

Model Number

SLC14-450/31

with 2 relay outputs with two force-guided normally open contacts

Features

- Sensing range up to 5 m
- Resolution 14 mm (finger protection)
- Protective field height up to 1800 mm
- Self-monitoring (type 4 according to IEC/EN 61496-1)
- Master/Slave detection, Plug and Play
- Start/Restart disable
- Degree of protection IP67
- Integrated function display
- Pre-fault indication
- Safety outputs OSSD in potential-separated semiconductor design or with monitored, compelled connection NC-contacts
- Optional with relay monitor (Option 129)

Accessories

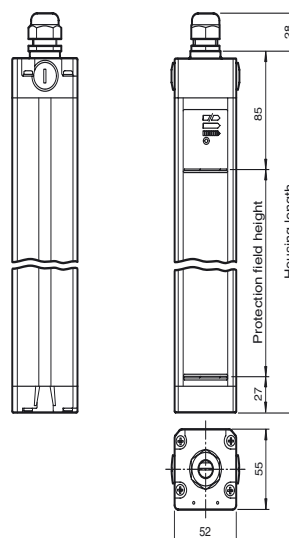
PG SLC-450

Protective glass panes for SLC series

BA SLC

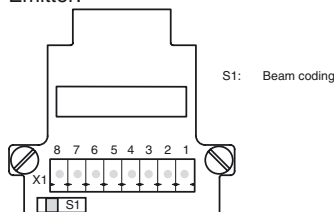
laser alignment aid for safety light curtains series SLC

Dimensions

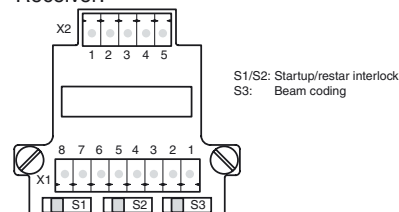


Electrical connection

Emitter:



Receiver:



terminal	emitter	receiver SLC...-R/31 (relay output)	receiver SLC...-R/31 (Relay monitor)
X1:1	Functional earth	Functional earth	Functional earth
X1:2		test (input)	Relay monitor
X1:3		OSSD2.2 (output)	OSSD2.2 (output)
X1:4		OSSD1.2 (output)	OSSD1.2 (output)
X1:5		OSSD2.1 (output)	OSSD2.1 (output)
X1:6		OSSD1.1 (output)	OSSD1.1 (output)
X1:7	0 V AC/DC	0 V AC/DC	0 V AC/DC
X1:8	24 V AC/DC	24 V AC/DC	24 V AC/DC
X2:1		Start release (output)	Start release (output)
X2:2		Status OSSD (output)	Status OSSD (output)
X2:3	Not placed on board	24 V reference potential for I/O	24 V reference potential for I/O
X2:4		0 V reference potential for I/O	0 V reference potential for I/O
X2:5		Startup readiness (input)	Startup readiness (input)

Technical data

System components

Emitter	SLC14-450-T
Receiver	SLC14-450-R/31

General specifications

Effective detection range	0.2 ... 5 m
Light source	IRED
Light type	modulated infrared light
LED risk group labelling	exempt group
Tests	IEC/EN 61496
Safety type according to IEC/EN 61496	4
Width of protected area	0.2 ... 5 m
Protection field height	450 mm
Number of beams	48
Operating mode	can be selected with or without start/restart disable
Optical resolution	14 mm
Angle of divergence	< 5 °

Functional safety related parameters

Safety Integrity Level (SIL)	SIL 3
Performance level (PL)	PL e
Category	Cat. 4
Mission Time (T _M)	20 a
PFH _d	2.42 E-8
Type	4

Indicators/operating means

Operation indicator	7-segment display in emitter
Diagnostics indicator	7-segment display in receiver
Function indicator	in receiver: LED red: OSSD off LED green: OSSD on LED yellow: Protected area free, system start-ready
Pre-fault indicator	LED orange
Control elements	switch for start/restart disable, transmission coding

Electrical specifications

Operating voltage	U _B	24 V DC (-30 %/+25 %) / 24 V AC (-20 %/+10 %)
No-load supply current	I ₀	Emitter: ≤ 100 mA receiver: ≤ 150 mA
Protection class		III

Input

Activation current	approx. 10 mA
Activation time	0.03 ... 1 s
Test input	Reset-input for system test
Function input	Start release

Output

Safety output	2 relay outputs, force-guided NO-contact
Signal output	1 PNP each, max. 100 mA for start readiness and OSSD status
Switching voltage	50 V
Switching current	max. 2 A
Switching power	100 VA
Response time	38 ms

Conformity

Functional safety	ISO 13849-1
Product standard	EN 61496-1 ; IEC 61496-2

Ambient conditions

Ambient temperature	0 ... 55 °C (32 ... 131 °F)
Storage temperature	-25 ... 70 °C (-13 ... 158 °F)
Relative humidity	max. 95 %, not condensing

Mechanical specifications

Housing length L	560 mm
Degree of protection	IP67
Connection	M20 cable gland , terminal compartment with screw terminals, lead cross-section max. 1.5 mm ²
Connection options	Further electrical connection options on request: Connector M12, 8-pin Connector DIN 43 651 Hirschmann, 6-pin+PE Connector M26x11 Hirschmann, 11-pin+PE
Material	
Housing	extruded aluminum profile, RAL 1021 (yellow) coated
Optical face	Plastic pane
Mass	Per 1650 g

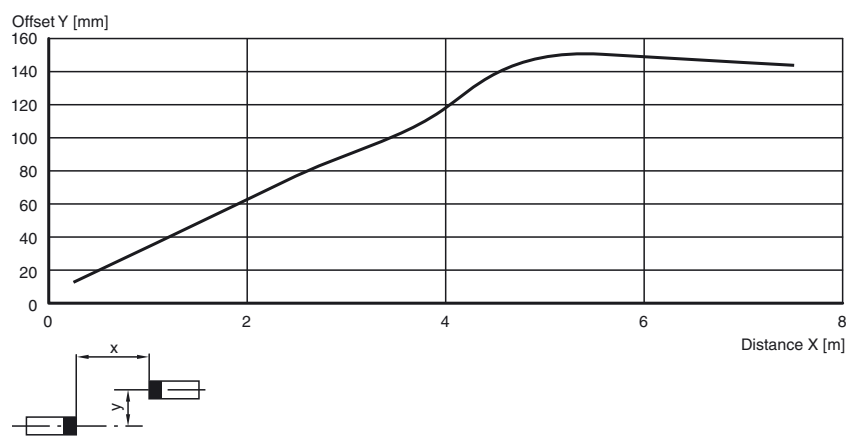
Approvals and certificates

CE conformity	CE
UL approval	cULus Listed
CCC approval	CCC approval / marking not required for products rated ≤36 V
TÜV approval	TÜV

Curves/Diagrams

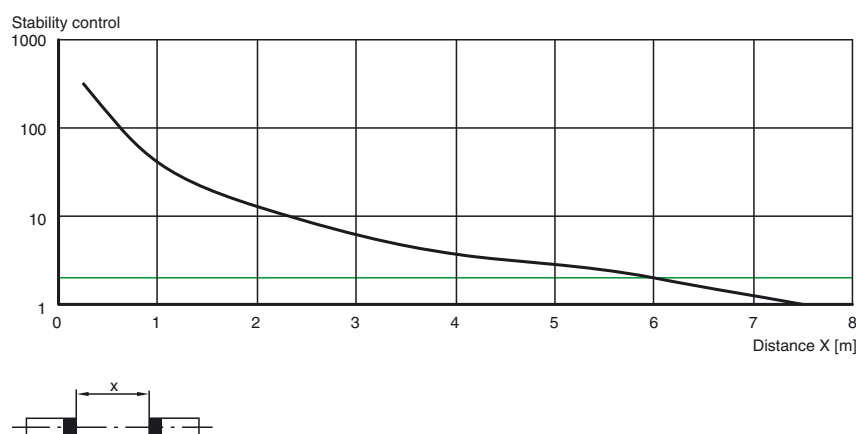
Characteristic response curve

SLC14



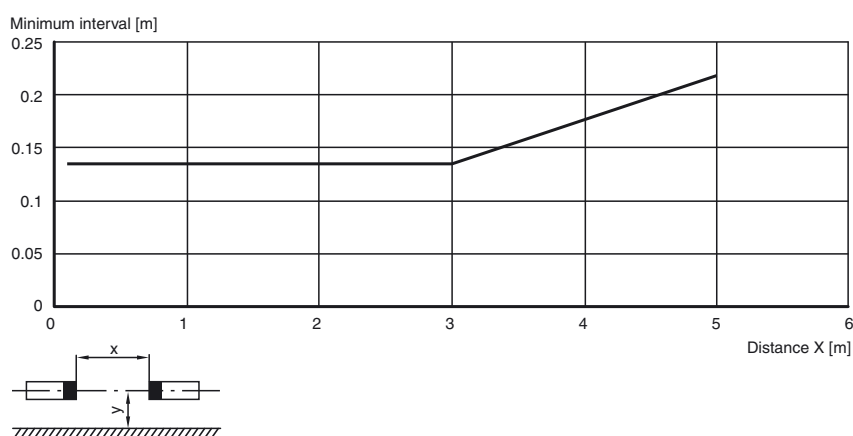
Relative received light strength

SLC14



Lateral interval to mirroring surfaces

SLC14



Notes

Master slave mode

Master: SLC...-... (semiconductor)
or
SLC...-.../31 (relay)
Slave: SLC...-...-S

Using slaves makes it possible to lengthen protective fields or to form protective fields that lie in more than just one level. When you select slaves that can be connected, you should take into consideration that the maximum number of 96 light rays must not be exceeded.

There are slaves for transmitters and receivers. These may simply be connected to the master light curtain. As many as 2 slaves may be connected respectively to the transmitter and receiver unit.

Installation:

- 1 The end cap should be screwed off for the light curtain (without cable gland).
- 2 The plug-in jumper on the connectors of the printed circuit board, which is now visible, should be removed.
- 3 The slave is designed so that the cap located on the cable connector can be plugged directly onto the open end of the light curtain with the printed circuit board.
- 4 After you have screwed on the connection cap, the system is complete.

System accessories

- Mounting set SLC
- Test rods SLC14/SLC30/SLC60
- Protective glass pieces for SLC (to protect the optically functional surface)
- Lateral screwed connection SLC
- Profile alignment aid
- Laser alignment aid SLC
- Mirror for SLC (for securing hazardous areas on multiple sides)
- Ground pillar UC SLP/SLC
- Housing for pillar
Enclosure UC SLP/SLC
- Collision protector
Damping UC SLP/SLC