



DATA SHEET

i110-M0233

i110 Lock
Safety locking devices

SAFETY LOCKING DEVICES

i110-M0233

ORDERING INFORMATION

Type	part no.
i110-M0233	6051596

Further device versions and accessories at www.sick.com/i110_Lock



actuator not supplied with delivery

DETAILED TECHNICAL DATA

FEATURES

Sensor principle	Electro-mechanical
Locking principle	Power to release
Positive action N/C solenoid monitoring contacts	2
N/O solenoid monitoring contacts	1
Positive action N/C door monitoring contacts	0
N/O door monitoring contacts	0
N/C contact for door monitoring	1
Locking force F_{max}	2,500 N (EN ISO 14119) ¹⁾
Locking force F_{zh}	2,000 N (EN ISO 14119) ²⁾
Actuation force	≥ 35 N
Retaining force	≤ 30 N
Actuation frequency	$\leq 1,200$ /h
Actuation directions	5
Approach speed	≤ 20 m/min

¹⁾ 1500 N with angled actuator.

²⁾ 1150 N with angled actuator.

SAFETY-RELATED PARAMETERS

B_{10d} parameter	5×10^6 switching cycles (with small load)
Type	Type 2 (EN ISO 14119)
Actuator coding level	Low coding level (EN ISO 14119)

Safe state in the event of a fault	The switch has no internal fault detection and is unable to assume a safe state in the event of a fault. Fault detection is performed by the connected safety-related logic unit.
------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

FUNCTIONS

Safe series connection	None, only individual wiring (with diagnostics)
------------------------	-------------------------------------------------

INTERFACES

Connection type	Cable gland, 3 x M20
Conductor cross section	0.34 mm ² ... 1.5 mm ²

ELECTRONICS

Contamination rating	3
Switching principle	Slow action switching element
Usage category	AC-15/DC-13 (IEC 60947-5-1)
Rated operating current (voltage)	4 A (230 V AC) 4 A (24 V DC)
Rated insulation voltage U _i	250 V
Rated impulse withstand voltage U _{imp}	1,500 V
Type of output	Electro-mechanical contacts
Power consumption	≤ 8 W
Short-circuit protection	4 A gG
Switching voltage	≥ 12 V DC
Switching current (switching voltage)	1 mA (24 V DC)
Switch-on time of magnet	100 %
Locking principle	Power to release

MECHANICS

Weight	0.5 kg
Housing material	Glass-fiber reinforced thermoplastic
Actuator head material	Metal
Mechanical life	1 x 10 ⁶ switching cycles

AMBIENT DATA

Enclosure rating	IP67 (IEC 60529)
Ambient operating temperature	-20 °C ... +55 °C
Storage temperature	-20 °C ... +55 °C

CERTIFICATES

EU declaration of conformity	✓
UK declaration of conformity	✓
China RoHS	✓
cULus certificate	✓

SWITCHING ELEMENTS

	Actuator inserted		Actuator removed
	locked	unlocked	
Switching element 23	\downarrow 41 42 \downarrow 33 34 \downarrow 21 22 \downarrow 11 12	\downarrow 41 42 \downarrow 33 34 \downarrow 21 22 \downarrow 11 12	\downarrow 41 42 \downarrow 33 34 \downarrow 21 22 \downarrow 11 12
Switching element 25	\downarrow 41 42 \downarrow 31 32 \downarrow 21 22 \downarrow 13 14	\downarrow 41 42 \downarrow 31 32 \downarrow 21 22 \downarrow 13 14	\downarrow 41 42 \downarrow 31 32 \downarrow 21 22 \downarrow 13 14
Switching element 31	\downarrow 41 42 \ominus 31 32 \downarrow 21 22 \downarrow 13 14	\downarrow 41 42 \ominus 31 32 \downarrow 21 22 \downarrow 13 14	\downarrow 41 42 \ominus 31 32 \downarrow 21 22 \downarrow 13 14
Switching element 45	\downarrow 41 42 \ominus 31 32 \downarrow 21 22 \ominus 11 12	\downarrow 41 42 \ominus 31 32 \downarrow 21 22 \ominus 11 12	\downarrow 41 42 \ominus 31 32 \downarrow 21 22 \ominus 11 12

\downarrow Positive action N/C locking monitoring contact

\ominus Positive action N/C door monitoring contact

Switching element 23:

2 positive action N/C contacts + 1 N/O contact (Locking monitoring)
 1 N/C contact (Door monitoring)

Switching element 25:

2 positive action N/C contacts (Locking monitoring)
 1 N/C contact + 1 N/O contact (Door monitoring)

Switching element 31:

2 positive action N/C contacts (Locking monitoring)
 1 positive action N/C + 1 N/O contact (Door monitoring)

Switching element 45:

2 positive action N/C contacts (Locking monitoring)
 2 positive action N/C contacts (Door monitoring)

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/6051596



SICK AG
WALDKIRCH
GERMANY
SICK.COM

SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

SICK
Sensor Intelligence