

SG BODY COMPACT SERIES

SG BODY COMPACT is the new family of Datalogic Automation Type 2 and Type 4 safety light curtains for body protection and access control able to rapidly and effectively solve all the industrial safety applications mainly in automotive field, packaging and material handling.

SG BODY COMPACT perfectly combines vanguard technology, extremely high performances and Datalogic distinctive **SAFEasy™** concept.

2, 3 and 4 beams models with controlled height of 500, 800, 900 and 1200mm all reaching 50m operating distance are available.

All SG BODY "COMPACT" models are then provided in 2 different versions:

- **BASE** version represents the ideal product for all applications where Muting function is not required but EDM and MANUAL/AUTOMATIC restart functions are basic requirements for very standard applications;
- **MUTING** version series satisfy all applications that require the Muting function, thanks to the use of preassembled, pre-cabled and pre-aligned Muting sensors. Polarized retroreflex or through beam models with 'T' integrated Muting sensors for two-way Muting, 'L' integrated Muting sensors for one-way and linear versions without integrated Muting sensors.



HIGHLIGHTS

- Up to 50mt operating distance
- 2,3,4 beams 500, 800, 900 and 1200mm controlled height
- Two versions : BASE and MUTING
- No programming required : integrated safety functions WIRE or DIP SWITCH selectable
- Integrated Muting with all advanced features associated to like 'L' or 'T' configurations, EDM, Manual/ Automatic RESTART selectable
- Integrated LED MUTING lamp;
- Same profile of SE series;
- Compatible with SE series;
- TOP-BOTTOM Rotating brackets for easier alignment
- Type 2 models SIL 2 and PL d and Type 4 models SIL 3 PL e

APPLICATIONS

Extreme reliability and simplicity make the SG BODY COMPACT safety light curtains the ideal solution for the following applications:

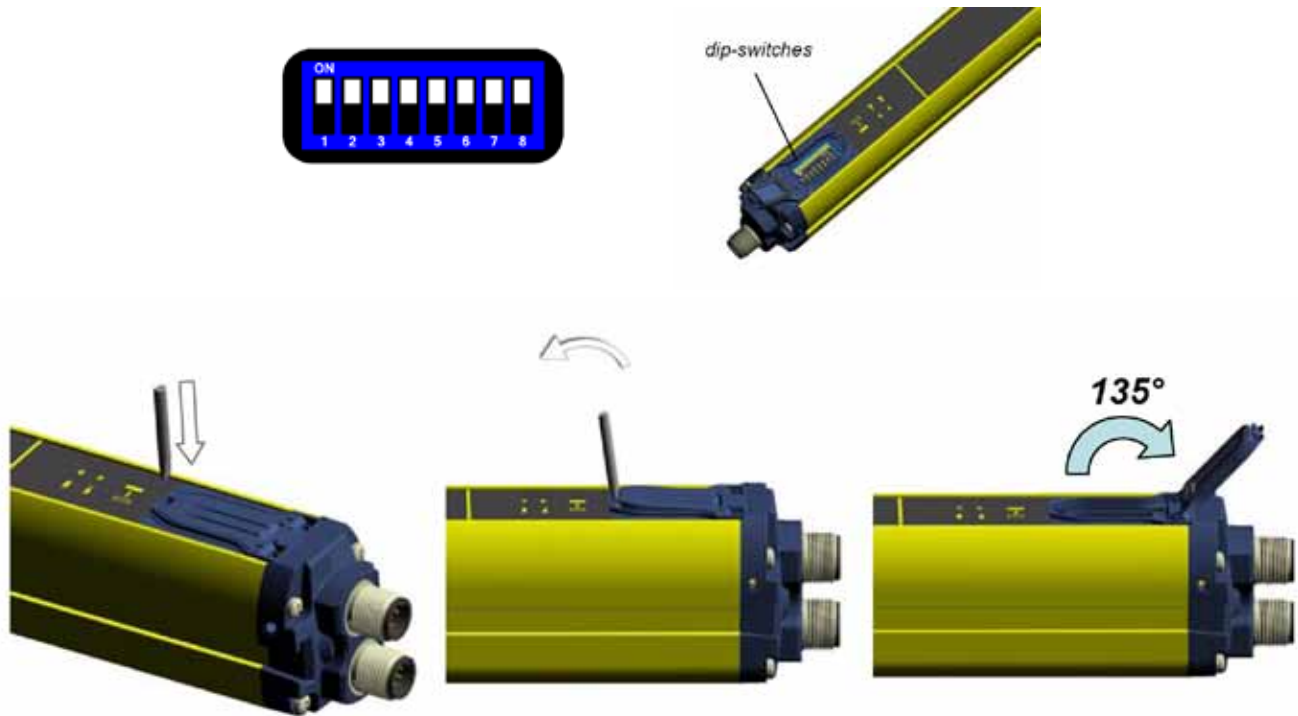
- Automatic machines
- Robots
- Automatic assembling lines
- Palletizers and Depalletizers



SAFETY

SETTINGS

A slot located in the front side of the RX unit, that can be easily opened using a screwdriver, simplifies the access to the internal dip-switches used for enabling/configuring integrated functions

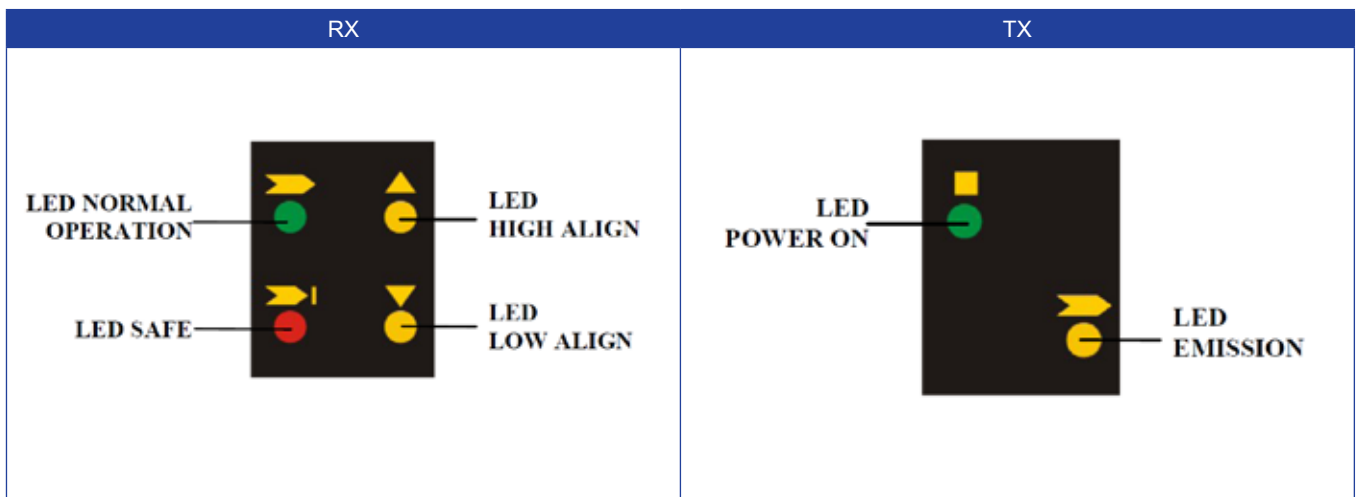


BASE VERSION			
Switch	Function	ON	OFF
1,5	-	-	-
2,6	-	-	-
3,7	EDM	Deactivated	Activated
4,8	Restart	Automatic	Manual

MUTING VERSION			
Switch	Function	ON	OFF
1,5	Muting time-out	10 min.	∞
2,6	Muting	T config. (4 beams)	L config. (2 beams)
3,7	EDM	Deactivated	Activated
4,8	Restart	Automatic	Manual

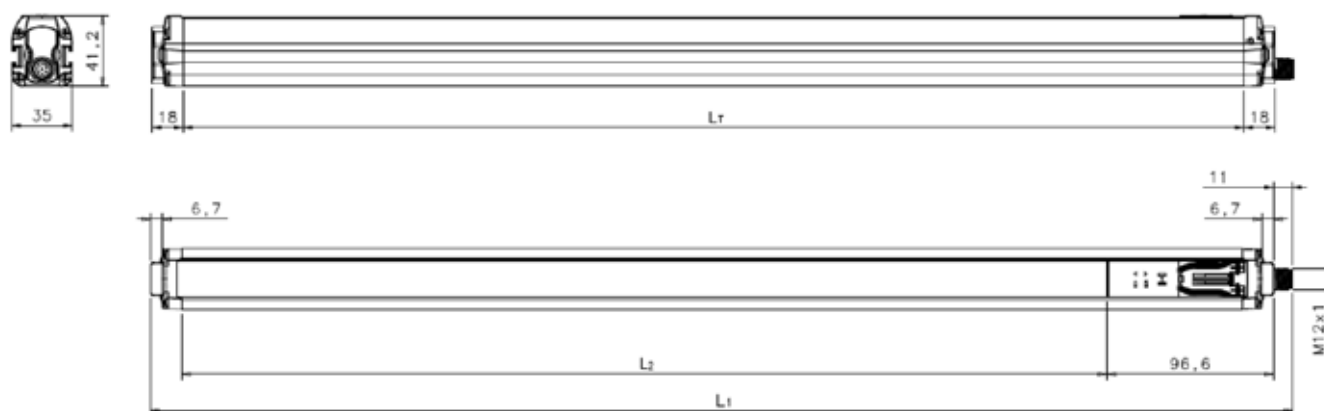
INDICATORS

The operator can check the operating condition of the light curtains through four LEDs positioned on the receiving unit and two LEDs on the emitting unit.



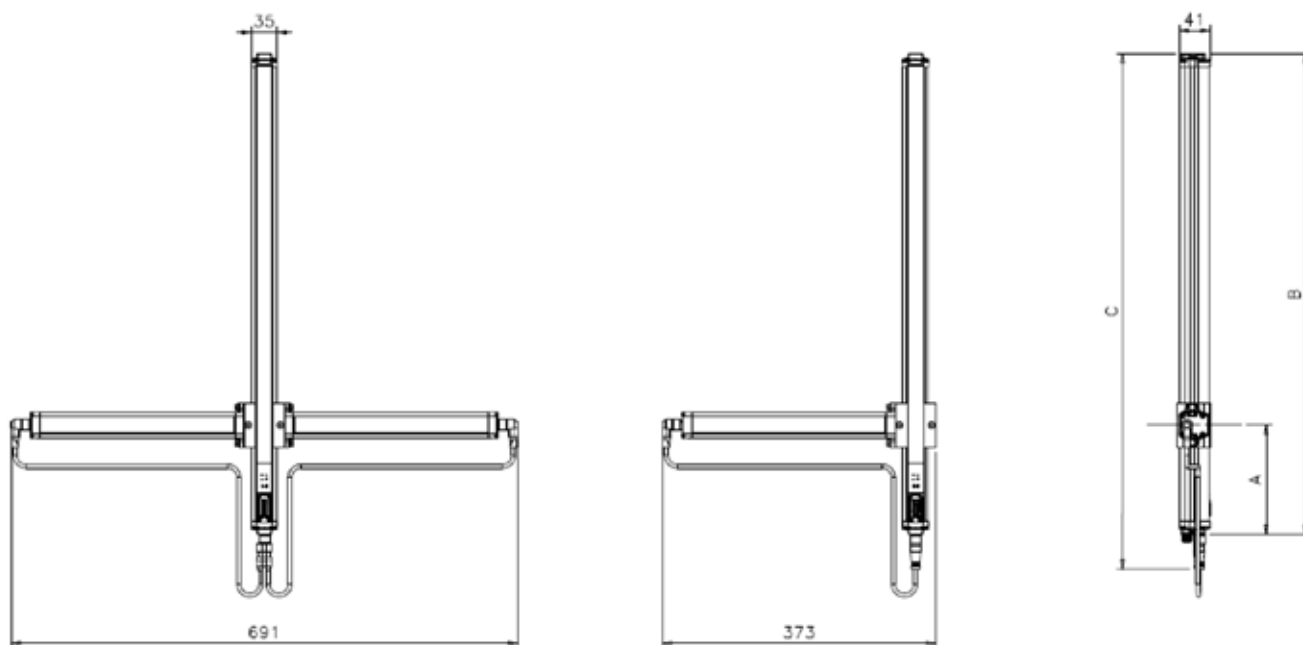
DIMENSIONS

BASE VERSION



Model	L1	L2	L3
2 BEAMS 500mm	664	617	538.4
3 BEAMS 800mm	964	917	838.4
4 BEAMS 900mm	1064	1017	938.4
4 BEAMS 1200mm	1364	1317	1238.4

MUTING VERSION



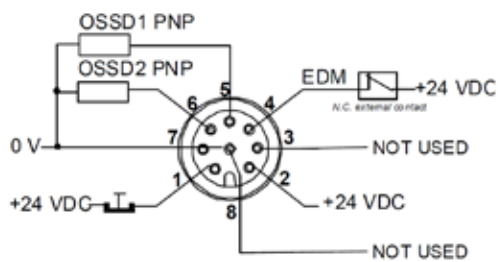
Model	A [mm]	B [mm]	C [mm]
2 BEAMS 500mm	120-260	653	700
3 BEAMS 800mm	120-260	953	1000
4 BEAMS 900mm	120-260	1053	1100
4 BEAMS 1200mm	120-260	1353	1400

CONNECTIONS

BASE VERSION CONNECTIONS



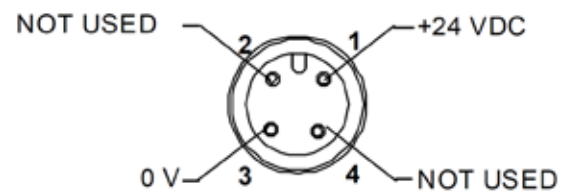
RX



M12 8-pole connector

1	= white	= TEST/START
2	= brown	= 24 Vdc
3	= green	= NOT USED
4	= yellow	= EDM
5	= grey	= OSSD1
6	= pink	= OSSD2
7	= blue	= 0V
8	= red	= NOT USED

TX

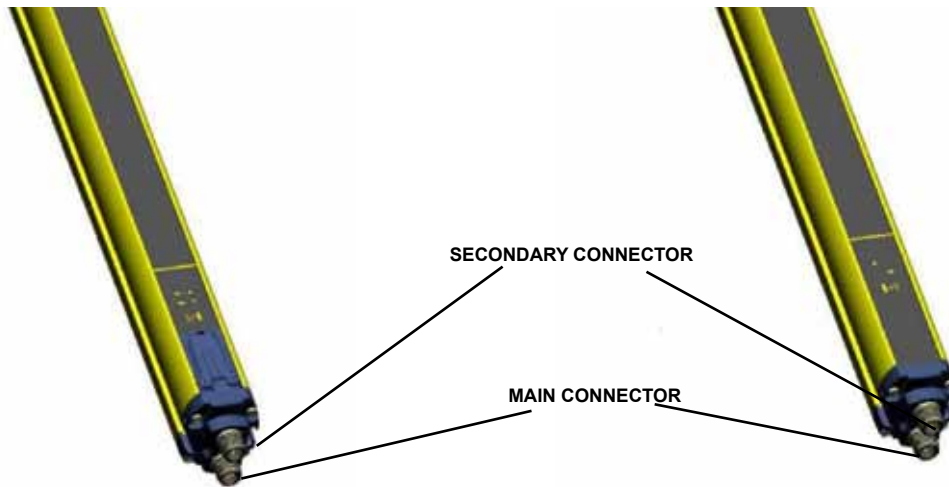


M12 4-pole connector

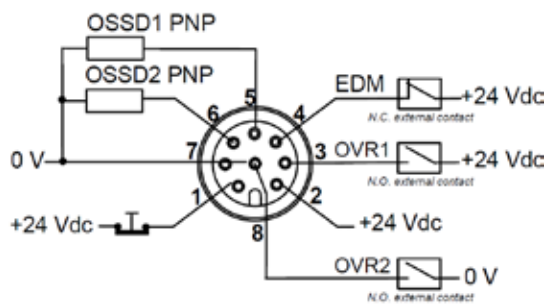
1	= Brown	= 24Vdc
2	= White	= NOT USED
3	= Blue	= 0V
4	= Black	= NOT USED

CONNECTIONS

MUTING VERSION CONNECTIONS



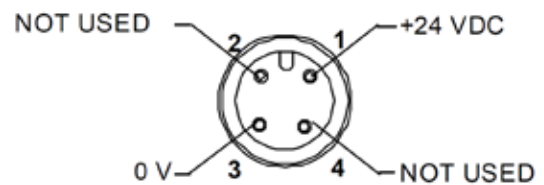
RX



Main connector: M12 8-pole connector

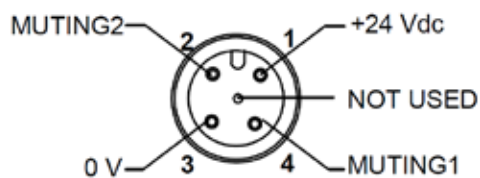
- | | | |
|---|----------|--------------|
| 1 | = white | = TEST/START |
| 2 | = brown | = 24 VDC |
| 3 | = green | = OVERRIDE 1 |
| 4 | = yellow | = EDM |
| 5 | = grey | = OSSD1 |
| 6 | = pink | = OSSD2 |
| 7 | = blue | = 0V |
| 8 | = red | = OVERRIDE 2 |

TX



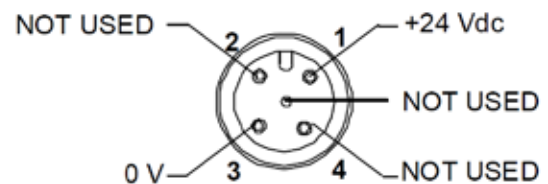
Main connector: M12 4-pole connector

- | | | |
|---|---------|------------|
| 1 | = brown | = 24 VDC |
| 2 | = white | = NOT USED |
| 3 | = blue | = 0 V |
| 4 | = black | = NOT USED |



Secondary connector: M12 5-pole connector

- | | | |
|---|---------|------------|
| 1 | = brown | = 24 VDC |
| 2 | = white | = MUTING2 |
| 3 | = blue | = 0V |
| 4 | = black | = MUTING1 |
| 5 | = grey | = NOT USED |



Secondary connector: M12 5-pole connector

- | | | |
|---|---------|------------|
| 1 | = brown | = 24 VDC |
| 2 | = white | = NOT USED |
| 3 | = blue | = 0 V |
| 4 | = black | = NOT USED |
| 5 | = grey | = NOT USED |

TECHNICAL DATA

	BASE VERSION	MUTING VERSION
Power supply = Vdd:	24 Vdc ± 20% (SELV/PELV)	24 Vdc ± 20% (SELV/PELV)
Internal capacitance:	23 nF (Tx) /120 nF (Rx)	23 nF (Tx) /120 nF (Rx)
Outputs:	2 PNP outputs (2 NPN on request) short-circuit protection max: 1.4A at 55°C min: 1.1A at -10°C	2 PNP outputs (2 NPN on request) short-circuit protection max: 1.4A at 55°C min: 1.1A at -10°C
Output current:	0.5 A max / each output	0.5 A max / each output
Output voltage - ON min:	Vdd -1 V	Vdd -1 V
Output voltage - OFF max:	0.2 V	0.2 V
Leakage current:	< 1mA	< 1mA
Capacitive load (pure):	65 nF max at 25°C	65 nF max at 25°C
Response time:	From 14 to 16 ms	From 14 to 16 ms
Emission type:	Infrared (880 nm)	Infrared (880 nm)
Resolution:	315 mm (4 beams)	315 mm (4 beams)
	415 mm (3 and 4 beams)	415 mm (3 and 4 beams)
	515 mm (2 beams)	515 mm (2 beams)
Operating distance:	0.5...50 m	0.5...3 m (SG2-T/L and SG4-T/L); 0.5...50 m (SG2-S and SG4-S)
Ambient light rejection	IEC 61496-2	IEC 61496-2
Safety category:	Type 4 / Type 2 (ref. EN 61496-1)	Type 4 / Type 2 (ref. EN 61496-1)
Auxiliary functions:	Restart/EDM/Reset	Muting / Override
		Restart/EDM/Reset
Time-out period:		Muting: 10 minutes / ∞ Override: 2 minutes
Operating temperature:	- 10...+ 55 °C	- 10...+ 55 °C
Storage temperature:	- 25...+ 70 °C	- 25...+ 70 °C
Temperature class:	T6 (Tx/Rx/Arm)	T6 (Tx/Rx/Arm)
Humidity:	15...95 % (no condensation)	15...95 % (no condensation)
Electrical protection:	Class 1 (**refer to note)	Class 1 (**refer to note)
Mechanical protection:	IP 65 (EN 60529)	IP 65 (EN 60529)
Ambient light rejection:	IEC-61496-2	IEC-61496-2
Vibrations:	0.35 mm width, 10 ... 55 Hz frequency, 20 sweep for each axis, 1octave/min (EN 60068-2-6)	0.35 mm width, 10 ... 55 Hz frequency, 20 sweep for each axis, 1octave/min (EN 60068-2-6)
Shock resistance:	16 ms (10 G) 1.000 shock for each axis (EN 60068-2-29)	16 ms (10 G) 1.000 shock for each axis (EN 60068-2-29)
Housing material:	Painted aluminium (yellow RAL 1003)	Painted aluminium (yellow RAL 1003)
Cap material:	PC Lexan 943A	PC Lexan 943A
Lens material:	PMMA	PMMA
Connections:	Tx: conn. M12-4 poles	Tx: conn. M12-4 poles + conn. M12-5 poles
	Rx: conn. M12-8 poles	Rx: conn. M12-8 poles + conn. M12-5 poles
Cable length:	50 m. max (* refer to note) (with 50nF capacitive load and Vdc=24V)	

* if a longer cable has to be used, please verify that the same specifications are respected

** Electrical protection

	Class 1	Class 3
Protective grounding	Compulsory	Not accepted
Symbol for connection protective grounding	Compulsory	Not accepted
Protection by means of extra-low voltage with protective separation (SELV and PELV)	Recommended	Compulsory

RELIABILITY DATA

	BASE VERSION	MUTING VERSION
PL (Ref. EN ISO 13849-1)	SG2 : d SG4 : e	SG2 : d SG4 : e
CAT (Ref. EN 954-1)	SG2 : 2 SG4 : 4	SG2 : 2 SG4 : 4
SIL (Ref. EN IEC 61508)	SG2 : 2 SG4 : 3	SG2 : 2 SG4 : 3
SIL CL (Ref. EN IEC 62061)	SG2 : 2 SG4 : 3	SG2 : 2 SG4 : 3
PFHD – Probability of Danger Failure (1/h)	SG2 : 1,00E-08 SG4 : 2,62E-09	SG2 : 1,00E-08 SG4 : 2,62E-09
T1 – Life Time (Years)	SG2 : 20 SG4 : 20	SG2 : 20 SG4 : 20
MTTFD - Mean Time to Danger Failure (Years)	SG2 : 337 SG4 : 384	SG2 : 337 SG4 : 384
DC – Diagnostic Coverage (%)	SG2 : 97% SG4 : 98,9%	SG2 : 97% SG4 : 98,9%
SFF – Safe Failure Fraction (%)	SG2 : 98,14% SG4 : 99,38%	SG2 : 98,14% SG4 : 99,38%
HFT – Hardware Fault Tolerance	SG2 : 0 SG4 : 1	SG2 : 0 SG4 : 1

MODEL SELECTION TABLE

BASE VERSION

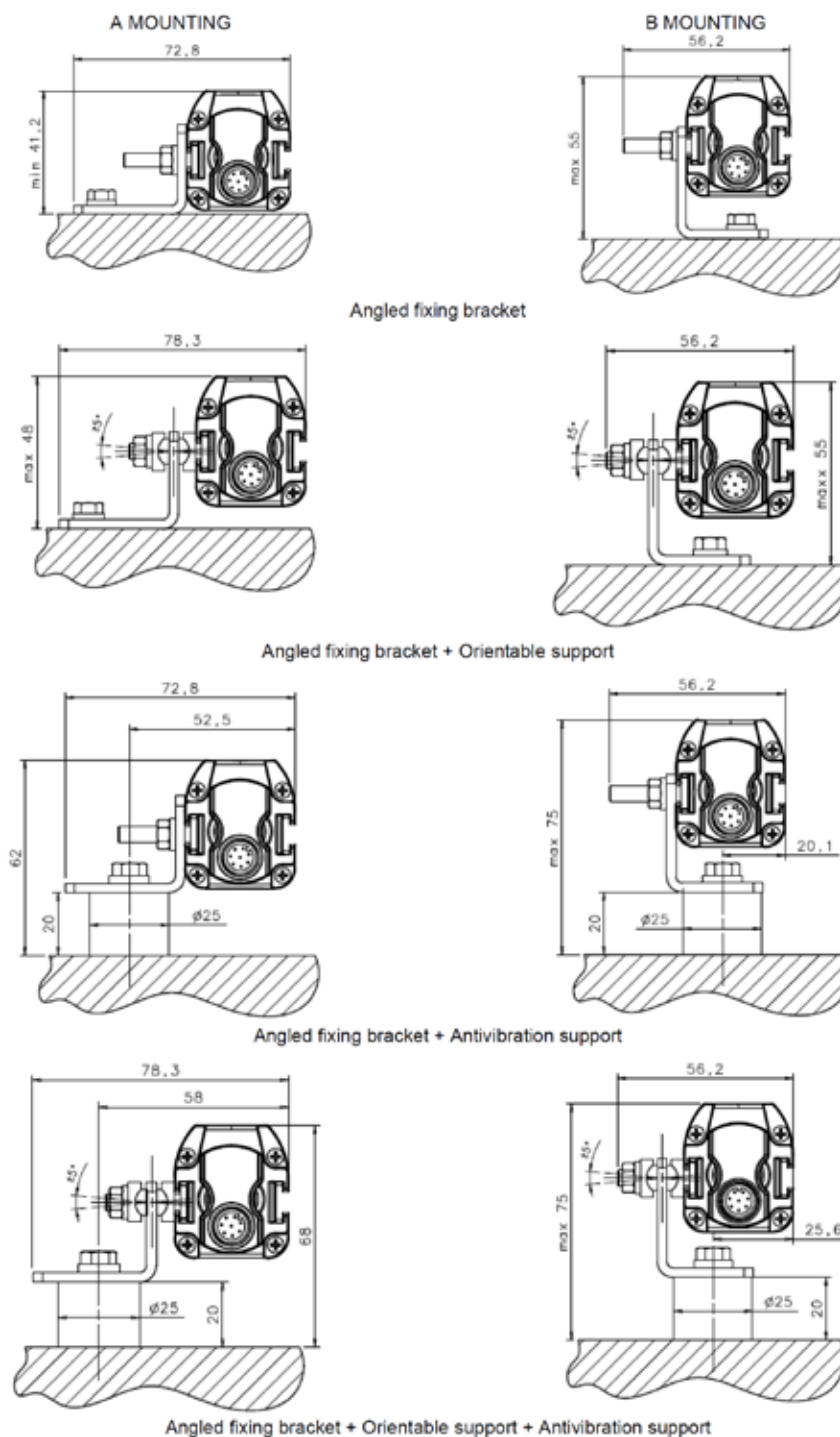
Description	Prot. height [mm]	Beams N.	Resp. time [msec]	Resolution [mm]	Interaxis [mm]	Op. distance [m]	Code
SG2-S2-050-PP-E	515	2	14	515	500	0.5..50	957851000
SG2-S3-080-PP-E	815	3	14	415	380	0.5..50	957851010
SG2-S4-090-PP-E	915	4	16	315	300	0.5..50	957851020
SG2-S4-120-PP-E	1215	4	16	415	400	0.5..50	957851030
SG4-S2-050-PP-E	515	2	14	515	500	0.5..50	957851040
SG4-S3-080-PP-E	815	3	14	415	380	0.5..50	957851050
SG4-S4-090-PP-E	915	4	16	315	300	0.5..50	957851060
SG4-S4-120-PP-E	1215	4	16	415	400	0.5..50	957851070

MUTING VERSION

Description	Prot. height [mm]	Beams N.	Resp. time [msec]	Resolution [mm]	Interaxis [mm]	Op. distance [m]	Code
SG2-S2-050-PP-W	515	2	14	515	500	0.5..50	957851080
SG2-S3-080-PP-W	815	3	14	415	400	0.5..50	957851090
SG2-S4-090-PP-W	915	4	16	315	300	0.5..50	957851100
SG2-S4-120-PP-W	1215	4	16	415	400	0.5..50	957851110
SG2-L2-050-PP-W	515	2	14	515	500	0.5..3	957851120
SG2-L3-080-PP-W	815	3	14	415	400	0.5..3	957851130
SG2-T2-050-PP-W	915	2	14	515	500	0.5..3	957851140
SG2-T3-080-PP-W	1215	3	14	415	400	0.5..3	957851150
SG4-S2-050-PP-W	515	2	14	515	500	0.5..50	957851160
SG4-S3-080-PP-W	815	3	14	415	400	0.5..50	957851170
SG4-S4-090-PP-W	915	4	16	315	300	0.5..50	957851180
SG4-S4-120-PP-W	1215	4	16	415	400	0.5..50	957851190
SG4-L2-050-PP-W	515	2	14	515	500	0.5..3	957851200
SG4-L3-080-PP-W	815	3	14	415	400	0.5..3	957851210
SG4-T2-050-PP-W	515	2	14	515	500	0.5..3	957851220
SG4-T3-080-PP-W	815	3	14	415	400	0.5..3	957851230

ACCESSORY SELECTION AND ORDER INFORMATION

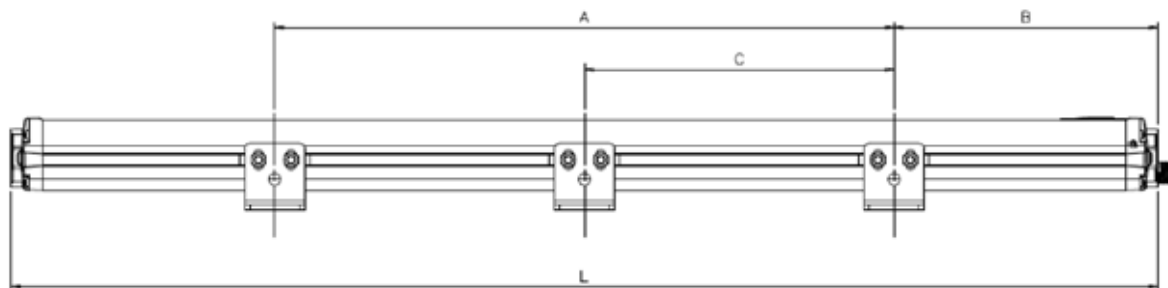
SIDE FIXING BRACKET



MODEL	DESCRIPTION	CODE
ST-KSTD	Fixing brackets for angle mounting (4 pcs kit)	95ACC1670
ST-K4AV	Antivibration support (4 pcs kit)	95ACC1700
ST-K6AV	Antivibration support (6 pcs kit)	95ACC1710
ST-K4OR	Orientable support (4 pcs kit)	95ACC1680
ST-K6OR	Orientable support (6 pcs kit)	95ACC1690

ACCESSORY SELECTION AND ORDER INFORMATION

The recommended mounting positions according to the light curtain length are shown in the subsequent table.

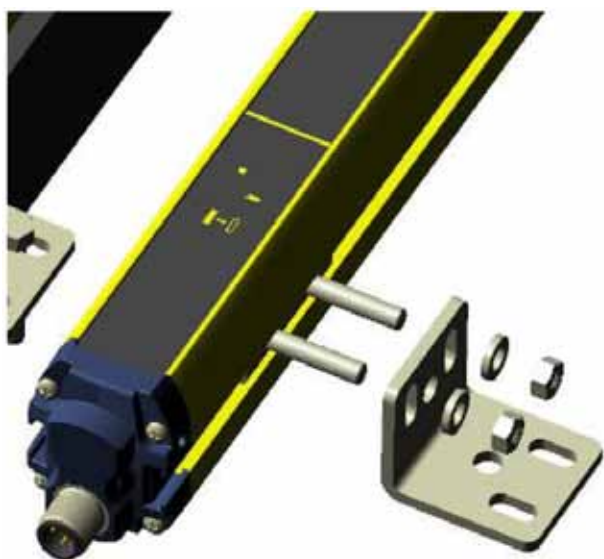


DESCRIPTION	L2[mm]	A [mm]	B [mm]	C [mm]
SGx-S2-050-PP-y	653	342	150	-
SGx-S3-080-PP-y	953	542	200	-
SGx-S4-090-PP-y	1053	602	220	-
SGx-S4-120-PP-y	1353	942	200	472
SGx-L2-050-PP-W	653	342	150	-
SGx-L3-080-PP-W	953	542	200	-
SGx-T2-050-PP-W	653	342	150	-
SGx-T3-080-PP-W	953	542	200	-

x = Type 2 or Type 4 models

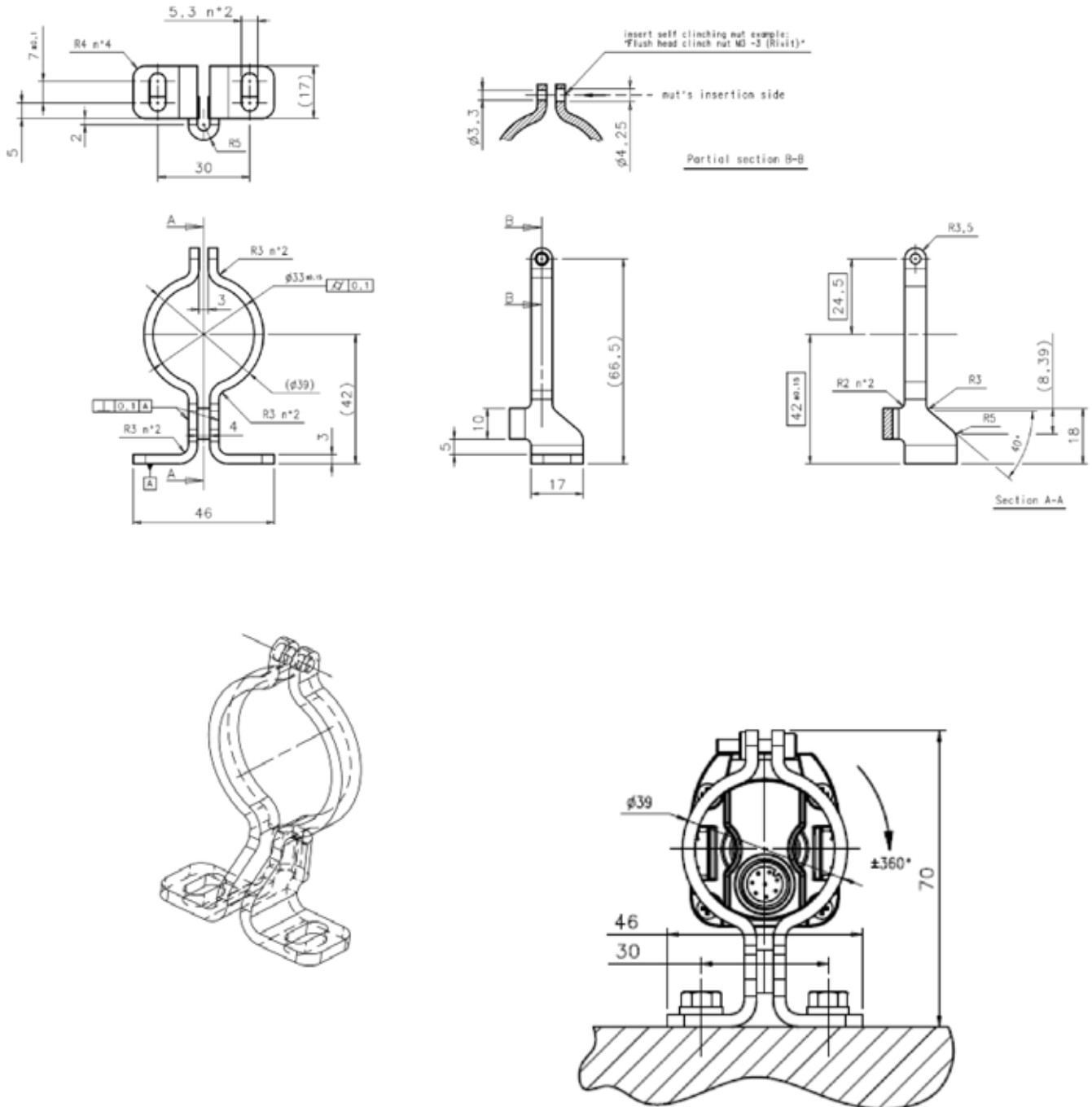
y = E for BASE version W for MUTING version

NOTE: The side fixing brackets are provided into the package as outfit. Models with controlled area less than 1200mm are provided with 4 side fixing brackets; models with 1200mm controlled area are provided with 6 side fixing brackets.



ACCESSORY SELECTION AND ORDER INFORMATION

ROTATIVE FIXING BRACKET

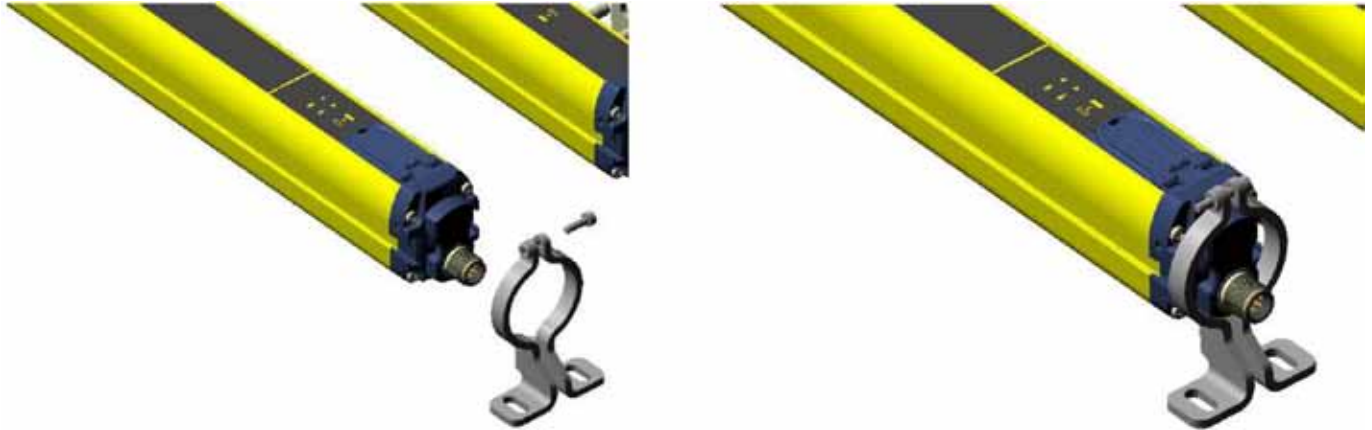


MODEL	DESCRIPTION	CODE
ST-K4ROT-SG BODY COMPACT	Rotative Fixing Bracket (4 pcs kit)	95ASE2040

NOTE: The rotating fixing brackets are not available as outfit

ACCESSORY SELECTION AND ORDER INFORMATION

ROTATIVE FIXING BRACKET MOUNTING

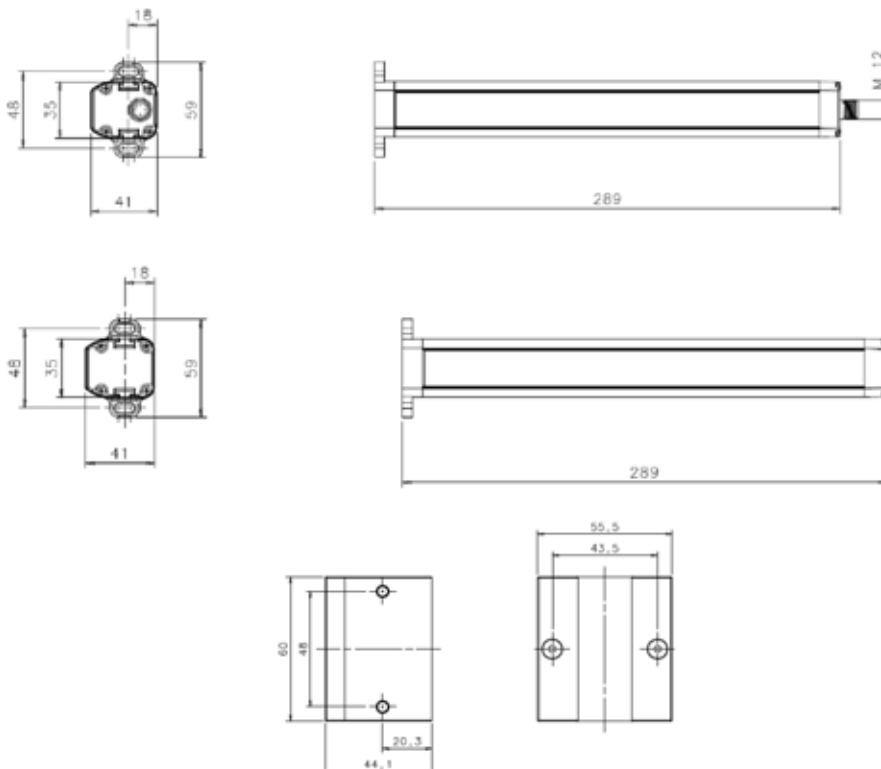


MUTING ARMS

SG BODY COMPACT series light curtains are available in T models for bidirectional Muting and L models for unidirectional Muting with Muting arms provided of retroreflex sensors; also linear models without integrated Muting sensors are available. These models can be converted in T models and L models by means of Muting arms accessories.

Muting arms are available in 2 versions: with retroreflex sensors and with emitter-receiver sensors. SG BODY COMPACT light curtains are designed, on both emitter and receiver, for mounting of both tipology of Muting arms.

The following figures show, respectively, the dimensions of single active arms, of single passive arms, and the corresponding fixing bracket stand alone.



ACCESSORY SELECTION AND ORDER INFORMATION

MODEL	DESCRIPTION	CODE
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
SG-SB	Protective stand base	95ASE1660
SG-PS 600	Protective stand H= 600 mm	95ASE1610
SG-PS 900	Protective stand H= 900 mm	95ASE1620
SG-PS 1200	Protective stand H= 1200 mm	95ASE1630
SG-PS 1650	Protective stand H = 1650 mm	95ASE1640
SG-PS 1900	Protective stand H = 1900 mm	95ASE1650
TP-50	Test piece Ø 50 mm	95ASE1790
TP-90	Test piece Ø 90 mm	95ASE1800
SG-LP	Laser pointer	95ASE5590
CS-A1-03-U-03	5-pole M12 cable (axial) 3 m	95ASE1170
CS-A1-03-U-05	5-pole M12 cable (axial) 5 m	95ASE1180
CS-A1-03-U-10	5-pole M12 cable (axial) 10 m	95ASE1190
CS-A1-03-U-15	5-pole M12 cable (axial) 15 m	95ASE1200
CS-A1-03-U-25	5-pole M12 cable (axial) 25 m	95ASE1210
CS-A1-03-U-50	5-pole M12 cable (axial) 50m	95A252700
CS-A1-06-B-NC	axial M12-8 pole	95ACC2550
CV-A1-22-B-03	axial shielded 4-pin 3 m cable	95ACC1480
CV-A1-22-B-05	axial shielded 4-pin 5 m cable	95ACC1490
CV-A1-22-B-10	axial shielded 4-pin 10 m cable	95ACC1500
CV-A1-22-B-15	axial shielded 4-pin 15 m cable	95ACC2070
CV-A1-22-B-25	axial shielded 4-pin 25 m cable	95ACC2090
CV-A1-26-B-03	axial shielded 8-pin 3 m cable	95ACC1510
CV-A1-26-B-05	axial shielded 8-pin 5 m cable	95ACC1520
CV-A1-26-B-10	axial shielded 8-pin 10 m cable	95ACC1530
CV-A1-26-B-15	axial shielded 8-pin 15 m cable	95ACC2080
CV-A1-26-B-25	axial shielded 8-pin 25 m cable	95ACC2100
CV-A2-22-B-03	radial shielded 4-pin 3 m cable	95ACC1540
CV-A2-22-B-05	radial shielded 4-pin 5 m cable	95ACC1550
CV-A2-22-B-10	radial shielded 4-pin 10 m cable	95ACC1560
SG-AS-ARM ^{note 1}	Active sensor single arm	95ASE1840
SG-PR-ARM ^{note 1}	Passive reflector single arm	95ASE1850
SG-L-ARMS	L COUPLE ARMS	95ASE1860
SG-T-ARMS	T COUPLE ARMS	95ASE1870
SG-F1-G1-ARMS ^{note 2}	F1-G1 muting arm for RX	95ASE1880
SG-F2-G2-ARMS ^{note 2}	F2-G2 muting arm for RX	95ASE1890
SG-CB-C	Muting C bracket compact kit	95ASE1930
CV-Y1-02-B-007	M12 4-pole cable 0.7m for "T" versions with integrated sensors	95ACC2560
CV-L1-02-B-007	M12 4-pole cable 0.7m for "L" versions with integrated sensors	95ACC2570
SE-SR2	TYPE 4 SAFETY RELAY 3NO 1NC	95ACC6170
CS ME-03VU24-Y14	EDM RELAY BOX	95ASE1270

note 1: With RRX Muting arms the overall operating distance is reduced to **3 meters**.

note 2: With F/G Muting arms the overall operating distance is reduced to **7 meters**. F/G Muting arms **can be mounted on TX and RX units by using secondary connectors**.

The company endeavours to continuously improve and renew its products; for this reason the technical data and contents of this catalogue may undergo variations without prior notice. For correct installation and use, the company can guarantee only the data indicated in the instruction manual supplied with the products.