Safety Light Curtain
Type SC2
Presence Control Series

CARLO GAVAZZI

- Integrated light curtain for presence control
- Up to 19m operating distance
- Controlled heights ranging from 300 to 1500 mm
- New sturdy profile and rotating brackets
- Reset/Text + Automatic Restart
- Ideal for Industrial Applications, such as:
    - Automatic machines
    - Machines for packaging, material handling and storing
    - Weaving machines, wood-working machines and ceramic working machines
    - Automatic and semi-automatic assembly lines
    - Automatic warehouses

Approvals

CE   TÜV SÜDDEUTSCHLAND   RoHS COMPLIANT   c UL us

Ordering Key

SC 2 AR 90 300 D19

Safety Light Curtains
Category
Function
(AR: Automatic Restart)
Resolution
Protected height
Operating distance

Product Description

The new SC2 range of hand resolution (90mm) safety light curtains offers improved response times, among the lowest in the market, allowing the installation of the safety light curtains nearer to the dangerous area. Better than competition response times combined with new sturdy and more functional compact body (32x37mm profile), make the new SC2 range one of the best performing safety light curtains for industrial applications. Also the quicker installation, thanks to new rotating fixing brackets, eases aligment in the harshest conditions, which together with full compatibility with the former SB range makes the new SC range a natural industrial automation evolution and choice.

Model Selection

Model	Description
SC2	
SC2-AR-90-300-D19	Type 2 safety light curtain h=300mm
SC2-AR-90-450-D19	Type 2 safety light curtain h=450mm
SC2-AR-90-600-D19	Type 2 safety light curtain h=600mm
SC2-AR-90-750-D19	Type 2 safety light curtain h=750mm
SC2-AR-90-900-D19	Type 2 safety light curtain h=900mm
SC2-AR-90-1050-D19	Type 2 safety light curtain h=1050mm
SC2-AR-90-1200-D19	Type 2 safety light curtain h=1200mm
SC2-AR-90-1350-D19	Type 2 safety light curtain h=1350mm
SC2-AR-90-1500-D19	Type 2 safety light curtain h=1500mm

General Data

Power Supply	24VDC ± 20%	**Response time**	Refer to page 4 table
Consuption (emitter)	2W max	**Controlled height**	300... 1500 mm
Consuption (receiver)	3.5W max (without load)	**Safety category**	Type 2
OSSD output	2 PNP	**Auxiliary functions**	Reset / Test and Auto Restart
Short-circuit protection	1.4 A max	**Electrical protection**	Class I / Class III
Output current	0.5A max on each output	**Connection**	M12 4-pole for emitter
Output voltage - ON status	Vdd - 1V min		M12 5-pole for receiver
Output voltage - OFF status	0.2 V max.	**Cable lenght**	50m max
Leakage current	< 1mA	**Electrical connection**	Class I / Class III
Capacitive load	2.2uF @ 24VDC max		

Specifications are subject to change without notice. Pictures are just an example. For special features and/or customization, please ask to our sales network 23/05/2014

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Optical Data

Light emission	Infrared LED (950 nm)		Aperture angle (EAA)	± 5°
Resolution	90mm		Ambient light rejection	IEC-61496-2
Operating distance	0.2... 19m			

Mechanical and Environmental Data

Operating temperature	0... + 55°C		Mechanical protection	IP65 (EN 60529)
Storage temperature	-25°... +70°C		Shock resistance	16 ms (10 G) 1.000 shock per axis
Temperature class	T6			
Humidity	15... 95% (non condensing)		Housing material	Painted alluminium
Vibration	Width 0.35mm Frequency 10... 55 Hz 20 sweep per axis, 1 octave/min (EN 60068-2-6)		Protective shield material	PMMA
			Cap material	PC MAKROLON
			Weight	1 KG / m

Indicators and Settings
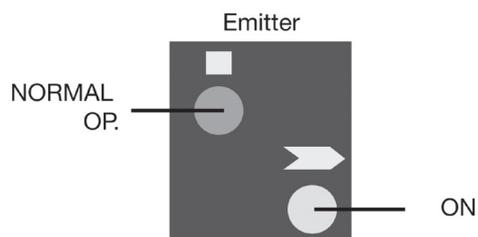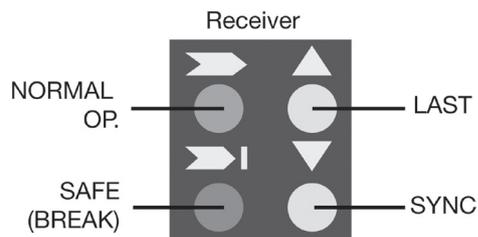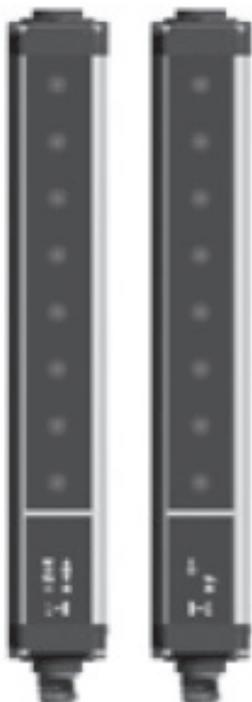
Connections

RX: M12 5-POLE CONNECTOR

OSSD1 — 2   1 — +24VDC

5 — TEST / RESET

0V — 3   4 — OSSD2

TX: M12 4-POLE CONNECTOR

EMITTER (TX)

NOT USED — 2   1 — +24VDC

0V — 3   4 — NOT USED
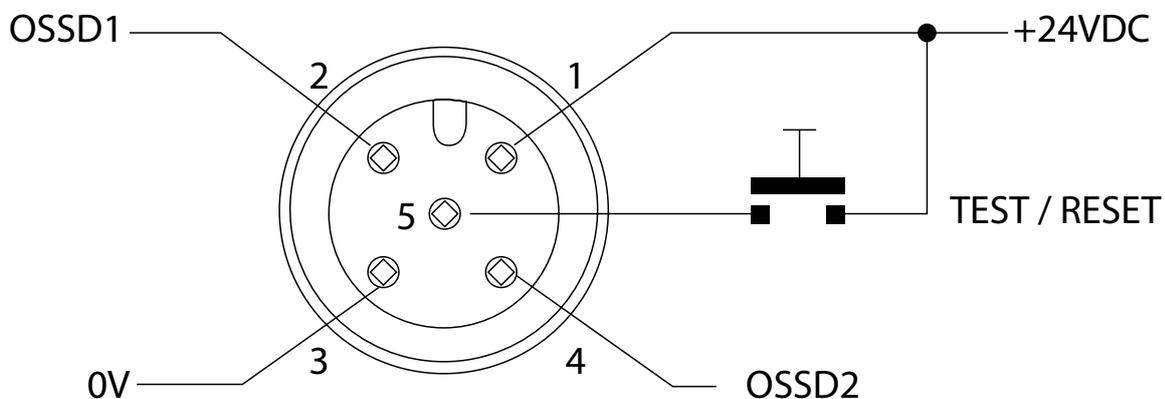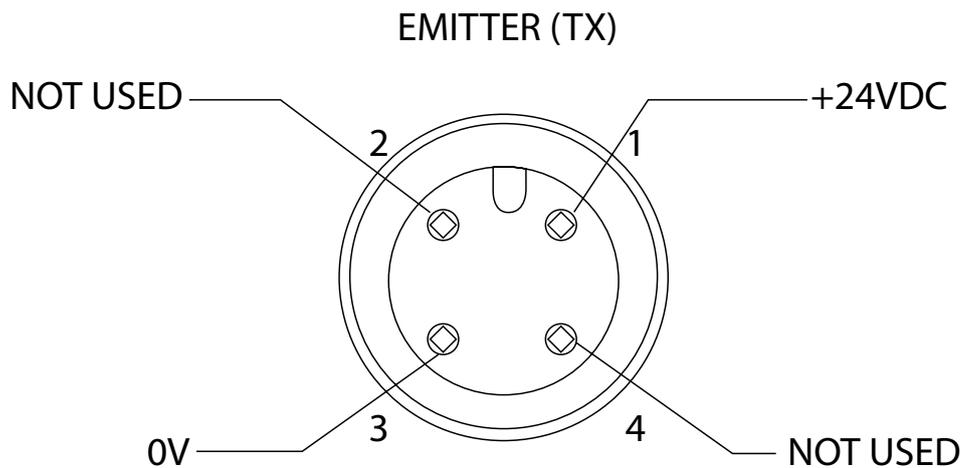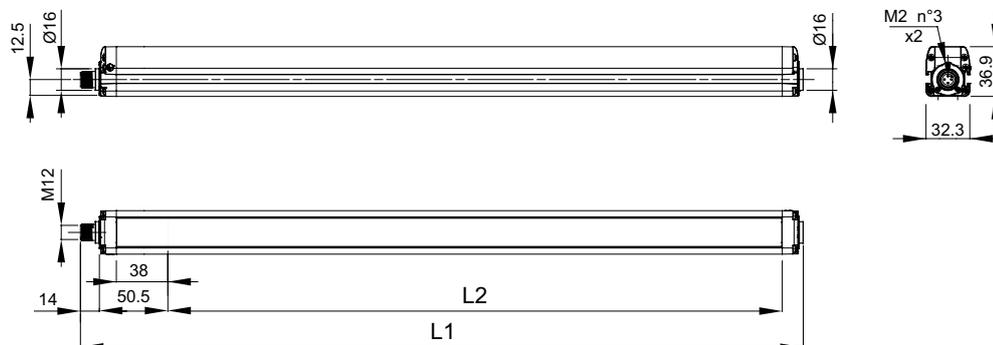
1 = Brown = 24VDC
2 = White = OSSD1
3 = Blue = 0 V
4 = Black = OSSD2
5 = Grey = TEST / RESET

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

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Dimensions

Version	L₁	L₂
SC2-AR-90-300-D19	383.2	303.2
SC2-AR-90-450-D19	533.2	453.3
SC2-AR-90-600-D19	683.2	603.2
SC2-AR-90-750-D19	833.2	753.3
SC2-AR-90-900-D19	983.2	903.2
SC2-AR-90-1050-D19	1133.2	1053.2
SC2-AR-90-1200-D19	1283.3	1203.3
SC2-AR-90-1350-D19	1433.2	1353.2
SC2-AR-90-1500-D19	1583.3	1503.3

Number of Controlled Beams	
SC2 height 300	5
SC2 height 450	7
SC2 height 600	9
SC2 height 750	11
SC2 height 900	13
SC2 height 1050	15
SC2 height 1200	17
SC2 height 1350	19
SC2 height 1500	21

Controlled Height (mm)	
SC2 height 300	300
SC2 height 450	450
SC2 height 600	600
SC2 height 750	750
SC2 height 900	900
SC2 height 1050	1050
SC2 height 1200	1200
SC2 height 1350	1350
SC2 height 1500	1500

Response Time (ms)	
SC2 height 300	9
SC2 height 450	10
SC2 height 600	11
SC2 height 750	12
SC2 height 900	13
SC2 height 1050	14
SC2 height 1200	15
SC2 height 1350	16
SC2 height 1500	17

| Reliability Data SC2	
PL (Ref. EN ISO 13849-1)	d
CAT (Ref. EN 954-1)	2
SIL (Ref. EN 954-1)	2
SIL CL (Ref. EN IEC 62061)	2
PHFD - Probability of Danger Failure (1/h)	1.04E-08
T1 - Life Time (years)	20
MTTFD - Mean Time to Danger Failure (years)	273
DC - Diagnostic Coverage (%)	97.50%
SFF - Safe Failure Fraction (%)	98.40%
HTF - Hardware Fault Tolerance	0

Accessory Table

| SC FB4P	Std mounting brackets 4 pcs kit
SC AV4P	Anti Vibration supports 4 pcs kit
SC AV6P	Anti Vibration supports 6 pcs kit
SC OS4P	Orientable Supports 4 pcs kit
SC OS6P	Orientable Supports 6 pcs kit
SC TP14	Test Piece Ø 14mm L = 300mm
SC TP30	Test Piece Ø 30mm L = 300mm

Standard Mounting Brackets

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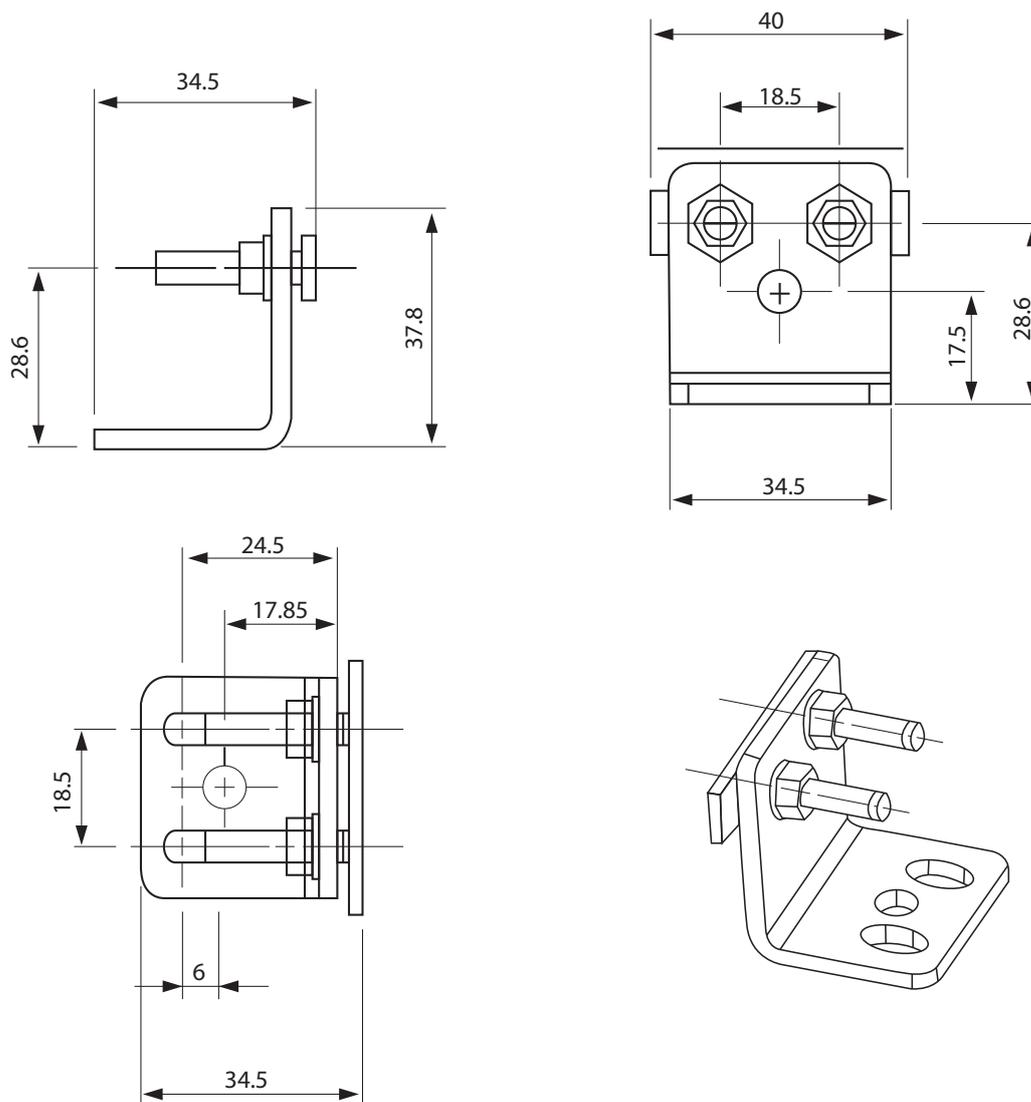
Installation with Anti-Vibration Supports
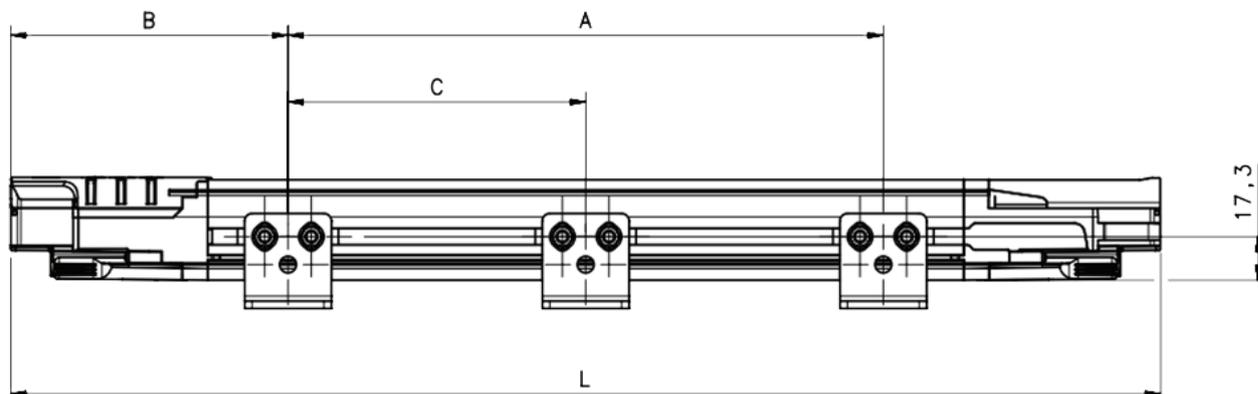
Models	L (mm)	A (mm)	B (mm)	C (mm)
SC2-AR-90-300-D19	366.2	216	75	-
SC2-AR-90-450-D19	516.3	316	100	-
SC2-AR-90-600-D19	666.2	366	150	-
SC2-AR-90-750-D19	816.3	466	175	-
SC2-AR-90-900-D19	966.2	566	200	-
SC2-AR-90-1050-D19	1116.2	666	225	-
SC2-AR-90-1200-D19	1266.3	966	150	483
SC2-AR-90-1350-D19	1416.2	1066	175	533
SC2-AR-90-1500-D19	1566.3	1166	200	583

Installation with anti-vibration supports

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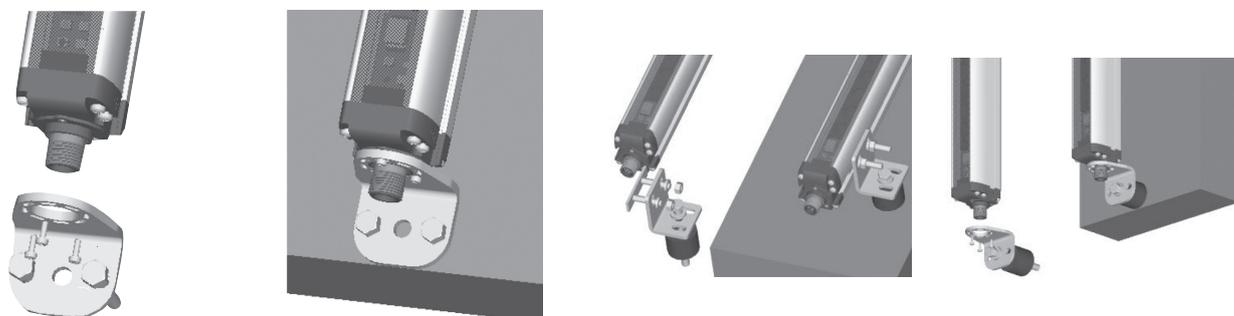
Connection Cables

Cable part number	Description
CONGSC-4P-5M	4 poles, 5m cable
CONGSC-4P-7M	4 poles, 7m cable
CONGSC-5P-5M	5 poles, 5m cable
CONGSC-5P-7M	5 poles, 7m cable
CONGSC-8P-5M	8 poles, 5m cable
CONGSC-8P-7M	8 poles, 7m cable

Ordering key:

CONG = cable group
SC = safety light curtains
xP = number of poles
xM = cable length