



# RLY3-EMSS1

ReLy

SAFETY RELAYS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
RLY3-EMSS1	1085345

Other models and accessories → [www.sick.com/ReLy](http://www.sick.com/ReLy)

### Detailed technical data

#### Safety-related parameters

<b>Safety integrity level</b>	SIL3 (IEC 61508) SILCL3 (IEC 62061)
<b>Category</b>	Category 4 (EN ISO 13849)
<b>Performance level</b>	PL e (EN ISO 13849)
<b>B<sub>10d</sub> parameter</b>	3 x 10 <sup>5</sup> switching operations (AC-15, 230 V, I = 1 A), 9 x 10 <sup>4</sup> switching operations (AC-15, 230 V, I = 5 A), 2 x 10 <sup>5</sup> switching operations (DC-13, 24 V, I = 1 A), 6 x 10 <sup>4</sup> switching operations (DC-13, 24 V, I = 5 A)
<b>PFH<sub>D</sub> (mean probability of a dangerous failure per hour)</b>	1,0 x 10 <sup>-9</sup> (EN ISO 13849)
<b>T<sub>M</sub> (mission time)</b>	20 years (EN ISO 13849)

#### Functions

<b>Sensor monitoring</b>	Discrepancy monitoring Sequence monitoring Cross-circuit detection
<b>Reset</b>	Automatic Manual

#### Interfaces

<b>Connection type</b>	Plug-in spring terminals
<b>Number of enable current (N/O) contacts</b>	2, relevant for safety

#### Electrical data

##### Operating data

<b>Voltage supply</b>	PELV or SELV
<b>Supply voltage V<sub>S</sub></b>	24 V DC (16.8 V DC ... 30 V DC)
<b>Residual ripple</b>	≤ 2.4 V <sub>pp</sub> <sup>1)</sup>
<b>Power consumption (input circuits)</b>	≤ 1.3 W
<b>Overvoltage category</b>	III

<sup>1)</sup> In DC operation, within the limits of V<sub>S</sub>.

<b>Rated impulse withstand voltage <math>U_{imp}</math></b>	6 kV (EN 60664-1)
---	-------------------

<sup>1)</sup> In DC operation, within the limits of  $V_S$ .

#### Input circuits

<b>Input voltage</b>	HIGH	24 V DC (11 V DC ... 30 V DC)
	LOW	-3 V DC ... 5 V DC
<b>Input current</b>	4 mA ... 6 mA	
<b>Synchronous time monitoring</b>	≤ 3 s	

#### Control outputs

<b>Type of output</b>	PNP semiconductor, short-circuit protected
<b>Test period</b>	40 ms

#### Output circuits

<b>Type of output</b>	PNP semiconductors, short-circuit protected
<b>Output current</b>	≤ 120 mA

#### Electrical output circuits

<b>Typical response time</b>	10 ms	
<b>Contact material</b>	Silver alloy, gold flashed	
<b>Enable current contacts</b>	Switching voltage	10 V DC ... 250 V DC
	Current-carrying capacity per OSSD	10 mA ... 6 A
<b>Total current</b>	≤ 12 A	
<b>Mechanical life</b>	10 x 10 <sup>6</sup> switching operations	

#### Mechanical data

<b>Dimensions (W x H x D)</b>	18 mm x 124.6 mm x 85.5 mm
<b>Weight</b>	130 g

#### Ambient data

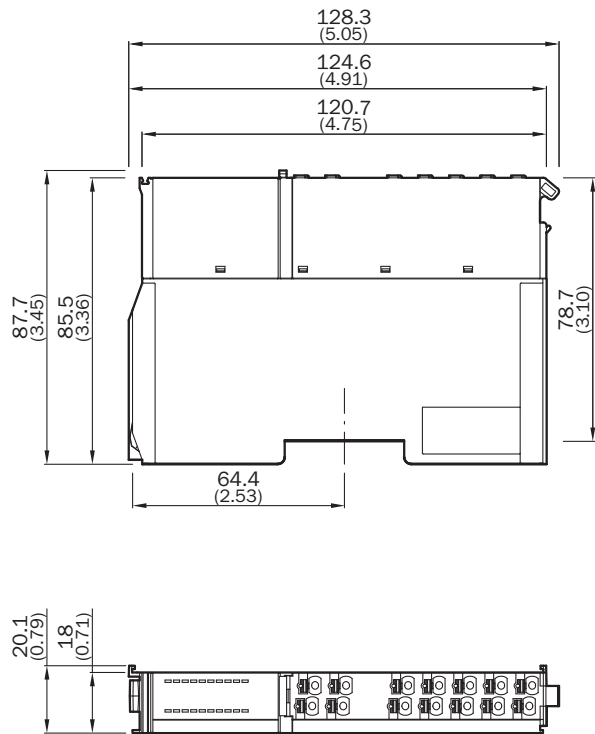
<b>Enclosure rating</b>	IP20 (EN 60529)
-------------------------	-----------------

#### Classifications

<b>ECl@ss 5.0</b>	27371990
<b>ECl@ss 5.1.4</b>	27371990
<b>ECl@ss 6.0</b>	27371819
<b>ECl@ss 6.2</b>	27371819
<b>ECl@ss 7.0</b>	27371819
<b>ECl@ss 8.0</b>	27371819
<b>ECl@ss 8.1</b>	27371819
<b>ECl@ss 9.0</b>	27371819
<b>ETIM 5.0</b>	EC001449
<b>ETIM 6.0</b>	EC001449
<b>UNSPSC 16.0901</b>	41113704

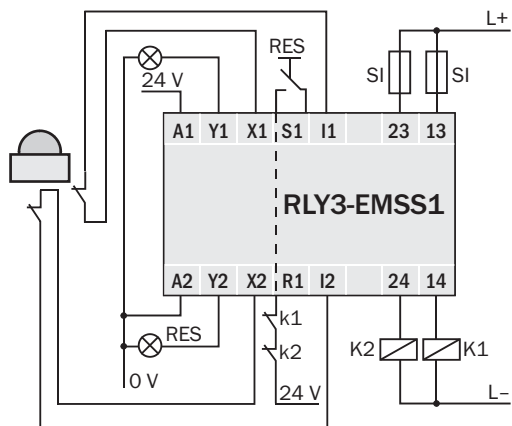
### Dimensional drawing (Dimensions in mm (inch))

ReLy

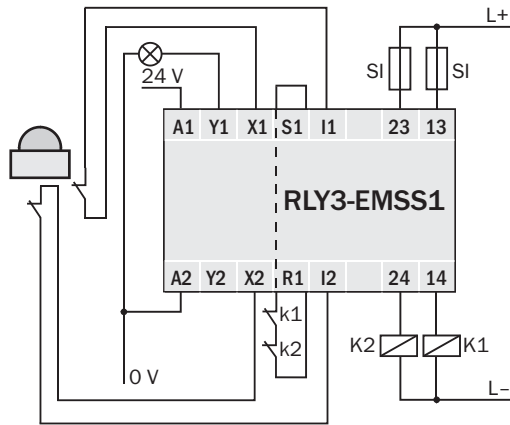


### Connection diagram

RLY3-EMSS1 at dual-channel emergency switching off with manual reset and external device monitoring



RLY3-EMSS1 at dual-channel emergency switching off with automated reset and external device monitoring



## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)