Product data sheet



RLY3-EMSS100

ReLy

SAFETY RELAYS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	Part no.
RLY3-EMSS100	1085345

Other models and accessories → www.sick.com/ReLy

Detailed technical data

Features

Applications	Evaluation unit
Compatible sensor types	Safety sensors with potential-free outputs

Safety-related parameters

Safety integrity level	SIL3 (IEC 61508) SILCL3 (IEC 62061)
Category	Category 4 (ISO 13849-1)
Performance level	PL e (ISO 13849-1)
PFH_D (mean probability of a dangerous failure per hour)	1.0×10^{-9}
T_M (mission time)	20 years (ISO 13849-1)
Safe state in the event of a fault	The N/O is open; in other words, the safety-related enabling current paths are interrupted.
Stop category	0 (IEC 60204-1)

Functions

Sensor monitoring	Discrepancy monitoring Cross-circuit detection
Restart interlock	✓
Reset	Automatic Manual
External device monitoring (EDM)	✓

Interfaces

Connection type	Front connector with spring terminals
Inputs	2 safety inputs 1 input for reset pushbutton or external device monitoring (EDM)
Outputs	2 enabling current paths (safe) 2 application diagnostic outputs (not safe) 3 test pulse outputs (not safe)

Display elements	LEDs
Configuration method	Hard wired

Electrical data

Operating data

Voltage supply	PELV or SELV
Supply voltage V_S	24 V DC (16.8 V ... 30 V)
Residual ripple	≤ 2.4 V
Power consumption	≤ 2.5 W (DC)

Safety inputs

Number	2
Input voltage	
HIGH	24 V DC (11 V ... 30 V)
LOW	0 V DC (–3 V ... 5 V)
Input current	4 mA ... 6 mA
Activation time tolerance between the two start buttons	≤ 3 s

Reset pushbutton or external device monitoring (EDM) input

Number	1
Input voltage	
HIGH	24 V DC (11 V ... 30 V)
LOW	0 V DC (–3 V ... 5 V)
Input current	4 mA ... 6 mA

Enabling current paths

Response time	10 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
Mechanical life	1 x 10^7 switching cycles
Overvoltage category	III (EN 60664-1)
Rated impulse withstand voltage U_{imp}	6 kV (EN 60664-1)

Application diagnostic outputs

Number	2
Type of output	Push-pull semiconductor output, short-circuit protected
Output voltage	
HIGH	≥ V_S – 3 V
LOW	≤ 3 V
Input current (NPN)	≤ 15 mA
Output current (PNP)	≤ 120 mA

Test pulse outputs

Number	3
Type of output	PNP semiconductors, short-circuit protected
Output voltage	≥ V_s – 3 V
Test pulse width	2 ms
Test pulse interval	40 ms

Mechanical data

Dimensions (W x H x D)	18 mm x 124.6 mm x 85.5 mm
Weight	130 g

Ambient data

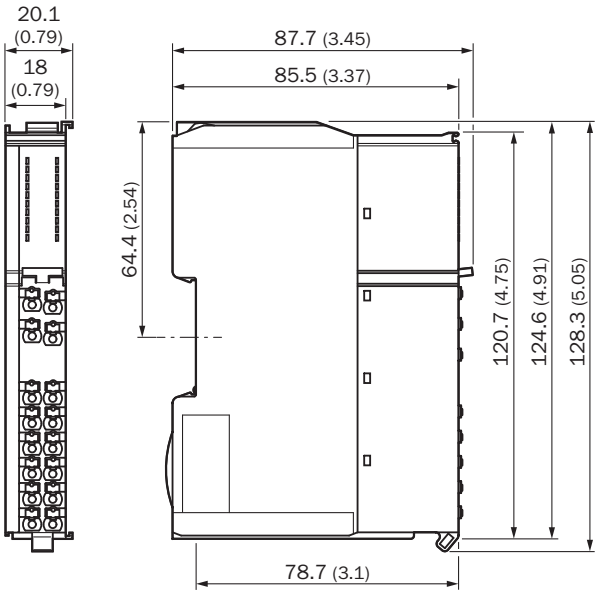
Enclosure rating	IP20 (IEC 60529)
Ambient operating temperature	–25 °C ... +55 °C
Storage temperature	–25 °C ... +70 °C
Air humidity	10 % ... 95 %, Non-condensing
Interference emission	According to IEC 61000-6-4
Interference resistance	According to IEC 61326-3-1 According to IEC 61000-6-2 According to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

Classifications

ECl@ss 5.0	27371990
ECl@ss 5.1.4	27371990
ECl@ss 6.0	27371819
ECl@ss 6.2	27371819
ECl@ss 7.0	27371819
ECl@ss 8.0	27371819
ECl@ss 8.1	27371819
ECl@ss 9.0	27371819
ECl@ss 10.0	27371819
ECl@ss 11.0	27371819
ETIM 5.0	EC001449
ETIM 6.0	EC001449
ETIM 7.0	EC001449
ETIM 8.0	EC001449
UNSPSC 16.0901	41113704

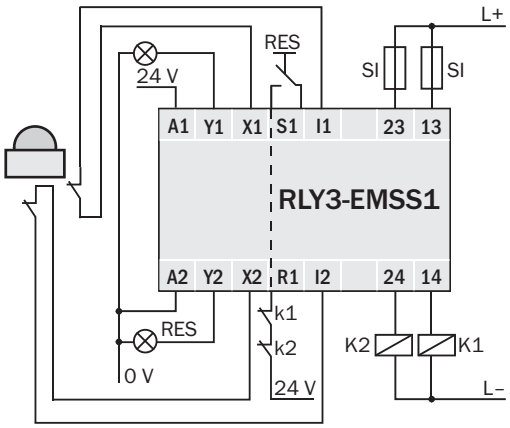
Dimensional drawing (Dimensions in mm (inch))

EMSS1, HAND1, OSSD1, OSSD2, TIME1

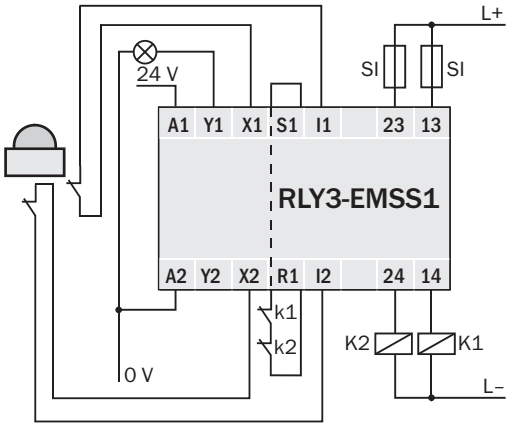


Connection diagram

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

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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.

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.”

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