

SC

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Safety Light Curtain Type SC4 Hand Series

CARLO GAVAZZI



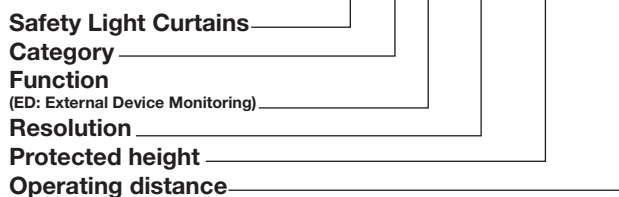
- Integrated light curtain for hand protection (30 mm resolution)
- Up to 19m operating distance
- Controlled heights ranging from 150 to 1650 mm
- Compact profile 32 x 37mm
- Selectable EDM and Manual / Automatic Restart
- Ideal for Industrial Applications, such as:
 - Automatic machines
 - Packaging and Cutting machines
 - Textile
 - Wood-working and Ceramic machines
 - Automatic Assembling lines
 - Milling, lathe and shearing machines
 - Bending and metal working machines

Approvals



Ordering Key

SC 4 ED 30 300 D19



Product Description

The SC4 range of 30mm finger resolution simplifies installation, connection and use.

Installation simplification, via new rotating fixing brackets to ease alignment.

Connection simplification, using standard connectors, making no connection between emitter and receiver necessary.

Use simplification, featuring alignment guided by a 7 segment double display on

both the emitter and the receiver. Its new sturdy and more functional compact body (32x37mm profile) together with the selectable EDM and Manual/Automatic Restart function, its improved response

time, and the full compatibility with the former SB range make the new SC4 range one of the best performing safety light curtains for industrial applications.

Model Selection

Model	Description
SC4	
SC4-ED-30-150-D19	Type 4 safety light curtain h=150mm
SC4-ED-30-300-D19	Type 4 safety light curtain h=300mm
SC4-ED-30-450-D19	Type 4 safety light curtain h=450mm
SC4-ED-30-600-D19	Type 4 safety light curtain h=600mm
SC4-ED-30-750-D19	Type 4 safety light curtain h=750mm
SC4-ED-30-900-D19	Type 4 safety light curtain h=900mm
SC4-ED-30-1050-D19	Type 4 safety light curtain h=1050mm
SC4-ED-30-1200-D19	Type 4 safety light curtain h=1200mm
SC4-ED-30-1350-D19	Type 4 safety light curtain h=1350mm
SC4-ED-30-1500-D19	Type 4 safety light curtain h=1500mm
SC4-ED-30-1650-D19	Type 4 safety light curtain h=1650mm

General Data

Power Supply	24VDC ± 20%	Response time	Refer to table in page 4
Consumption (emitter)	2.5W max	Controlled height	300... 1650 mm
Consumption (receiver)	4 max (without load)	Safety category	Type 4
OSSD output	2 PNP	Auxiliary functions	Reset / Test Selectable Man./Auto Restart Selectable EDM
Short-circuit protection	1.4 A max	Electrical protection	Class I / Class II
Output current	0.5A max on each output	Connection	M12 4-pole for emitter M12 8-pole for receiver
Output voltage - ON status	Vdd - 1V min	Cable length	50m max
Output voltage - OFF status	0.2 V		
Leakage current	< 1mA		
Capacitive load	2.2uF @ 24VDC max		

Optical Data

Light emission	Infrared LED (950 nm)	Aperture angle (EAA)	± 2.5° max
Resolution	30mm	Ambient light rejection	IEC-61496-2
Operating distance	0.2... 19m		

Mechanical and Environmental Data

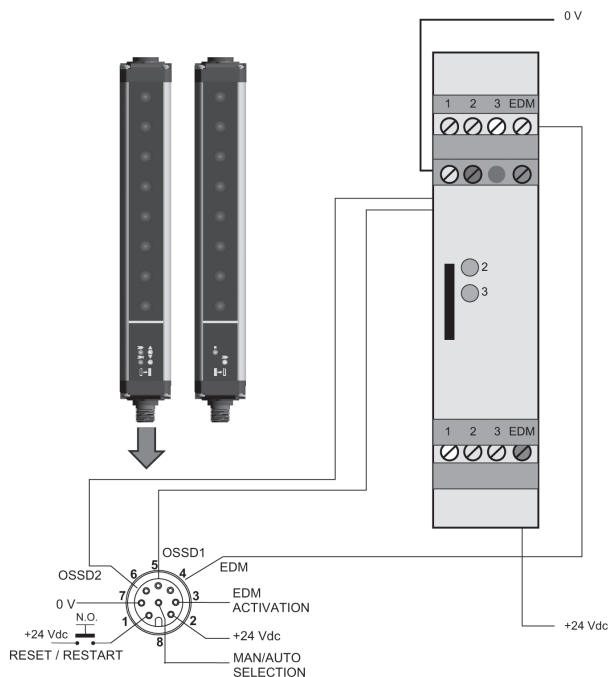
Operating temperature	0... + 55°C	Shock resistance	16 ms (10 G) 1.000 shock per axis
Storage temperature	-25°... +70°C	Housing material	Painted alluminium
Temperature class	T6	Protective shield material	PMMA
Humidity	15... 95% (non condensing)	Cap material	PC MAKROLON
Mechanical protection	IP65 (EN 60529)	Weight	1.3 KG / m
Vibration	Width 0.35mm Frequency 10... 55 Hz 20 sweep per axis, 1 octave/min (EN 60068-2-6)		

Function

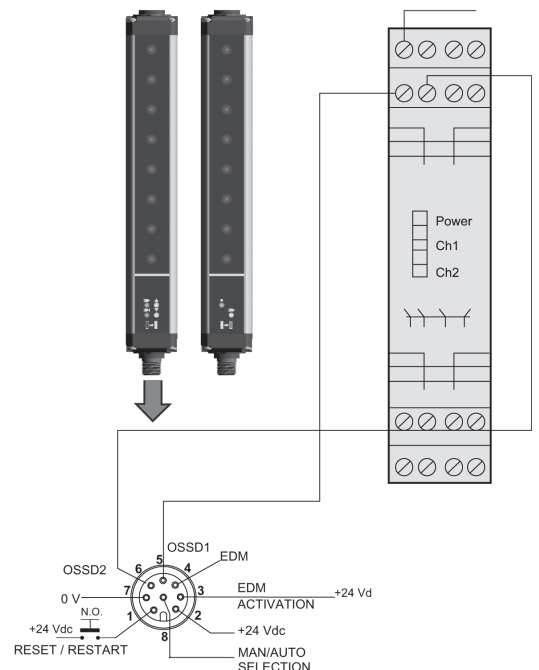
EDM

The **EDM** function allows to connect the light barrier to a couple of simple forced-guided safety relays instead to a Type 4 safety relay and thus guaranteeing economical advantage.

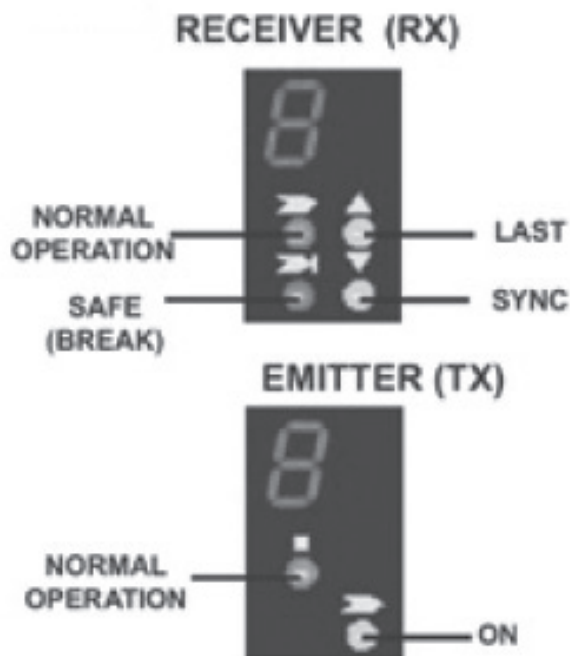
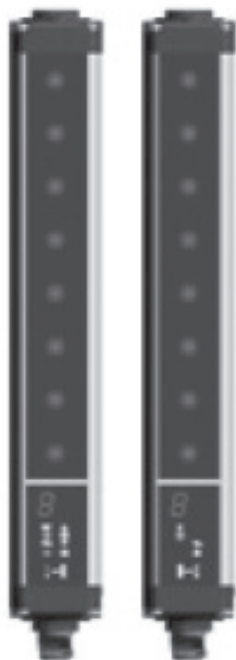
Connection with EDM function



Connection without EDM function



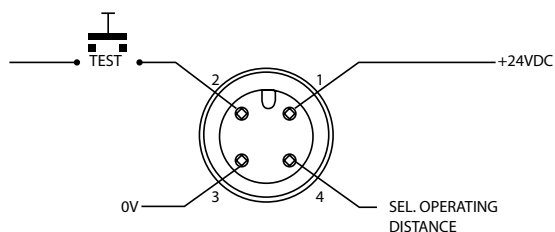
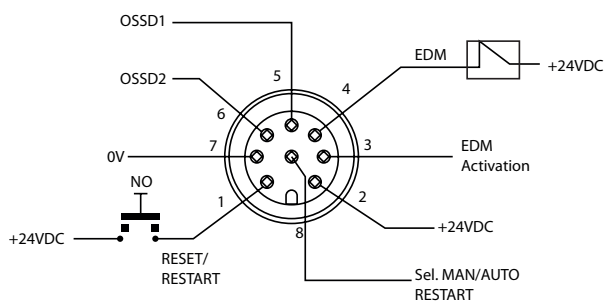
Indicators and Settings



Connections

RX: M12 8-POLE CONNECTOR

TX: M12 4-POLE CONNECTOR



- 1 = White = RESET*
- 2 = Brown = +24VDC
- 3 = Green = EDM Activation**
- 4 = Yellow = EDM
- 5 = Grey = OSSD1
- 6 = Pink = OSSD2
- 7 = Blue = 0 V
- 8 = Red = SEL MAN / AUTO RESTART

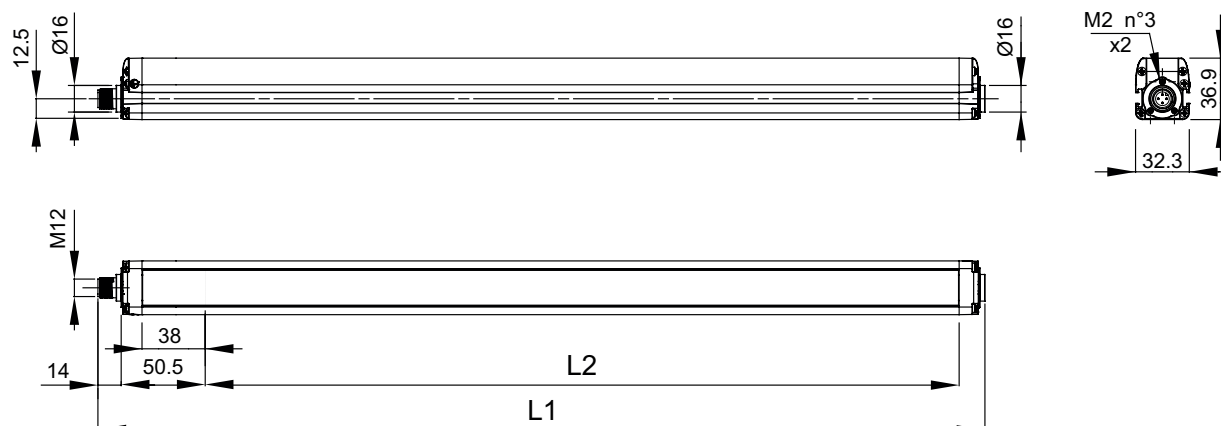
- 1 = Brown = +24VDC
- 2 = White = TEST
- 3 = Blue = 0 V
- 4 = Black = NOT USED

*Automatic RESTART - RESET function
Manual RESTART - RESET /RESTART function

**Refer to "SC4: functions"

NOTE: For MANUAL RESTART CONNECT TOGETHER Pin8 with Pin6.
For Automatic Restart connect together Pin8 with Pin5

Dimensions



Version	L ₁	L ₂
SC4-ED-30-300-D19	383.2	303.2
SC4-ED-30-450-D19	533.2	453.3
SC4-ED-30-600-D19	683.2	603.2
SC4-ED-30-750-D19	833.2	753.3
SC4-ED-30-900-D19	983.2	903.2
SC4-ED-30-1050-D19	1133.2	1053.2
SC4-ED-30-1200-D19	1283.2	1203.3
SC4-ED-30-1350-D19	1433.2	1353.2
SC4-ED-30-1500-D19	1583.3	1503.3
SC4-ED-30-1650-D19	1733.3	1653.3

Number of Controlled Beams	
SC4 height 300	16
SC4 height 450	24
SC4 height 600	32
SC4 height 750	40
SC4 height 900	48
SC4 height 1050	56
SC4 height 1200	64
SC4 height 1350	72
SC4 height 1500	80
SC4 height 1650	88

Controlled Height (mm)	
SC4 height 300	300
SC4 height 450	450
SC4 height 600	600
SC4 height 750	750
SC4 height 900	900
SC4 height 1050	1050
SC4 height 1200	1200
SC4 height 1350	1350
SC4 height 1500	1500
SC4 height 1650	1650

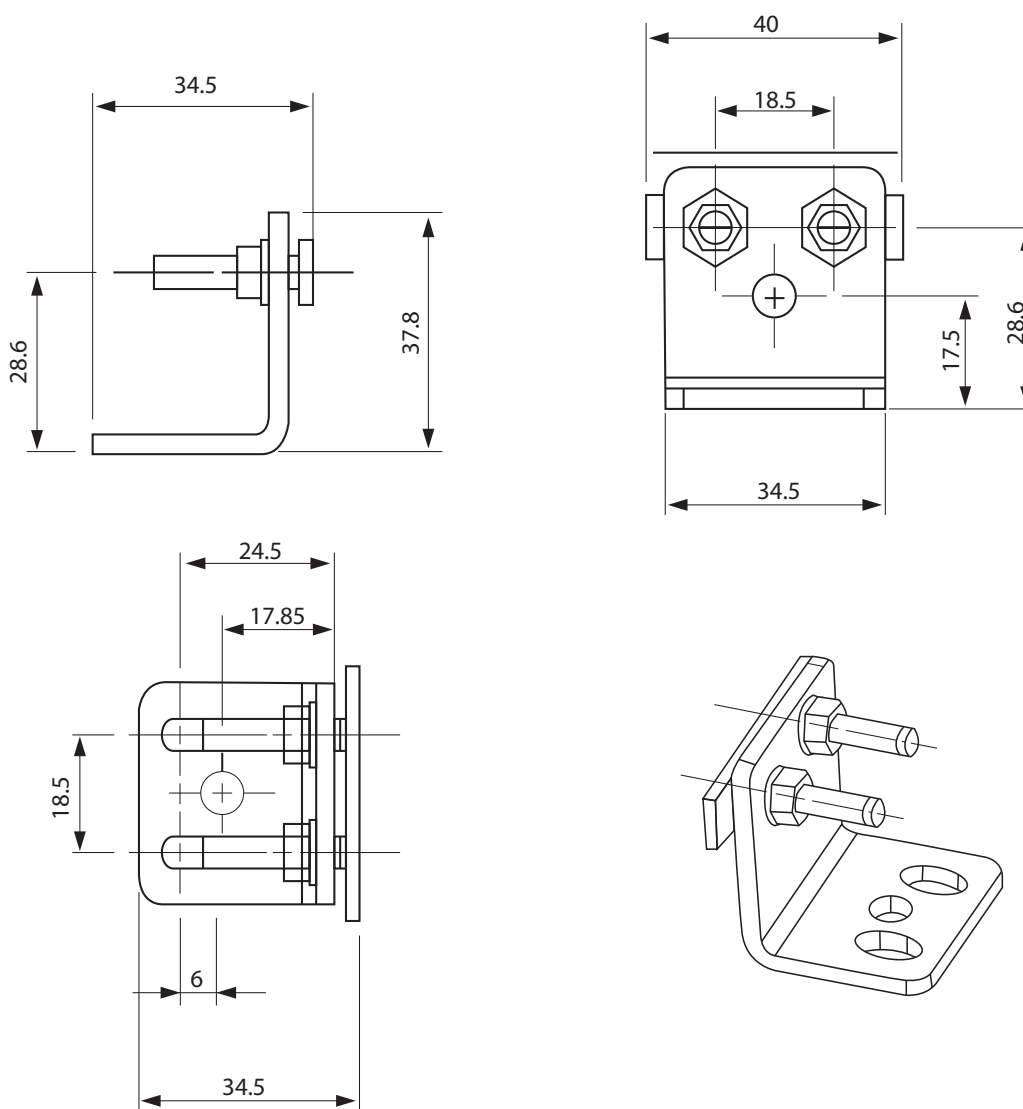
Response Time (ms)	
SC4 height 300	11
SC4 height 450	13
SC4 height 600	14
SC4 height 750	16
SC4 height 900	18
SC4 height 1050	19
SC4 height 1200	21
SC4 height 1350	23
SC4 height 1500	25
SC4 height 1650	26

Reliability Data SC4	
PL (Ref. EN ISO 13849-1)	e
CAT (Ref. EN 954-1)	4
SIL (Ref. EN 954-1)	3
SIL CL (Ref. EN IEC 62061)	3
PHFD - Probability of Danger Failure (1/h)	2.64E-09
T1 - Life Time (years)	20
MTTFD - Mean Time to Danger Failure (years)	444
DC - Diagnostic Coverage (%)	98.80%
SFF - Safe Failure Fraction (%)	99.30%
HTF - Hardware Fault Tolerance	1

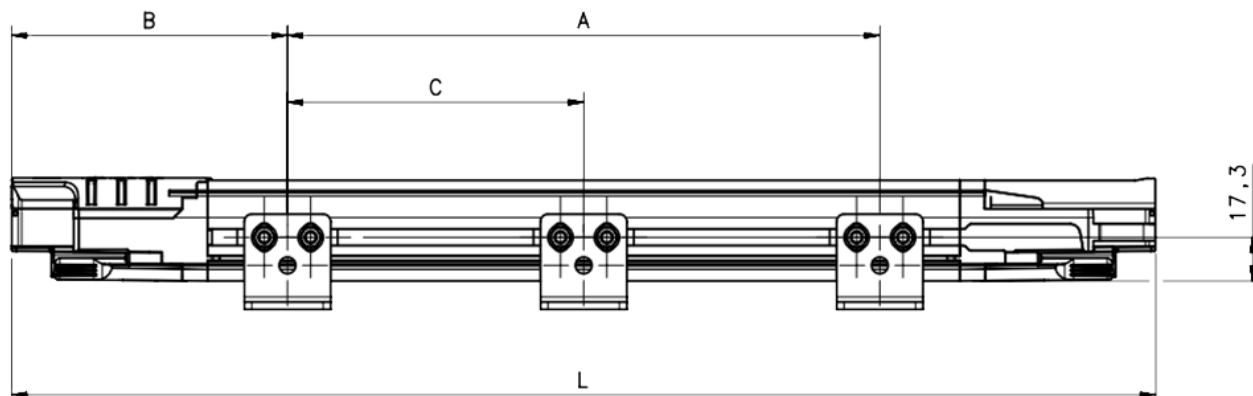
Accessory Table

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	Orienable Supports 4 pcs kit
SC OS6P	Orienable Supports 6 pcs kit
SC TP14	Test Piece Ø 14mm L = 300mm
SC TP30	Test Piece Ø 30mm L = 300mm

Standard Mounting Brackets

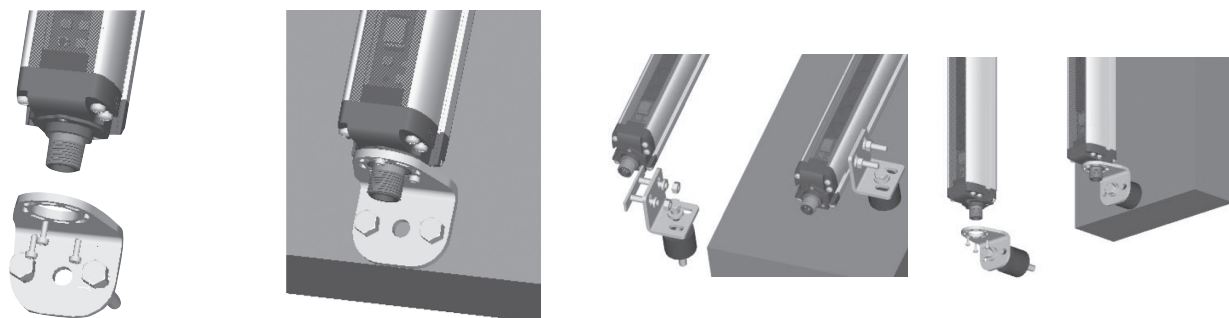


Installation with Anti-Vibration Supports



Models	L (mm)	A (mm)	B (mm)	C (mm)
SC4-ED-30-300-D19	216.3	108	54	-
SC4-ED-30-450-D19	366.2	216	75	-
SC4-ED-30-600-D19	516.3	316	100	-
SC4-ED-30-750-D19	666.2	366	150	-
SC4-ED-30-900-D19	816.3	466	175	-
SC4-ED-30-1050-D19	966.2	566	200	-
SC4-ED-30-1200-D19	1116.2	666	225	-
SC4-ED-30-1350-D19	1266.3	1066	150	483
SC4-ED-30-1500-D19	1566.3	1166	200	583
SC4-ED-30-1650-D19	1866.3	1366	250	633

Installation with anti-vibration supports





Connection Cables

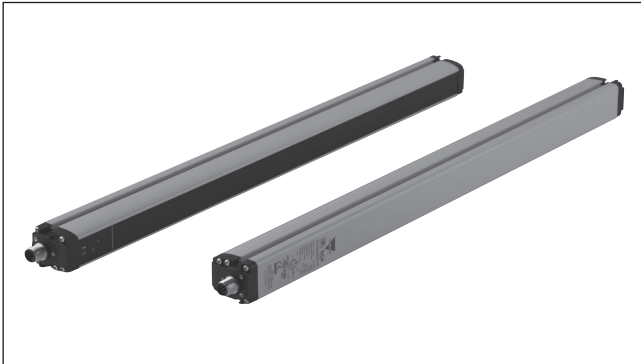
Cable part number	Description
CONGSC-4P-5M	4 poles, 5m cable
CONGSC-4P-7M	4 poles, 7m cable
CONGSC-5P-5M	5 poles, 5m cable
CONGSC-5P-7M	5 poles, 7m cable
CONGSC-8P-5M	8 poles, 5m cable
CONGSC-8P-7M	8 poles, 7m cable

Ordering key:

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

Safety Light Curtain Type SC4 Finger Series

CARLO GAVAZZI



- Integrated light curtain for finger protection (14 mm resolution)
- Up to 6m operating distance
- Controlled heights ranging from 150 to 1200 mm
- Compact profile 32 x 37mm
- Selectable EDM and Manual / Automatic Restart
- Ideal for Industrial Applications, such as:
 - Automatic machines
 - Packaging and Cutting machines
 - Textile
 - Wood-working and Ceramic machines
 - Automatic Assembling lines
 - Milling, lathe and shearing machines.
 - Bending and metal working machines

Approvals



Ordering Key

SC 4 ED 14 300 D6

Safety Light Curtains	_____
Category	_____
Function (ED: External Device Monitoring)	_____
Resolution	_____
Protected height	_____
Operating distance	_____

Product Description

The SC4 range of 14mm finger resolution simplifies installation, connection and use.

Installation simplification, via new rotating fixing brackets to ease alignment.

Connection simplification, using standard connectors, making no connection between emitter and receiver necessary.

Use simplification, featuring alignment guided by a 7

segment double display on both the emitter and the receiver. Its new sturdy and more functional compact body (32x37mm profile) together with the selectable EDM and Manual/Automatic

Restart function, its improved response time, and the full compatibility with the former SB range make the new SC4 range one of the best performing safety light curtains for industrial applications.

Model Selection

Model	Description
SC4	
SC4-ED-14-150-D6	Type 4 safety light curtain h=150mm
SC4-ED-14-300-D6	Type 4 safety light curtain h=300mm
SC4-ED-14-450-D6	Type 4 safety light curtain h=450mm
SC4-ED-14-600-D6	Type 4 safety light curtain h=600mm
SC4-ED-14-750-D6	Type 4 safety light curtain h=750mm
SC4-ED-14-900-D6	Type 4 safety light curtain h=900mm
SC4-ED-14-1050-D6	Type 4 safety light curtain h=1050mm
SC4-ED-14-1200-D6	Type 4 safety light curtain h=1200mm

General Data

Power Supply	24VDC ± 20%	Response time	Refer to table in page 4
Consumption (emitter)	2.5W max	Controlled height	150... 1200 mm
Consumption (receiver)	4 max (without load)	Safety category	Type 4
OSSD output	2 PNP	Auxiliary functions	Reset / Test Selectable Man./Auto Restart Selectable EDM
Short-circuit protection	1.4 A max	Electrical protection	Class I / Class II
Output current	0.5A max on each output	Connection	M12 4-pole for emitter M12 8-pole for receiver
Output voltage - ON status	Vdd - 1V min	Cable length	50m max
Output voltage - OFF status	0.2 V		
Leakage current	< 1mA		
Capacitive load	2.2uF @ 24VDC max		

Optical Data

Light emission	Infrared LED (950 nm)	Aperture angle (EAA)	± 2.5°
Resolution	14mm	Ambient light rejection	IEC-61496-2
Operating distance	0.2... 6m		

Mechanical and Environmental Data

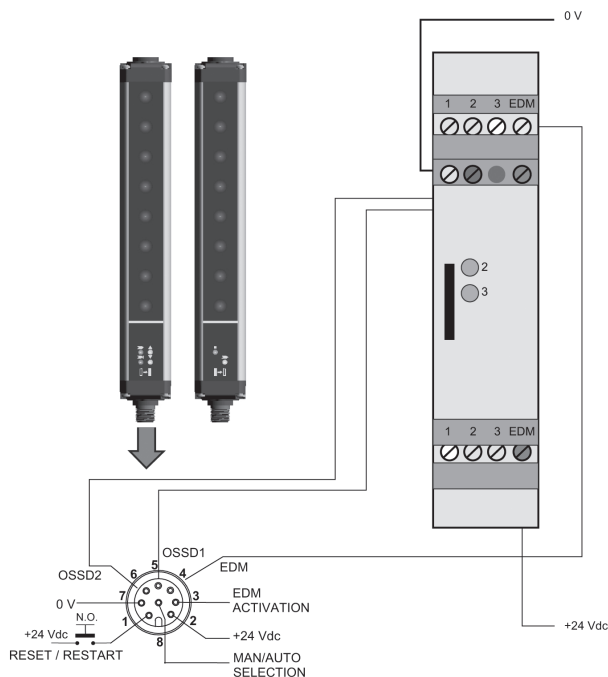
Operating temperature	0... + 55°C	Shock resistance	16 ms (10 G) 1.000 shock per axis
Storage temperature	-25°... +70°C	Housing material	Alluminium
Temperature class	T6	Protective shield material	PMMA
Humidity	15... 95% (non condensing)	Cap material	PC MAKROLON
Mechanical protection	IP65 (EN 60529)	Weight	1.3 KG / m
Vibration	Width 0.35mm Frequency 10... 55 Hz 20 swep per axis, 1 octave/min (EN 60068-2-6)		

Function

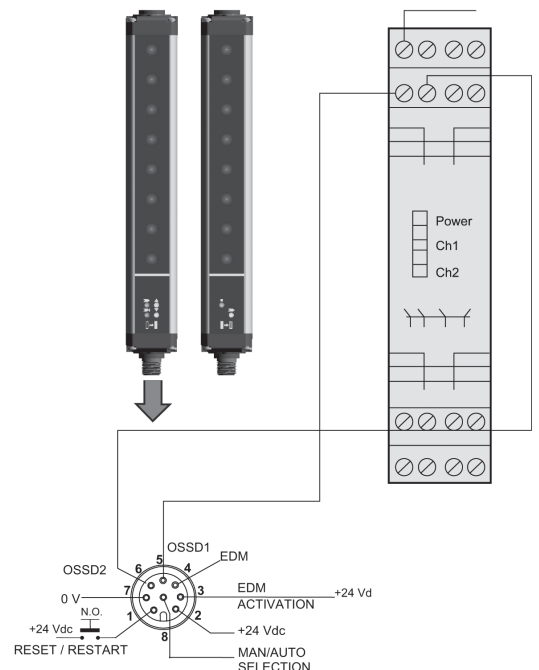
EDM

The EDM function allows to connect the light barrier to a couple of simple forced-guided safety relays instead to a Type 4 safety relay and thus guaranteeing economical advantage.

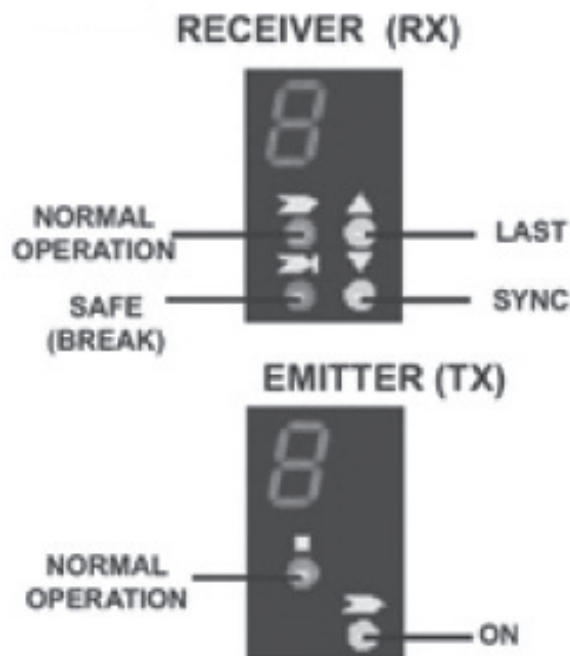
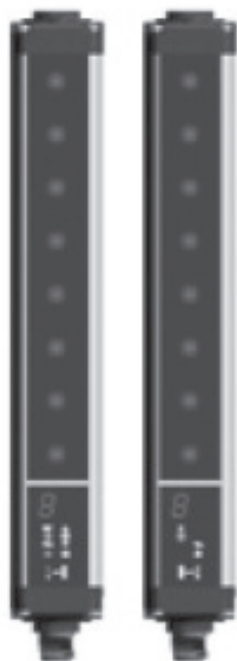
Connection with EDM function



Connection without EDM function



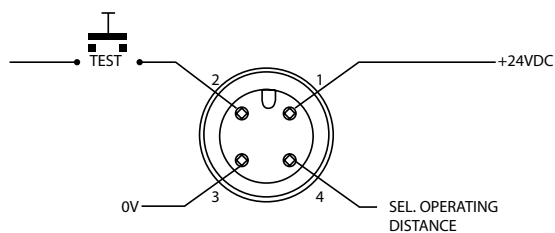
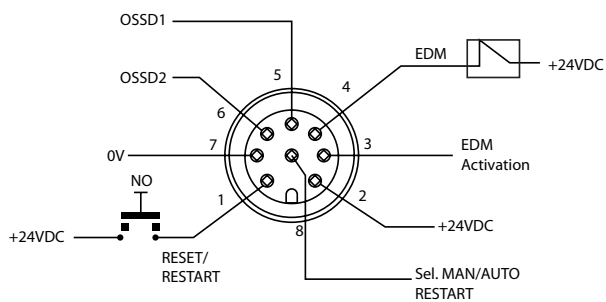
Indicators and Settings



Connections

RX: M12 8-POLE CONNECTOR

TX: M12 4-POLE CONNECTOR



- 1 = White = RESET*
- 2 = Brown = +24VDC
- 3 = Green = EDM Activation**
- 4 = Yellow = EDM
- 5 = Grey = OSSD1
- 6 = Pink = OSSD2
- 7 = Blue = 0 V
- 8 = Red = SEL MAN / AUTO RESTART

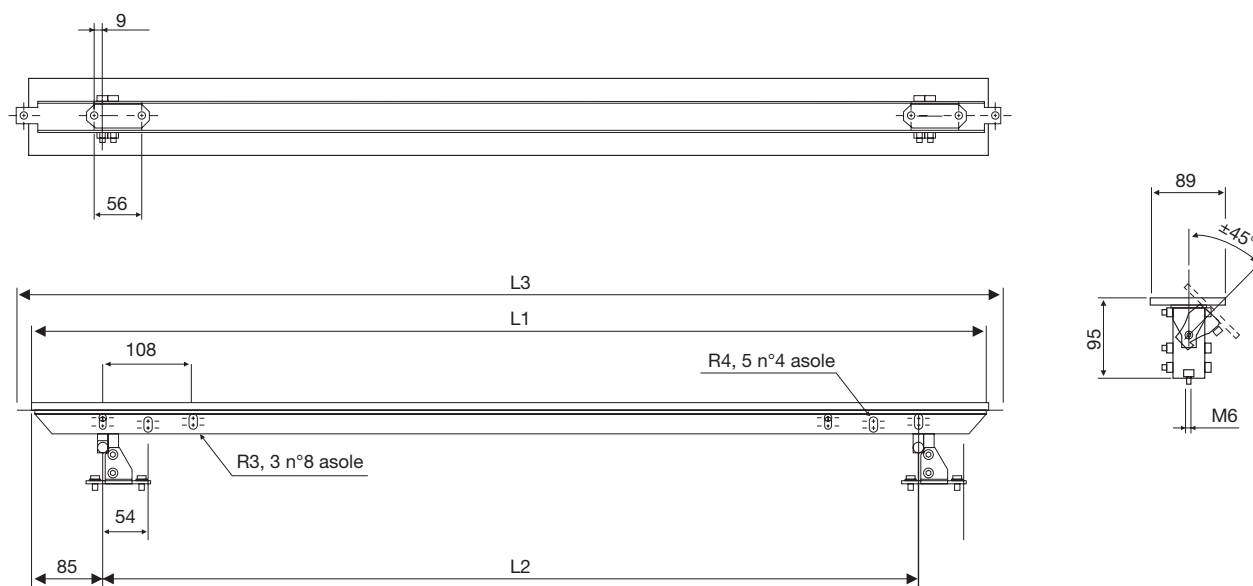
- 1 = Brown = +24VDC
- 2 = White = TEST
- 3 = Blue = 0 V
- 4 = Black = NOT USED

*Automatic RESTART - RESET function
Manual RESTART - RESET /RESTART function

**Refer to "SC4: functions"

NOTE: For MANUAL RESTART CONNECT TOGETHER Pin8 with Pin6.
For Automatic Restart connect together Pin8 with Pin5

Dimensions



Version	L ₁	L ₂
SC4-ED-14-150-D6	233.3	153.3
SC4-ED-14-300-D6	383.2	303.2
SC4-ED-14-450-D6	533.2	453.3
SC4-ED-14-600-D6	683.2	603.2
SC4-ED-14-750-D6	833.2	753.3
SC4-ED-14-900-D6	983.2	903.2
SC4-ED-14-1050-D6	1133.2	1053.2
SC4-ED-14-1200-D6	1283.2	1203.3

Number of Controlled Beams	
SC4 height 150	16
SC4 height 300	32
SC4 height 450	48
SC4 height 600	64
SC4 height 750	80
SC4 height 900	96
SC4 height 1050	112
SC4 height 1200	128

Controlled Height (mm)	
SC4 height 150	150
SC4 height 300	300
SC4 height 450	450
SC4 height 600	600
SC4 height 750	750
SC4 height 900	900
SC4 height 1050	1050
SC4 height 1200	1200

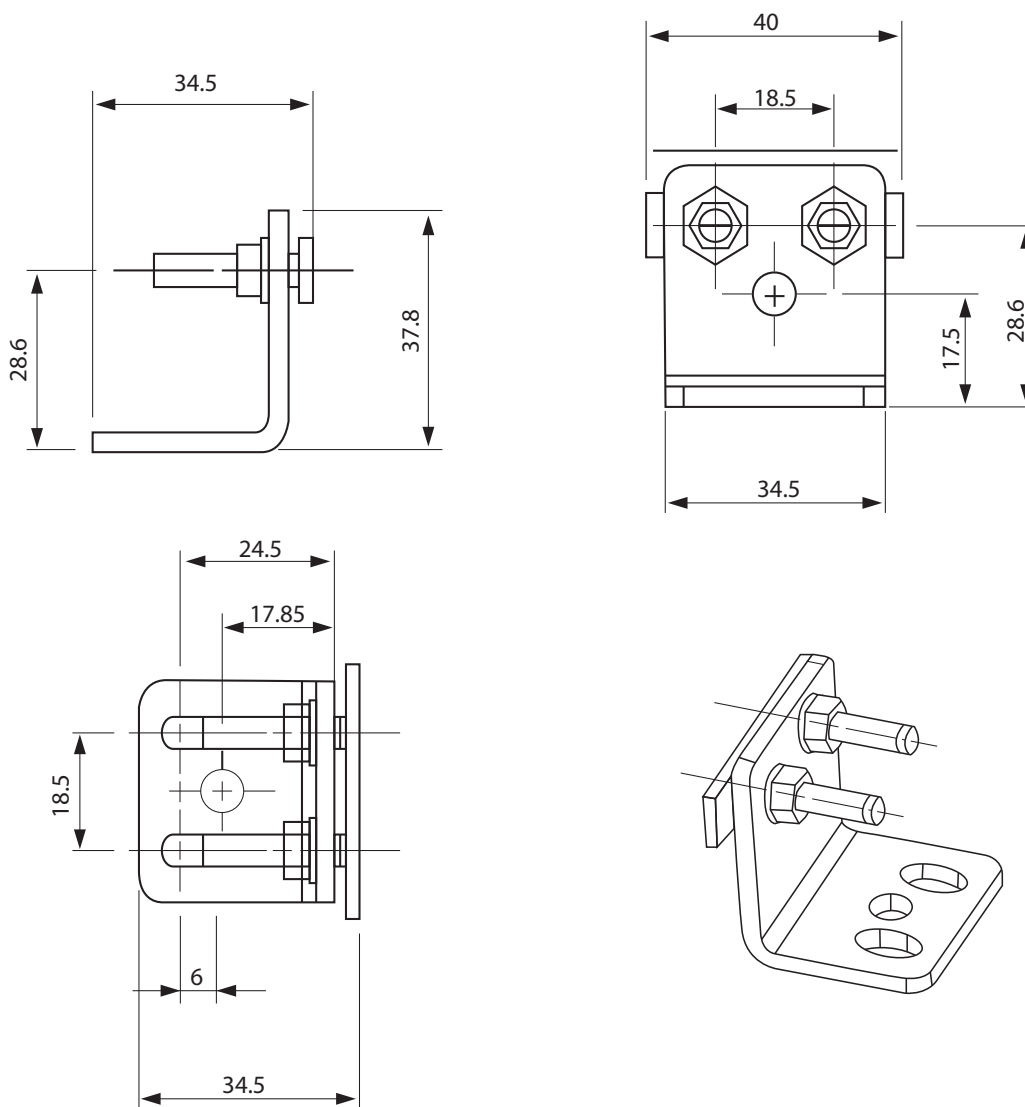
Response Time (ms)	
SC4 height 150	11
SC4 height 300	15
SC4 height 450	18
SC4 height 600	22
SC4 height 750	25
SC4 height 900	29
SC4 height 1050	33
SC4 height 1200	36

Reliability Data SC4	
PL (Ref. EN ISO 13849-1)	e
CAT (Ref. EN 954-1)	4
SIL (Ref. EN 954-1)	3
SIL CL (Ref. EN IEC 62061)	3
PHFD - Probability of Danger Failure (1/h)	2.64E-09
T1 - Life Time (years)	20
MTTFD - Mean Time to Danger Failure (years)	444
DC - Diagnostic Coverage (%)	98.80%
SFF - Safe Failure Fraction (%)	99.30%
HTF - Hardware Fault Tolerance	1

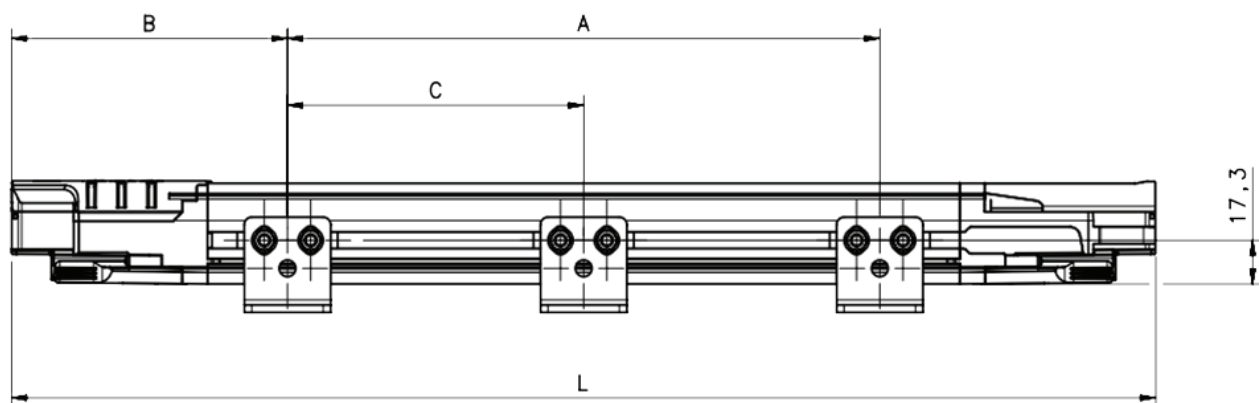
Accessory Table

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	Orienable Supports 4 pcs kit
SC OS6P	Orienable Supports 6 pcs kit
SC TP14	Test Piece Ø 14mm L = 300mm
SC TP30	Test Piece Ø 30mm L = 300mm

Standard Mounting Brackets

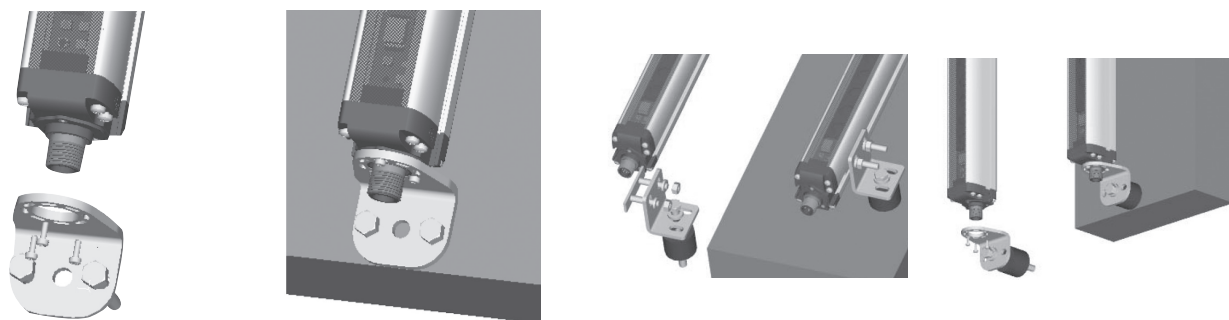


Installation with Anti-Vibration Supports



Models	L (mm)	A (mm)	B (mm)	C (mm)
SC4-ED-14-150-D6	216.3	108	54	-
SC4-ED-14-300-D6	366.2	216	75	-
SC4-ED-14-450-D6	516.3	316	100	-
SC4-ED-14-600-D6	666.2	366	150	-
SC4-ED-14-750-D6	816.3	466	175	-
SC4-ED-14-900-D6	966.2	566	200	-
SC4-ED-14-1050-D6	1116.2	666	225	-
SC4-ED-14-1200-D6	1266.3	1066	150	483

Installation with anti-vibration supports



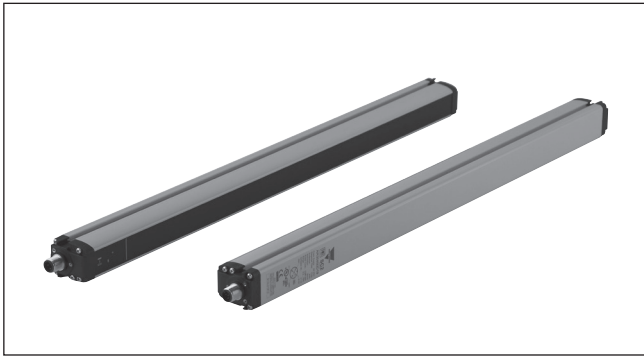
Connection Cables

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

Safety Light Curtain Type SC2 Presence Control Series



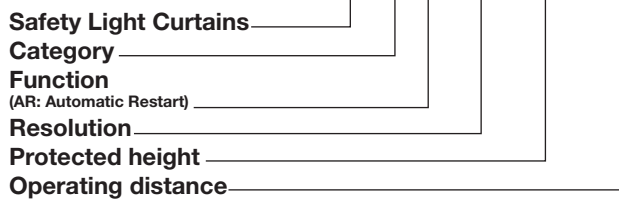
- Integrated light curtain for presence control
- Up to 19m operating distance
- Controlled heights ranging from 300 to 1500 mm
- New sturdy profile and rotating brackets
- Reset/Text + Automatic Restart
- Ideal for Industrial Applications, such as:
 - Automatic machines
 - Machines for packaging, material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

Approvals



Ordering Key

SC 2 AR 90 300 D19



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 alignment 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%
Consumption (emitter)	2W max
Consumption (receiver)	3.5W max (without load)
OSSD output	2 PNP
Short-circuit protection	1.4 A max
Output current	0.5A max on each output
Output voltage - ON status	Vdd - 1V min
Output voltage - OFF status	0.2 V max.
Leakage current	< 1mA
Capacitive load	2.2uF @ 24VDC max

Response time	Refer to page 4 table
Controlled height	300... 1500 mm
Safety category	Type 2
Auxiliary functions	Reset / Test and Auto Restart
Electrical protection	Class I / Class III
Connection	M12 4-pole for emitter M12 5-pole for receiver
Cable lenght	50m max
Electrical connection	Class I / Class III

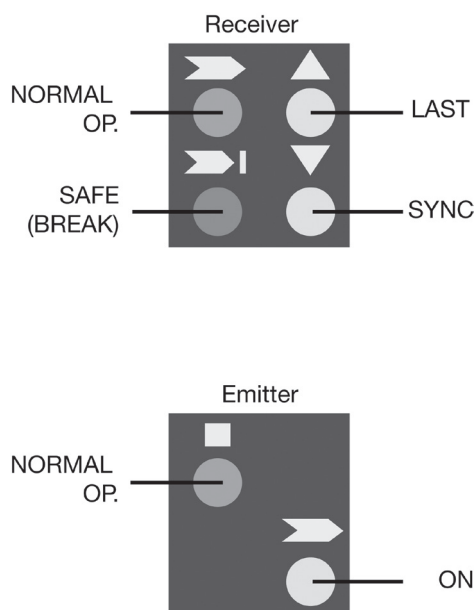
Optical Data

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

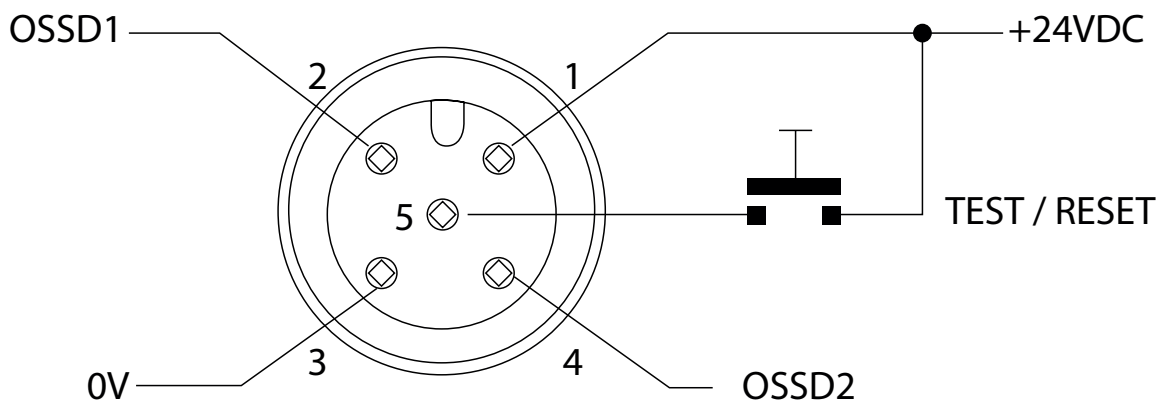
Operating temperature	0... + 55°C	Mechanical protection	IP65 (EN 60529)
Storage temperature	-25°... +70°C	Shock resistance	16 ms (10 G) 1.000 shock per axis
Temperature class	T6	Housing material	Painted alluminium
Humidity	15... 95% (non condensing)	Protective shield material	PMMA
Vibration	Width 0.35mm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

Indicators and Settings

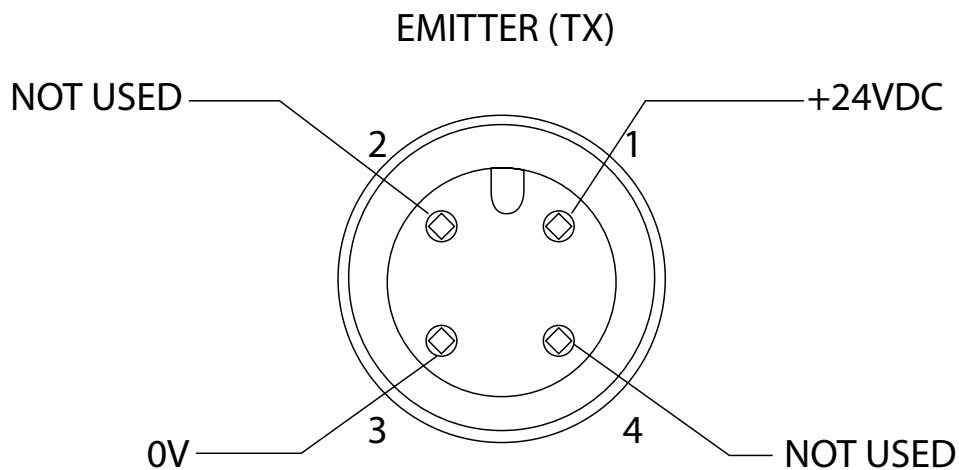


Connections

RX: M12 5-POLE CONNECTOR



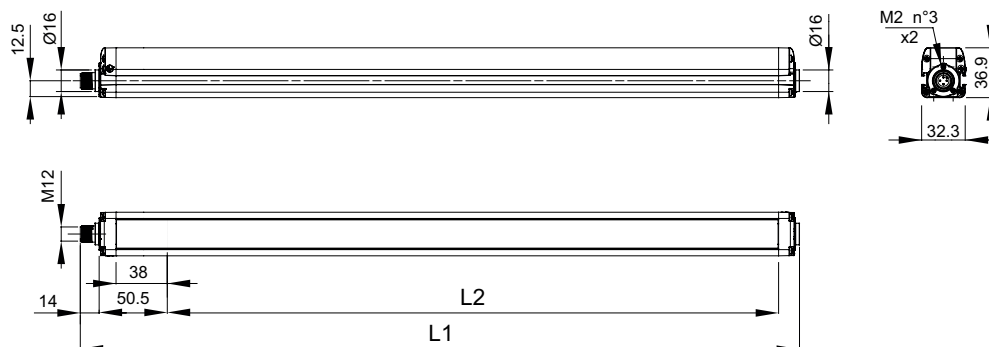
TX: M12 4-POLE CONNECTOR



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

Dimensions



Version	L ₁	L ₂
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

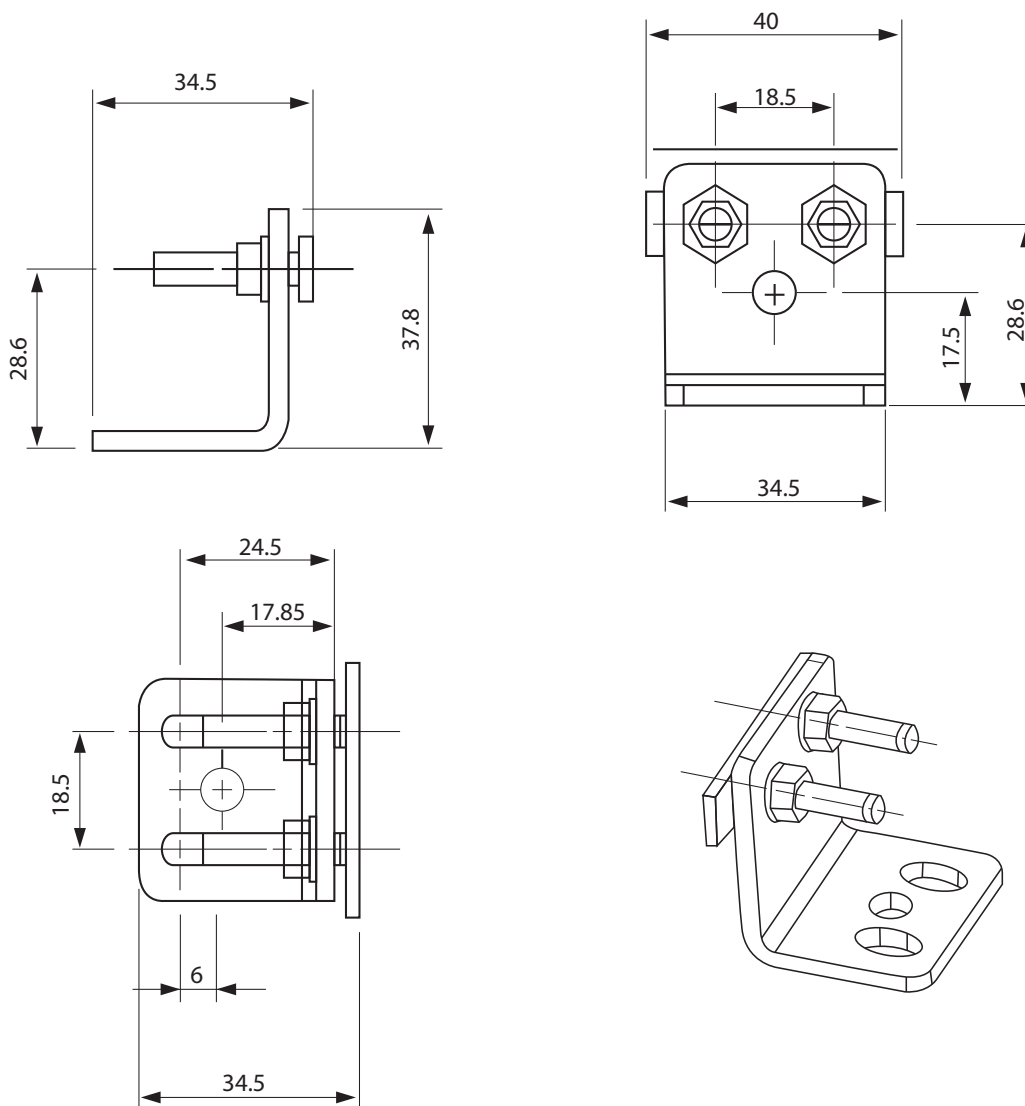
Response Time (ms)	
SC2 height 300	9
SC2 height 450	10
SC2 height 600	11
SC2 height 750	12
SC2 height 900	13
SC2 height 1050	14
SC2 height 1200	15
SC2 height 1350	16
SC2 height 1500	17

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

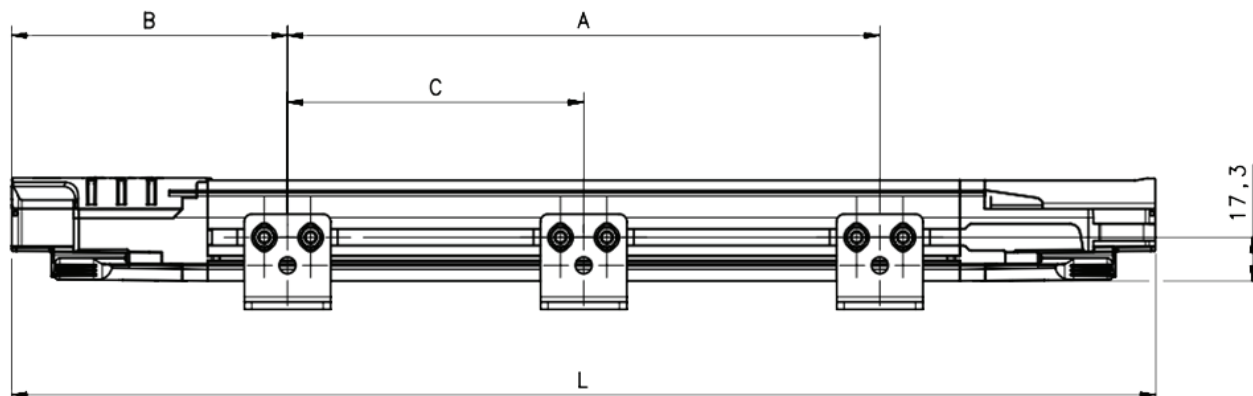
Accessory Table

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	Orienable Supports 4 pcs kit
SC OS6P	Orienable Supports 6 pcs kit
SC TP14	Test Piece Ø 14mm L = 300mm
SC TP30	Test Piece Ø 30mm L = 300mm

Standard Mounting Brackets

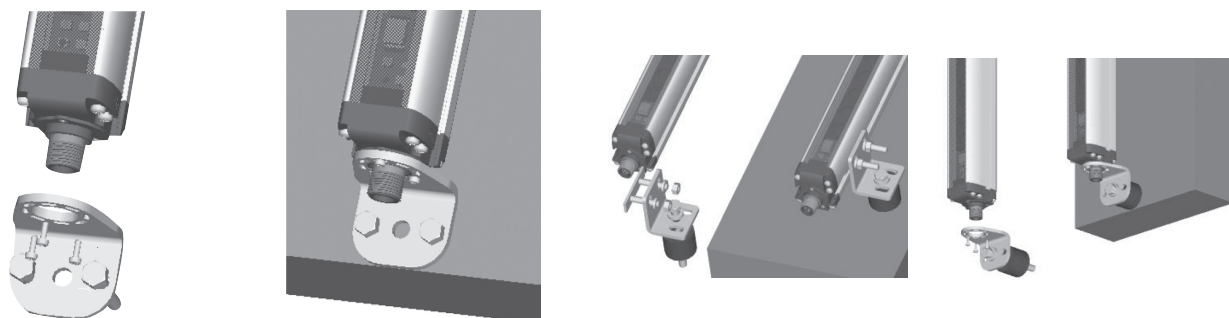


Installation with Anti-Vibration Supports



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





Connection Cables

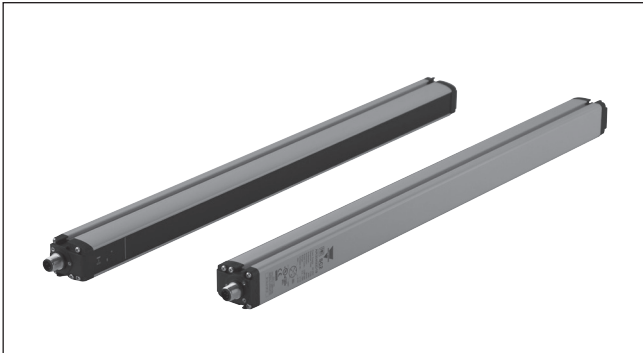
Cable part number	Description
CONGSC-4P-5M	4 poles, 5m cable
CONGSC-4P-7M	4 poles, 7m cable
CONGSC-5P-5M	5 poles, 5m cable
CONGSC-5P-7M	5 poles, 7m cable
CONGSC-8P-5M	8 poles, 5m cable
CONGSC-8P-7M	8 poles, 7m cable

Ordering key:

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

Safety Light Curtain Type SC2 Hand Series

CARLO GAVAZZI



- Integrated light curtain for hand protection
- Up to 19m operating distance
- Controlled heights ranging from 150 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



Ordering Key

SC 2 AR 30 300 D19

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

Product Description

The new SC2 range of hand resolution (30mm) 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 alignment 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-30-150-D19	Type 2 safety light curtain h=150mm
SC2-AR-30-300-D19	Type 2 safety light curtain h=300mm
SC2-AR-30-450-D19	Type 2 safety light curtain h=450mm
SC2-AR-30-600-D19	Type 2 safety light curtain h=600mm
SC2-AR-30-750-D19	Type 2 safety light curtain h=750mm
SC2-AR-30-900-D19	Type 2 safety light curtain h=900mm
SC2-AR-30-1050-D19	Type 2 safety light curtain h=1050mm
SC2-AR-30-1200-D19	Type 2 safety light curtain h=1200mm
SC2-AR-30-1350-D19	Type 2 safety light curtain h=1350mm
SC2-AR-30-1500-D19	Type 2 safety light curtain h=1500mm

General Data

Power Supply	24VDC ± 20%
Consumption (emitter)	2W max
Consumption (receiver)	3.5W max (without load)
OSSD output	2 PNP
Short-circuit protection	1.4 A max
Output current	0.5A max on each output
Output voltage - ON status	Vdd - 1V min
Output voltage - OFF status	0.2 V max.
Leakage current	< 1mA
Capacitive load	2.2uF @ 24VDC max

Response time	Refer to page 4 table
Controlled height	150... 1500 mm
Safety category	Type 2
Auxiliary functions	Reset / Test and Auto Restart
Electrical protection	Class I / Class III
Connection	M12 4-pole for emitter M12 5-pole for receiver
Cable lenght	50m max*

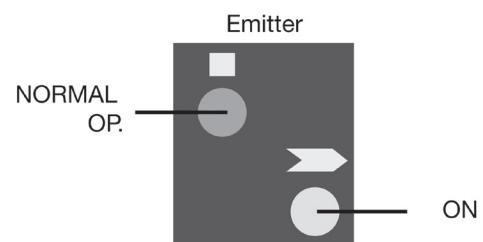
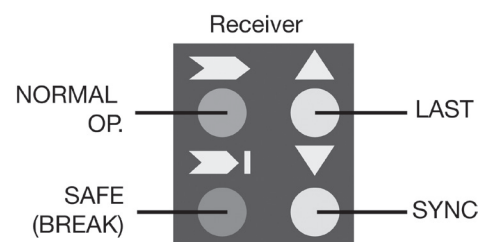
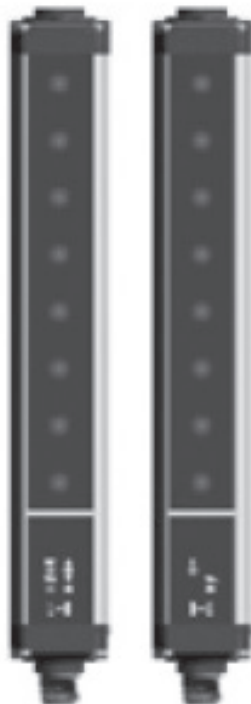
Optical Data

Light emission	Infrared LED (950 nm)	Aperture angle (EAA)	± 5° max
Resolution	30mm	Ambient light rejection	IEC-61496-2
Operating distance	0.2... 19m		

Mechanical and Environmental Data

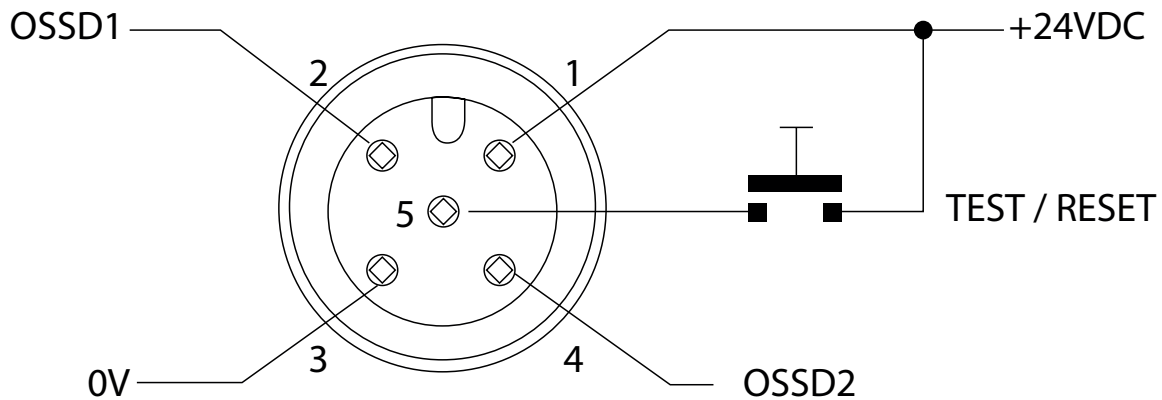
Operating temperature	0... + 55°C	Mechanical protection	IP65 (EN 60529)
Storage temperature	-25°... +70°C	Shock resistance	16 ms (10 G) 1.000 shock per axis
Temperature class	T6	Housing material	Painted aluminium
Humidity	15... 95% (non condensing)	Protective shield material	PMMA
Vibration	Width 0.35mm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

Indicators and Settings

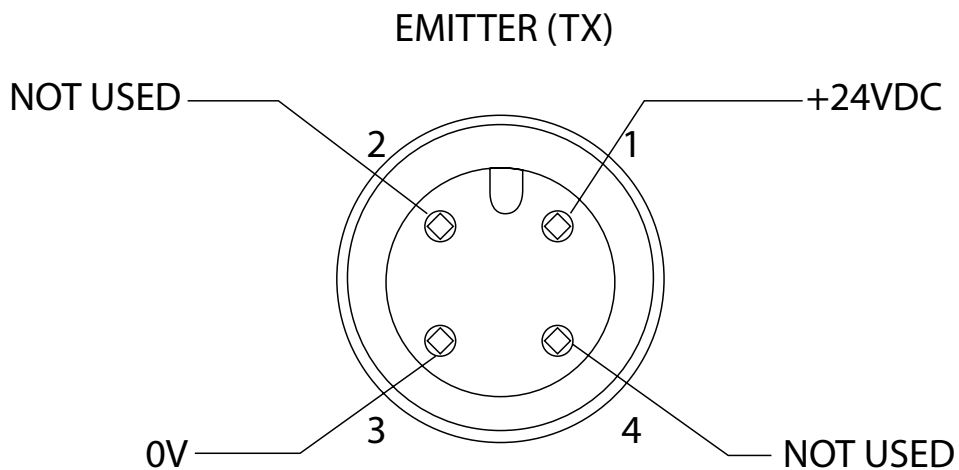


Connections

RX: M12 5-POLE CONNECTOR



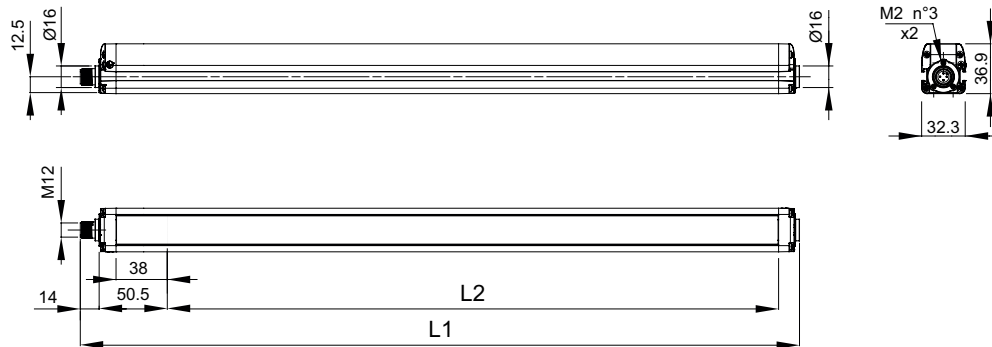
TX: M12 4-POLE CONNECTOR



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

Dimensions



Version	L ₁	L ₂
SC2-AR-30-150-D19	233.3	153.3
SC2-AR-30-300-D19	383.2	303.2
SC2-AR-30-450-D19	533.2	453.3
SC2-AR-30-600-D19	683.2	603.2
SC2-AR-30-750-D19	833.2	753.3
SC2-AR-30-900-D19	983.2	903.2
SC2-AR-30-1050-D19	1133.2	1053.2
SC2-AR-30-1200-D19	1283.3	1203.3
SC2-AR-30-1350-D19	1433.2	1353.2
SC2-AR-30-1500-D19	1583.3	1503.3

Number of Controlled Beams	
SC2 height 150	8
SC2 height 300	16
SC2 height 450	24
SC2 height 600	32
SC2 height 750	40
SC2 height 900	48
SC2 height 1050	56
SC2 height 1200	64
SC2 height 1350	72
SC2 height 1500	80

Controlled Height (mm)	
SC2 height 150	150
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

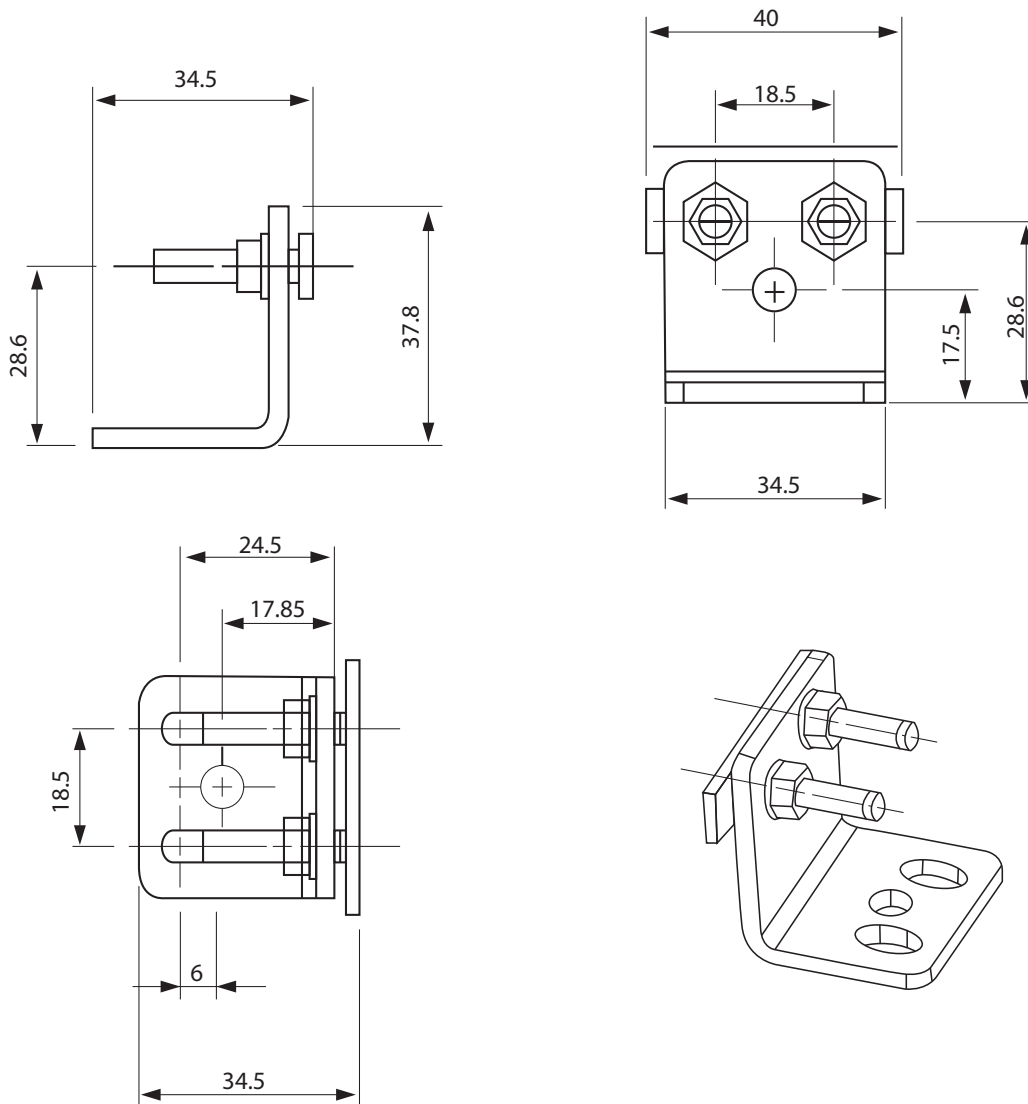
Response Time (ms)	
SC2 height 150	8
SC2 height 300	9
SC2 height 450	11
SC2 height 600	12
SC2 height 750	14
SC2 height 900	15
SC2 height 1050	17
SC2 height 1200	18
SC2 height 1350	20
SC2 height 1500	21

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

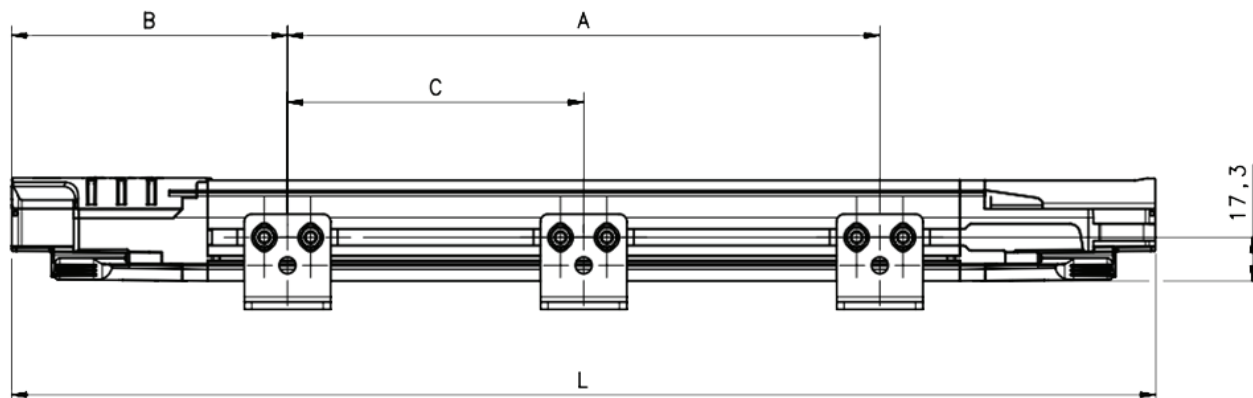
Accessory Table

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	Orienable Supports 4 pcs kit
SC OS6P	Orienable Supports 6 pcs kit
SC TP14	Test Piece Ø 14mm L = 300mm
SC TP30	Test Piece Ø 30mm L = 300mm

Standard Mounting Brackets

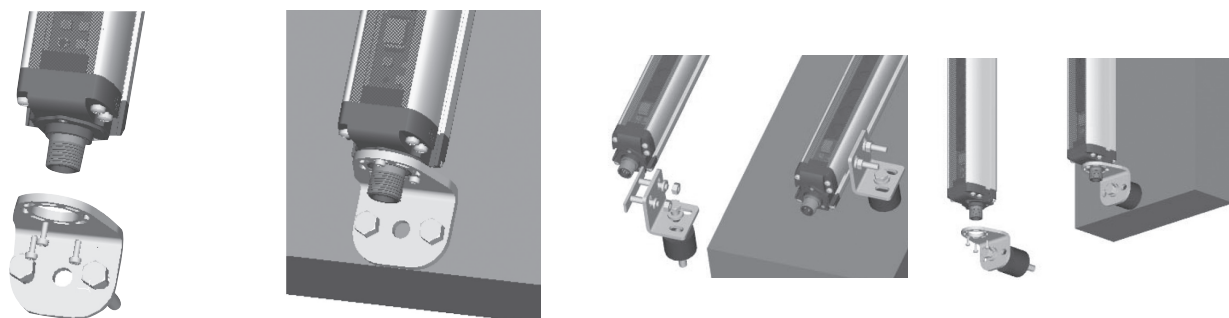


Installation with Anti-Vibration Supports



Models	L (mm)	A (mm)	B (mm)	C (mm)
SC2-AR-30-150-D19	216.3	108	54	-
SC2-AR-30-300-D19	366.2	216	75	-
SC2-AR-30-450-D19	516.3	316	100	-
SC2-AR-30-600-D19	666.2	366	150	-
SC2-AR-30-750-D19	816.3	466	175	-
SC2-AR-30-900-D19	966.2	566	200	-
SC2-AR-30-1050-D19	1116.2	666	225	-
SC2-AR-30-1200-D19	1266.3	966	150	483
SC2-AR-30-1350-D19	1416.2	1066	175	533
SC2-AR-30-1500-D19	1566.3	1166	200	583

Installation with anti-vibration supports





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

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Астрахань (8512)99-46-04	Калуга (4842)92-23-67	Омск (3812)21-46-40	Ставрополь (8652)20-65-13
Барнаул (3852)73-04-60	Кемерово (3842)65-04-62	Орел (4862)44-53-42	Сургут (3462)77-98-35
Белгород (4722)40-23-64	Киров (8332)68-02-04	Оренбург (3532)37-68-04	Тверь (4822)63-31-35
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