SAFETY DEVICES

SAFEasy™ TYPE 2 LIGHT CURTAINS

Type 2

- ***Integrated light curtains for PRESENCE CONTROL PROTECTION***
- ***50 and 90 mm resolution and operating distance up to 15 m***
- ***31 x 32 mm compact profile***
- ***Versions with automatic or manual RESTART***

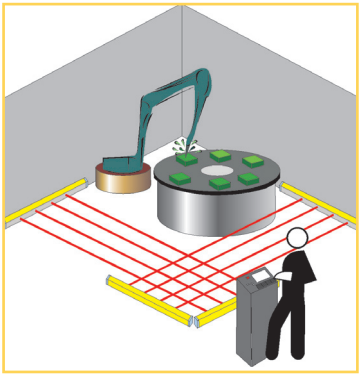
SF2-PRESENCE CONTROL SERIES

The ***SAFEasy***™ light curtains of the **SF2** series, according to the IEC 61496-1 and IEC 61496-2 standards, are very suitable for presence detection of operators exposed to risks.
Different models are available with nine standard heights ranging from 300 to 1500 mm, with 50 or 90 mm resolution and an operating distance reaching 15 m.
The emitter and receiver units are optically synchronised and contain all the control circuits, test input and two safety outputs inside the housing.
The connection with the machine stopping circuits are guaranteed by unshielded M12 4-pole connectors for the emitter and M12 5-pole connectors for the receiver.
The ***SAFEasy***™ light curtains of the **SF2** series have also integrated the test function, automatically activated every 0.5 seconds, without stopping the machine's working cycle.
A wide range of industrial applications, requiring operator safety, can be solved by the ***SAFEasy***™ light curtains, thanks to the extremely compact dimensions (31x32 mm), easy installation and excellent performances.

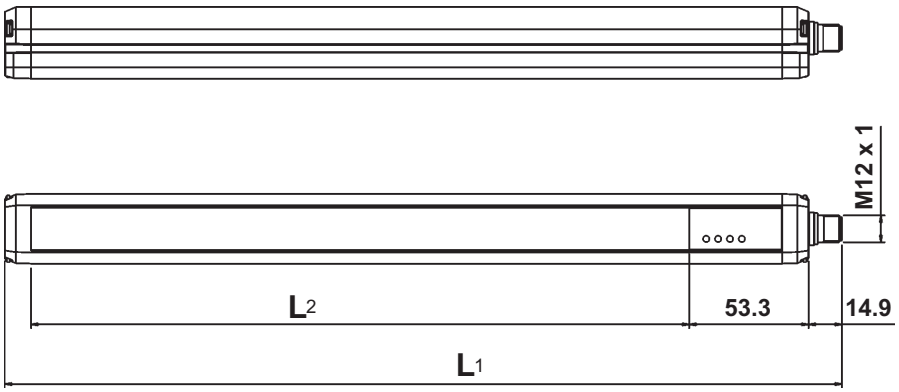
DATASENSOR
value through detection

SF2 PRESENCE CONTROL PROTECTION

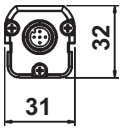
Presence control is obtained positioning horizontally the safety light curtain. This installation allows to continuously control the presence of an obstacle inside a specific area. This is a particularly useful solution when dangerous area, not visible from the machine control points, has to be protected.



DIMENSIONS



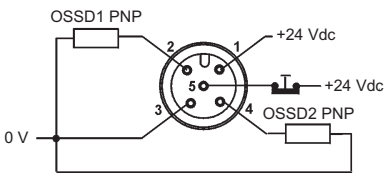
mm



CONTROLLED HEIGHT *(mm)*	L_1	L_2
300	374	294
450	521	441
600	668	588
750	815	735
900	962	882
1050	1109	1029
1200	1256	1176
1350	1403	1323
1500	1550	1470

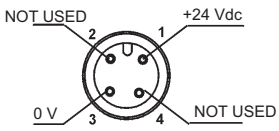
CONNECTIONS

RECEIVER (RX)



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

EMITTER (TX)



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

* = *automatic RESTART (X version) TEST/RESET function*
= manual RESTART (Y version) TEST/RESTART/RESET function

DATASENSOR

Type 2

TECHNICAL DATA

Power supply *(Vdd)*:	24 Vdc ± 20% *(SELV / PELV)*
Consumption:	50 mA max. / 1 W *(emitter)*
	90 mA max. / 2.5 W *(receiver without load)*
Light emission:	infrared LED 880 nm
Optic diameter:	Ø 18 mm
Number of controlled beams:	*refer to table 1*
Optic interaxis:	37,5 mm (SF2-50); 74 mm (SF2-90)
Resolution:	50 / 90 mm
Controlled height:	*refer to table 2*
Operating distance:	0.2 **...** 15 m
Receiver inputs:	external switches for Test and Restart
Receiver indicators:	2 yellow ALIGNMENT LEDs
	red BREAK LED
	green SAFE LED
Emitter indicators:	yellow WORKING UNIT CHECK LED
	green POWER ON LED
Output type:	2 PNP
	short-circuit protection: max.1.4 A at 55°C
	min. 1.2 A at 0 °C
Output current *(for all loads)*:	500 mA max. per output
Output voltage ON min.:	Vdd - 1 V
Output voltage OFF max.:	0.2 V
Leakage current:	0.65 mA
Capacitive load *(pure)*:	100 nF max.
Resistive load *(pure)*:	60 Ω min.
Response time:	*refer to table 3*
Receiver connection:	M12 5-pole connector
Emitter connection:	M12 4-pole connector
Safety category:	type 2
Electrical protection:	class 1
Mechanical protection:	IP65 *(EN 60529)*
	IP67 *(connector part)*
Housing material:	painted aluminium
Cap end material:	PBT
Lens material:	PMMA
Cable length:	50 m max * *(at 100nF capacitive load and Vdd=24V)*
	M12 conductors *(according to EN 50044, EN 60947-5-2)*
	poles Ø = 32x0.1mm, external Ø = 0.5mm
Weight:	1 Kg. max. / m of total height
Operating temperature:	0 **...** +55 °C
Storage temperature:	-25 **...** +70 °C
Reference standards:	EN 954-1, IEC 61496-1, IEC 61496-2

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

TABLES

Model	*SF2-50*	*SF2-90*
SF2 *height 300*	9	5
SF2 *height 450*	13	7
SF2 *height 600*	17	9
SF2 *height 750*	21	11
SF2 *height 900*	25	13
SF2 *height 1050*	29	15
SF2 *height 1200*	33	17
SF2 *height 1350*	37	19
SF2 *height 1500*	41	21

Table 1: **NUMBER OF CONTROLLED BEAMS**

Model	*SF2*
SF2 *height 300*	334
SF2 *height 450*	481
SF2 *height 600*	628
SF2 *height 750*	775
SF2 *height 900*	922
SF2 *height 1050*	1069
SF2 *height 1200*	1216
SF2 *height 1350*	1363
SF2 *height 1500*	1510

Table 2: **CONTROLLED HEIGHT (mm)**

Model	*SF2*
SF2 *height 300*	15
SF2 *height 450*	16
SF2 *height 600*	17
SF2 *height 750*	18
SF2 *height 900*	19
SF2 *height 1050*	20
SF2 *height 1200*	22
SF2 *height 1350*	23
SF2 *height 1500*	24

Table 3: **RESPONSE TIME (ms)**

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