

**Model Number**

**PSE4-SC-01**

Safety control unit

Safety control unit from the PSE4 series

**Features**

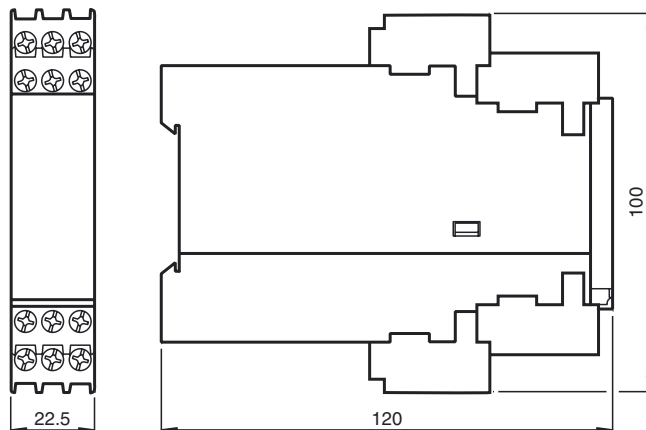
- Safety control unit
- For evaluating safety thru-beam sensors PSE4-SL
- Safety category 4 according to EN61496-1
- 24 V DC supply voltage
- 2 safe output contacts
- Performance level PL<sub>e</sub> (EN13849-1) is attainable
- Component of PSE4 modular system

**Product information**

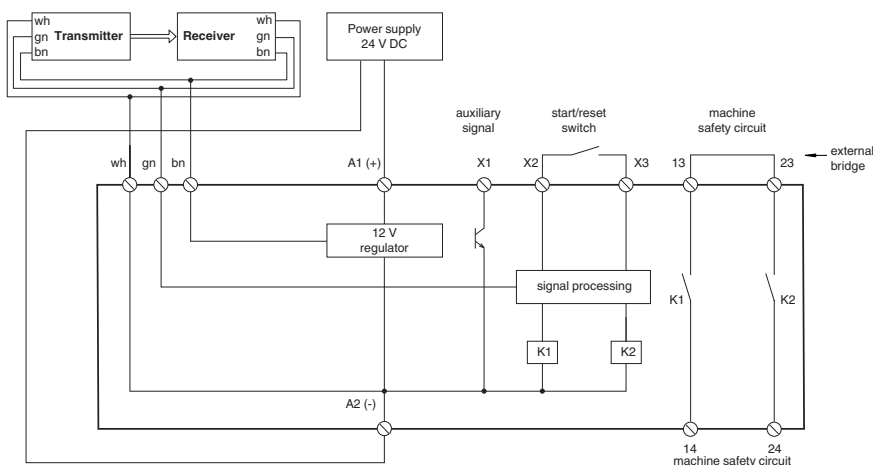
The complete PSE4 safety edge system consists of a control unit, sensors, a rubber sensor strip and an optional aluminum mounting strip. The system has been tested within a temperature range of 5 °C to 55 °C according to EN 1760-2 and is suitable for finger protection.

The control unit evaluates the signal from the sensors and was designed for installation in a control cabinet. The safety contact on the control unit opens when the sensor strip is deformed. The complete system fulfills performance level e, cat. 4 according to EN ISO 13849-1.

**Dimensions**



**Electrical connection**



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

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**Technical data**

**Limit data**

Permissible cable length 200 m

**Functional safety related parameters**

Performance level (PL) PL e  
 Category Cat. 4  
 MTTF<sub>d</sub> 166 a  
 Mission Time (T<sub>M</sub>) 20 a  
 Diagnostic Coverage (DC) 99 %

**Indicators/operating means**

Operation indicator LED green: Power on  
 Function indicator LED green

**Electrical specifications**

Operating voltage U<sub>B</sub> 24 V DC +20/-10 %  
 Power consumption P<sub>0</sub> < 4 W

**Output**

Signal output relay, 2 NO  
 Switching voltage max. 250 V AC/DC  
 Switching current max. 4 A  
 Switching power 1000 VA  
 Response time 32 ms

**Ambient conditions**

Ambient temperature 5 ... 55 °C (41 ... 131 °F)  
 Pollution Degree 2

**Mechanical specifications**

Degree of protection IP20  
 Connection screw terminals , Cable cross-section 0.2 ... 2.5 mm<sup>2</sup>  
 Material Polyethylene (PE)  
 Mass approx. 200 g

**Compliance with standards and directives**

Directive conformity  
 Machinery Directive 2006/42/EC EN 12978:2003+A1:2009  
 Standard conformity  
 Functional safety EN ISO 13849-1:2008 + AC:2009  
 Safety EN ISO 13856-2:2013

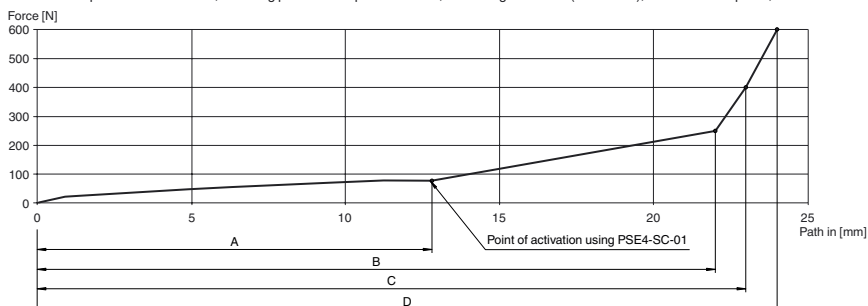
**Approvals and certificates**

UL approval cULus Listed File no: NRNT.E344450  
 TÜV approval TÜV Rheinland 968/M 301.00/11

**Curves/Diagrams**

**Force path diagram**

Measurement parameters: T = 23 °C, mounting position B as per EN 1760-2, measuring location C (EN 1760-2), v = 100 mm/s up to A, v = 10 mm/s from A.



Force path diagram representing the deformation of the sensor strip under force

Deformation under force with control unit PSE4-SC-01		
	Deformation [mm]	Force [N]
A	12.8	80
B	22.0	250
C	23.0	400
D	24.0	600

**Notes**

**The PSE 4 module is comprised of the following components:**

**Safety thru-beam sensors PSE4-SL:**

The emitter and receiver housings are fully encapsulated to provide maximum protection against environmental influences such as water, dust and moisture and achieve degree of protection IP 68.

**Sensor strips PSE4-RUB and PSE4-ROI:**

The sensor strip has a two chamber design. The emitter and receiver are housed in the round top chamber. When the sensor strip is actuated, the optical channel is interrupted and the safety contacts on the control unit open. When actuation occurs in the end area, the emitter and receiver are pushed into the lower chamber to ensure that the light beam is broken. Howe-

**Accessories**

**PSE4-ROI-01**

Rubber profile, oil resistant for safety terminal strips from the PSE4 series

**PSE4-ROI-02**

Rubber profile, oil resistant for safety terminal strips from the PSE4 series

**PSE4-ROI-03**

Rubber profile, oil resistant for safety terminal strips from the PSE4 series

**PSE4-ROI-04**

Rubber profile, oil resistant for safety terminal strips from the PSE4 series

**PSE4-RUB-01**

Sensor strip for safety edges from the PSE4 series

**PSE4-RUB-02**

Sensor strip for safety edges from the PSE4 series

**PSE4-RUB-03**

Sensor strip for safety edges from the PSE4 series

**PSE4-RUB-04**

Sensor strip for safety edges from the PSE4 series

**PSE4-ALU-01**

Extruded aluminum mounting strip for safety edges from the PSE4 series

**PSE4-ALU-02**

Extruded aluminum mounting strip for safety edges from the PSE4 series

**PSE4-SL-01**

Safety photoelectric sensor for the PSE4 series

Other suitable accessories can be found at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

ver, the force required is extremely high and the end areas become inactive as specified in EN 1760-2.

**Safety control unit PSE4-SC:**

The signal from the emitter/receiver system is evaluated as specified in EN ISO /IEC 61496-1 according to control category 4.

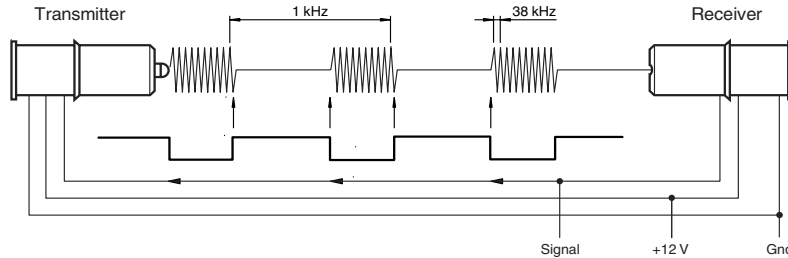
**Aluminum rails PSE4-ALU:**

Aluminum mounting rails are available in different lengths.

**Operating principle**

The emitter transmits pulses of infrared light, which are detected by the receiver. When the emitter light is detected, the receiver turns off the emitter via a control input. The "optical emission" stops. The receiver also detects this status and the emitter is then switched on again after a specified time. This coupling generates a dynamic signal sent to a buffer. The evaluation analyzes the charge state of the buffer.

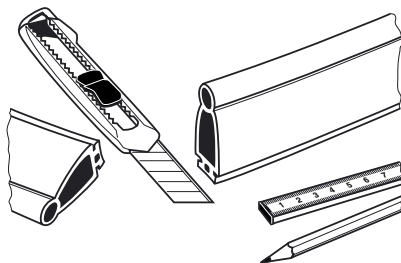
Any errors in the emitter/receiver system affect the optical or electrical signal, which results in the absence of a dynamic signal.



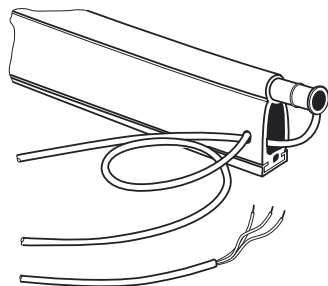
**Note:**

Only fully fitted safety edges comply with the examination certificate for the PSE4 series.

**Mounting or replacing the sensors**



Sensor strip PSE4-RUB-XX or PSE4-ROI-XX and accompanying aluminum mounting strip  
Cut PSE4-ALU-XX to the required length.



Slide the emitter and receiver into the upper chamber.  
Guide the emitter cable through the lower chamber to the receiver side.