

SLS 78/R

Through-beam Safety Light Barrier Type 4



SLS 78/R Through-beam safety light barrier

Through-beam safety light barrier is an active optoelectronic protective device (AOPD) type 4 according to EN-/IEC 61496-1, -2. It consists of transmitter and receiver.

The Type 4 light barrier, like the ROBUST light grid system, is designed for operation under unfavourable environmental conditions. With the help of deflecting mirrors, security barriers on several axes may also be created.

Advantages

- Range from 0 to 60 m
- Integrated lens contamination monitoring via sensor status indication (LED)
- Integrated lens heating system for outside use or use in extreme environmental conditions
- Glass optics - high mechanical and chemical resistance
- Easy to mount with plug-in terminals without screws
- Ready-to-plug-in version available on request

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Areas of application

SLS 78/R Through-beam safety light barrier can be used to safeguard access e.g. for power-driven machines of the metal industry, setting machines for the glass and ceramic industry, packaging machines, warehousing equipment, plastic and rubber industry and woodworking machines.

Caution:

Through-beam safety light barrier is not suitable on its own for hand/finger protection e.g. on metal working presses.

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Applications

The single-beam safety light barrier serves for the vertical securing of access to danger zones. With multiple-axis arrangements the relevant prescriptions (e.g. EN 999) must be taken into consideration, as these lay down the distances for the light axes.

When used to secure access, danger points should not be reachable by crawling under or climbing through the barrier, or by reaching over or through it. The number and distance of the light axes depend on the evaluation of risk and on the prescriptions relating to the individual machine.

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Function

A functional unit consists of a transmitter (SLS 78/2 Se) and receiver (SLS78/RE). If light path between transmitter and receiver is unobstructed, receiver switches itself on. System has been set to the frequency of the light impulses; continuous light or other light impulses are not picked up. A safety amplifier with two safety relays (positive guided contacts) is integrated into the receiver.

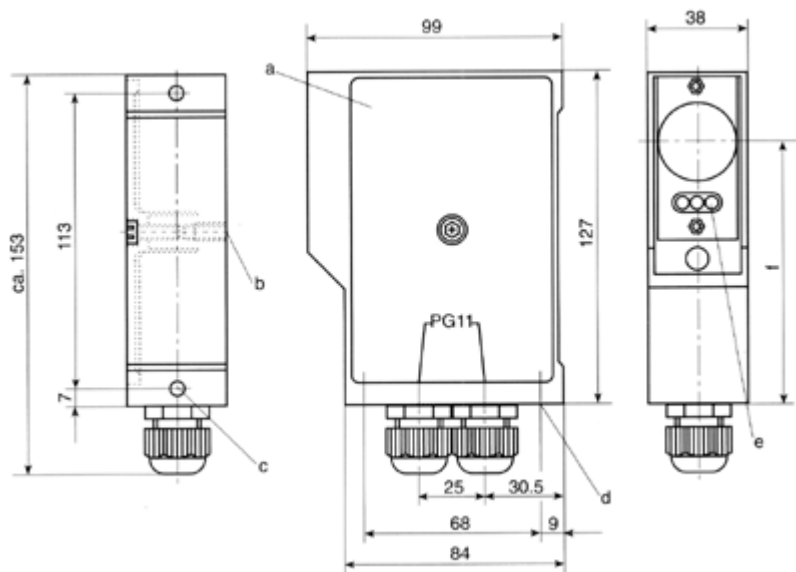
Start-up testing of the system can be carried out via testing input at the light barrier transmitter. The safety relay contacts (OSSD) should be incorporated in the machine controls with the help of a safety interface module, in keeping with the switching examples given by Leuze lumiflex (see Electrical Connections). According to the demands of classification of AOPD type 4, both closing contacts have to be used for a safe switching off. Each contact must be protected by a safety fuse (4 Amp).

For safe switch-off of SLS 78/R an object with a minimum diameter of 30 mm is necessary.

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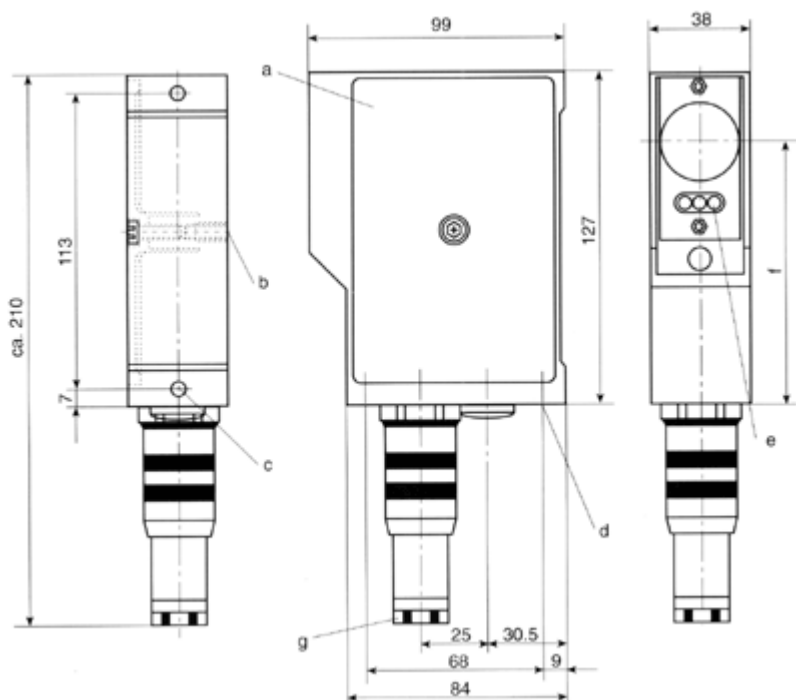
Dimensional Drawings

SLS 78/R with PG screwing



a)	Take-off lid, cylinder-head screw DIN 6912, M5x16 (processed)
b)	Machine mounting M6x12
c)	Machine mounting M6x9
d)	Machine mounting M6x12
e)	Display diodes
f)	Optical axis 100 mm

SLS 78/R with plug-in connection DIN 43651 (accessories)



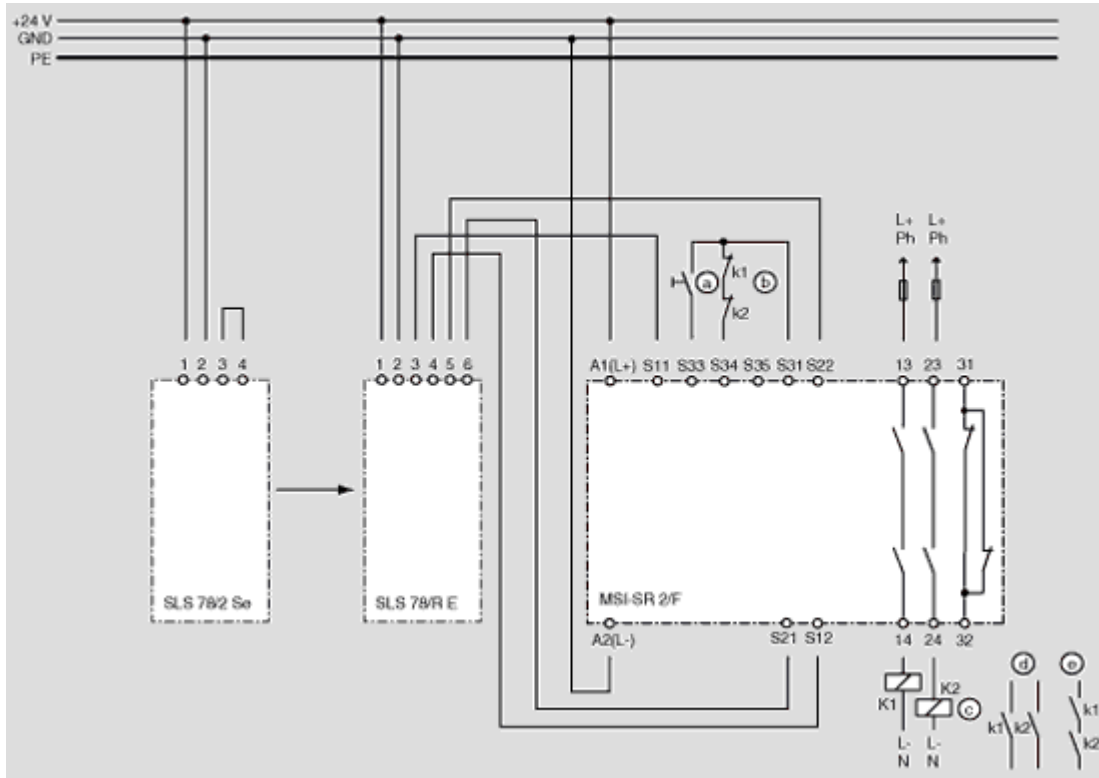
a)	Take-off lid, cylinder-head screw DIN 6912, M5x16 (processed)
b)	Machine mounting M6x12
c)	Machine mounting M6x9
d)	Machine mounting M6x12
e)	Display diodes
f)	Optical axis 100 mm
g)	Mains box DIN 43651

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Electrical Connection

Application drawing SLS 78/R

Safety relay MSI-SR2/F with SLS 78/R safety light barriers, Type 4



- a) Start/restart button
- b) Feedback circuit for relay monitoring
- c) positively guided relay or motor relay, provide suitable spark suppression
- d) Switching off path 2-channel*
- e) Switching off path 1-channel*

* always use both contacts in the switching off path



Pay attention to the operating manual of the components please.

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Technical Data

Sicherheits-Lichtschanke	SLS 78/R
Safety category	Type 4 according to EN-/IEC 61496-1, -2 self-monitoring
Range	0 to 60 m
Enclosure rating (machines with cable connection)	IP 65
Operating temperature	-25 °C to +60 °C
Supply voltage	24 V DC \pm 15 %
Residual ripple	\leq 10%
Power input	Transmitter: typical 100 mA Receiver: typical 250 mA
Light transmitter	GaA/As-diode
Wave length	880 nm
Releasing time	\leq 20 ms
Circuit	Bright circuit
outputs	Relais, 2 S, positive guided
Maximum switching voltage	230 V AC
Maximum switching currents	2 A, AC-1
Storage temperature	-25 °C to +70 °C
Lens heating system	Integrated
Optical parts	Glass \varnothing 30 mm
Effective apperture angel	From 3 m $\leq \pm 2^\circ$
LED sensor status indication	Green, if transmitter is active
Micro-fuse	Transmitter: 125 mA withtelträge Receiver: 0,5 A withtelträge
Weight SLS 78/2R	Transmitter: 580 g Receiver: 600 g
Relative humidity (not condensed)	95 %
Shock and vibration resistance	According to EN-/IEC 61496-1
Housing	Aluminium die casting
Color/paint	Yellow RAL 1021 lead- and cadmium-free
Housing/isolation class	Protection class 1
Cable glands	PG 11-cable \varnothing 7 - 10 mm
Assembly position	Optional
Fastening/assembly	M6 screw thread drill (see dim. drawings)