

SB

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Сочи (862)225-72-31
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Череповец (8202)49-02-64
Ярославль (4852)69-52-93

Safety Light Curtains

SB*2-90 Series

CARLO GAVAZZI



- Safety Category 2 according to EN 61496-1 and /-2
- Body resolution
- Self-monitoring
- Failure alarm / diagnosis by LED
- Quick installation and alignment
- Compact profile
- Approvals: TÜV, cULus

Product Description

Safety category 2 light curtains, according to EN 61496-1 /-2. SB*2-90 series is featured by 90 mm resolution for protecting body. Self-monitoring is integrated and controls operating status of safety outputs every 0,5 s. SB*2-90 series can be provided with manual or automatic START

depending on the version and with 2 PNP safety outputs. These safety light curtains can be used together with NL control module series over a large variety of industrial applications and wherever a compact and reliable safety device is required.

Ordering Key

SBA2-90/334-D15

Safety Light Curtains _____
 Start mode _____
 Safety Category _____
 Resolution _____
 Protected height _____
 Operating distance _____

Type Selection

Protected height	Response time (ms)	Number of beams	Overall height h (mm)	Ordering no. Automatic START	Ordering no. Manual START
334	15	5	374	SBA2-90/334-D15	SBM2-90/334-D15
481	16	7	521	SBA2-90/481-D15	SBM2-90/481-D15
628	17	9	668	SBA2-90/628-D15	SBM2-90/628-D15
775	18	11	815	SBA2-90/775-D15	SBM2-90/775-D15
92	19	13	962	SBA2-90/922-D15	SBM2-90/922-D15
1069	20	15	1109	SBA2-90/1069-D15	SBM2-90/1069-D15
1216	22	17	1256	SBA2-90/1216-D15	SBM2-90/1216-D15
1363	23	19	1403	SBA2-90/1363-D15	SBM2-90/1363-D15
1510	24	21	1550	SBA2-90/1510-D15	SBM2-90/1510-D15

General Specifications

Resolution	90 mm	START mode	Automatic or Manual (see type selection tab.)
Operating distance	0.2 ÷ 15 m	Response time	See type selection tab.

Electrical Specifications

Power supply	24 VDC ± 20%	Light emission	Infrared (880 nm)
Emitter consumption	70 mA max	Output function	2 PNP
Receiver consumption	100 mA max	Output current	0.5 A max (single output)



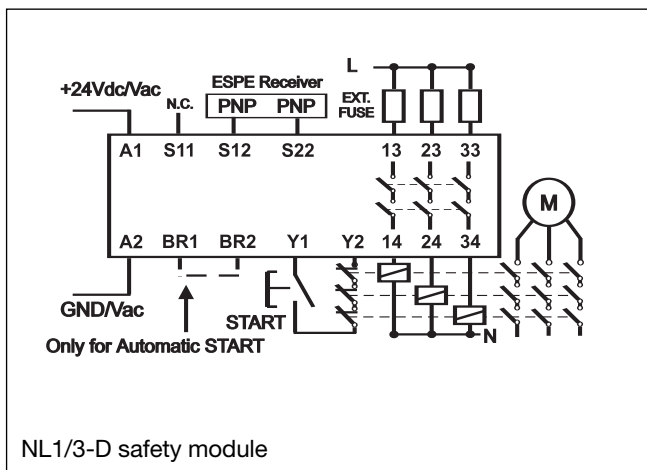
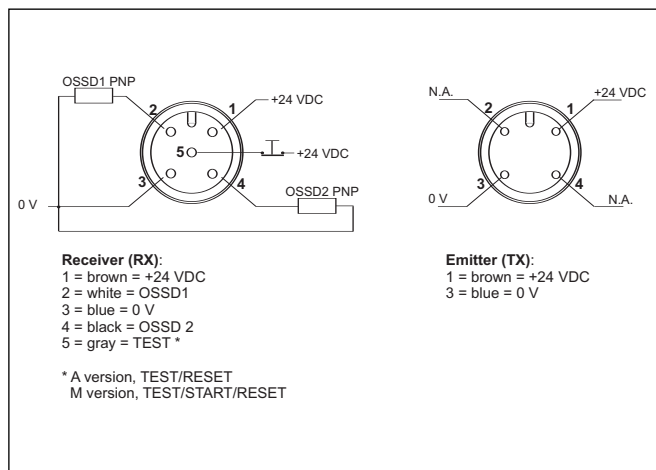
Environmental Specifications

Operating temperature	0 ÷ + 55°C	Storage temperature	-25 ÷ + 70°C
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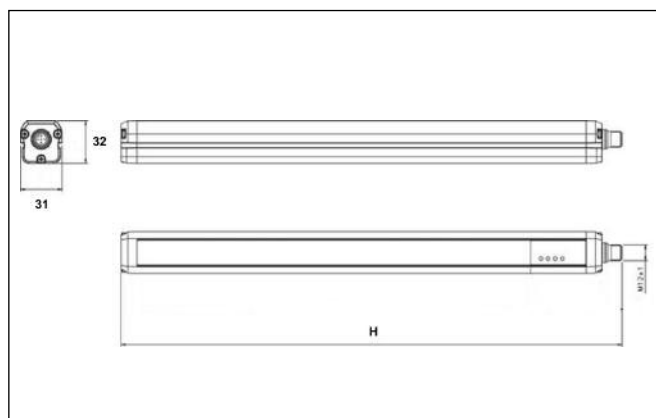
Mechanical Specifications

Receiver connection	M 12 5-poles connector Standard cable length 3, 5 or 10 m	Protection degree	IP 65
Emitter connection	M 12 4-poles connector Standard cable length 3, 5 or 10 m	Housing material	Painted aluminium (yellow Ral 1028)
		Weight	1.2 Kg max/m of total height

Wiring Diagrams



Dimensions



Safety Light Curtains

SB*2-30 Series

CARLO GAVAZZI



- Safety Category 2 according to EN 61496-1 and /-2
- Hand resolution
- Self-monitoring
- Failure alarm / diagnosis by LED
- Quick installation and alignment
- Compact profile
- Approvals:TÜV, cULus

Product Description

Safety category 2 light curtains, according to EN 61496-1 /-2.

SB*2-30 series is featured by 30 mm resolution for protecting hands. Self-monitoring is integrated and controls operating status of safety outputs every 0,5 s. SB*2-30 series can be provided with manual or automatic START

depending on the version and with 2 PNP safety outputs. These safety light curtains can be used together with NL control module series over a large variety of industrial applications and wherever a compact and reliable safety device is required.

Ordering Key

SBA2-30/334-D15

Safety Light Curtains _____
 Start mode _____
 Safety Category _____
 Resolution _____
 Protected height _____
 Operating distance _____

Type Selection

Protected height	Response time (ms)	Number of beams	Overall height h (mm)	Ordering no. Automatic START	Ordering no. Manual START
187	14	8	227	SBA2-30/187-D15	SBM2-30/187-D15
334	15	16	374	SBA2-30/334-D15	SBM2-30/334-D15
481	16	24	521	SBA2-30/481-D15	SBM2-30/481-D15
628	17	32	668	SBA2-30/628-D15	SBM2-30/628-D15
775	18	40	815	SBA2-30/775-D15	SBM2-30/775-D15
922	19	48	962	SBA2-30/922-D15	SBM2-30/922-D15
1069	20	56	1109	SBA2-30/1069-D15	SBM2-30/1069-D15
1216	22	64	1256	SBA2-30/1216-D15	SBM2-30/1216-D15
1363	23	72	1403	SBA2-30/1363-D15	SBM2-30/1363-D15
1510	24	80	1550	SBA2-30/1510-D15	SBM2-30/1510-D15

General Specifications

Resolution	30 mm	START mode	Automatic or Manual (see type selection tab.)
Operating distance	0,2 ÷ 15 m	Response time	See type selection tab.

Electrical Specifications

Power supply	24 Vac ± 20%	Light emission	Infrared (880 nm)
Emitter consumption	70 mA max	Output function	2 PNP
Receiver consumption	100 mA max	Output current	0.5 A max (single output)



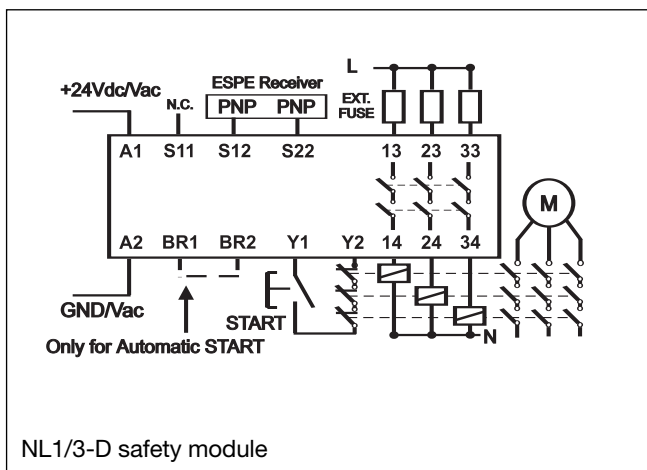
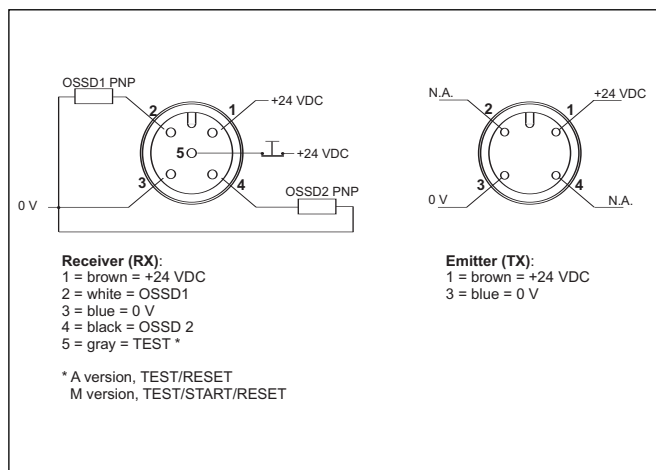
Environmental Specifications

Operating temperature	0 ÷ + 55°C	Storage temperature	-25 ÷ + 70°C
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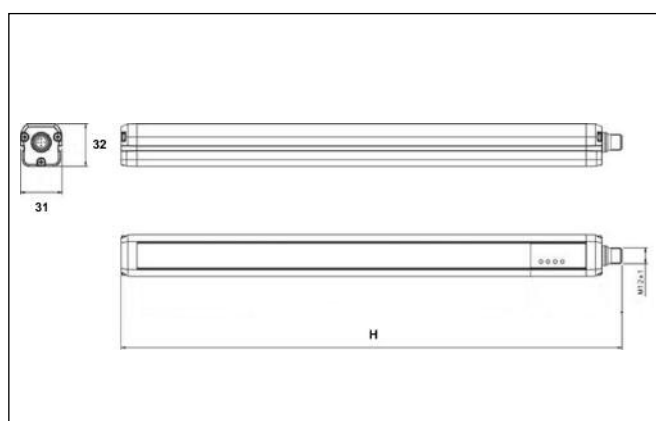
Mechanical Specifications

Receiver connection	M 12 5-poles connector Standard cable length 3, 5 or 10 m	Protection degree	IP 65
Emitter connection	M 12 4-poles connector Standard cable length 3, 5 or 10 m	Housing material	Painted aluminium (yellow Ral 1028)
		Weight	1.2 Kg max/m of total height

Wiring Diagrams



Dimensions



Safety Light Curtains SB4ED Hand Protection Series

CARLO GAVAZZI



- Safety Category 4 according to EN 61496-1 and /-2
- Hand resolution
- Selectable Manual/Automatic RESTART
- External Device Monitoring (EDM)
- Failure alarm / diagnosis by LED
- Quick installation and alignment
- Compact profile
- Approvals: TÜV, cULus, CE

Product Description

Safety category 4 light curtains, according to EN 61496-1 /-2.

SB4ED30 series is featured by 30 mm resolution for protecting hand. Self-monitoring is integrated and controls the operating status of safety outputs. SB4ED30 series is provided with selectable manual/automatic RESTART and with 2 PNP safety outputs. These safety light cur-

tains can be used together with NLG control module series over a large variety of industrial applications and wherever a compact and reliable safety device is required.

SB4ED30 is provided with External Device Monitoring which allows to utilize these light curtains without external safety control unit.

Ordering Key

SB4 ED 30 150 D19

Safety Light Curtains

Safety Category

Function

Resolution

Protected height

Operating distance

Type Selection

Protected height	Response time (ms)	Number of beams	Overall height h (mm)	Ordering no.
150	9	8	234	SB4ED 30 150 D19
300	11	16	384	SB4ED 30 300 D19
450	13	24	534	SB4ED 30 450 D19
600	14	32	684	SB4ED 30 600 D19
750	16	40	834	SB4ED 30 750 D19
900	18	48	984	SB4ED 30 900 D19
1050	19	56	1134	SB4ED 30 1050 D19
1200	21	64	1284	SB4ED 30 1200 D19
1350	23	72	1434	SB4ED 30 1350 D19
1500	25	80	1584	SB4ED 30 1500 D19
1650	26	88	1734	SB4ED 30 1650 D19

Output Specification

Output function	2 PNP
Short-circuit protection	1.4 A max
Output current	0.5 A max on each output

Output Voltage

ON status
OFF status

$V_{dd}-1$ V
0.2 V

Supply Specifications

Power supply	24 VDC \pm 20%
Emitter consumption	2.5 W max

Receiver consumption

4 W max (without load)

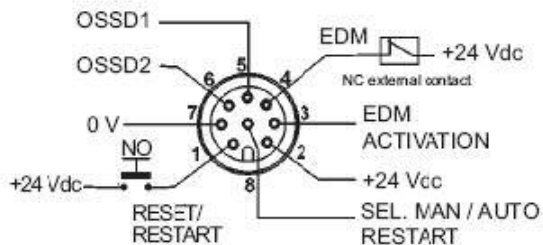
General Specifications

Safety Category	Type 4	Protection degree	IP 65 (EN 60529)
Operating range	0.2 ÷ 19 m	Environment	Operating temperature Storage temperature Temperature Class Humidity
Protected height	150 ÷ 1650 mm		0 ÷ + 55 °C -25 ÷ + 70 °C T6 15 ÷ 95% (non condensating)
Resolution	30 mm	Housing material	Painted aluminium (yellow RAL 1003)
START mode	NO, Automatic	Protective shield material	PMMA
Auxiliary functions	Test/Reset Select. Manual/Auto RESTART Selectable EDM	Vibrations	0.35 mm amplitude 10 ÷ 55 Hz frequency 20 sweep for each axis 1 octave/min (EN 60068-2-6)
Response time	9 ÷ 26 ms (See type selection tab).	Shock resistance	16 ms (10G) 1.000 shock per axis (EN 60068-2-29)
Receiver connection	M 12 8-poles connector Standard cable length 50 m max	Weight	1.3 Kg max/m of total height
Emitter connection	M 12 4-poles connector Standard cable length 50 m max	Light emission	Infrared LED (950 nm)
Capacitive load	2.2 µF @ 24 Vdc *	CE Marking	Yes
Aperture angle	± 2.5° @ 3 m	Approvals	TÜV, cULus
Connection cable Length	50 m max *		

* If a longer cable is used, the capacitive load specifications have to be respected

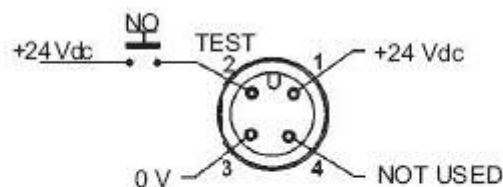
Wiring diagrams

M12 8-POLE CONNECTOR



1 = white	= RESET (*)
2 = brown	= +24 Vdc
3 = green	= EDMACTIVATION
4 = yellow	= EDM
5 = grey	= OSSD1
6 = pink	= OSSD2
7 = blue	= 0 V
8 = red	= SEL. MAN. / AUTO RESTART

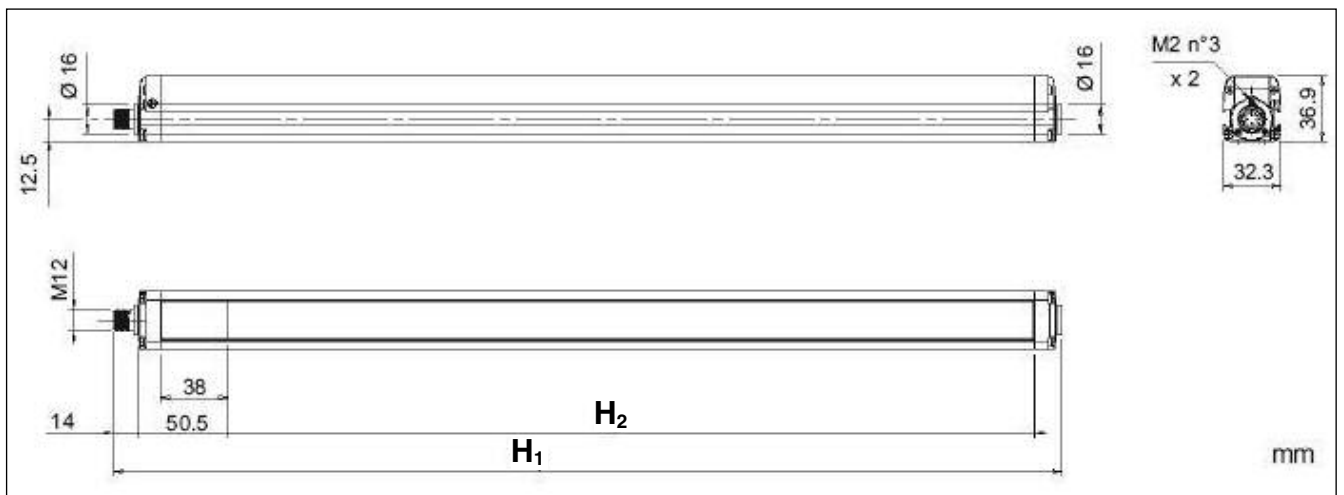
M12 4-POLE CONNECTOR



1 = brown	= +24 Vdc
2 = white	= TEST
3 = blue	= 0 V
4 = black	= NOT USED

* *automatic RESTART - RESET function*
manual RESTART - RESET/RESTART junction

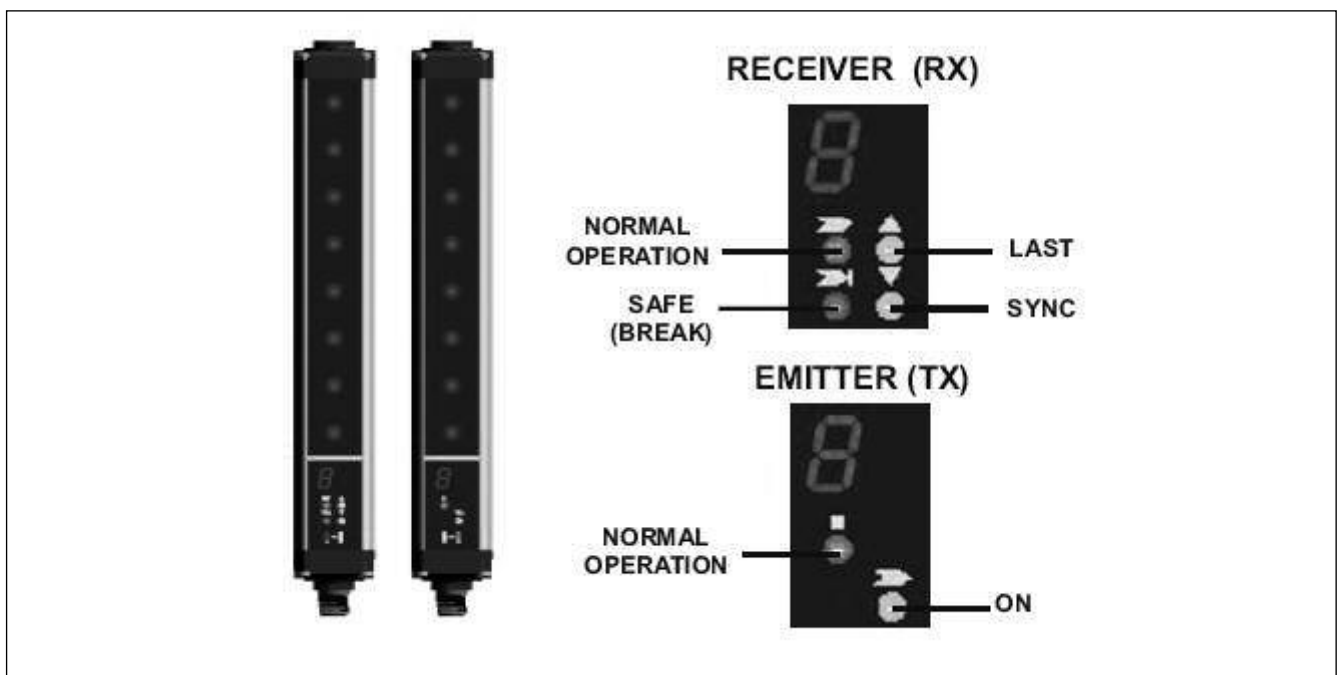
Dimensions



Type Selection Dimensions

H ₁ (mm)	H ₂ (mm)	Ordering no.
233.3	153.3	SB4ED 30 150 D19
383.2	303.2	SB4ED 30 300 D19
533.2	453.3	SB4ED 30 450 D19
683.2	603.2	SB4ED 30 600 D19
833.2	753.3	SB4ED 30 750 D19
983.2	903.2	SB4ED 30 900 D19
1133.2	1053.2	SB4ED 30 1050 D19
1283.3	1203.3	SB4ED 30 1200 D19
1433.2	1353.2	SB4ED 30 1350 D19
1583.3	1503.3	SB4ED 30 1500 D19
1733.3	1653.3	SB4ED 30 1650 D19

Indicators and Settings



Safety Light Curtains SB4ED Finger Protection Series

CARLO GAVAZZI



- Safety Category 4 according to EN 61496-1 and /-2
- Finger resolution
- Selectable Manual/Automatic RESTART
- External Device Monitoring (EDM)
- Failure alarm / diagnosis by LED
- Quick installation and alignment
- Compact profile
- Approvals: TÜV, cULus, CE

Product Description

Safety category 4 light curtains, according to EN 61496-1 /-2.

SB4ED14 series is featured by 14 mm resolution for protecting finger. Self-monitoring is integrated and controls the operating status of safety outputs. SB4ED14 series is provided with selectable manual/automatic RESTART and with 2 PNP safety outputs. These safety light cur-

tains can be used together with NLG control module series over a large variety of industrial applications and wherever a compact and reliable safety device is required.

SB4ED14 is provided with External Device Monitoring which allows to utilize these light curtains without external safety control unit.

Ordering Key

SB4 ED 14 150 D6

Safety Light Curtains
 Safety Category
 Function
 Resolution
 Protected height
 Operating distance

Type Selection

Protected height	Response time (ms)	Number of beams	Overall height h (mm)	Ordering no.
150	11	16	234	SB4ED 14 150 D6
300	15	32	384	SB4ED 14 300 D6
450	18	48	534	SB4ED 14 450 D6
600	22	64	684	SB4ED 14 600 D6
750	25	80	834	SB4ED 14 750 D6
900	29	96	984	SB4ED 14 900 D6
1050	33	112	1134	SB4ED 14 1050 D6
1200	36	128	1284	SB4ED 14 1200 D6

Output Specification

Output function	2 PNP	Output Voltage ON status OFF status	$V_{dd}-1\text{ V}$ 0.2 V
Short-circuit protection	1.4 A max		
Output current	0.5 A max on each output		

Supply Specifications

Power supply	24 VDC \pm 20%	Receiver consumption	4 W max (without load)
Emitter consumption	2.5 W max		

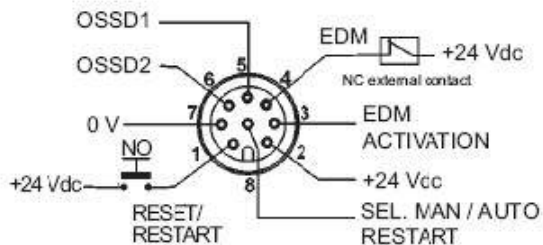
General Specifications

Safety Category	Type 4	Protection degree	IP 65 (EN 60529)
Operating range	0.2 ÷ 6 m	Environment	Operating temperature Storage temperature Temperature Class Humidity
Protected height	150 ÷ 1200 mm		0 ÷ + 55 °C -25 ÷ + 70 °C T6 15 ÷ 95% (non condensating)
Resolution	14 mm	Housing material	Painted aluminium (yellow RAL 1003)
START mode	NO, Automatic	Protective shield material	PMMA
Auxiliary functions	Test/Reset Select. Manual/Auto RESTART Selectable EDM	Vibrations	0.35 mm amplitude 10 ÷ 55 Hz frequency 20 sweep for each axis 1 octave/min (EN 60068-2-6)
Response time	11 ÷ 36 ms (See type selection tab).	Shock resistance	16 ms (10G) 1.000 shock per axis (EN 60068-2-29)
Receiver connection	M 12 8-poles connector Standard cable length 50 m max	Weight	1.3 Kg max/m of total height
Emitter connection	M 12 4-poles connector Standard cable length 50 m max	Light emission	Infrared LED (950 nm)
Capacitive load	2.2 µF @ 24 Vdc*	CE Marking	Yes
Aperture angle	± 2.5° @ 3 m	Approvals	TÜV, cULus
Connection cable Length	50 m max *		

* If a longer cable is used, the capacitive load specifications have to be respected

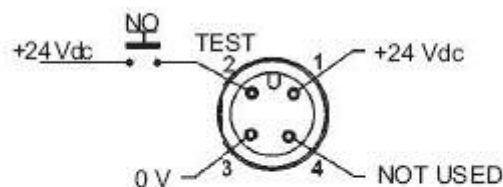
Wiring diagrams

M12 8-POLE CONNECTOR



- | | |
|------------|----------------------------|
| 1 = white | = RESET (*) |
| 2 = brown | = +24 Vdc |
| 3 = green | = EDMACTIVATION |
| 4 = yellow | = EDM |
| 5 = grey | = OSSD1 |
| 6 = pink | = OSSD2 |
| 7 = blue | = 0 V |
| 8 = red | = SEL. MAN. / AUTO RESTART |

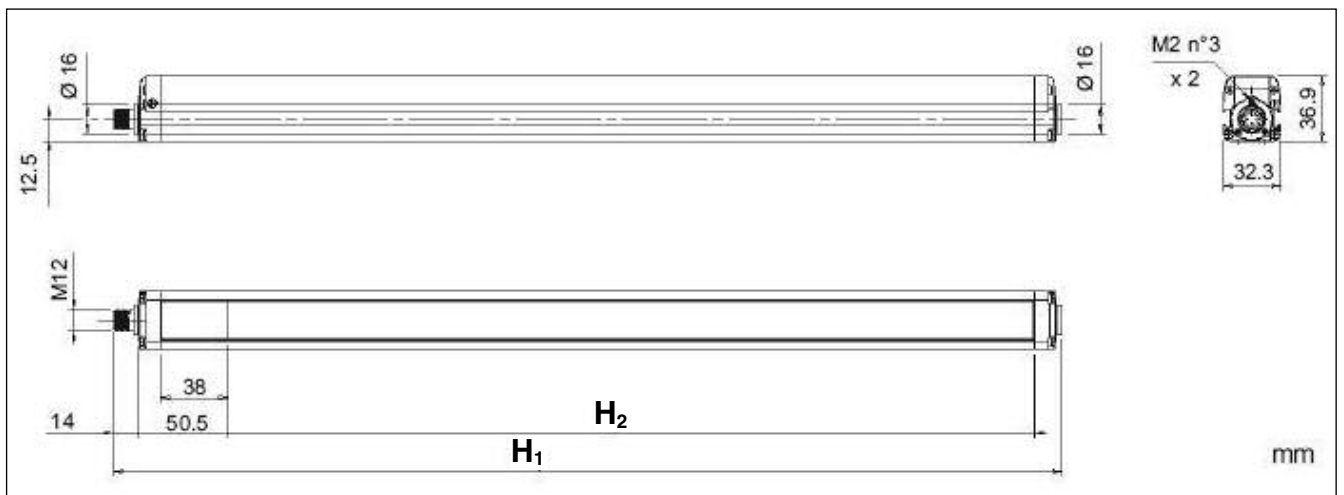
M12 4-POLE CONNECTOR



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

* *automatic RESTART - RESET function*
manual RESTART - RESET/RESTART junction

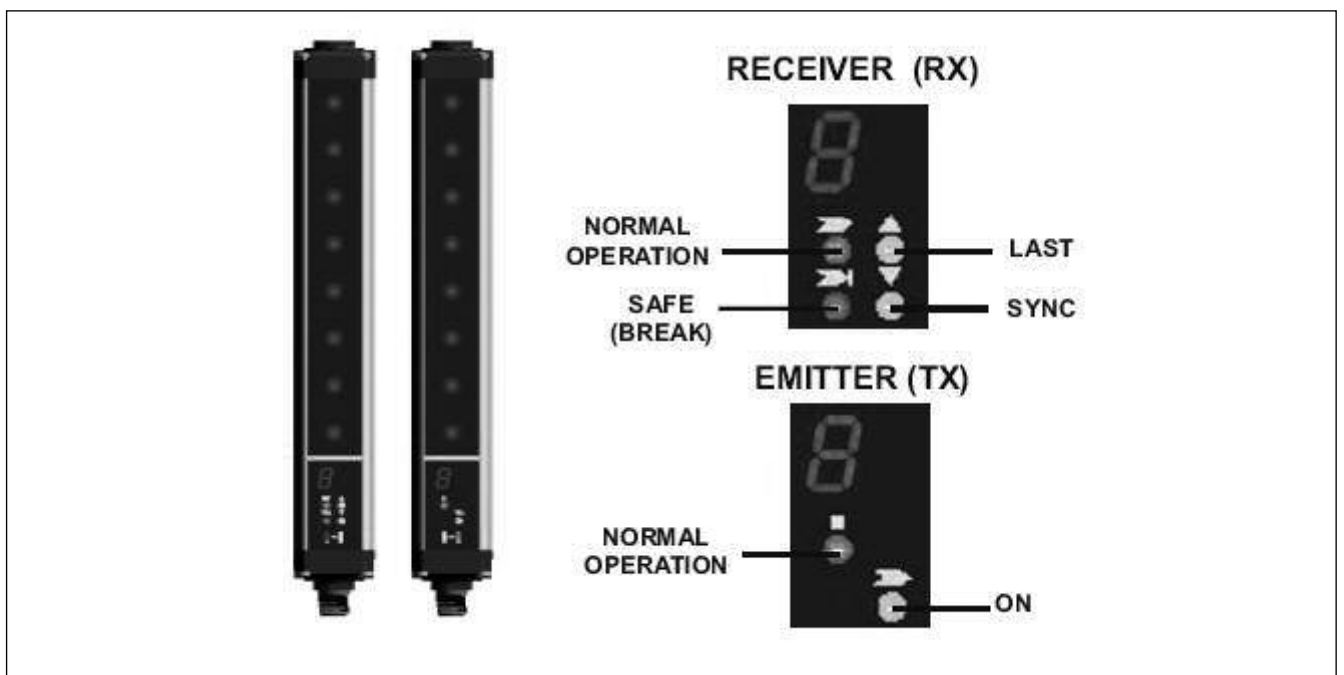
Dimensions



Type Selection Dimensions

H_1 (mm)	H_2 (mm)	Ordering no.
233.3	153.3	SB4ED 14 150 D6
383.2	303.2	SB4ED 14 300 D6
533.2	453.3	SB4ED 14 450 D6
683.2	603.2	SB4ED 14 600 D6
833.2	753.3	SB4ED 14 750 D6
983.2	903.2	SB4ED 14 900 D6
1133.2	1053.2	SB4ED 14 1050 D6
1283.3	1203.3	SB4ED 14 1200 D6

Indicators and Settings



Safety Light Curtains

Hand resolution SB4E-30 Series

CARLO GAVAZZI



- Safety Category 4
- Resolution 30 mm (hand)
- Protected height 180-1650 mm
- External Device Monitoring (EDM)
- Auto/Manual Restart selectable
- Status/Failure diagnosis by LED's
- Easy alignment and installation
- Compact profile
- Approvals: TÜV, cULus

Product Description

Safety category 4 light curtains according to IEC 61496-1 and IEC 61496-2. The SB4E-30 series, is featured by hand resolution and is provided with External Device Monitoring which allows to utilize these light

curtains without external safety control unit. The dip-switches placed in the slot provided in the receiving unit allow quick and safe configuration.

Ordering Key

SB4E-30/180-D15

Safety Light Curtains _____
 Safety Category _____
 Version _____
 Resolution _____
 Protected height _____
 Operating distance _____

Type Selection

Protected height	Overall height (mm)	Number of beams	Response time (ms)	Ordering no.
180	256	8	12	SB4E-30/180-D15
327	403	16	13	SB4E-30/327-D15
474	550	24	15	SB4E-30/474-D15
621	697	32	16	SB4E-30/621-D15
768	844	40	18	SB4E-30/768-D15
915	991	48	19	SB4E-30/915-D15
1062	1138	56	21	SB4E-30/1062-D15
1209	1285	64	22	SB4E-30/1209-D15
1356	1432	72	24	SB4E-30/1356-D15
1503	1579	80	25	SB4E-30/1503-D15
1650	1726	88	26	SB4E-30/1650-D15

General Specifications

Safety category	type 4	Functions	EDM, automatic/manual restart
Operating distance	0,2.....15 m		
Resolution	30 mm		

Electrical Specifications

Power supply	24 Vdc ± 20%	Light emission	Infrared (880 nm)
Emitter consumption	55 mA max	Output function	2 PNP
Receiver consumption	125 mA max (no load)	Output current	0.5 A max (single output)

Environmental Specifications

Operating temperature

-10 ÷ + 55°C

Storage temperature

-25 ÷ + 70°C

Mechanical Specifications

Receiver connection

M 12 8-poles
Standard cable length
3, 5 or 10 m

Protection degree

IP 65

Housing material

Painted aluminium
(yellow Ral 1003)

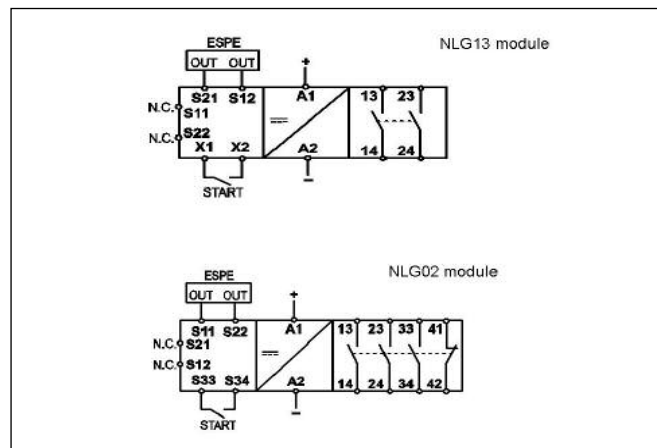
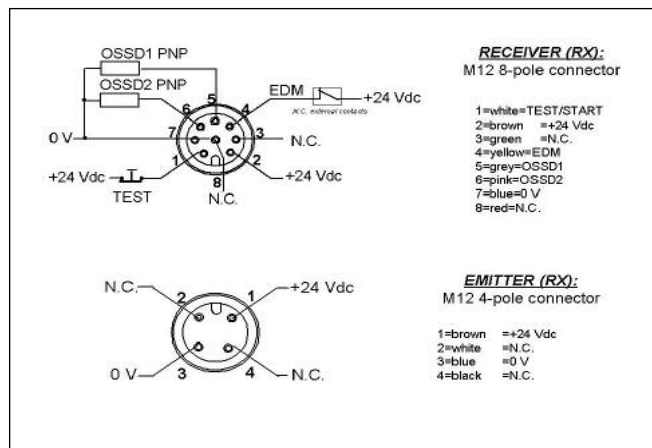
Emitter connection

M 12 4-poles connector
Standard cable length
3, 5 or 10 m

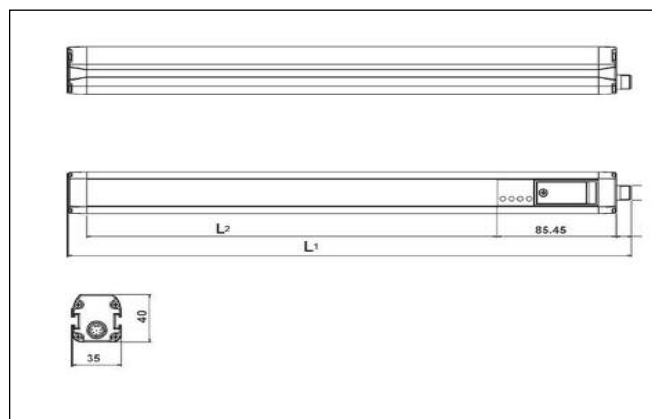
Weight

1.2 Kg max/m of total height

Wiring Diagrams



Dimensions



MODELL	L1 (mm)	L2 (mm)
SB4y-30/190-D15	256	147
SB4y-30/527-D15	403	294
SB4y-30/474-D15	550	441
SB4y-30/621-D15	697	588
SB4y-30/768-D15	844	735
SB4y-30/915-D15	991	882
SB4y-30/1062-D15	1138	1029
SB4y-30/1209-D15	1285	1176
SB4y-30/1356-D15	1432	1323
SB4y-30/1503-D15	1579	1470
SB4y-30/1650-D15	1726	1617

y = EDM/ Blanking/Cascade versions

Safety Light Curtains

Finger resolution SB4E-14 Series



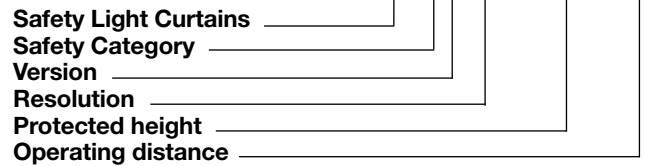
- Safety Category 4
- Resolution 14 mm (finger)
- Protected height 161-1190 mm
- External Device Monitoring (EDM)
- Auto/Manual Restart selectable
- Status/Failure diagnosis by LED's
- Easy alignment and installation
- Compact profile
- Approvals: TÜV, cULus

Product Description

Safety category 4 light curtains according to IEC 61496-1 and IEC 61496-2. The SB4B-14 series, is featured by finger resolution and is provided with External Device Monitoring which allows to utilize these light curtains without external safety control unit. The dip-switches placed in the slot provided in the receiving unit allow quick and safe configuration

Ordering Key

SB4E-14/161-D6



Type Selection

Protected height	Overall height (mm)	Number of beams	Response time (ms)	Ordering no.
161	256	21	14	SB4E-14/161-D6
308	403	42	18	SB4E-14/308-D6
455	550	63	22	SB4E-14/455-D6
602	697	84	26	SB4E-14/602-D6
749	844	105	30	SB4E-14/749-D6
896	991	126	34	SB4E-14/896-D6
1043	1138	147	38	SB4E-14/1043-D6
1190	1285	168	41	SB4E-14/1190-D6

General Specifications

Safety category	type 4	Functions	EDM, Automatic/manual restart
Operating distance	0,2.....6 m		
Resolution	14 mm		

Electrical Specifications

Power supply	24 Vdc ± 20%	Light emission	Infrared (880 nm)
Emitter consumption	55 mA max	Output function	2 PNP
Receiver consumption	125 mA max (no load)	Output current	0.5 A max (single output)



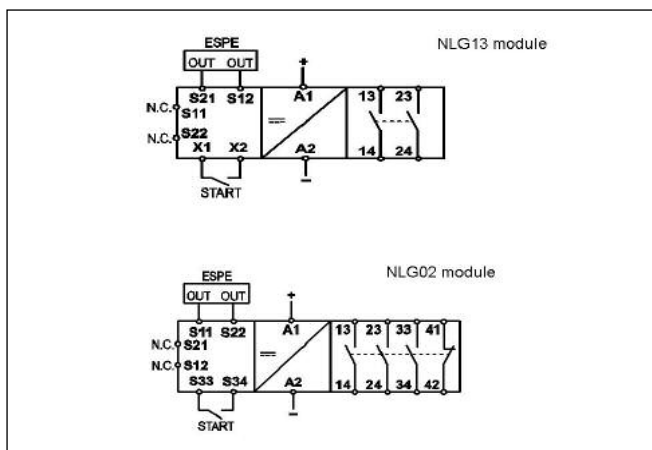
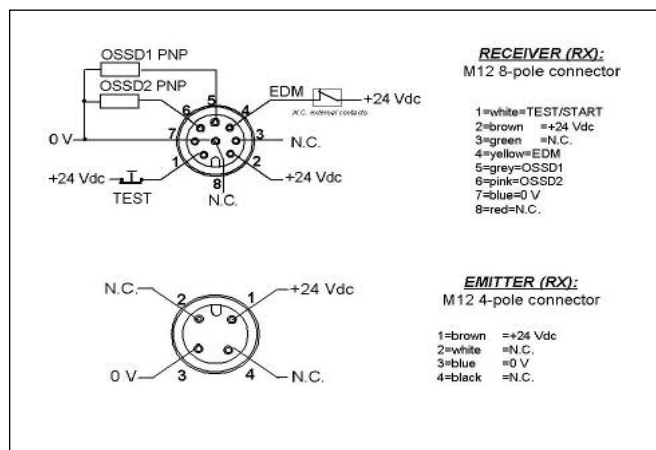
Environmental Specifications

Operating temperature	-10 ÷ + 55°C	Storage temperature	-25 ÷ + 70°C
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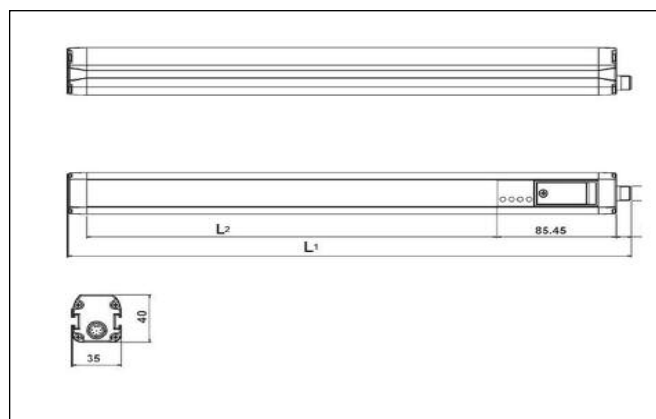
Mechanical Specifications

Receiver connection	M 12 8-poles Standard cable length 3, 5 or 10 m	Protection degree	IP 65
Emitter connection	M 12 4-poles connector Standard cable length 3, 5 or 10 m	Housing material	Painted aluminium (yellow Ral 1003)
		Weight	1.2 Kg max/m of total height

Wiring Diagrams



Dimensions



MODELL	L1 (mm)	L2 (mm)
SB4y-14/161-D6	258	147
SB4y-14/308-D6	403	294
SB4y-14/455-D6	550	441
SB4y-14/602-D6	697	588
SB4y-14/749-D6	844	735
SB4y-14/896-D6	991	882
SB4y-14/1043-D6	1138	1029
SB4y-14/1190-D6	1285	1176

Safety Light Curtains

Hand resolution SB4B-30 Series

CARLO GAVAZZI



- Safety Category 4
- Resolution 30 mm (hand)
- Protected height 180-1650 mm
- External Device Monitoring (EDM)
- Fixed Blanking and Floating Blanking
- Auto/Manual restart selectable
- Status/failure diagnosis by LED's
- Easy alignment and installation
- Compact profile
- Approvals: TÜV, cULus

Product Description

Safety category 4 light curtains according to IEC 61496-1 and IEC 61496-2. The SB4B-30 series is featured by hand resolution and is provided with External Device Monitoring which allows to utilize these light curtains without external safety control unit. The Blanking function -

Fixed or Floating mode selectable - is used in those applications where material passage or mechanical obstacle presence must not cause machine interruption. The dip-switches placed in the slot provided in the receiving unit allow quick and safe configuration.

Ordering Key

SB4B-30/180-D15

Safety Light Curtains _____
 Safety Category _____
 Version _____
 Resolution _____
 Protected height _____
 Operating distance _____

Type Selection

Protected height	Overall height (mm)	Number of beams	Response time (ms)	Ordering no.
180	256	8	16	SB4B-30/180-D15
327	403	16	20	SB4B-30/327-D15
474	550	24	23	SB4B-30/474-D15
621	697	32	25	SB4B-30/621-D15
768	844	40	27	SB4B-30/768-D15
915	991	48	30	SB4B-30/915-D15
1062	113	56	32	SB4B-30/1062-D15
1209	1285	64	35	SB4B-30/1209-D15
1356	1432	72	38	SB4B-30/1356-D15
1503	1579	80	40	SB4B-30/1503-D15
1650	1726	88	43	SB4B-30/1650-D15

General Specifications

Safety category	type 4	Functions	EDM, fixed/floating BLANKING, automatic /manual restart
Operating distance	0,2.....15 m		
Resolution	30 mm		

Electrical Specifications

Power supply	24 Vdc ± 20%	Light emission	Infrared (880 nm)
Emitter consumption	55 mA max	Output function	2 PNP
Receiver consumption	125 mA max (no load)	Output current	0.5 A max (single output)



Environmental Specifications

Operating temperature

-10 ÷ + 55°C

Storage temperature

-25 ÷ + 70°C

Mechanical Specifications

Receiver connection

M 12 8-poles poles
Standard cable length
3, 5 or 10 m

Protection degree

IP 65

Housing material

Painted aluminium
(yellow Ral 1003)

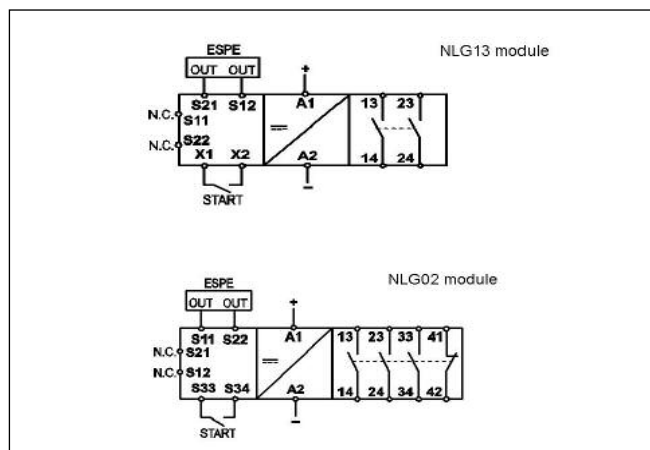
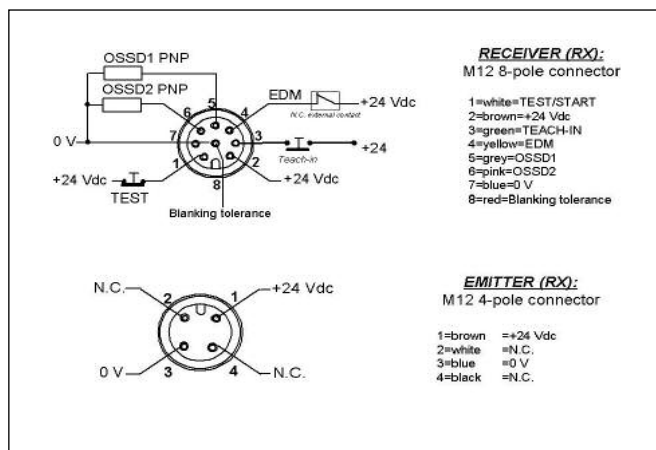
Emitter connection

M 12 4-poles connector
Standard cable length
3, 5 or 10 m

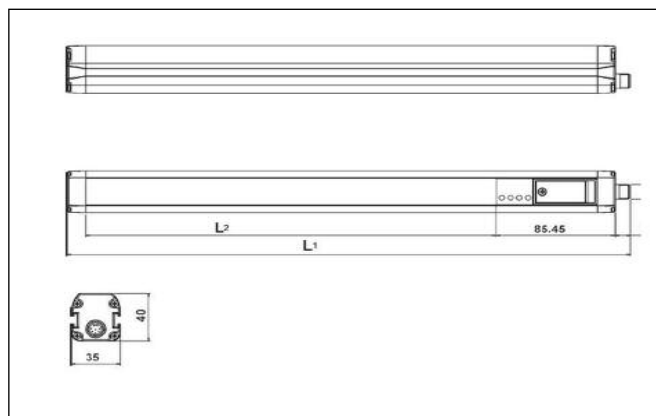
Weight

1.2 Kg max/m of total height

Wiring Diagrams



Dimensions



MODELL	L1 (mm)	L2 (mm)
SB4y-30/180-D15	256	147
SB4y-30/327-D15	403	294
SB4y-30/474-D15	550	441
SB4y-30/621-D15	697	589
SB4y-30/768-D15	844	735
SB4y-30/915-D15	991	882
SB4y-30/1062-D15	1138	1029
SB4y-30/1209-D15	1285	1176
SB4y-30/1356-D15	1432	1323
SB4y-30/1503-D15	1579	1470
SB4y-30/1650-D15	1726	1617

y = EDM/Blanking/Cascade versions

Safety Light Curtains Body Resolution Series SB4-*/*-D50 and SB4-*/*-D25

CARLO GAVAZZI



- Safety Category 4 in conformity with EN 61496-1 and /-2
- Body resolution
- On board DIP-Switch selectable functions
- Failure diagnosis by LEDs
- Easy alignment and mounting procedure
- Compact dimensions
- Approvals:



Product Description

Safety Light Curtains of Safety Category 4 in conformity with EN 61494-1 /-2. The SB4- body resolution series is provided with partial / total muting function, automatic / manual restart mode. All the software dedicated is

on board and the functions above can be selected and adjusted through the DIP switches placed in the receiver unit. The SB4 light curtain series can be effectively adopted along with the respective safety relay NL1/3-D, obtaining a complete safety package for many industrial applications.

Ordering Key

SB4-3 | 5/9 | 5-D50

Safety Barriers _____
 Safety Category _____
 Resolution _____
 Protected Height _____
 Operating Distance _____

Type Selection

Height of the protected area	Resolution	Number of beams	Overall height H	Ordering no. Op. distance 25 m (82')	Ordering no. Op. distance 50 m (164')
515mm (20.28")	515mm (20.21")	2	652mm (25.66")	SB4-515/515-D25	SB4-515/515-D50
815mm (32.09")	415mm (16.34")	3	952mm (37.48")	SB4-415/815-D25	SB4-415/815-D50
915mm (36.02")	315mm (12.4")	4	1052mm (41.42")	SB4-315/915-D25	SB4-315/915-D50
1215mm (47.83")	415mm (16.34")	4	1342mm (52.83")	SB4-415/1215-D25	SB4-415/1215-D50

General Specifications

Resolution	See Type Selection table	Other functions	Override
Scanning distance	See Type Selection table	Response time	14 ms
Dip-Switch selectable functions	Automatic or manual reset Partial or total muting		



Electrical Specifications

Power supply	24 Vdc ± 20%	Light emission	Infrared (880 nm)
Emitter consumption	70 mA max	Output function	2 PNP
Receiver consumption	100 mA max	Output current	0.5 max (on single output)

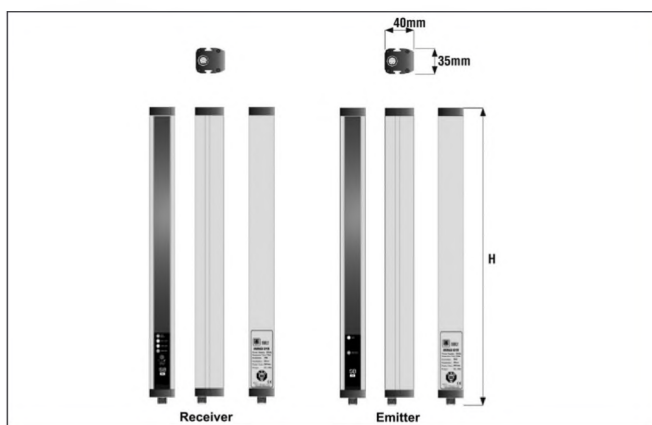
Environmental Specifications

Operating temperature	-10 to + 55°C	Storage temperature	-25 to + 70°C
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Mechanical Specifications

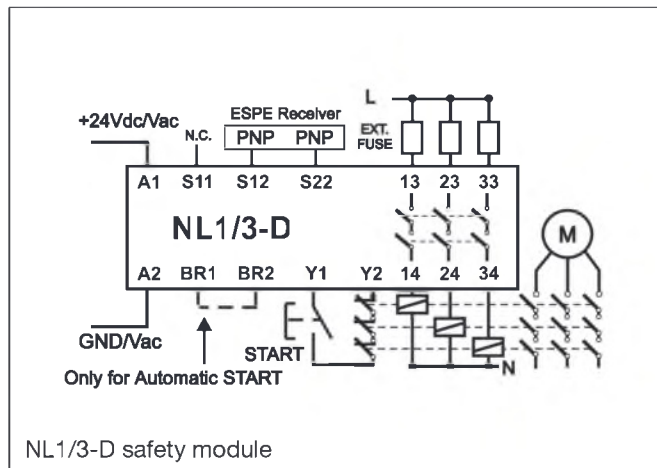
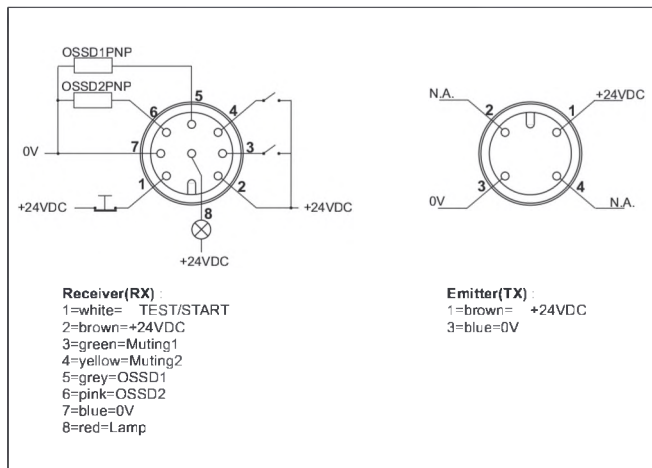
Receiver connection	M 12 8-pole connector Standard shielded cable length: 3, 5 or 10 m	Protection Degree	IP 65
Emitter connection	M 12 4-pole connector Standard shielded cable length: 3, 5 or 10 m	Housing material	Painted aluminum (yellow Ral 1028)
		Weight	1.2 Kg max/m of total height

Dimensions



H = Overall height (see Type Selection)

Wiring Diagrams



Safety Light Curtains SB2AR Body Protection Series

CARLO GAVAZZI



- Safety Category 2 according to EN 61496-1 and /-2
- Body resolution
- Automatic RESTART
- Failure alarm / diagnosis by LED
- Quick installation and alignment
- Compact profile
- Approvals: TÜV, cULus, CE

Product Description

Safety category 2 light curtains, according to EN 61496-1 /-2. SB2AR90 series is featured by 90 mm resolution for protecting body. Self-monitoring is integrated and controls the operating status of safety outputs every 0,5 s. SB2AR90 series is provided

with automatic RESTART and with 2 PNP safety outputs. These safety light curtains can be used together with NLG control module series over a large variety of industrial applications and wherever a compact and reliable safety device is required.

Ordering Key

SB2 AR 90 300 D19

Safety Light Curtains _____
 Safety Category _____
 Function _____
 Resolution _____
 Protected height _____
 Operating distance _____

Type Selection

Protected height	Response time (ms)	Number of beams	Overall height h (mm)	Ordering no.
300	9	5	384	SB2AR 90 300 D19
450	10	7	534	SB2AR 90 450 D19
600	11	9	684	SB2AR 90 600 D19
750	12	11	834	SB2AR 90 750 D19
900	13	13	984	SB2AR 90 900 D19
1050	14	15	1134	SB2AR 90 1050 D19
1200	15	17	1284	SB2AR 90 1200 D19
1350	16	19	1434	SB2AR 90 1350 D19
1500	17	21	1584	SB2AR 90 1500 D19

Output Specification

Output function	2 PNP	Output Voltage ON status OFF status	V _{dd} -1 V min 0.2 V max
Short-circuit protection	1.4 A max		
Output current	0.5 A max on each output		

Supply Specifications

Power supply	24 VDC ± 20%	Receiver consumption	3.5 W max (without load)
Emitter consumption	2 W max		

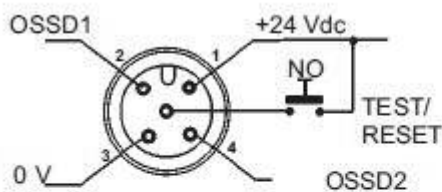
General Specifications

Safety Category	Type 2	Environment	
Operating range	0.2 ÷ 19 m	Operating temperature	0 ÷ + 55 °C
Protected height	300 ÷ 1500 mm	Storage temperature	-25 ÷ + 70 °C
Resolution	90 mm	Temperature Class	T6
START mode	NO, Automatic	Humidity	15 ÷ 95% (non condensating)
Auxiliary functions	Test/Reset	Housing material	Painted aluminium (yellow RAL 1003)
Response time	9 ÷ 17 ms (See type selection tab).	Protective shield material	PMMA
Receiver connection	M 12 5-poles connector Standard cable length 50 m max	Vibrations	0.35 mm amplitude 10 ÷ 55 Hz frequency 20 sweep for each axis 1 octave/min (EN 60068-2-6)
Emitter connection	M 12 4-poles connector Standard cable length 50 m max	Shock resistance	16 ms (10G) 1.000 shock per axis (EN 60068-2-29)
Capacitive load	2.2 µF @ 24 Vdc	Weight	1 Kg max/m of total height
Aperture angle	± 5°	Light emission	Infrared LED (950 nm)
Connection cable Length	50 m max *	CE Marking	Yes
Protection degree	IP 65 (EN 60529)	Approvals	TÜV, cULus

* If a longer cable is used, the capacitive load specifications have to be respected

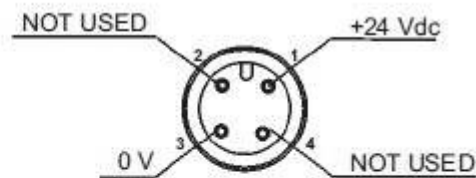
Wiring diagrams

M12 5-POLE CONNECTOR



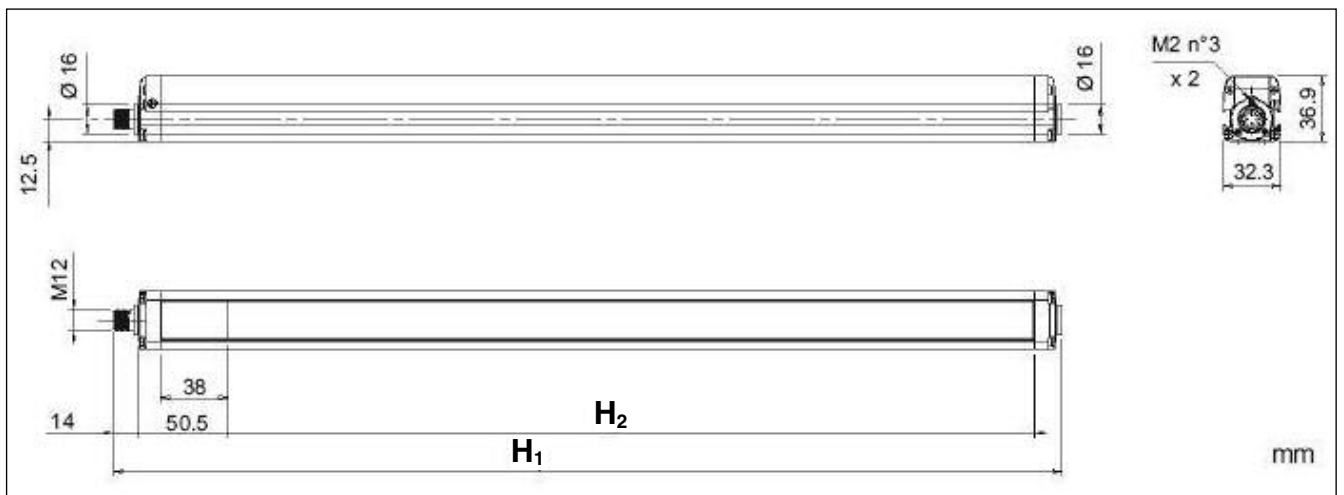
- | | |
|-----------|--------------|
| 1 = brown | = +24 Vdc |
| 2 = white | = OSSD1 |
| 3 = blue | = 0 V |
| 4 = black | = OSSD2 |
| 5 = grey | = TEST/RESET |

M12 4-POLE CONNECTOR



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

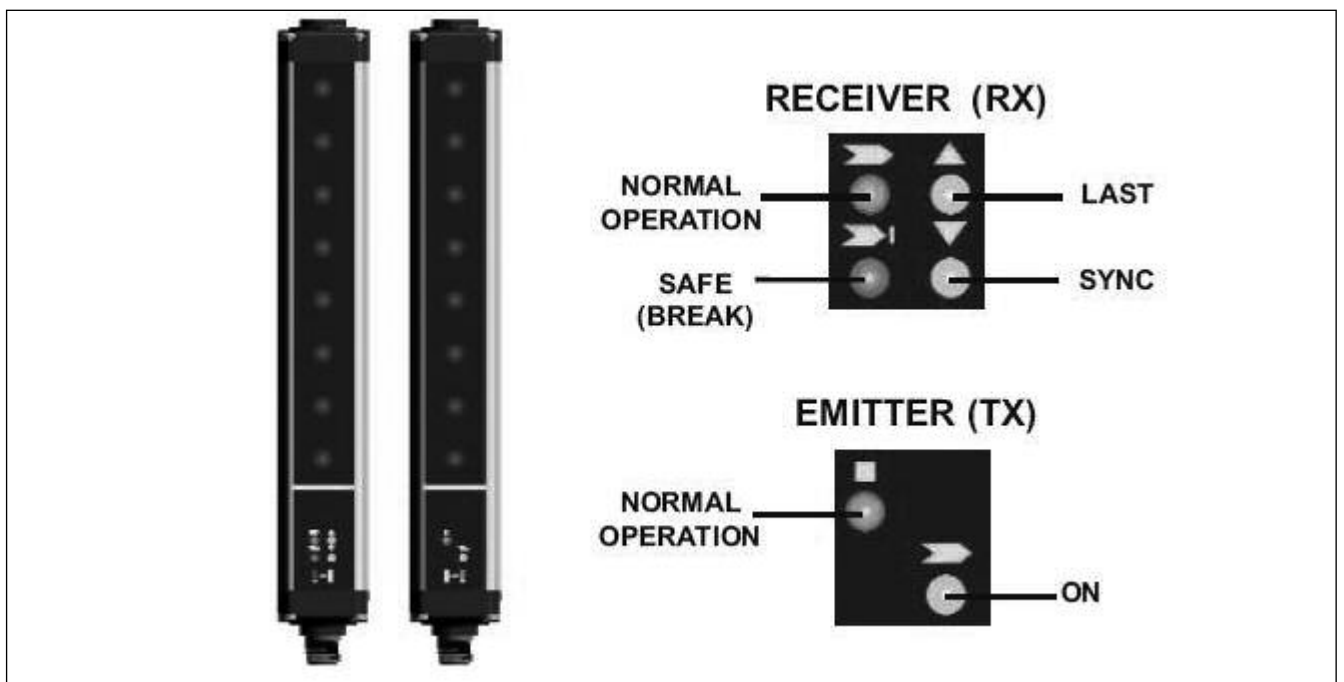
Dimensions



Type Selection Dimensions

H_1 (mm)	H_2 (mm)	Ordering no.
383.2	303.2	SB2AR 90 300 D19
533.2	453.3	SB2AR 90 450 D19
683.2	603.2	SB2AR 90 600 D19
833.2	753.3	SB2AR 90 750 D19
983.2	903.2	SB2AR 90 900 D19
1133.2	1053.2	SB2AR 90 1050 D19
1283.3	1203.3	SB2AR 90 1200 D19
1433.2	1353.2	SB2AR 90 1350 D19
1583.3	1503.3	SB2AR 90 1500 D19

Indicators and Settings



Safety Light Curtains SB2AR Hand Protection Series

CARLO GAVAZZI



- Safety Category 2 according to EN 61496-1 and /-2
- Hand resolution
- Automatic RESTART
- Failure alarm / diagnosis by LED
- Quick installation and alignment
- Compact profile
- Approvals: TÜV, cULus, CE

Product Description

Safety category 2 light curtains, according to EN 61496-1 /-2. SB2AR30 series is featured by 30 mm resolution for protecting hand. Self-monitoring is integrated and controls the operating status of safety outputs every 0,5 s. SB2AR30 series is provided

with automatic RESTART and with 2 PNP safety outputs. These safety light curtains can be used together with NLG control module series over a large variety of industrial applications and wherever a compact and reliable safety device is required.

Ordering Key

SB2 AR 30 150 D19

Safety Light Curtains _____
 Safety Category _____
 Function _____
 Resolution _____
 Protected height _____
 Operating distance _____

Type Selection

Protected height	Response time (ms)	Number of beams	Overall height h (mm)	Ordering no.
150	8	8	234	SB2AR 30 150 D19
300	9	16	384	SB2AR 30 300 D19
450	11	24	534	SB2AR 30 450 D19
600	12	32	684	SB2AR 30 600 D19
750	14	40	834	SB2AR 30 750 D19
900	15	48	984	SB2AR 30 900 D19
1050	17	56	1134	SB2AR 30 1050 D19
1200	18	64	1284	SB2AR 30 1200 D19
1350	20	72	1434	SB2AR 30 1350 D19
1500	21	80	1584	SB2AR 30 1500 D19

Output Specification

Output function	2 PNP	Output Voltage ON status OFF status	V _{dd} -1 V min 0.2 V max
Short-circuit protection	1.4 A max		
Output current	0.5 A max on each output		

Supply Specifications

Power supply	24 VDC ± 20%	Receiver consumption	3.5 W max (without load)
Emitter consumption	2 W max		

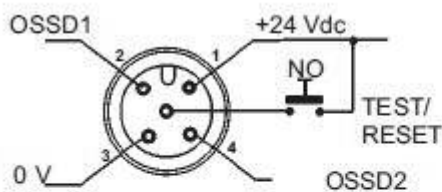
General Specifications

Safety Category	Type 2	Environment	
Operating range	0.2 ÷ 19 m	Operating temperature	0 ÷ + 55 °C
Protected height	150 ÷ 1500 mm	Storage temperature	-25 ÷ + 70 °C
Resolution	30 mm	Temperature Class	T6
START mode	NO, Automatic	Humidity	15 ÷ 95% (non condensating)
Auxiliary functions	Test/Reset	Housing material	Painted aluminium (yellow RAL 1003)
Response time	8 ÷ 21 ms (See type selection tab).	Protective shield material	PMMA
Receiver connection	M 12 5-poles connector Standard cable length 50 m max	Vibrations	0.35 mm amplitude 10 ÷ 55 Hz frequency 20 sweep for each axis 1 octave/min (EN 60068-2-6)
Emitter connection	M 12 4-poles connector Standard cable length 50 m max	Shock resistance	16 ms (10G) 1.000 shock per axis (EN 60068-2-29)
Capacitive load	2.2 µF @ 24 Vdc	Weight	1 Kg max/m of total height
Aperture angle	± 5°	Light emission	Infrared LED (950 nm)
Connection cable Length	50 m max *	CE Marking	Yes
Protection degree	IP 65 (EN 60529)	Approvals	TÜV, cULus

* If a longer cable is used, the capacitive load specifications have to be respected

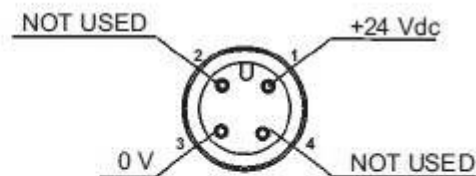
Wiring diagrams

M12 5-POLE CONNECTOR



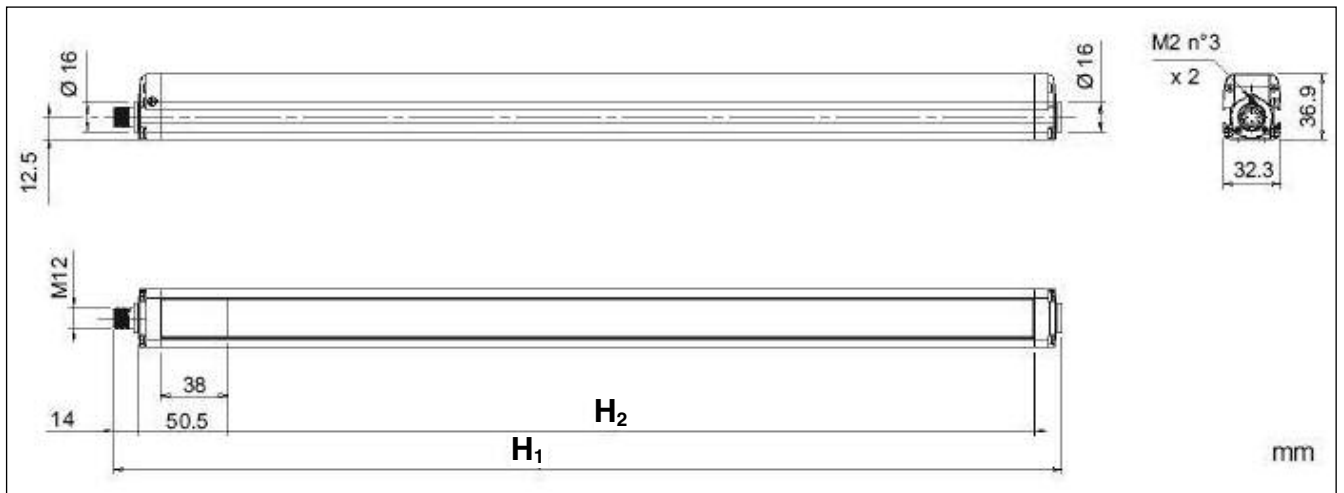
1 = brown	= +24 Vdc
2 = white	= OSSD1
3 = blue	= 0 V
4 = black	= OSSD2
5 = grey	= TEST/RESET

M12 4-POLE CONNECTOR



1 = brown	= +24 Vdc
2 = white	= NOT USED
3 = blue	= 0 V
4 = black	= NOT USED

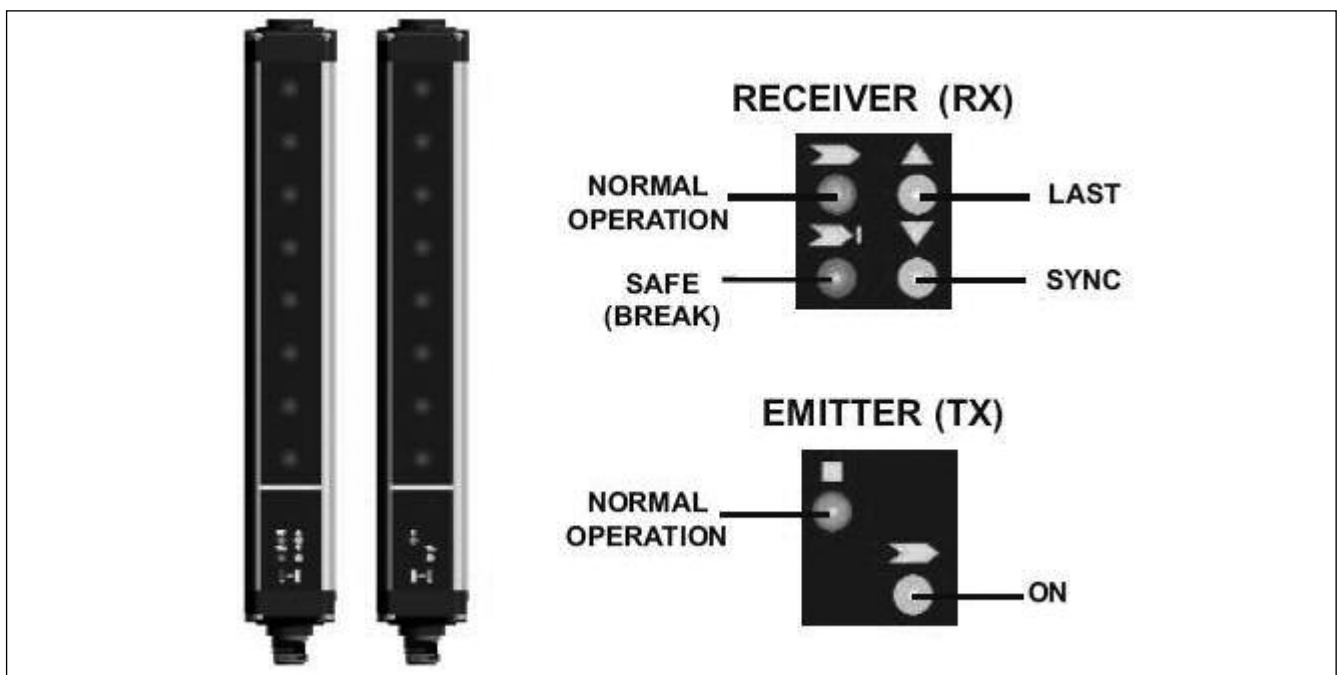
Dimensions



Type Selection Dimensions

H ₁ (mm)	H ₂ (mm)	Ordering no.
233.3	153.3	SB2AR 30 150 D19
383.2	303.2	SB2AR 30 300 D19
533.2	453.3	SB2AR 30 450 D19
683.2	603.2	SB2AR 30 600 D19
833.2	753.3	SB2AR 30 750 D19
983.2	903.2	SB2AR 30 900 D19
1133.2	1053.2	SB2AR 30 1050 D19
1283.3	1203.3	SB2AR 30 1200 D19
1433.2	1353.2	SB2AR 30 1350 D19
1583.3	1503.3	SB2AR 30 1500 D19

Indicators and Settings



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