

Model Number

SLC14-1650/31/130

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
- Very short response time
- 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

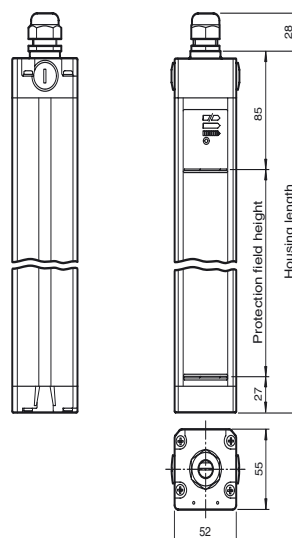
PG SLC-1650

Protective glass panes for SLC series

BA SLC

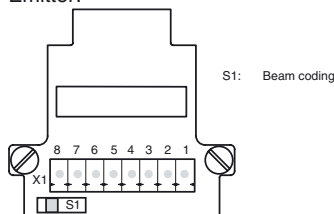
laser alignment aid for safety light curtains series SLC

Dimensions

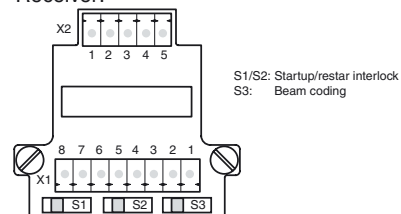


Electrical connection

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	SLC14-1650-T/130
Receiver	SLC14-1650-R/31/130

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	1650 mm
Number of beams	176
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	54 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	1760 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 5250 g

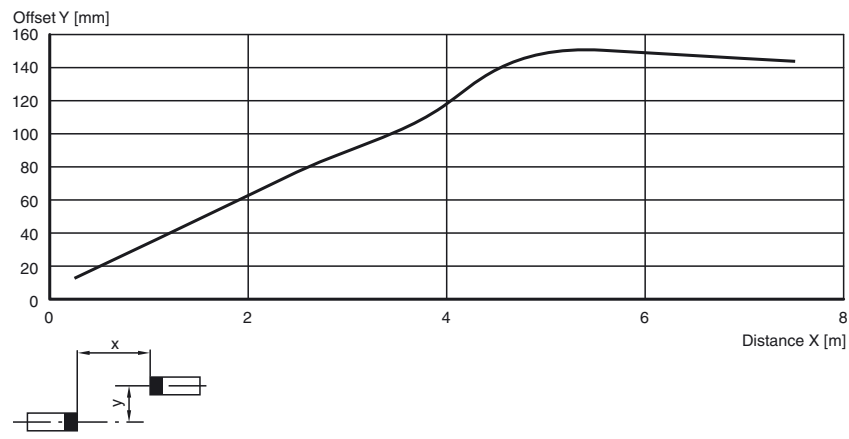
Approvals and certificates

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

Curves/Diagrams

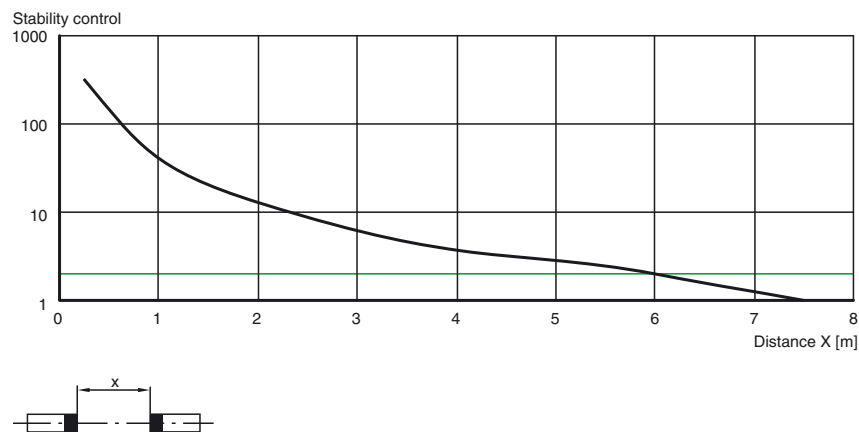
Characteristic response curve

SLC14



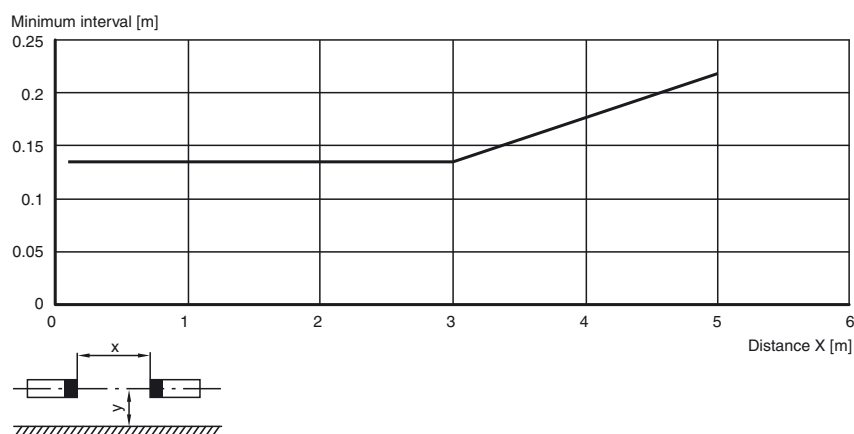
Relative received light strength

SLC14



Lateral interval to mirroring surfaces

SLC14



Note

Master-Slave operation

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

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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The use of slaves allows both the protection fields to be extended and protection fields to be created that do not all exist at a single level. When deciding which slaves to connect, remember that the total maximum of 96 beams must not be exceeded. Up to 192 beams are possible if the /130 option is selected.

Slaves exist for the transmitter and the receiver. These simply need to be connected to the master light curtain. Up to two slaves can be connected to both the transmitter and receiving units. Only one slave can be connected if the /130 option is selected.

Installation:

- 1 The end cap (no cable gland) on the light curtain is unscrewed and removed.
- 2 The plug-in jumper on the connectors of the now visible PCB is removed.
- 3 The slave is designed in such a way that the cap and PCB on the connecting cable plug directly onto the open end of the light curtain.
- 4 Once the end cap has been screwed on, the system is complete.

System accessories

- Mounting set SLC
- Test rods SLC14/SLC30/SLC60
- Protection glass for SLC (to protect the optical surface)
- Side cable gland SLC
- Profile alignment tool
- Beam alignment tool SLC
- Mirror for SLC (to protect danger areas on more than one side)
- Stands UC SLP/SLC
- Enclosure for stands
Enclosure UC SLP/SLC
- Start protection
Damping UC SLP/SLC