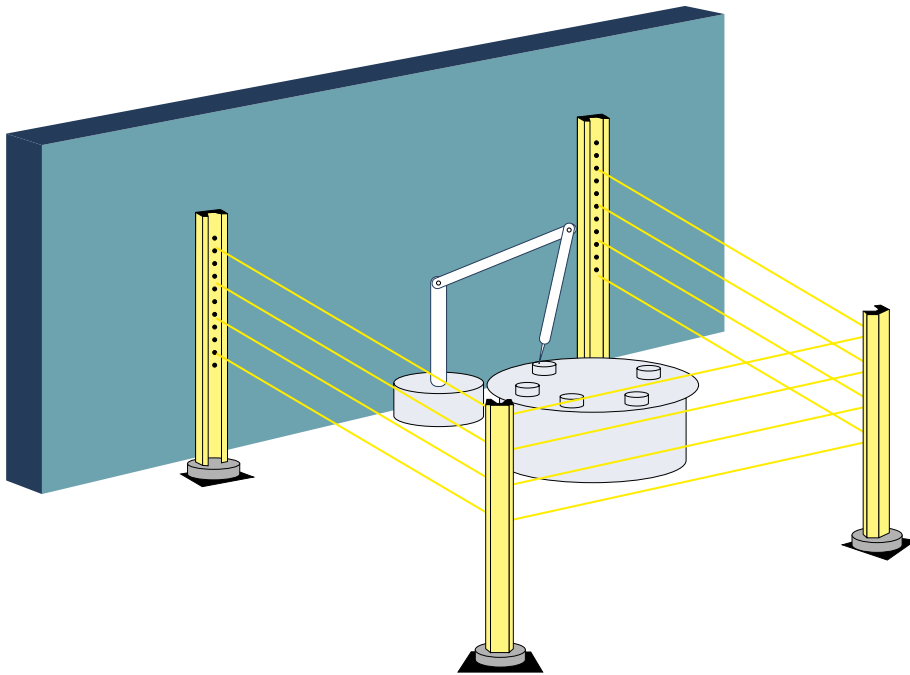


MIRRORS AND STANDS



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 |

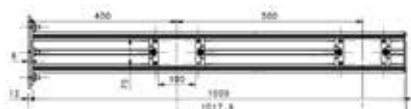
Stands with adjustable mirrors (DG-PSM)

Stands with adjustable pre-mounted mirrors, to protect them from accidental collisions.

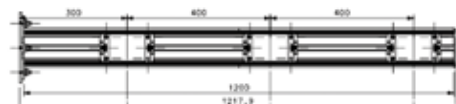
An industrial steel base made with 2 plates, dowels and spheric level for adjustment of the vertical axis, slots for angular adjustment. The effect of collisions, vibrations and uneven floor surfaces can be compensated by using SG-P plate kit (to be ordered separately).

| 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 |

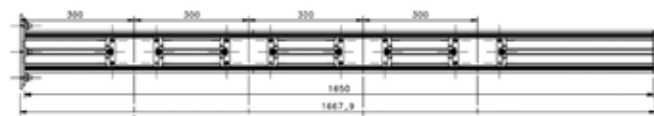
SG-PSM-2-500



SG-PSM-3-800



SG-PSM-4-900



SG-PSM-4-1200

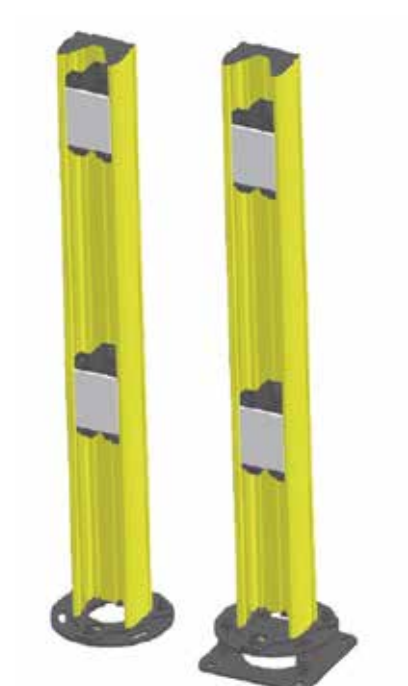
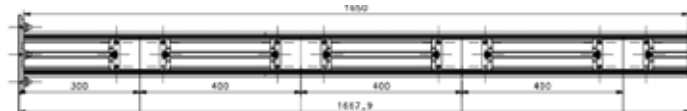
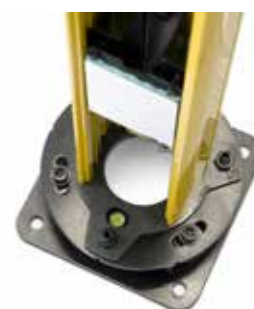
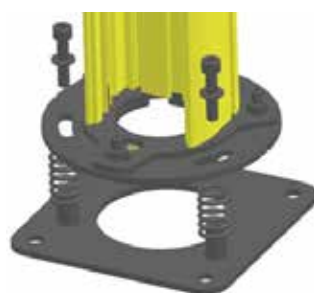


PLATE KIT SGP *

| MODEL | DESCRIPTION | ORDER NUMBER |
|---------------|---|--------------|
| SG-P | Plate kit for protective stands | 9485342 |
| COMPATIBILITY | | |
| SG-PSM-4-900 | protection stands SG-PSB mirror stands SG-PSM | 95ASE2320 |
| SG-PSM-4-1200 | Protective stand with 4 mirrors H=1200 mm | 95ASE2330 |

* 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



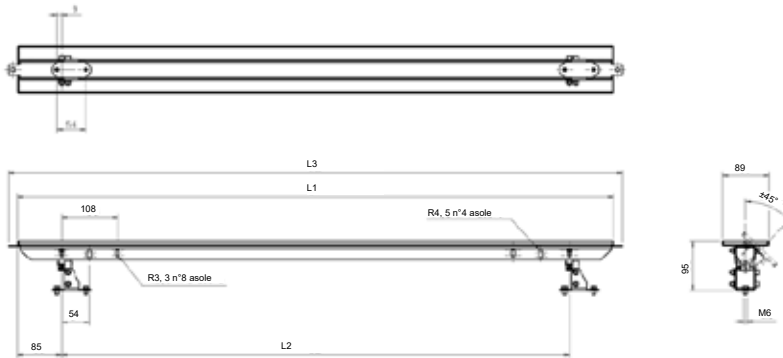
Mirrors

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.

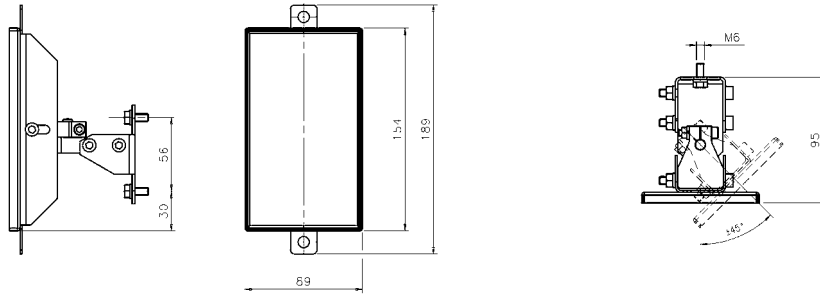
| | L1 (mm) | L2 (mm) | L3 (mm) |
|-------------|---------|---------|---------|
| SG -DM 600 | 545 | 376 | 580 |
| SG -DM 900 | 845 | 676 | 880 |
| SG -DM 1200 | 1145 | 976 | 1180 |
| SG -DM 1650 | 1595 | 1426 | 1630 |
| SG -DM 1900 | 1845 | 1676 | 1880 |

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

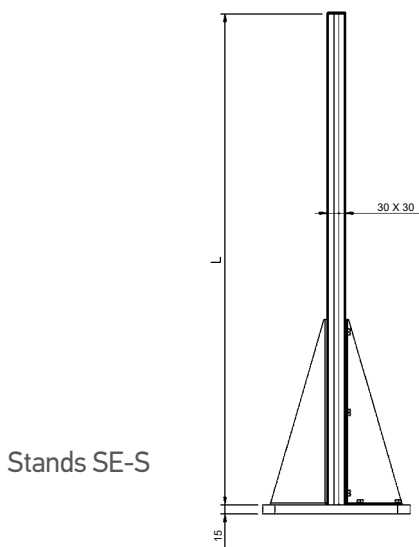
All SG Series Light Curtains SG-DM Mirrors

FLOOR COLUMNS (SE-S) AND ACCESSORIES

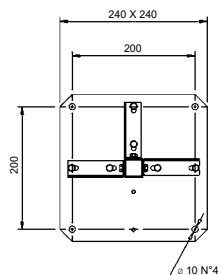
| MODEL | DESCRIPTION | ORDER NUMBER |
|-----------|------------------------------------|--------------|
| SE-S 800 | Column and floor stand H = 800 mm | 95ACC1730 |
| SE-S 1000 | Column and floor stand H = 1000 mm | 95ACC1740 |
| SE-S 1200 | Column and floor stand H = 1200 mm | 95ACC1750 |
| SE-S 1500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

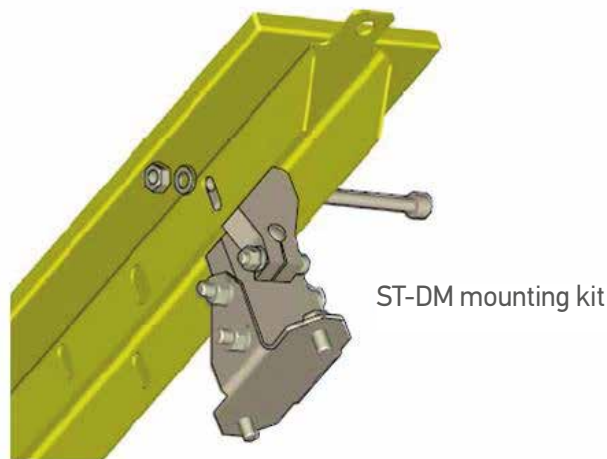
Mounting kits for mirrors

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.

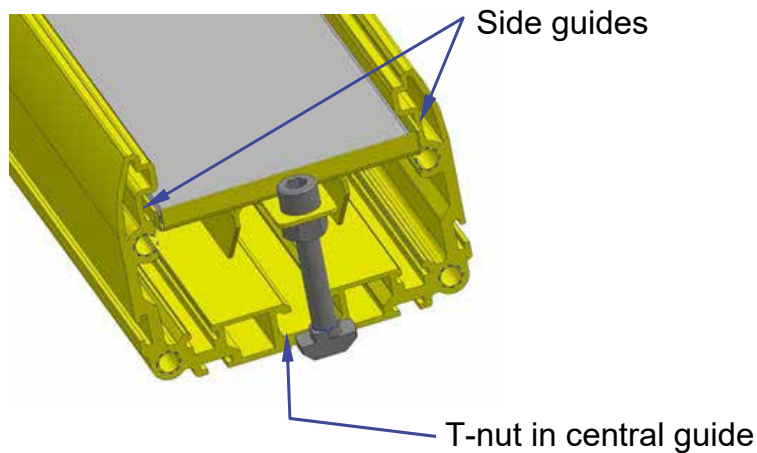


MOUNTING KIT FOR SG-DM MIRRORS AND SG-PSB PROTECTIVE STANDS

| 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)

Rev. 05, 05/2016