



# RLY3-TIME100

ReLy

SAFETY RELAYS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	part no.
RLY3-TIME100	1100688

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

### 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>	SIL 3 (IEC 61508)
<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 x 10 <sup>-9</sup>
<b>T<sub>M</sub> (mission time)</b>	20 years (ISO 13849-1)
<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

## Electronics

<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)
<b>Safety inputs</b>	
Number	2
Input voltage HIGH	24 V DC (11 V ... 30 V)
Input voltage LOW	0 V DC (-3 V ... 5 V)
Input current	4 mA ... 6 mA
Test pulse width	$\leq 1$ ms
Test pulse rate	$\leq 10$ Hz
Activation time tolerance between the two start buttons	$\leq 3$ s
<b>Reset pushbutton or external device monitoring (EDM) input</b>	
Number	1
Input voltage HIGH	24 V DC (11 V ... 30 V)
Input voltage LOW	0 V DC (-3 V ... 5 V)
Input current	4 mA ... 6 mA
<b>Enabling current paths</b>	
Response time (opening of enabling current paths)	12 ms
Number	2
Type of output	N/O contacts, positively guided
Contact material	Silver alloy, gold flashed
Switching voltage	10 V AC ... 230 V AC 10 V DC ... 230 V DC
Switching current	10 mA ... 6 A
Total current	12 A <sup>1)</sup>
Mechanical life	$1 \times 10^7$ switching cycles
Overvoltage category	III (EN 60664-1)
Rated impulse withstand voltage $U_{imp}$	6 kV (EN 60664-1)

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

<b>Enabling current paths, release-delayed</b>	
Response time	0.1 s ... 30 s, parameter adjustable
12 ms	1
Type of output	N/O contacts, positively guided
Contact material	Silver alloy, gold flashed
Switching voltage	10 V DC ... 30 V DC
Switching current	2 mA ... 2 A
Total current	12 A <sup>1)</sup>
Mechanical life	1 x 10 <sup>7</sup> switching cycles
<b>Application diagnostic outputs</b>	
Number	2
Type of output	Push-pull semiconductor output, short-circuit protected
Output voltage HIGH	≥ V <sub>s</sub> - 3 V
Output voltage LOW	≤ 3 V
Input current (NPN)	≤ 15 mA
Output current (PNP)	≤ 120 mA
<b>Test pulse outputs</b>	
Number	1
Type of output	PNP semiconductors, short-circuit protected
Output voltage	≥ V <sub>s</sub> - 3 V
Test pulse width	2 ms
Test pulse interval	40 ms

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

### Mechanics

<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>	≤ 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

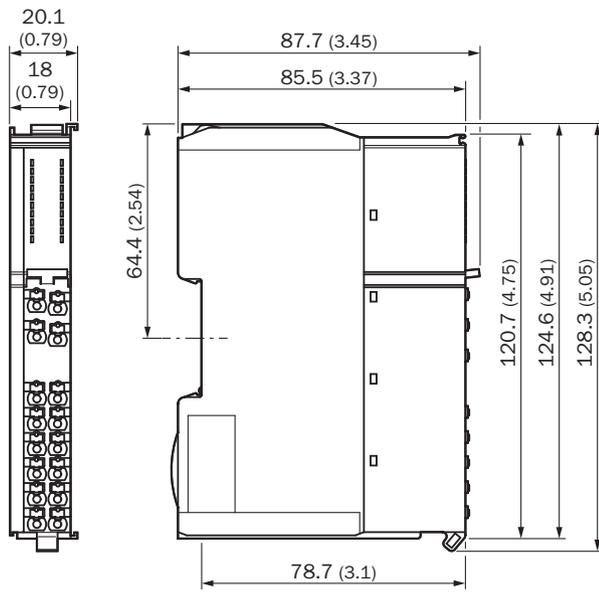
<b>ECLASS 5.0</b>	27371990
<b>ECLASS 5.1.4</b>	27371990
<b>ECLASS 6.0</b>	27371819
<b>ECLASS 6.2</b>	27371819
<b>ECLASS 7.0</b>	27371819

<b>ECLASS 8.0</b>	27371819
<b>ECLASS 8.1</b>	27371819
<b>ECLASS 9.0</b>	27371819
<b>ECLASS 10.0</b>	27371819
<b>ECLASS 11.0</b>	27371819
<b>ECLASS 12.0</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

Certificates

<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>China RoHS</b>	✓
<b>CCC certificate</b>	✓
<b>UK-Type-Examination approval</b>	✓
<b>cULus certificate</b>	✓
<b>EAC certificate / DoC</b>	✓
<b>cTUVus certificate</b>	✓
<b>S Mark certificate</b>	✓
<b>EC-Type-Examination approval</b>	✓
<b>EC-Type-Examination approval (Machinery Directive)</b>	✓
<b>EC-Type-Examination approval (Machinery Regulation)</b>	✓
<b>Third party certificate</b>	✓

### Dimensional drawing EMSS1, HAND1, OSSD1, OSSD2, TIME1



Dimensions in mm (inch)

## 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)