



# RLY3-TIME100

## ReLy

SAFETY RELAYS

**SICK**  
Sensor Intelligence.



## Ordering information

Type	Part no.
RLY3-TIME100	1100688

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

Illustration may differ



## Detailed technical data

### Features

<b>Applications</b>	Evaluation unit for stop category 1 applications
<b>Compatible sensor types</b>	Safety sensors with OSSDs Safety sensors with potential-free outputs

### Safety-related parameters

<b>Safety integrity level</b>	SIL3 (IEC 61508) SILCL3 (IEC 62061)
<b>Category</b>	Category 4 (ISO 13849-1)
<b>Performance level</b>	PL e (ISO 13849-1)
<b>PFH<sub>D</sub> (mean probability of a dangerous failure per hour)</b>	$1.0 \times 10^{-9}$
<b>T<sub>M</sub> (mission time)</b>	20 years (ISO 13849-1)
<b>Safe state in the event of a fault</b>	The N/O is open; in other words, the safety-related enabling current paths are interrupted. The release-delayed enabling current path opens after the configured release delay.
<b>Stop category</b>	0 (IEC 60204-1) <sup>1)</sup> 1 (IEC 60204-1) <sup>2)</sup>

<sup>1)</sup> For enabling current paths (13, 14, 23, 24).

<sup>2)</sup> For release-delayed enabling current path (37, 38).

### Functions

<b>Sensor monitoring</b>	Discrepancy monitoring Sequence monitoring Cross-circuit detection
<b>Restart interlock</b>	✓
<b>Reset</b>	Automatic Manual
<b>External device monitoring (EDM)</b>	✓

## Interfaces

<b>Connection type</b>	Front connector with spring terminals
<b>Inputs</b>	2 safety inputs 1 input for reset pushbutton or external device monitoring (EDM)
<b>Outputs</b>	2 enabling current paths (safe) 1 release-delayed enabling current path, for stop category 1 applications (safe) 2 application diagnostic outputs (not safe) 3 test pulse outputs (not safe)
<b>Display elements</b>	LEDs
<b>Configuration method</b>	Hard wired DIP switch

## Electrical data

### Operating data

<b>Voltage supply</b>	PELV or SELV
<b>Supply voltage <math>V_s</math></b>	24 V DC (16.8 V ... 30 V)
<b>Residual ripple</b>	$\leq 2.4$ V
<b>Power consumption</b>	$\leq 2.5$ W (DC)

### Safety inputs

<b>Number</b>	2
<b>Input voltage</b>	
	HIGH 24 V DC (11 V ... 30 V)
	LOW 0 V DC (-3 V ... 5 V)
<b>Input current</b>	4 mA ... 6 mA
<b>Test pulse width</b>	$\leq 1$ ms
<b>Test pulse rate</b>	$\leq 10$ Hz
<b>Activation time tolerance between the two start buttons</b>	$\leq 3$ s

### Reset pushbutton or external device monitoring (EDM) input

<b>Number</b>	1
<b>Input voltage</b>	
	HIGH 24 V DC (11 V ... 30 V)
	LOW 0 V DC (-3 V ... 5 V)
<b>Input current</b>	4 mA ... 6 mA

### Enabling current paths

<b>Response time</b>	12 ms
<b>Number</b>	2
<b>Type of output</b>	N/O contacts, positively guided
<b>Contact material</b>	Silver alloy, gold flashed
<b>Switching voltage</b>	10 V AC ... 230 V AC 10 V DC ... 230 V DC
<b>Switching current</b>	10 mA ... 6 A
<b>Total current</b>	12 A <sup>1)</sup>
<b>Mechanical life</b>	$1 \times 10^7$ switching cycles

<sup>1)</sup> Maximum total current for all 3 enabling current paths.

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

<sup>1)</sup> Maximum total current for all 3 enabling current paths.

Enabling current paths, release-delayed

<b>Response time</b>	12 ms
<b>Number</b>	1
<b>Type of output</b>	N/O contacts, positively guided
<b>Contact material</b>	Silver alloy, gold flashed
<b>Switching voltage</b>	10 V DC ... 30 V DC
<b>Switching current</b>	2 mA ... 2 A
<b>Total current</b>	12 A <sup>1)</sup>
<b>Mechanical life</b>	$1 \times 10^7$ switching cycles

<sup>1)</sup> Maximum total current for all 3 enabling current paths.

Application diagnostic outputs

<b>Number</b>	2
<b>Type of output</b>	Push-pull semiconductor output, short-circuit protected
<b>Output voltage</b>	
	HIGH $\geq V_s - 3$ V
	LOW $\leq 3$ V
<b>Input current (NPN)</b>	$\leq 15$ mA
<b>Output current (PNP)</b>	$\leq 120$ mA

Test pulse outputs

<b>Number</b>	1
<b>Type of output</b>	PNP semiconductors, short-circuit protected
<b>Output voltage</b>	$\geq V_s - 3$ V
<b>Test pulse width</b>	2 ms
<b>Test pulse interval</b>	40 ms

Mechanical data

<b>Dimensions (W x H x D)</b>	18 mm x 124.6 mm x 85.5 mm
<b>Weight</b>	160 g

Ambient data

<b>Enclosure rating</b>	IP20 (IEC 60529)
<b>Ambient operating temperature</b>	-25 °C ... +55 °C
<b>Storage temperature</b>	-25 °C ... +70 °C
<b>Air humidity</b>	10 % ... 95 %, Non-condensing
<b>Interference emission</b>	According to IEC 61000-6-4
<b>Interference resistance</b>	According to IEC 61326-3-1 According to IEC 61000-6-2 According to IEC 60947-5-1

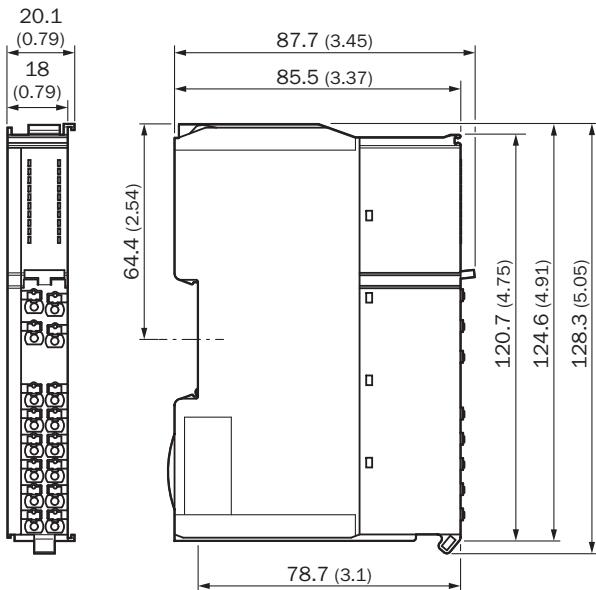
Classifications

<b>ECI@ss 5.0</b>	27371990
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<b>ECI@ss 5.1.4</b>	27371990
<b>ECI@ss 6.0</b>	27371819
<b>ECI@ss 6.2</b>	27371819
<b>ECI@ss 7.0</b>	27371819
<b>ECI@ss 8.0</b>	27371819
<b>ECI@ss 8.1</b>	27371819
<b>ECI@ss 9.0</b>	27371819
<b>ECI@ss 10.0</b>	27371819
<b>ECI@ss 11.0</b>	27371819
<b>ETIM 5.0</b>	EC001449
<b>ETIM 6.0</b>	EC001449
<b>ETIM 7.0</b>	EC001449
<b>ETIM 8.0</b>	EC001449
<b>UNSPSC 16.0901</b>	41113704

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

EMSS1, HAND1, OSSD1, OSSD2, TIME1



## 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)