





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>	SIL3 (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

### 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 x 10 <sup>7</sup> switching cycles
<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>	0.1 s ... 30 s, parameter adjustable
<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 x 10 <sup>7</sup> 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 $\geq V_s - 3 \text{ V}$
	LOW $\leq 3 \text{ V}$
<b>Input current (NPN)</b>	$\leq 15 \text{ mA}$
<b>Output current (PNP)</b>	$\leq 120 \text{ mA}$

### Test pulse outputs

<b>Number</b>	1
<b>Type of output</b>	PNP semiconductors, short-circuit protected
<b>Output voltage</b>	$\geq V_s - 3 \text{ V}$
<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>	$\leq 95 \%$ , 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

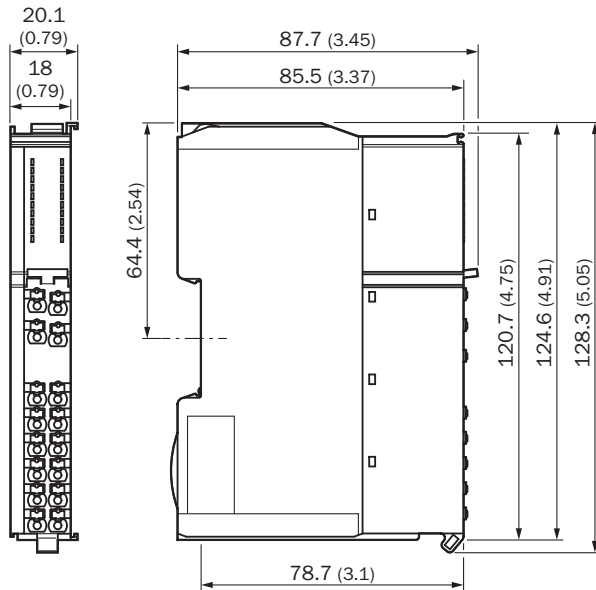
### Classifications

<b>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>eCl@ss 10.0</b>	27371819
<b>eCl@ss 11.0</b>	27371819
<b>eCl@ss 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

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

EMSS1, HAND1, OSSD1, OSSD2, TIME1



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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.

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