



# ReLy

A QUARTET THAT BEATS EVERYTHING

Safety relays

**SICK**  
Sensor Intelligence.

# THE ACES AMONG ALL SAFETY RELAYS

For two-hand control units



For dual-channel equivalent safety switches



For intelligent safety sensors with reset and EDM



For simple safety sensors without reset and EDM



Everyone has seen this card trick: A participant memorizes a card and the magician quickly finds it in the deck of cards. A similar concept would also be extremely useful for the range of available safety relays on the market – to choose the right module for an application correctly and quickly.

With ReLy, selecting the right solution becomes simplified with a smaller deck of safety relays. SICK offers all state-of-the-art functionalities, plus some additional aces up its sleeve. Now, it is possible to connect the most commonly used products within the safety portfolio to four modules.



### Selection guide

Product	Sensor types				Features					
	Intelligent safety sensors with reset and EDM	Simple safety sensors without reset and EDM	Dual-channel equivalent safety switches	Two-hand control units	2 contact paths	External device monitoring (EDM)	Path for external device monitoring (EDM)	Reset input (automated/manual)	Reset lamp	Diagnostic output
<b>Safety relays</b>										
ReLy RLY3-OSSD1	■				■		■			
ReLy RLY3-OSSD2		■			■	■		■	■	■
ReLy RLY3-EMSS1			■		■	■		■	■	■
ReLy RLY3-HAND1				■	■	■				■

# WITH ReLy YOU'LL ALWAYS BE DEALT A GOOD HAND



REDUCED TIME AND COSTS

## Fast replacement thanks to plug-in terminals

Plug-in terminals save an enormous amount of time and prevent wiring mistakes when it is time to replace a module.

## Short cycle times thanks to short response time

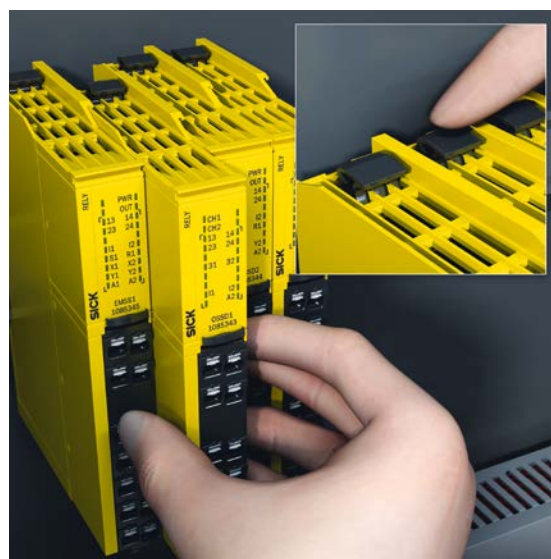
With a response time of 10 ms, the ReLy safety relay is one of the fastest of its kind, which also enables compact system design.

## Minimal space requirements thanks to the slim width of the housing

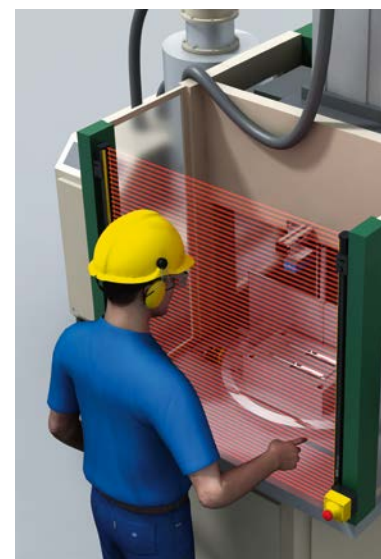
ReLy delivers the entire range of applications and functionality in a single compact housing. So these four aces beat the full house in your control cabinet.



One-click removal of terminals.



Anti-vibration guide rails with one-click fastening of mounting rails.



Fast response time allows for fast cycle times.



### SAFETY ASSURED

#### Maximum safety with performance level e

All modules in the ReLy product family can be used to protect machines up to the maximum required safety level.



### INCREASED PRODUCTIVITY

#### Increased efficiency thanks to the clear diagnostics

With ReLy, the machine operator knows what is happening from status LEDs or a connected indicator lamp.

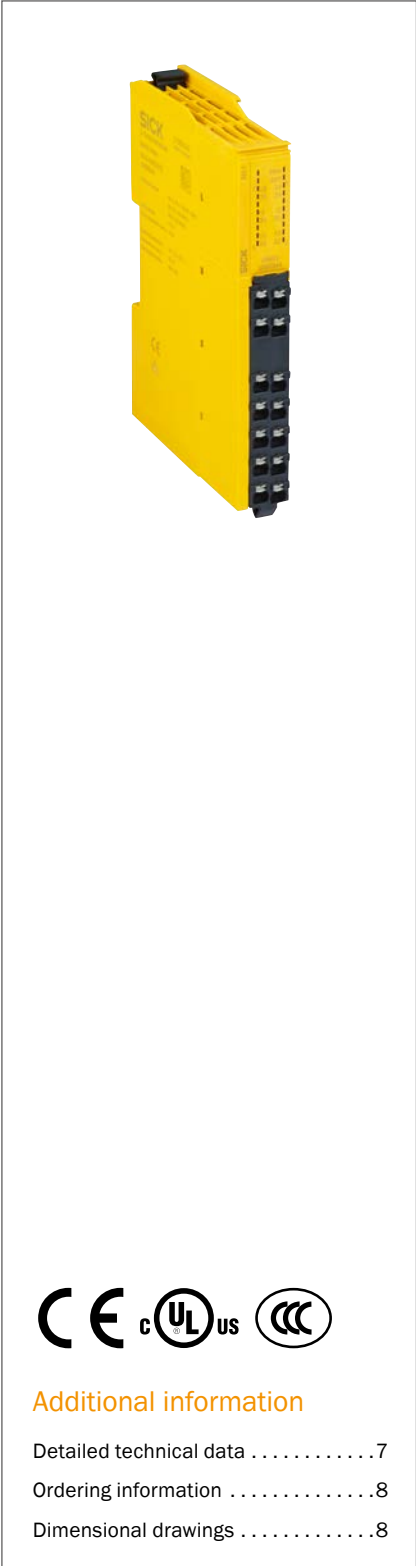
#### Fast commissioning through simple wiring

With just a single wiring plan for each module, you can find the right terminal right away. The wiring is carried out at the front of the module so it is easily accessible.



A housing width of just 18 mm dramatically reduces the amount of space required in your control cabinet.

# RELY ON SAFETY RELAYS FROM SICK



### Product description

The safety relays from the ReLy product family monitor safety functions or safety sensors up to performance level e. The ReLy portfolio is clear and concise. Each of the four ReLy modules contains everything that a modern safety relay needs. Two contact paths for switching off machines safely. Fast response time of

10 ms for short safety distances. Plug-in terminals for short maintenance times. A slim housing for added space in the control cabinet. Versatile diagnostics options for quick and easy troubleshooting. Simply the sensor type to be connected determines which product is the right one to choose.

### At a glance

- Safety relays for monitoring ESPE and safety switches
- Up to PL e (EN ISO 13849), SIL3 (IEC 61508)
- 2 safety outputs, fast response time of 10 ms

- Slim housing
- Plug-in terminals
- Diagnostics via status LEDs and application diagnostic outputs

### Your benefits

- Short safety distances owing to fast response times for compact machines and a high level of productivity
- Short maintenance times and low maintenance costs during module replacement thanks to plug-in terminals and the simple method of removing the safety relay from the mounting rail

- More space available in the control cabinet thanks to the slim housing
- Intuitive troubleshooting due to versatile diagnostics interfaces
- Easy wiring and installation – only one connection diagram required per module



### Additional information

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→ [www.sick.com/ReLy](http://www.sick.com/ReLy)

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.





## 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

	RLY3-OSSD1	RLY3-OSSD2	RLY3-EMSS1	RLY3-HAND1
<b>Sensor monitoring</b>				
Discrepancy monitoring	-	✓	✓	✓
Sequence monitoring	-	✓	✓	✓
Cross-circuit detection	-	-	✓	-
<b>Reset</b>	-	Automatic, manual	-	-

## Interfaces

	RLY3-OSSD1	RLY3-OSSD2	RLY3-EMSS1	RLY3-HAND1
<b>Connection type</b>	Plug-in spring terminals			
<b>Number of enable current (N/O) contacts</b>	2, relevant for safety			
<b>Number of contactor monitoring (N/C) contacts</b>	1, not safety-relevant	-		

## Electrical data

## Operating data

	RLY3-OSSD1	RLY3-OSSD2	RLY3-EMSS1	RLY3-HAND1
<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>Power consumption (input circuits)</b>	≤ 1.5 W	≤ 1.3 W		
<b>Overvoltage category</b>	III			
<b>Rated impulse withstand voltage U<sub>imp</sub></b>	6 kV (EN 60664-1)			

## Input circuits

	RLY3-OSSD1	RLY3-OSSD2	RLY3-EMSS1	RLY3-HAND1
<b>Input voltage</b>				
HIGH	24 V DC (15 V DC ... 30 V DC)	24 V DC (11 V DC ... 30 V DC)		
LOW	-3 V DC ... 5 V DC			

Electrical output circuits

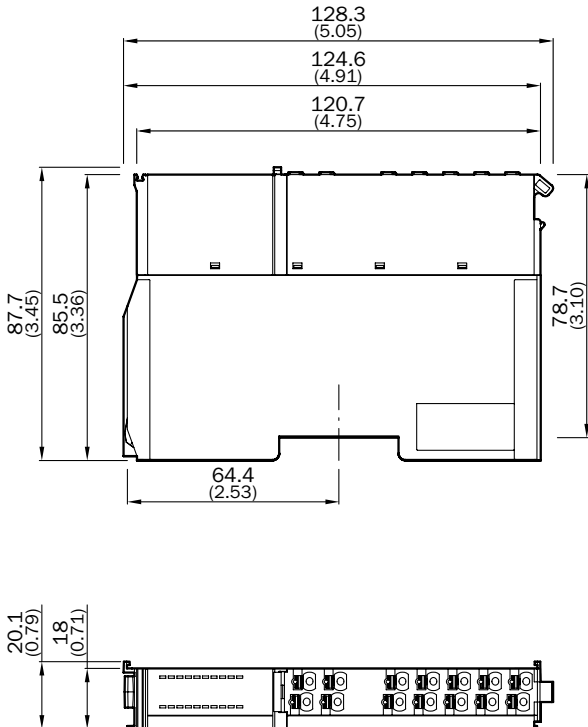
	RLY3-OSSD1	RLY3-OSSD2	RLY3-EMSS1	RLY3-HAND1
<b>Typical response time</b>	10 ms			
<b>Enable current contacts</b>				
Switching voltage	10 V DC ... 250 V DC			
Switching current	10 mA ... 6 A			
<b>Contactor monitoring contacts</b>				
Switching voltage	15 V DC ... 30 V DC	-	-	-
Switching current	3 mA ... 100 mA	-	-	-

Ordering information

Applications	Compatible sensor types	Type	Part no.
Output expansion module for OSSDs	Opto-electronic protective devices	RLY3-OSSD1	1085343
Evaluation unit	Opto-electronic protective devices	RLY3-OSSD2	1085344
	Safety switch	RLY3-EMSS1	1085345
	Two-hand controls Type III C, in accordance with EN 574	RLY3-HAND1	1085346

Dimensional drawings (Dimensions in mm (inch))

ReLy









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Our comprehensive and versatile LifeTime Services are the perfect addition to the comprehensive range of products from SICK. The services range from product-independent consulting to traditional product services.



- 
**Consulting and design**  
 Safe and professional
- 
**Product and system support**  
 Reliable, fast, and on-site
- 
**Verification and optimization**  
 Safe and regularly inspected
- 
**Upgrade and retrofits**  
 Easy, safe, and economical
- 
**Training and education**  
 Practical, focused, and professional

## SICK AT A GLANCE

SICK is a leading manufacturer of intelligent sensors and sensor solutions for industrial applications. With more than 8,800 employees and over 50 subsidiaries and equity investments as well as numerous agencies worldwide, SICK is always close to its customers. 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.

SICK has extensive experience in various industries and understands their processes and requirements. With intelligent sensors, SICK delivers exactly what the 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 SICK a reliable supplier and development partner.

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

**That is “Sensor Intelligence.”**

### **Worldwide presence:**

Australia, Austria, Belgium, Brazil, Canada, Chile, China, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Hungary, Hong Kong, India, Israel, Italy, Japan, Malaysia, Mexico, Netherlands, New Zealand, Norway, Poland, Romania, Russia, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Arab Emirates, USA, Vietnam.

Detailed addresses and further locations → [www.sick.com](http://www.sick.com)