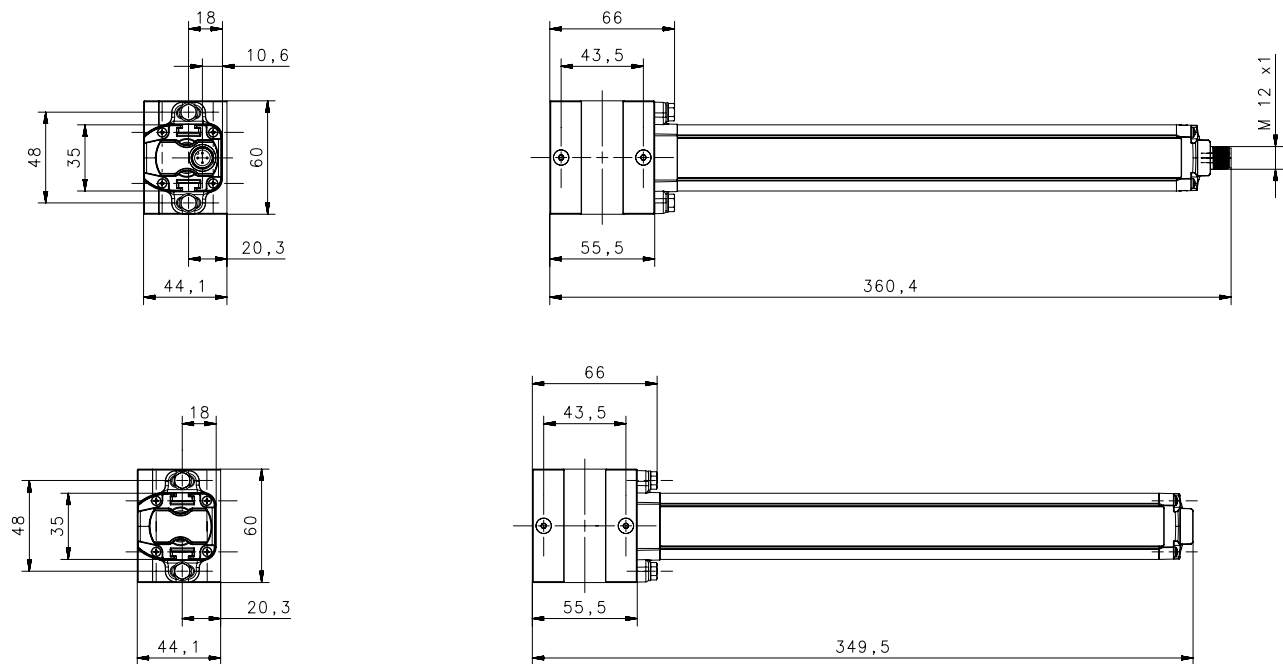
SG-T-ARMS
T COUPLE ARMS
95ASE1871



SG-L-ARMS
L COUPLE ARMS
95ASE1861



SG-PR-ARM V2 (T muting cable CV-Y1-02-B-007 is included)



SG-L-ARMS V2 (L muting cable CV-L1-02-B-007 is included)

ORDERING SUMMARY TABLE FOR MUTING ACCESSORIES

| SAFETY LIGHT CURTAIN | MUTING | TYPE | SG-L-ARMS V2 | SG-T-ARMS V2 | SG-AS-ARM V2 | SG-PR-ARM V2 | SG-CB-B | SG-CB-C | CV-L1-02-B-007 | CV-Y1-02-B-007 | SG-F1G1-ARMS | SG-F2G2-ARMS |
|----------------------------------------------|--------|------|--------------|--------------|--------------|--------------|---------|---------|----------------|----------------|--------------|--------------|
| SG BODY BIG MUTING | L | RRX | | | 1 | 1 | 2 | | 1 | | | |
| | T | RRX | | | 2 | 2 | 2 | | | 1 | | |
| | L | F/G | | | | | 2 | | 2 | | 1 | |
| | T | F/G | | | | | 2 | | | 2 | 1 | 1 |
| SG BODY REFLECTOR (ACTIVE AND PASSIVE SIDES) | L | RRX | | | 1 | 1 | 2 | | 1 | | | |
| | T | RRX | | | 2 | 2 | 2 | | | 1 | | |
| SG BODY COMPACT MUTING | L | RRX | 1 | | | | | | | | | |
| | L | RRX | | | 1 | 1 | | 2 | 1 | | | |
| | T | RRX | | 1 | | | | | | | | |
| | T | RRX | | | 2 | 2 | | 2 | | 1 | | |
| | L | F/G | | | | | | 2 | 2 | | 1 | |
| | T | F/G | 1 | | | | | 2 | | 2 | 1 | 1 |
| SG2 MUTING SG4 EXTENDED | L | RRX | 1 | | | | | | | | | |
| | T | RRX | | 1 | | | | | | | | |

NOTES

RRX = Active/Passive retroreflective muting arms
F/G = Emitter/Receiver muting arms

EXAMPLES

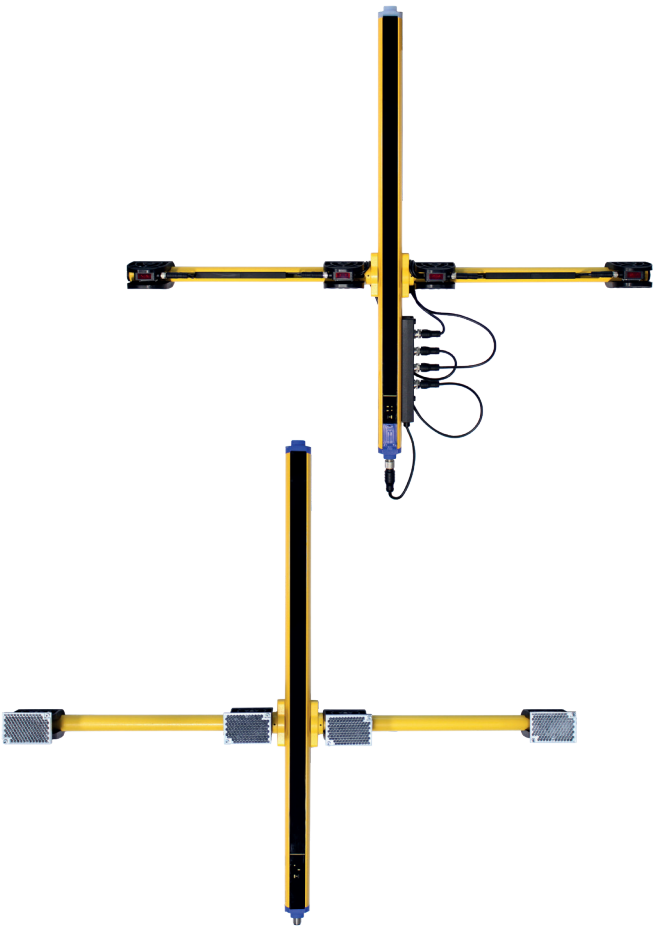
- 1) To realize an L muting with retroreflective arms starting from a SG BODY COMPACT MUTING, order the complete kit SG-L-ARMS or, in alternative, the following: 1x SG-AS-ARM, 1x SG-PR-ARM, 2X SG-CB-C, 1X CV-L1-02-B-007.
- 2) To realize a T muting with emitter/receiver arms, starting from a SG BODY BIG MUTING, order the following: 2x SG-CB-B, 2x CV-Y1-02-B-007, 1x SG-F1G1-ARMS, 1x SG-F2G2-ARMS.

Rev. 05, 05/2016

EXTERNAL SENSORS MUTING ARMS: SG-M

Modular, ready-to-use muting sensor kit for flexible installation

The SG-M muting sensors kit regulates the position and orientation of muting beams in order to adapt quickly and easily to any kind of situation.



APPLICATIONS

- Palletizers / Depalletizers
- Conveyor lines

INDUSTRIES

- Material Handling
- Food & Beverage
- Metal working
- Automotive
- Wood
- Ceramics



SG-M L - S8 - 200 - L

| MUTING CONFIGURATION | |
|----------------------|----------------------------------------------------------------------------------------|
| L | L configuration: 2 sensors, 2 reflectors. Parallel beams. Monodirectional (Exit only). |
| T | T configuration: 4 sensors, 4 reflectors. Parallel beams. Bidirectional. |
| X | X configuration: 2 sensors, 2 reflectors. Crossed beams. Bidirectional. |

| CABLE LENGTH | |
|--------------|---------|
| --- | 700 mm |
| 200 | 2000 mm |

| MUTING SENSOR | |
|---------------|----------------------|
| S8 | 2 x S8-PR-5-B01-PP |
| S100 | 2 x S100-PR-5-B10-PK |

| ARM ORIENTATION | |
|-----------------|------------------------------------------------------------------------|
| L | Left: the muting arm is to the left, looking at light curtain receiver |
| R | Right: muting arm is to the right, looking at light curtain receiver |

A flexible solution for muting

In some access guarding applications, like in palletizing/depalletizing machines, safety light curtains are muted while a load passes through their monitored area.

When the load has an irregular shape, or has holes in it, muting can end before the load has completely passed the light curtain, causing the unnecessary stop of the machine. In cases like this, the ability to regulate the position and orientation the position and orientation of muting beams with increased flexibility, allows the system to adapt quickly and easily to any kind of situation. To simplify the installation of muting sensors in these kind of applications, Datalogic has developed the new SG-M muting sensors modular Kits. The SG-M includes retroreflective photocells as muting sensors, reflectors, cylindrical metallic arms, orientable plastic brackets, cables with M12 connectors, and a connection box for the quick wiring of the sensor outputs to the safety light curtain dedicated muting connector.

The SG-M is the newest addition to a safety portfolio that includes integrated muting arms (SG-T-ARM and SG-L-ARM).

The arms with external sensors can be attached directly to the light curtains of SG Series (fig. 1) or to their protective stands SG-PSB (fig. 2).

With SG-M, three standard configurations for muting beams can be easily installed: T Muting (fig.3), L Muting (fig. 4 and 5) and X Muting (fig. 6).

Sensors provided with the kit are retroreflective, dark on photocells, and come in two versions:

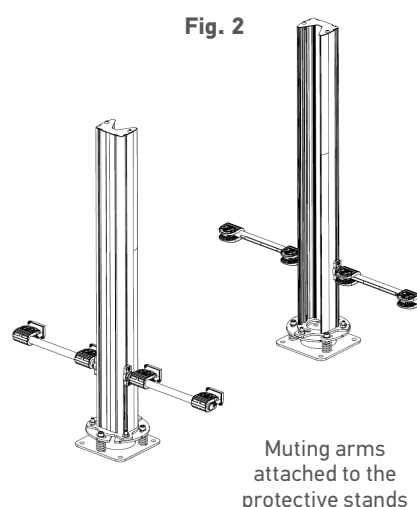
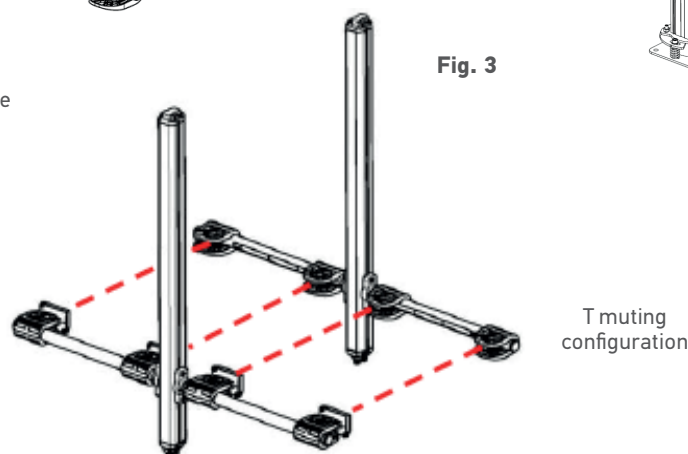
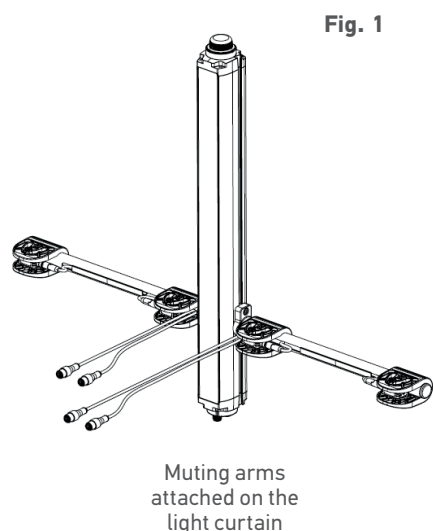
- S100-PR-5-B10-PK, for standard applications with no specific requirements
- S8-PR-5-B01-PP for applications where beam intensity regulation is required.

On the opposite side of the sensors, an ù reflector is mounted.

Sensors and reflectors can be positioned along the arms and orientated both horizontally and vertically thanks to their brackets shape.

Sensors have detachable cables (in T and L muting kits) or pigtails. Both cables have an M12 connector M12 connector, for a quick connection to the safety light curtains through a dedicated connection box (SG-M-CB), or to an external safety controller through normal cables.

The cables are protected inside the metallic arms and have different lengths (700 and 2000 mm), for easy installation on the light curtains, or on the protective stands.



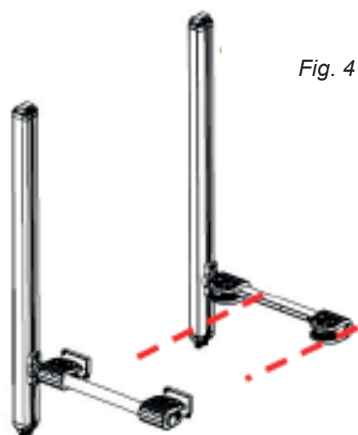


Fig. 4

L muting configuration with orientation to the right.

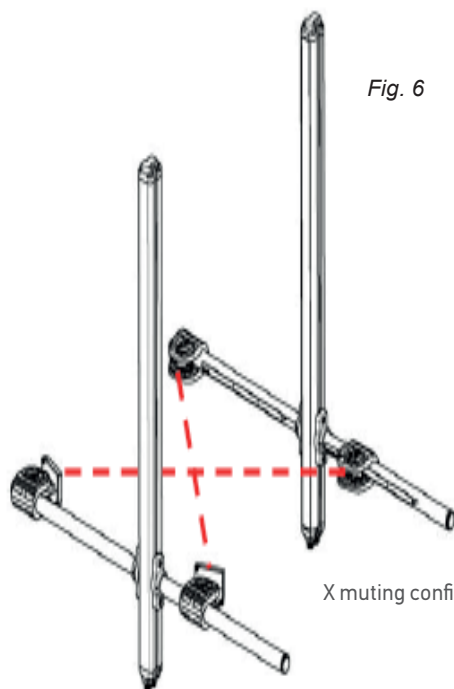


Fig. 6

X muting configuration



Fig. 5

L muting configuration with orientation to the left

SG-M MUTING KITS

The following table shows the characteristics, the sensors and the cables included in any SG-M muting configuraion kit in addition to the mechanical parts (arms and brackets) necessary to connect them to the profiles of the SG family safety light curtains.

| MUTING CONFIGURATION | MODEL | DIRECTION *1 | SENSOR ADJUSTMENT TRIMMER | MIN/MAX DISTANCE *4 | SENSORS *2 | CABLES *3 | ORDER NUMBER |
|----------------------|------------------|--------------|---------------------------|---------------------|-----------------------------|-----------------------------|--------------|
| L Muting | SG-ML-S100-L | left side | No | 0.2 ... 3 m | 2 x S100-PR-5-B10-PK | 2 x CS-M1-02-B-007 (700 mm) | 95ASE2620 |
| | SG-ML-S100-R | right side | No | 0.2 ... 3 m | 2 x S100-PR-5-B10-PK | 2 x CS-M1-02-B-007 (700 mm) | 95ASE2430 |
| | SG-ML-S100-200-L | left side | No | 0.2 ... 3 m | 2 x S100-PR-5-B10-PK | 2 x CS-M1-02-B-02 (2000 mm) | 95ASE2610 |
| | SG-ML-S100-200-R | right side | No | 0.2 ... 3 m | 2 x S100-PR-5-B10-PK | 2 x CS-M1-02-B-02 (2000 mm) | 95ASE2400 |
| | SG-ML-S8-L | left side | Yes | 0.2 ... 3 m | 2 x S8-PR-5-B01-PP | 2 x CS-M1-02-B-007 (700 mm) | 95ASE2600 |
| | SG-ML-S8-R | right side | Yes | 0.2 ... 3 m | 2 x S8-PR-5-B01-PP | 2 x CS-M1-02-B-007 (700 mm) | 95ASE2370 |
| | SG-ML-S8-200-L | left side | Yes | 0.2 ... 3 m | 2 x S8-PR-5-B01-PP | 2 x CS-M1-02-B-02 (2000 mm) | 95ASE2590 |
| T Muting | SG-ML-S8-200-R | right side | Yes | 0.2 ... 3 m | 2 x S8-PR-5-B01-PP | 2 x CS-M1-02-B-02 (2000 mm) | 95ASE2340 |
| | SG-MT-S100 | | No | 0.2 ... 3 m | 4 x S100-PR-5-B10-PK | 4 x CS-M1-02-B-007 (700 mm) | 95ASE2440 |
| | SG-MT-S100-200 | | No | 0.2 ... 3 m | 4 x S100-PR-5-B10-PK | 4 x CS-M1-02-B-02 (2000 mm) | 95ASE2410 |
| | SG-MT-S8 | | Yes | 0.2 ... 3 m | 4 x S8-PR-5-B01-PP | 4 x CS-M1-02-B-007 (700 mm) | 95ASE2380 |
| X Muting | SG-MT-S8-200 | | Yes | 0.2 ... 3 m | 4 x S8-PR-5-B01-PP | 4 x CS-M1-02-B-02 (2000 mm) | 95ASE2350 |
| | SG-MX-S100 | | No | 0.45 ... 3 m | 2 x S100-PR-2-B10-PK SV4973 | pigtail 700 mm | 95ASE2450 |
| | SG-MX-S100-200 | | No | 0.45 ... 3 m | 2 x S100-PR-2-B10-PK SV4974 | pigtail 2000 mm | 95ASE2420 |
| | SG-MX-S8 | | Yes | 0.6 ... 3 m | 2 x S8-PR-5-B01-PP SV4973 | pigtail 700 mm | 95ASE2390 |
| | SG-MX-S8-200 | | Yes | 0.6 ... 3 m | 2 x S8-PR-5-B01-PP SV4974 | pigtail 2000 mm | 95ASE2360 |

NOTE

*1 "Left side" and "Right side", related to L muting kits, refers to the position of the arm looking towards the receiver of the light curtain.

"Left side" and "Right side" kits differ only mechanically, in order to keep the regulating screws upside.

*2 In X Muting Kits, special versions of photocells with pigtails and M12 connectors have been used.

*3 Cables used in T and L muting kits have M8 connectors on the sensors side, and M12 connectors at the external side.

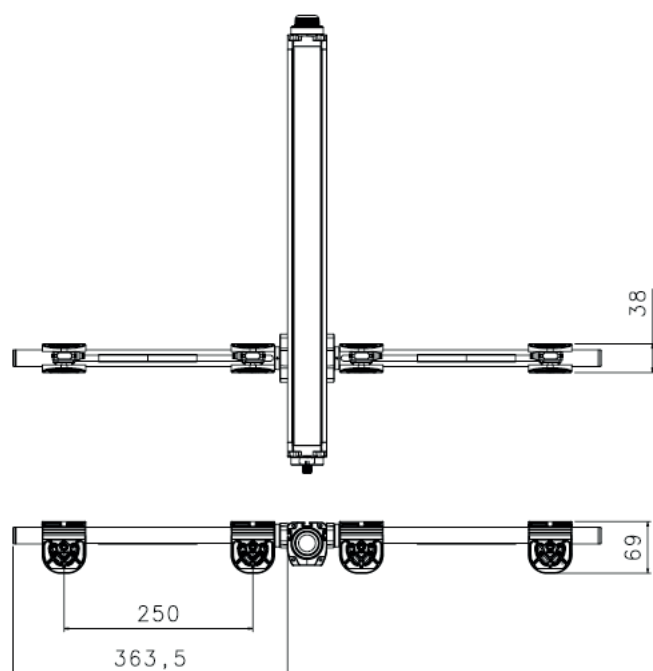
*4 Minimum distance of 0.2 m is determined by the light curtain. Maximum distance of 3 m is to avoid interferences between muting sensors

COMPATIBILITY

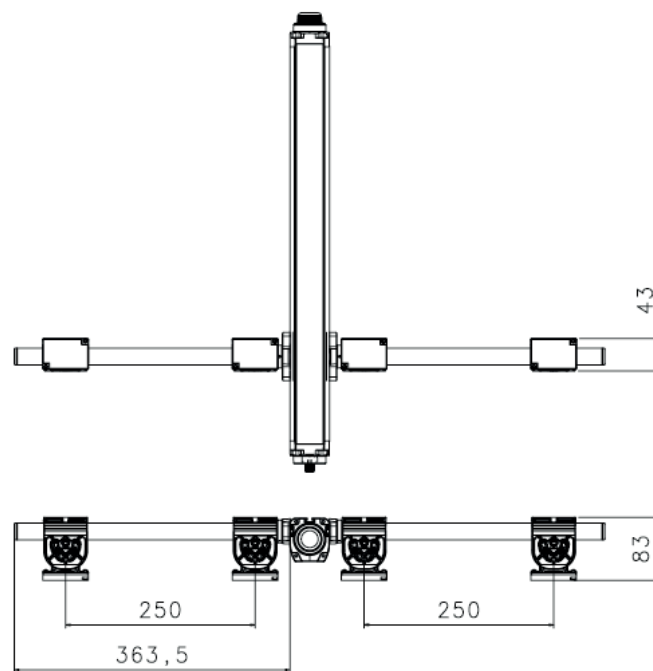
SG BODY COMPACT MUTING
 SG BODY BIG MUTING
 SG BODY REFLECTOR MUTING
 SG2 MUTING
 SG4 EXTENDED
 SG-PSB (only models with 2000 mm cables (SG-Mx-xxx-200-x))

DIMENSIONS

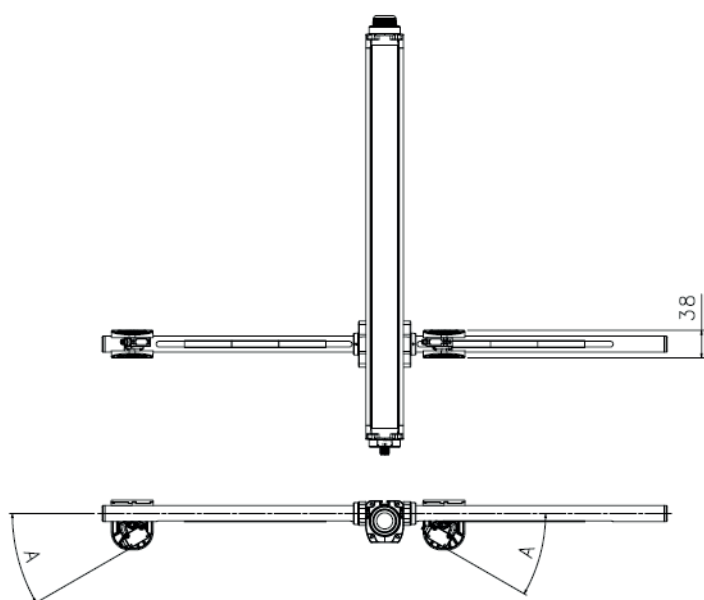
SG-M-T Active Side



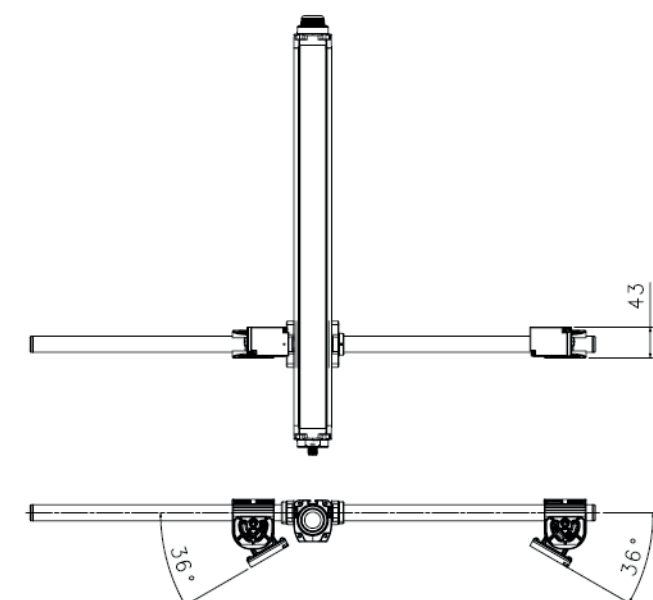
SG-M-T Passive Side



SG-M-X Active Side



SG-M-X Passive Side



| Angle/Sensor Type | S100 | S8 |
|-------------------|------|-----|
| A | 38° | 31° |

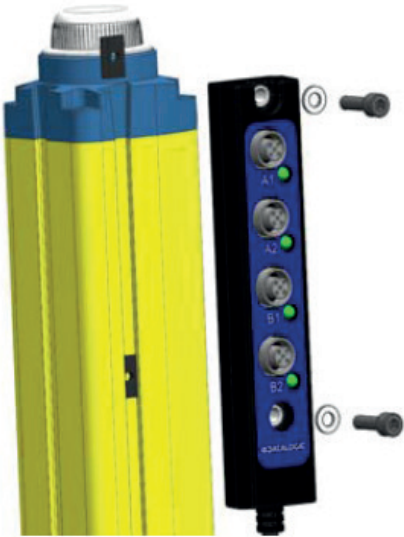
SG-M-CB CONNECTION BOX

The SG-M connection box has 4 M12 connectors on board, one for each muting sensor to be connected to an SG Series light curtain.

Unused connectors need to be covered by a cap, in order to maintain IP65 protection.

A green LED indicator signals when the muting sensor is generating the corresponding muting signal towards the safety light curtain.

Inside the connection box, signals are put in parallel: A1 with A2 and B1 with B2, and forwarded to the pigtail connector, that has to be inserted into the muting connector of the light curtain.



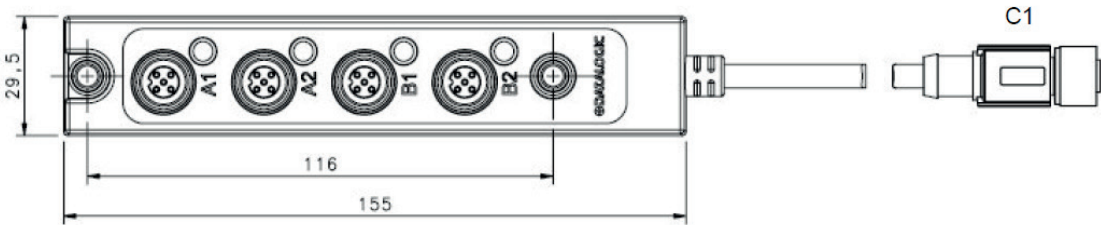
| MODEL | DESCRIPTION | ORDER NUMBER |
|-------------|------------------------------|--------------|
| SG-M-CB | Connection Box for SG-M kits | 95ASE2500 |
| SG-M-CB-KIT | SG-M-CB Mounting Kit | 95ASE2830 |

NOTES

SG-M-CB-KIT contains screws, whasers and fixing guides needed to connect SG-M-CB to the profile of SG family Safety light curtains.

COMPATIBILITY

- SG BODY COMPACT MUTING
- SG BODY BIG MUTING
- SG BODY REFLECTOR MUTING
- SG2 MUTING
- SG4 EXTENDED
- SG-PSB (mechanical compatibility)



| PIN # | S8 | S100 |
|-------|--------------|----------------------|
| 1 | +24 Vdc | |
| 2 | Alarm output | Light/Dark selection |
| 3 | 0 Vdc | |
| 4 | PnP Output | |

S100 AND S8 SENSORS

| MODEL | CHARACTERISTICS | REGULATIONS | MAX. OPERATING DISTANCE | CONNECTION | ORDER NUMBER |
|-------------------------|---------------------------------------------------------|-----------------------------------------------------|-------------------------|---------------------|--------------|
| S100-PR-5-B10-PK | Polarized retroreflective, red LED, PnP Output, Plastic | Dark/Light | 6 m | M8 | 950811310 |
| S100-PR-2-B10-PK SV4972 | | | | 400 mm pigtail M12 | 950815060 |
| S100-PR-2-B10-PK SV4973 | | | | 700 mm pigtail M12 | 950815070 |
| S100-PR-2-B10-PK SV4974 | | | | 2000 mm pigtail M12 | 950815080 |
| S8-PR-5-B01-PP | | Dark/Light Mono-turn sensitivity adjustment trimmer | 7 m | M8 | 950801160 |
| S8-PR-5-B01-PP SV4972 | | | | 400 mm pigtail M12 | 950805340 |
| S8-PR-5-B01-PP SV4973 | | | | 700 mm pigtail M12 | 950805350 |
| S8-PR-5-B01-PP SV4974 | | | | 2000 mm pigtail M12 | 950805360 |

NOTES

1* With reflector R6

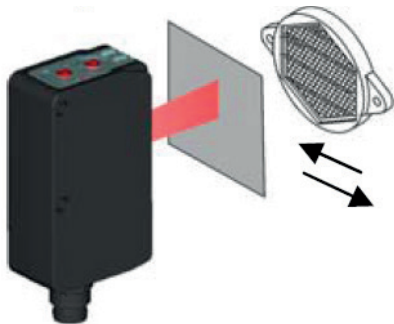
For more detailed technical information about the sensors, refer to Datasheed of S100 or S8 families.

S8 SETTINGS

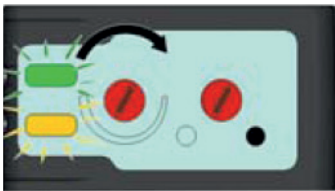
DARK



Rotate trimmer in a clockwise direction to set the DARK mode (output ON in presence of the object).



Position the sensor in front of its reflector



If needed, regulate the intensity of the beam by rotating the adjustment trimmer

SPARE PARTS

| MODEL | NOTES | ORDER NUMBER |
|----------------|---------------------------------------------------------------|--------------|
| SG-M-ARM | Cylindrical Metallic Arm | 95ASE2460 |
| CS-M1-02-B-004 | 4 poles M8 female M12 male cable 400mm | 95ASE2470 |
| CS-M1-02-B-007 | 4 poles M8 female M12 male 700mm | 95ASE2480 |
| CS-M1-02-B-02 | 4 poles M8 female M12 male 2000mm | 95ASE2490 |
| SG-M BRACKET | Single plastic orientable bracket, to mount S8, S100, or R6 | 95ASE2630 |
| R6 | Prismatic reflector 36 x 55 mm - plastic support 40.5 x 60 mm | 95A151350 |

Mounting kits for mirrors

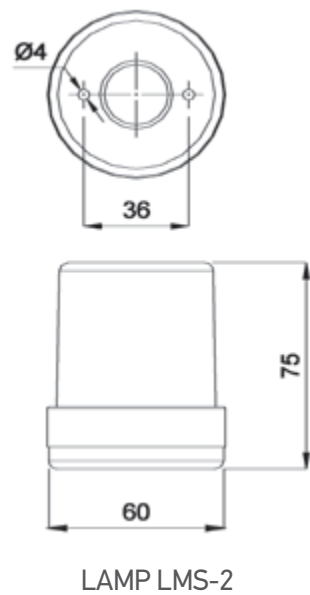
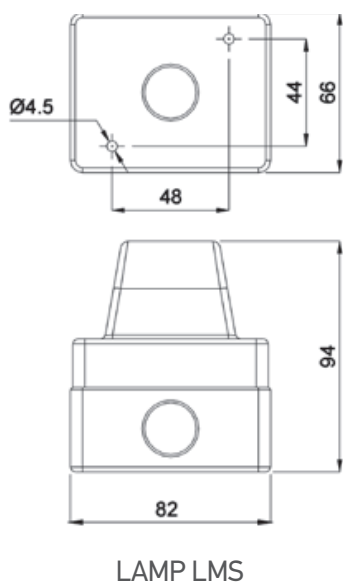
Depending on the risk assessment, an indicator to show when the muting function is active can be necessary. This indicator shows that the normal protective function of the light curtain is temporary suspended. The muting indicator should have sufficient brightness and be installed so as to be readily visible from any foreseeable position where a person can attempt to access the hazard zone.

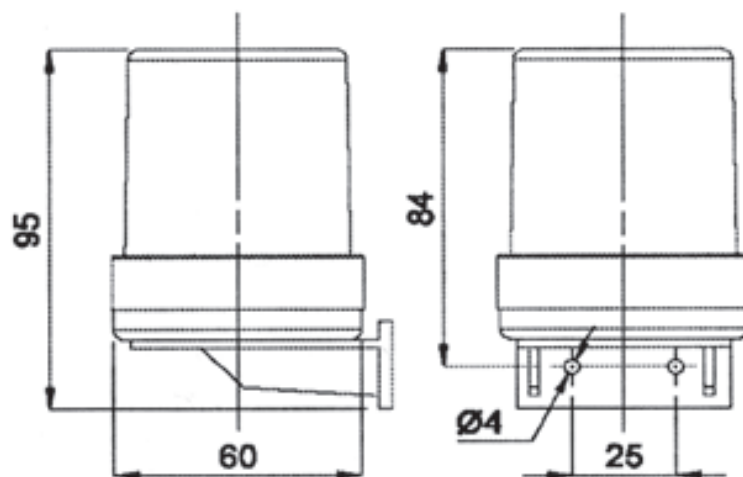


| MODEL | DESCRIPTION | ORDER NUMBER |
|-----------|-----------------------------------|--------------|
| LMS | Muting lamp | 95ASE1830 |
| LMS-1 | Modular Muting lamp | 95ACC1990 |
| LMS-2 | Muting lamp - horizontal mounting | 95ACC2000 |
| LMS-3 | Muting lamp - vertical mounting | 95ACC2010 |
| SU-LMS-1A | Basic support for LMS-1 | 95ACC2020 |
| SU-LMS-1B | Tower module for LMS-1 | 95ACC2030 |

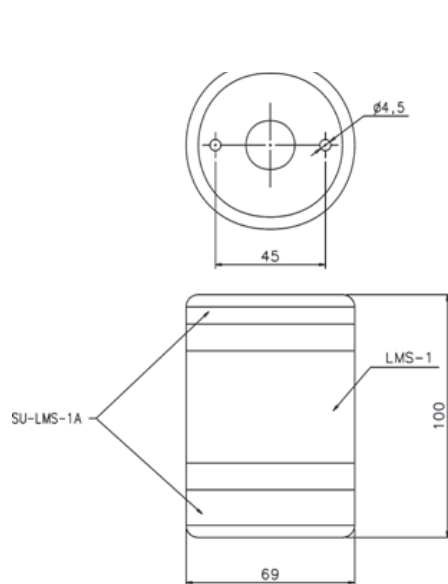
NOTES

- 1) LMS, LMS-1, LMS-2 and LMS-3 are provided with incandescent light bulbs (3W, 24V)
- 2) LMS-1 has to be ordered with one of the two supports: SU-LMS-1A or SU-LMS-1B
- 3) External muting lamp is also available con Muting Connection Box SG-SRT2

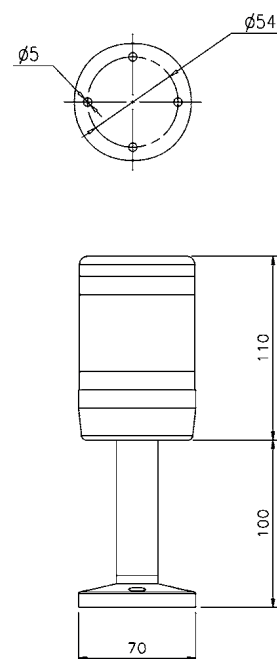




LAMP LMS-3



SUPPORT SU-LMS-1A
LAMP LMS-1



SUPPORT SU-LMS-1B
LAMP LMS-1

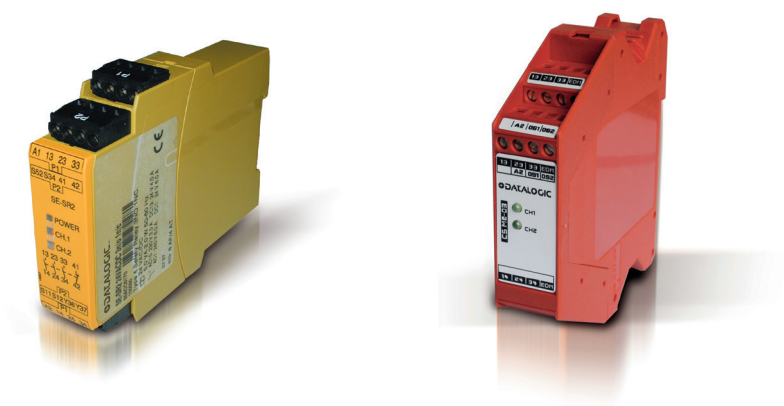
SAFETY UNITS AND INTERFACES

SE-SR2 is a safety unit that can be used in combination with every DATALOGIC Safety Light Curtains.

It provides dual-channel operation without detection of shorts across contacts.

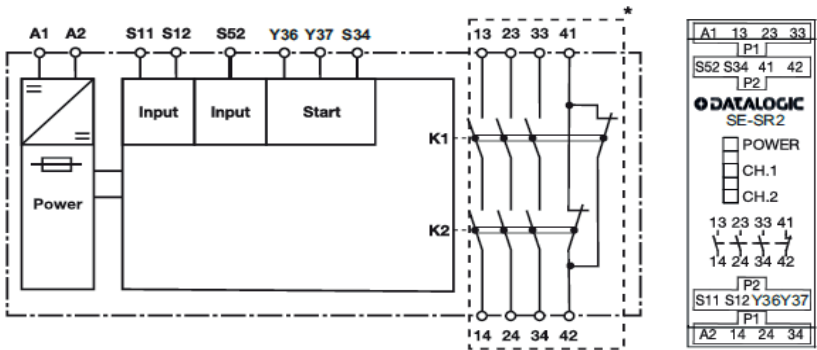
Short circuits and earth faults in the pushbutton circuit are detected.

CS-ME is an interface with two forcibly guided relays, providing 3 NO contacts. The diagnostic function must be performed by the Safety Light Curtains through External Device Monitoring function.



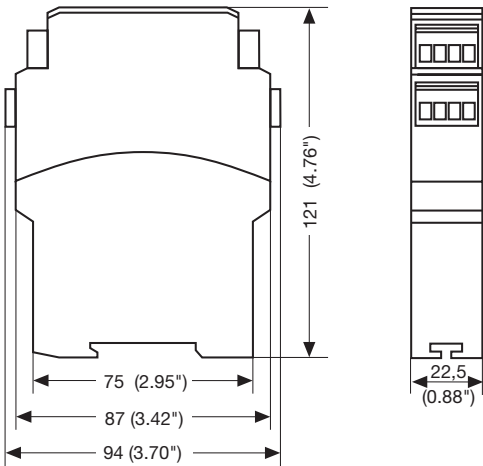
| SE-SR2 | | CS-ME |
|------------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GENERAL DATA | | |
| PL (EN ISO 13849-1) | e | up to e (depending on ESPE) |
| SIL (IEC 61508) | 3 | up to 3 (depending on ESPE) |
| ELECTRICAL DATA | | |
| Power supply | 24 Vdc -15/+10% | 24 Vdc -/+20% |
| Outputs | | |
| Safe outputs (Cat. 4) | 3 NO | 3 NO |
| Auxiliary outputs | 1 NC | 1 NC |
| Response time | | |
| Following input going OFF | typ. 10 ms, max. 20 ms | 20 ms |
| With power failure | typ. 70 ms, max. 120 ms | 20 ms |
| Recovery time | | |
| Following inputs going ON | 50 ms | 40 ms |
| After power on | 150 ms | 40 msz |
| MECHANICAL AND ENVIRONMENTAL DATA | | |
| Operating temperature | -10 ... +55°C | -25 ... +55°C |
| Humidity | 15 ... 95 % (no condensation) | 15 ... 95 % (no condensation) |
| Mechanical protection | IP20 | IP20 |
| FUNCTIONS | | |
| Reset modes | Automatic/Manual/Monitored | Automatic |
| External Device Monitoring | Available on SE-SR2 | Must be activated on Safety Light Curtain (ESPE) |
| COMPATIBILITY | | |
| | All DATALOGIC Safety Light Curtains | All DATALOGIC Safety Light Curtains with EDM function: SG2 EXTENDED SG2 MUTING SG2 BASE, SG4 BASE SG BODY COMPACT SG BODY BIG SG BODY REFLECTOR SG BODY COMPACT SG4 EXTENDED SLIM |

INTERNAL DIAGRAM OF SE-SR2

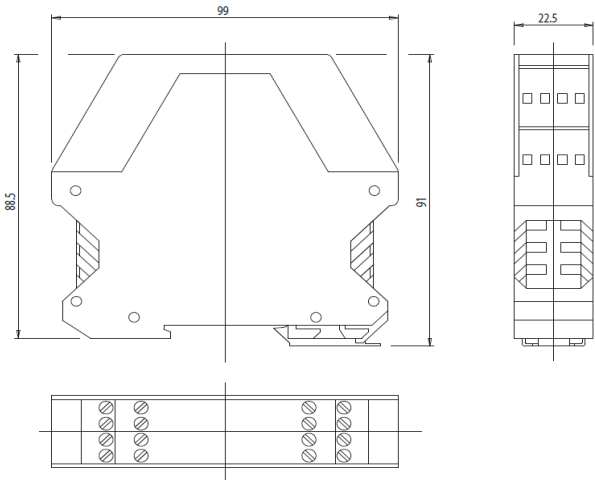


IMPORTANT: For the correct wiring refer to SE-SR2 manual.

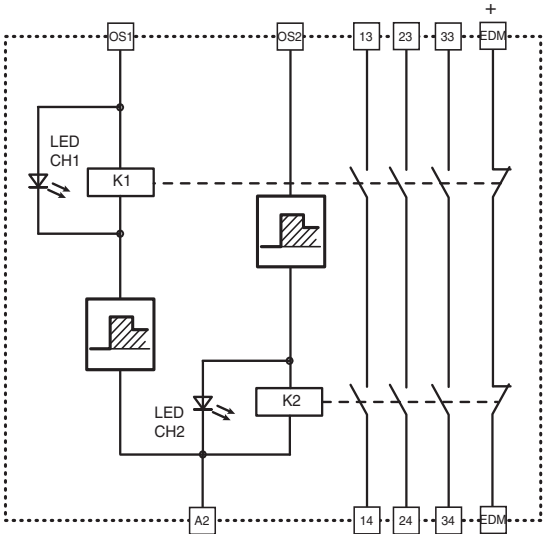
SE-SR2 DIMENSIONS



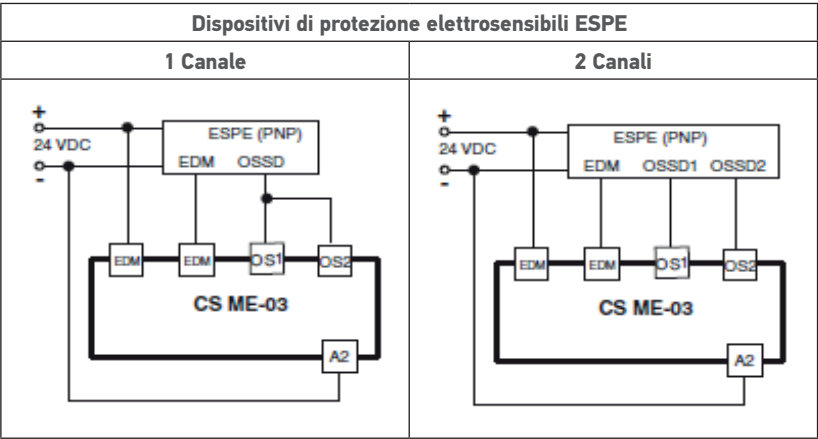
CS-ME DIMENSIONS



CS-ME INTERNAL DIAGRAM



CS-ME WIRING DIAGRAM



| MODEL | DESCRIPTION | ORDER NUMBER |
|-----------------|---------------------------------|--------------|
| SE-SR2 | Safety Unit | 95ACC6170 |
| CSME-03VU24-Y14 | Forcibly guided relay interface | 95ASE1270 |

Connection Boxes

SG-SRT1 and SG-SRT2 are interfaces provided with redundant forcibly guided relays, supplying a ready operator interface to restart or override the Safety Light Curtain, and have muting indication.



SG-SRT-1



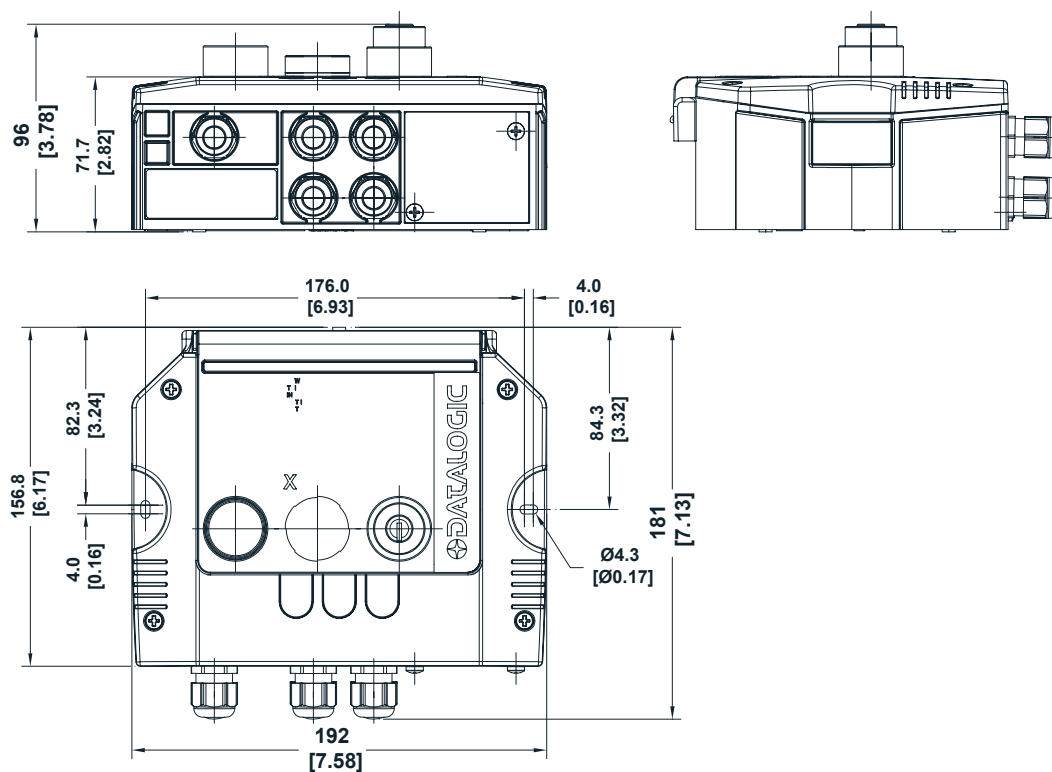
SG-SRT-2



| SG-SRT1 | | SG-SRT2 | |
|-------------------------|--------------------------------------------------------------------------|------------------------------------------------|--|
| ELECTRICAL DATA | | | |
| Power supply | 24 Vdc +/- 20% | | |
| Safe outputs | 2 NO | | |
| Max. switchable voltage | 250 Vac | | |
| Max. switchable current | 2 A | | |
| FUNCTIONS | | | |
| Reset mode | Automatic/Manual | | |
| | Test | | |
| | Reset | | |
| | Restart | | |
| | Override | | |
| | --- | Muting state indication | |
| COMPATIBILITY | | | |
| | SG BODY COMPACT MUTING SG BODY BIG MUTING SG BODY REFLECTOR MUTING | SG BODY BIG MUTING SG BODY REFLECTOR MUTING | |

NOTE

SG-SRT1 and SG-SRT2 provide internal or external EDM signal to the Safety Light Curtain: to operate safely, EDM monitoring function must be activated on the Safety Light Curtain and correct wiring must be followed.
For further information refer to SG-SRT1/2 manual and the used Safety Light Curtain manual.



| MODEL | DESCRIPTION | ORDER NUMBER |
|-----------|---------------------------------|--------------|
| SG -SRT-1 | Muting connection box | 95ASE2050 |
| SG -SRT-2 | Muting connection box with lamp | 95ASE2060 |

OTHER ACCESSORIES

Protection tubes

SG-IP69K are PMMA acrylic tubes used to protect and seal safety light curtains.
The IP protection of the safety light curtain is increased to IP67, IP68 and IP69K.
A Gore-Tex membrane on the caps prevents water or dirt entering as well as internal condensation.

| MODEL | DESCRIPTION | ORDER NUMBER |
|----------------|------------------------|--------------|
| SG -IP69K 150 | Tubular IP69K H=150mm | 95ASE 1290 |
| SG -IP69K 300 | Tubular IP69K H=300mm | 95ASE 1300 |
| SG -IP69K 450 | Tubular IP69K H=450mm | 95ASE 1310 |
| SG -IP69K 600 | Tubular IP69K H=600mm | 95ASE 1320 |
| SG -IP69K 750 | Tubular IP69K H=750mm | 95ASE 1330 |
| SG -IP69K 900 | Tubular IP69K H=900mm | 95ASE 1340 |
| SG -IP69K 1050 | Tubular IP69K H=1050mm | 95ASE 1350 |
| SG -IP69K 1200 | Tubular IP69K H=1200mm | 95ASE 1360 |
| SG -IP69K 1350 | Tubular IP69K H=1350mm | 95ASE 1370 |
| SG -IP69K 1500 | Tubular IP69K H=1500mm | 95ASE 1380 |
| SG -IP69K 1650 | Tubular IP69K H=1650mm | 95ASE 1390 |
| SG -IP69K 1800 | Tubular IP69K H=1800mm | 95ASE 1400 |

| COMPATIBILITY |
|---------------|
|---------------|

SG2 BASE, SG2 EXTENDED, SG4 BASE

| MODEL | DESCRIPTION | ORDER NUMBER |
|----------------|------------------------|--------------|
| SG-IP69K-2-050 | Tubular IP69K H=500mm | 95ASE1410 |
| SG-IP69K-3-080 | Tubular IP69K H=800mm | 95ASE1420 |
| SG-IP69K-4-090 | Tubular IP69K H=900mm | 95ASE1430 |
| SG-IP69K-4-120 | Tubular IP69K H=1200mm | 95ASE1440 |

| COMPATIBILITY |
|---------------|
|---------------|

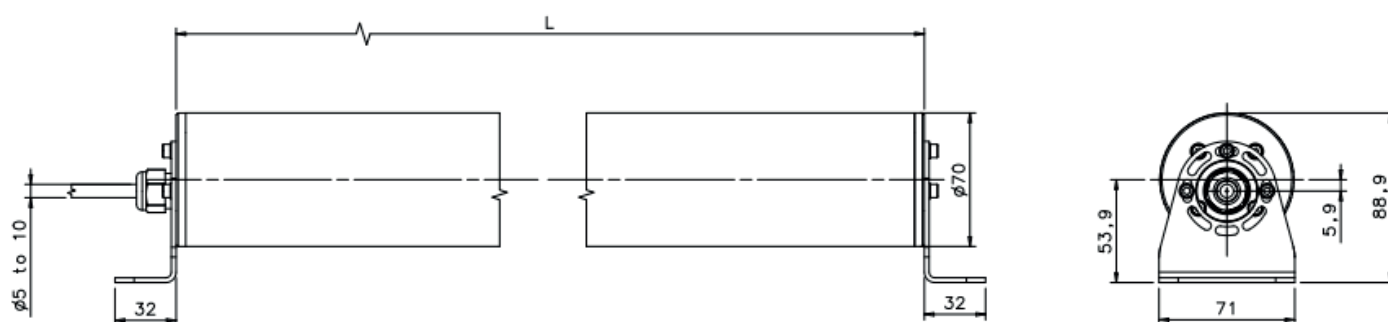
SG BODY COMPACT

NOTES

- 1) Each package contains the necessary to protect a single unit (emitter or receiver).
To protect both elements of a couple, order two pieces
- 2) Tubular PMMA POLICRIL material chemical resistance table is available on product's datasheet.



DIMENSIONS



| MODEL | L (mm) |
|----------------|--------|
| SG-IP69K 150 | 373.5 |
| SG-IP69K 300 | 520.7 |
| SG-IP69K 450 | 670.8 |
| SG-IP69K 600 | 820.7 |
| SG-IP69K 750 | 970.8 |
| SG-IP69K 900 | 1120.7 |
| SG-IP69K 1050 | 1270.7 |
| SG-IP69K 1200 | 1420.8 |
| SG-IP69K 1350 | 1570.7 |
| SG-IP69K 1500 | 1720.8 |
| SG-IP69K 1650 | 1870.8 |
| SG-IP69K 1800 | 2020.8 |
| SG-IP69K-2-050 | 813 |
| SG-IP69K-3-080 | 1113 |
| SG-IP69K-4-090 | 1213.5 |
| SG-IP69K-4-120 | 1513.5 |

Lens shields

The LENS SHIELD accessory for safety light curtains is composed of a PMMA Altuglas plate that can be mounted on the front glass of the safety light, ensuring an effective protection against dust, chips and incandescent drops deriving from material working near the safety light curtain.



| MODEL | DESCRIPTION | ORDER NUMBER |
|---------------|--------------------------------------------------|--------------------------------------|
| SG -LS 150 | Lens shield 150 mm | 95ASE1450 |
| SG -LS 300 | Lens shield 300 mm | 95ASE1460 |
| SG -LS 450 | Lens shield 450 mm | 95ASE1470 |
| SG -LS 600 | Lens shield 600 mm | 95ASE1480 |
| SG -LS 750 | Lens shield 750 mm | 95ASE1490 |
| SG -LS 900 | Lens shield 900 mm | 95ASE1500 |
| SG -LS 1050 | Lens shield 1050 mm | 95ASE1510 |
| SG -LS 1200 | Lens shield 1200 mm | 95ASE1520 |
| SG -LS 1350 | Lens shield 1350 mm | 95ASE1530 |
| SG -LS 1500 | Lens shield 1500 mm | 95ASE1540 |
| SG -LS 1650 | Lens shield 1650 mm | 95ASE1550 |
| SG -LS 1800 | Lens shield 1800 mm | 95ASE1560 |
| SG -LS 2 | Lens shield 2 beams 500 mm | 95ASE1570 |
| SG -LS 3 | Lens shield 3 beams 800 mm | 95ASE1580 |
| SG -LS 4-900 | Lens shield 4 beams 900 mm | 95ASE1590 |
| SG -LS 4-120 | Lens shield 4 beams 1200 mm | 95ASE1600 |
| COMPATIBILITY | | |
| | SG-LS xxxx | SG2 BASE SG2 EXTENDED SG4 BASE |
| | SG-LS 2 SG-LS 3 SG-LS 4-900 SG-LS 4-120 | SG BODY COMPACT |
| NOTES | | |

1) Each package contains the necessary to protect a single unit (emitter or receiver). To protect both elements of a couple, order two pieces
2) Five plates are supplied in the package for replacements
3) The length indicated in the description is the height of the light curtains that can be used with the lens shield, for the actual dimension, refer to the technical datasheet.

Laser Pointer

LASER POINTER



| MODEL | DESCRIPTION | ORDER NUMBER |
|-----------------------------------------------------------|---------------|--------------|
| SG-LP | Laser pointer | 95ASE5590 |
| COMPATIBILITY | | |
| All SG Series Safety Light Curtains except SG4-H and SLIM | | |

Communication interface

DONGLE



| MODEL | DESCRIPTION | ORDER NUMBER |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------|
| SG4-DONGLE | Ethernet adaptor | 95ASE2080 |
| FUNCTIONS | | |
| 1) Ethernet connection (TCP/IP) to Monitoring and Configuration Software SG4-E GUI. 2) Configuration cloning 3) Error logging 4) Configuration logging | | |
| COMPATIBILITY | | |
| SG4 EXTENDED | | |
| NOTE | | |
| To connect SG-DONGLE directly to a PC, order Ethernet cable CAB-ETH-M01 | | |

DONGLE - PC ETHERNET CABLE



| MODEL | DESCRIPTION | ORDER NUMBER |
|-------------|-----------------------------|--------------|
| CAB-ETH-M01 | M12-IP67 ETHERNET CAB. (1M) | 93A051346 |
| CAB-ETH-M03 | M12-IP67 ETHERNET CAB. (3M) | 93A051347 |
| CAB-ETH-M05 | M12-IP67 ETHERNET CAB. (5M) | 93A051348 |

Test pieces



| MODEL | DESCRIPTION | ORDER NUMBER |
|---------------|--------------------|--------------|
| TP-14 | Test piece Ø 14 mm | 95ACC1630 |
| TP-20 | Test piece Ø 20 mm | 95ACC1640 |
| TP-24 | Test piece Ø 24 mm | 95ASE2570 |
| TP-30 | Test Piece Ø 30 mm | 95ACC1650 |
| TP-34 | Test Piece Ø 34mm | 95ASE2580 |
| TP-35 | Test piece Ø 35 mm | 95ACC1660 |
| COMPATIBILITY | | |

All Safety Light Curtains with corresponding resolution

CABLES

| MODEL | DESCRIPTION | START | END | #POLES | LENGTH (m) | SHIELD | ORDER NUMBER |
|-------------------------------|-------------------------------------------------------------------------|--------------|-----------------|--------|------------|--------|--------------|
| CABLES FOR EMITTERS/RECEIVERS | | | | | | | |
| CS-A1-02-U-03 | CS Cable 4-p axial 3m | M12 axial F | free wires | 4 | 3 | No | 95ASE1120 |
| CS-A1-02-U-05 | CS Cable 4-p axial 5m | M12 axial F | free wires | 4 | 5 | No | 95ASE1130 |
| CS-A1-02-U-10 | CS Cable 4-p axial 10m | M12 axial F | free wires | 4 | 10 | No | 95ASE1140 |
| CS-A1-02-U-15 | CS Cable 4-p axial 15m | M12 axial F | free wires | 4 | 15 | No | 95ASE1150 |
| CS-A1-02-U-25 | CS Cable 4-p axial 25m | M12 axial F | free wires | 4 | 25 | No | 95ASE1160 |
| CS-A1-03-U-03 | CS Cable 5-p axial 3m | M12 axial F | free wires | 5 | 3 | No | 95ASE1170 |
| CS-A1-03-U-05 | CS Cable 5-p axial 5m | M12 axial F | free wires | 5 | 5 | No | 95ASE1180 |
| CS-A1-03-U-10 | CS Cable 5-p axial 10m | M12 axial F | free wires | 5 | 10 | No | 95ASE1190 |
| CS-A1-03-U-15 | CS Cable 5-p axial 15m | M12 axial F | free wires | 5 | 15 | No | 95ASE1200 |
| CS-A1-03-U-25 | CS Cable 5-p axial 25m | M12 axial F | free wires | 5 | 25 | No | 95ASE1210 |
| CS-A1-03-U-50 | CS Cable 5-p axial 50m | M12 axial F | free wires | 5 | 50 | No | 95A252700 |
| CS-A1-06-U-03 | CS Cable 8-p axial 3m | M12 axial F | free wires | 8 | 3 | No | 95ASE1220 |
| CS-A1-06-U-05 | CS Cable 8-p axial 5m | M12 axial F | free wires | 8 | 5 | No | 95ASE1230 |
| CS-A1-06-U-10 | CS Cable 8-p axial 10m | M12 axial F | free wires | 8 | 10 | No | 95ASE1240 |
| CS-A1-06-U-15 | CS Cable 8-p axial 15m | M12 axial F | free wires | 8 | 15 | No | 95ASE1250 |
| CS-A1-06-U-25 | CS Cable 8-p axial 25m | M12 axial F | free wires | 8 | 25 | No | 95ASE1260 |
| CS-A1-06-U-50 | CS Cable 8-p axial 50m | M12 axial F | free wires | 8 | 50 | No | 95A252710 |
| CS-A1-10-U-03 | CS Cable 12-p axial 3m | M12 axial F | free wires | 12 | 3 | No | 95A252720 |
| CS-A1-10-U-05 | CS Cable 12-p axial 5m | M12 axial F | free wires | 12 | 5 | No | 95A252730 |
| CS-A1-10-U-10 | CS Cable 12-p axial 10m | M12 axial F | free wires | 12 | 10 | No | 95A252740 |
| CS-A1-10-U-15 | CS Cable 12-p axial 15m | M12 axial F | free wires | 12 | 15 | No | 95A252750 |
| CS-A1-10-U-25 | CS Cable 12-p axial 25m | M12 axial F | free wires | 12 | 25 | No | 95A252760 |
| CS-A1-17-U-03 | CS Cable 17-p axial 3m | M12 axial F | free wires | 17 | 3 | No | 95ASE3010 |
| CS-A1-17-U-05 | CS Cable 17-p axial 5m | M12 axial F | free wires | 17 | 5 | No | 95ASE3020 |
| CS-A1-17-U-17 | CS Cable 17-p axial 10m | M12 axial F | free wires | 17 | 10 | No | 95ASE3030 |
| CS-A1-17-U-15 | CS Cable 17-p axial 15m | M12 axial F | free wires | 17 | 15 | No | 95ASE3040 |
| CS-A1-17-U-25 | CS Cable 17-p axial 25m | M12 axial F | free wires | 17 | 25 | No | 95ASE3050 |
| CS-B1-02-G-03 | CS Cable 4-p axial 3m | M8 axial F | free wires | 4 | 3 | No | 95A251420 |
| CS-B1-02-G-05 | CS Cable 4-p axial 5m | M8 axial F | free wires | 4 | 5 | No | 95A251430 |
| CS-B1-02-G-07 | CS Cable 4-p axial 7m | M8 axial F | free wires | 4 | 7 | No | 95A251440 |
| CS-B1-02-G-10 | CS Cable 4-p axial 10m | M8 axial F | free wires | 4 | 10 | No | 95A251480 |
| CS-B2-02-G-03 | CS Cable 4-p radial 3m | M8 radial F | free wires | 4 | 3 | No | 95A251420 |
| CS-B2-02-G-05 | CS Cable 4-p radial 5m | M8 radial F | free wires | 4 | 5 | No | 95A251430 |
| CS-B2-02-G-07 | CS Cable 4-p radial 7m | M8 radial F | free wires | 4 | 7 | No | 95A251440 |
| CS-B2-02-G-10 | CS Cable 4-p radial 10m | M8 radial F | free wires | 4 | 10 | No | 95A251530 |
| CV-A1-22-B-03 | CV Cable 4-p axial 3m | M12 axial F | free wires | 4 | 3 | Yes | 95ACC1480 |
| CV-A1-22-B-05 | CV Cable 4-p axial 5m | M12 axial F | free wires | 4 | 5 | Yes | 95ACC1490 |
| CV-A1-22-B-10 | CV Cable 4-p axial 10m | M12 axial F | free wires | 4 | 10 | Yes | 95ACC1500 |
| CV-A1-22-B-15 | CV Cable 4-p axial 15m | M12 axial F | free wires | 4 | 15 | Yes | 95ACC2070 |
| CV-A1-22-B-25 | CV Cable 4-p axial 25m | M12 axial F | free wires | 4 | 25 | Yes | 95ACC2090 |
| CV-A1-26-B-03 | CV Cable 8-p axial 3m | M12 axial F | free wires | 8 | 3 | Yes | 95ACC1510 |
| CV-A1-26-B-05 | CV Cable 8-p axial 5m | M12 axial F | free wires | 8 | 5 | Yes | 95ACC1520 |
| CV-A1-26-B-10 | CV Cable 8-p axial 10m | M12 axial F | free wires | 8 | 10 | Yes | 95ACC1530 |
| CV-A1-26-B-15 | CV Cable 8-p axial 15m | M12 axial F | free wires | 8 | 15 | Yes | 95ACC2080 |
| CV-A1-26-B-25 | CV Cable 8-p axial 25m | M12 axial F | free wires | 8 | 25 | Yes | 95ACC2100 |
| CV-A2-22-B-03 | CV Cable 4-p radial 3m | M12 radial F | free wires | 4 | 3 | Yes | 95ACC1540 |
| CV-A2-22-B-05 | CV Cable 4-p radial 5m | M12 radial F | free wires | 4 | 5 | Yes | 95ACC1550 |
| CV-A2-22-B-10 | CV Cable 4-p radial 10m | M12 radial F | free wires | 4 | 10 | Yes | 95ACC1560 |
| CV-A2-26-B-03 | CV Cable 8-p radial 3m | M12 radial F | free wires | 8 | 3 | Yes | 95ACC1600 |
| CV-A2-26-B-05 | CV Cable 8-p radial 5m | M12 radial F | free wires | 8 | 5 | Yes | 95ACC1610 |
| CV-A2-26-B-10 | CV Cable 8-p radial 10m | M12 radial F | free wires | 8 | 10 | Yes | 95ACC1620 |
| CASCADING CABLES | | | | | | | |
| CS-F1-80-B-0005SG | SG EXTENDED Cascade cable 0.05m | custom | custom | N/A | 0,05 | No | 95A252860 |
| CS-F1-80-B-005 | SG EXTENDED Cascade cable 0.5m | custom | custom | N/A | 0,5 | No | 95A252850 |
| CS-F1-80-B-01 | SG EXTENDED Cascade cable 1m | custom | custom | N/A | 1 | No | 95A252840 |
| CS-H1-03-B-001 | SLIM Cascade cable 0.1m | custom | M12 axial F | 5 | 0,1 | No | 95A252950 |
| CS-H1-03-B-005 | SLIM Cascade cable 0.5m | custom | M12 axial F | 5 | 0,5 | No | 95ASE2550 |
| CS-H1-03-B-01 | SLIM Cascade cable 1m | custom | M12 axial F | 5 | 1 | No | 95ASE2560 |
| SLS-CABLE-R-5 | LASER SENTINEL Cable to Remote 5m | M12 axial M | M12 axial M | 8 | 5 | No | 95ASE2890 |
| SLS-CABLE-R-10 | LASER SENTINEL Cable to Remote 10m | M12 axial M | M12 axial M | 8 | 10 | No | 95ASE2900 |
| SLS-CABLE-R-20 | LASER SENTINEL Cable to Remote 20m | M12 axial M | M12 axial M | 8 | 20 | No | 95ASE2910 |
| SG EXTENDED PIGTAIL CABLES | | | | | | | |
| CS-G1-50-B-002 | SG EXTENDED TX 0,2m | custom | M12 axial M | 5 | 0,2 | No | 95A252820 |
| CS-G1-70-B-002 | SG EXTENDED BLANK RX 0,2m | custom | M12 axial M | 12 | 0,2 | No | 95A252830 |
| CS-R1-75-B-002 | SG EXTENDED MUTING RX 0,2 | custom | 2x M12 axial M | 5 + 12 | 0,2 | No | 95A252810 |
| MUTING SYSTEMS CABLES | | | | | | | |
| CV-L1-02-B-007 | M12 4-pole L Muting cable | M12 axial F | M12 radial F | 4 | 0,7 | No | 95ACC2570 |
| CV-Y1-02-B-007 | M12 4-pole T Muting cable | M12 axial F | 2x M12 radial F | 4 | 0,7 | No | 95ACC2560 |
| CS-M1-02-B-004 | Cable 4 poles, unshielded, black, M8 F straight, M12 M straight, 400mm | M8 axial F | M12 axial M | 4 | 0,4 | No | 95ASE2470 |
| CS-M1-02-B-007 | Cable 4 poles, unshielded, black, M8 F straight, M12 M straight, 700mm | M8 axial F | M12 axial M | 4 | 0,7 | No | 95ASE2480 |
| CS-M1-02-B-02 | Cable 4 poles, unshielded, black, M8 F straight, M12 M straight, 2000mm | M8 axial F | M12 axial M | 4 | 2 | No | 95ASE2490 |

APPENDIX

APPENDIX

Safety standards reference list

1. GENERAL PRINCIPLES

EN ISO 12100: 2010 Safety of machinery – General principles for design – Risk assessment and risk reduction.

2. SAFETY SYSTEMS DESIGN AND VALIDATION

EN ISO 13849-1: 2008 Safety of machinery - Safety-related parts of control systems. Part 1: General principles for design

EN ISO 13849-2: 2012 Safety of machinery - Safety-related parts of control systems. Part 2: Validation.

EN 62061/AC 2010 Safety of machinery. Functional safety of safety-related electrical/electronic/programmable electronic control systems.

3. ELECTROSENSITIVE PROTECTIVE EQUIPMENT

EN 61496-1/AC: 2010 Safety of machinery: electrosensitive protective equipment.
Part 1: General prescriptions and tests.

IEC 61496-2: 2006 Safety of machinery: electrosensitive protective equipment -
Part 2: Particular requirements for equipment using active optoelectronic protective devices.

IEC 61496-3:2008 Safety of machinery: electrosensitive protective equipment -
Part 3: Particular requirements for Active Optoelectronic Protective Devices responsive to Diffuse Reflection (AOPDDR).

4. SAFETY DISTANCES

EN ISO 13855: 2010 Safety of machinery – Positioning of safeguards with respect to the approach speeds of parts of the human body.

Definitions

1. AOPD: ACTIVE OPTOELECTRONIC PROTECTIVE DEVICE

Device whose sensing function is performed by opto-electronic emitting and receiving elements detecting the interruption of optical radiations generated, within the device, by an opaque object present in the specified detection zone (or for a light beam device, on the axis of the light beam).

2. AOPDR: ACTIVE OPTO-ELECTRONIC PROTECTIVE DEVICE RESPONSIVE TO DIFFUSE REFLECTION

A device, whose sensing function is performed by optoelectronic emitting and receiving elements. These detect the diffuse reflection of optical radiations generated within the device by an object located in a detection zone (specified in two dimensions).

3. EAA: EFFECTIVE APERTURE ANGLE

Maximum angle of deviation from the optical alignment of the emitting element(s) and the receiving element(s) within which the AOPD continues in normal operation.

4. EDM: EXTERNAL DEVICE MONITORING

Means by which the electro-sensitive protective equipment (ESPE) monitors the state of control devices which are external to the ESPE.

5. ESPE: ELECTRO-SENSITIVE PROTECTIVE EQUIPMENT

Assembly of devices and/or components working together for protective tripping or presence sensing purposes and comprising as a minimum

- a sensing device;
- controlling/monitoring devices;
- output signal switching devices and/or a safety-related data interface.

6. LIGHT CURTAIN

AOPD comprising an integrated assembly of one or more emitting element(s) and one or more receiving element(s) forming a detection zone with a detection capability specified by the supplier. A light curtain with a large detection capability is sometimes referred to as a light grid.

7. OSSD: OUTPUT SIGNAL SWITCHING DEVICE

Component of the electro-sensitive protective equipment (ESPE) connected to the machine control system which, when the sensing device is actuated during normal operation, responds by going to the OFF-state.

8. PL: PERFORMANCE LEVEL

Discrete level used to specify the ability of safety-related parts of control systems to perform a safety function under foreseeable conditions.

9. RESPONSE TIME

Discrete level used to specify the ability of safety-related parts of control systems to perform a safety function under foreseeable conditions.

Safety distance calculation



- Properly install the light curtains in accordance with the user manual and applicable local safety regulations (OSHA, ANSI, European standards as EN ISO 13855 “Safety of Machinery - Positioning of safeguards with respect to the approach speeds of parts of the human body”).
- Consult DLIA Technical support before installing light curtains if you have questions, need information or assistance about the products.

Failure to comply with these instructions could result serious injury

The positioning of light curtains and light grids must comply with the international standard EN ISO13855, that provides a methodology to determine the minimum distance to a hazard zone from the detection zone, based on values for approach speeds of parts of the human body.

If a type-C standard exists for the machine, the distance specified should be used. If there is no type-C standard, the equations in EN ISO 13855 can be used to calculate it.

The factors to be taken in account are:

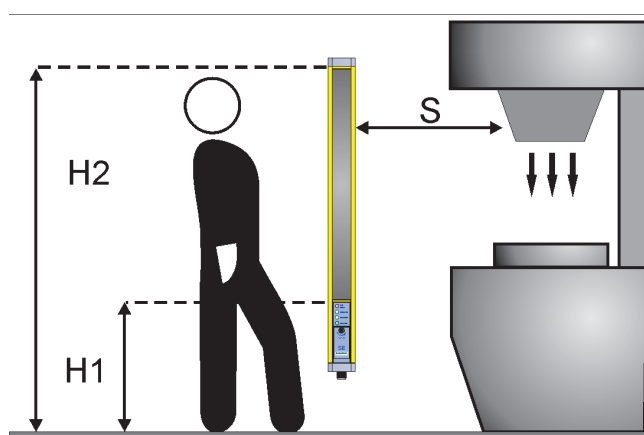
| | |
|----|--------------------------------------------------------------------------|
| T1 | Response time of the light curtain |
| T2 | Machine stopping time |
| d | Resolution of the light curtain |
| K | Speed of the body or parts of the body (parameter given by the standard) |

1. Vertical installation

1.1 EQUATION FOR THE CALCULATION OF THE MINIMUM DISTANCE

The detection zone is horthogonal to the direction of approach to the hazard zone

Fig. 3 – Minimum installation distance (vertical)



For light curtains with detection capability $d \leq 40$ mm, the equation used to calculate the minimum distance S from a vertical detection zone horthogonal to the direction of approach to the hazard zone is:

$$S = K (T1 + T2) + C$$

Where C is an additional intrusion distance:

$C = 8 (d - 14)$ mm if resolution ≤ 40 mm
 $C = 850$ mm if resolution > 40 mm

The equation must be first calculated using $K = 2000$ mm/s.
If the result $S > 500$ mm, it can be recalculated with $K = 1600$ mm/s.

The result S must in any case be:

$S \geq 100$ mm if $K = 2000$ mm/s is used;
 $S \geq 500$ mm if $K = 1600$ mm/s is used

For light curtains with detection capability $d > 40$ mm and multiple separate beams (body detection) the following values can be used:

$C = 850$ mm
 $K = 1600$ mm/s

1.2 POSITIONS OF THE BEAMS ABOVE REFERENCE PLANE

When the safeguard is used only for the detection of whole body access:
a) the height of the lowest beam shall be ≤ 300 mm to prevent access under the detection zone
b) the height of the uppermost beam shall be ≥ 900 mm to prevent stepping over the detection zone.

EN13855 states that the heights for 2, 3 and 4 beams given in the following table have been found to be the best compromise between an adequate risk reduction and the most practical in application.
Further protective measures to prevent access to the hazard zone can be required. For the lowest beam 400 mm can only be used when the risk assessment allows it.

| NUMBERS OF BEAMS | HEIGHTS ABOVE REFERENCE PLANE (MM) |
|------------------|------------------------------------|
| 4 | 300, 600, 900, 1200 |
| 3 | 300, 700, 1100 |
| 2 | 400, 900 |

1.3 CIRCUMVENTING OF ESPE BY REACHING OVER THE DETECTION ZONE

If access to the hazard zone by reaching over the detection zone of vertically mounted electro-sensitive protective equipment cannot be excluded, an additional distance must be applied, depending on the height of the hazard zone and the height of upper edge of the ESPE detection zone. For reference, apply EN ISO 13855 Par. 6.5.

2. Horizontal installation

2.1 EQUATION FOR THE CALCULATION OF THE MINIMUM DISTANCE

The detection zone is parallel to the direction of approach to the hazard zone

If the safety light curtain must be mounted in a horizontal position (Fig. 4), the distance between the dangerous area and the most distant optical beam must be equal to the value calculated using the following equation:

$$S = 1600 \text{ mm/s } (T1 + T2) + (1200 \text{ mm} - 0.4 H)$$

where:

T1 = Response time of the ESPE in seconds

T2 = Machine stopping time in seconds.

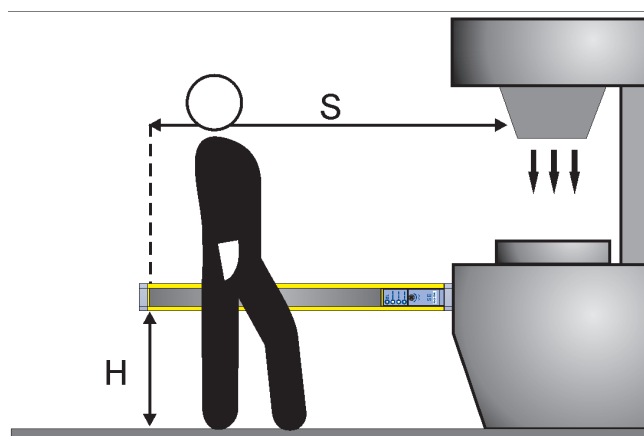
H = Beam height from ground

H shall not be greater than 1000 mm, and however for values greater than 300 mm the risk of an undetected access beneath the detection zone shall be taken in account during the risk assessment.

Furthermore, the lowest allowable height of the detection zone must satisfy this equation:

$$H_{\min} = 15 (d - 50)$$

Fig. 4 – Minimum installation distance (horizontal)



| | |
|------------------------------------------------------------|----------------|
| AOPD: Active Optoelectronic Protective Device | 123 |
| Automatic restart | 10 |
| Blanking | 13 |
| CAB-ETH-Mxx | 118 |
| Cascading | 9 |
| CS -A1-10-U-xx | 53,59,119 |
| CS-A1-02-U-xx | 23,27,119 |
| CS-A1-03-U-xx | 59,119 |
| CS-A1-06-U-xx | 23,53,119 |
| CS-A1-10-U-xx | TBD |
| CS-A1-15-U-xx | TBD |
| CS-F1-80-B-xxxx | 59,119 |
| CS-G1-50-B-002 | 56,59,119 |
| CS-G1-xx-B-002 | 59 |
| CS-H1-03-B-xxx | 33,119 |
| CS-M1-02-B-xxx | 104,107,119 |
| CS-ME | 32,110,111 |
| CS-R1-75-B-002 | 59,119 |
| CV-A1-22-B-xx | 38,119 |
| CV-A1-26-B-xx | 38,119 |
| CV-L1-02-B-007 | 99,101,119 |
| CV-Y1-02-B-007 | 99,100,101,119 |
| DataVS-MK-01 | 69 |
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| EAA: Effective Aperture Angle | 7,123 |
| EDM | 10 |
| ESPE: Electro-sensitive protective equipment | 123 |
| External device monitoring | 10 |
| GUI (Graphical User Interface) | 13 |
| LASER SENTINE | 72 |
| LMS | 108 |
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| Muting | 11 |
| openSAFETY | 60 |
| OSSD: Output Signal Switching Device | 123 |
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| R6 | 103 |
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| S5 | 66 |
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| SG BODY BIG BASE | 40 |
| SG BODY BIG MUTING | 40 |
| SG BODY COMPACT BASE | 32 |
| SG BODY COMPACT MUTING | 32 |
| SG BODY REFLECTOR BASE | 46 |
| SG BODY REFLECTOR MUTING | 46 |
| SG2 BASE | 18 |
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| SG2 MUTING | 54 |
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| SG2-xx-xxx-00-E-C (SG2 EXTENDED) | 19 |
| SG2-xx-xxx-00-X (SG2 BASE) | 19 |
| SG4 BASE | 18 |
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| SG4 LONG RANGE BASE | 40 |
| SG4-40-xxx-00-E (SG4 LONG RANGE BASE) | 41 |
| SG4-DONGLE | 117 |
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| SG4-H14-xxx-X-x (SG4-H) | 25 |
| SG4-RBxL/T-xxx-00-W (SG BODY REFLECTOR MUTING active side) | 47 |
| SG4-RBx-xxx-00-E (SG BODY REFLECTOR BASE active side) | 47 |

| | |
|---------------------------------------------------------|-------------|
| SG4-RBx-xxx-00-W (SG BODY REFLECTOR MUTING active side) | 47 |
| SG4-RDBx (SG BODY REFLECTOR BASE passive side) | 47 |
| SG4-RDBx (SG BODY REFLECTOR MUTING passive side) | 47 |
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| SG4-xx-xxx-00-P (SG4 EXTENDED) | 55 |
| SG4-xx-xxx-0P-A (SG4 FIELDBUS ADVANCED) | 64 |
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| SG-AS-ARM | 98, 99, 101 |
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| SG-M-ARM | 107 |
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| SG-Mx-S100 -200-x (SG-M) | 104 |
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| SG-Mx-S8 -200-x (SG-M) | 104 |
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| SG-P | 91 |
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| SG-PSB | 95 |
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| SG-SRT1 | 110 |
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| SGx-Bx-xxx-00-E (SG BODY BIG BASE) | 41 |
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| SGx-S/L/Tx-xxx-PP-W (SG BODY COMPACT MUTING) | 35 |
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| SLIM | 28 |
| SLS-BRACKET-x | 76 |
| SLS-CLEANER | 76 |
| SLS-CLOTH | 76 |
| SLS-Mx-(E-)xxxx-E | TBD |
| SLS-Rx-E | TBD |
| SLS-Sax | TBD |
| SLx-xxxx-00-E (SLIM) | 29 |
| SP-40 | 69 |
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| ST-DM | 94 |
| ST-K4REAR-SG BODY BIG | 85 |
| ST-K4ROT | 87 |
| ST-K4ROT-OP | 88 |
| ST-K4ROT-SG BODY BIG | 86 |
| ST-K4ROT-SG BODY COMPACT | 87 |
| ST-KCASCAD- SG EXTENDED | 85 |
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| ST-PS-DM | 96 |
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| SU-LMS-1A | 108 |
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| Type | 7 |



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