



DATA SHEET

# i10-E0453 Lock

i10 Lock  
Safety locking devices

**SICK** Sensor Intelligence



actuator not supplied with delivery

SAFETY LOCKING DEVICES

# i10-E0453 Lock

ORDERING INFORMATION

| Type           | part no. |
|----------------|----------|
| i10-E0453 Lock | 6020598  |

Further device versions and accessories at [www.sick.com/i10\\_Lock](http://www.sick.com/i10_Lock)



DETAILED TECHNICAL DATA

FEATURES

|                                                  |                        |
|--------------------------------------------------|------------------------|
| Sensor principle                                 | Electro-mechanical     |
| Locking principle                                | Power to lock          |
| Positive action N/C solenoid monitoring contacts | 2                      |
| N/O solenoid monitoring contacts                 | 0                      |
| Positive action N/C door monitoring contacts     | 2                      |
| N/O door monitoring contacts                     | 0                      |
| N/C contact for door monitoring                  | 0                      |
| Locking force $F_{max}$                          | 1,300 N (EN ISO 14119) |
| Locking force $F_{zh}$                           | 1,000 N (EN ISO 14119) |
| Actuation force                                  | $\geq 10$ N            |
| Retaining force                                  | $\leq 20$ N            |
| Actuation frequency                              | $\leq 1,200$ /h        |
| Actuation directions                             | 4                      |
| Approach speed                                   | $\leq 20$ m/min        |

SAFETY-RELATED PARAMETERS

|                                    |                                                                                                                                                                                   |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| B <sub>10d</sub> parameter         | 3 x 10 <sup>6</sup> 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 <sup>2</sup> ... 1.5 mm <sup>2</sup> |

**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)<br>4 A (24 V DC) |
| Rated insulation voltage U <sub>i</sub>          | 250 V                           |
| Rated impulse withstand voltage U <sub>imp</sub> | 2,500 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)                  |
| Solenoid supply voltage                          | 20.4 V DC ... 26.4 V DC         |
| Switch-on time of magnet                         | 100 %                           |
| Locking principle                                | Power to lock                   |

**MECHANICS**

|                 |                                      |
|-----------------|--------------------------------------|
| Weight          | 0.46 kg                              |
| Material        |                                      |
| Housing         | Glass-fiber reinforced thermoplastic |
| Mechanical life | 1 x 10 <sup>6</sup> switching cycles |

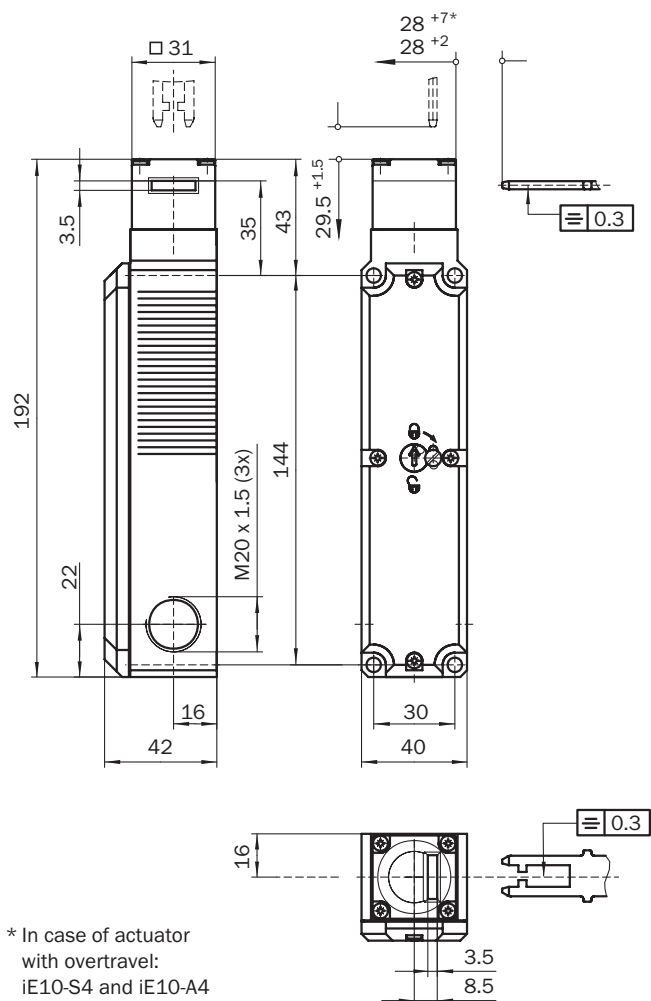
**AMBIENT DATA**

|                               |                   |
|-------------------------------|-------------------|
| 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            | ✓ |

## DIMENSIONAL DRAWING



\* In case of actuator with overtravel:  
iE10-S4 and iE10-A4

Dimensions in mm (inch)

## SWITCHING ELEMENTS

|                      |  | Actuator inserted                                                                                                    |                                                                                                                      | Actuator removed                                                                                                     |
|----------------------|--|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
|                      |  | locked                                                                                                               | unlocked                                                                                                             |                                                                                                                      |
|                      |  |                                                                                                                      |                                                                                                                      |                                                                                                                      |
| Switching element 23 |  | $\downarrow$ 41 $\circ$ 42<br>$\downarrow$ 33 $\circ$ 34<br>$\downarrow$ 21 $\circ$ 22<br>$\downarrow$ 11 $\circ$ 12 | $\downarrow$ 41 $\circ$ 42<br>$\downarrow$ 33 $\circ$ 34<br>$\downarrow$ 21 $\circ$ 22<br>$\downarrow$ 11 $\circ$ 12 | $\downarrow$ 41 $\circ$ 42<br>$\downarrow$ 33 $\circ$ 34<br>$\downarrow$ 21 $\circ$ 22<br>$\downarrow$ 11 $\circ$ 12 |
| Switching element 25 |  | $\downarrow$ 41 $\circ$ 42<br>$\downarrow$ 31 $\circ$ 32<br>$\downarrow$ 21 $\circ$ 22<br>$\downarrow$ 13 $\circ$ 14 | $\downarrow$ 41 $\circ$ 42<br>$\downarrow$ 31 $\circ$ 32<br>$\downarrow$ 21 $\circ$ 22<br>$\downarrow$ 13 $\circ$ 14 | $\downarrow$ 41 $\circ$ 42<br>$\downarrow$ 31 $\circ$ 32<br>$\downarrow$ 21 $\circ$ 22<br>$\downarrow$ 13 $\circ$ 14 |
| Switching element 31 |  | $\downarrow$ 41 $\circ$ 42<br>$\ominus$ 31 $\circ$ 32<br>$\downarrow$ 21 $\circ$ 22<br>$\downarrow$ 13 $\circ$ 14    | $\downarrow$ 41 $\circ$ 42<br>$\ominus$ 31 $\circ$ 32<br>$\downarrow$ 21 $\circ$ 22<br>$\downarrow$ 13 $\circ$ 14    | $\downarrow$ 41 $\circ$ 42<br>$\ominus$ 31 $\circ$ 32<br>$\downarrow$ 21 $\circ$ 22<br>$\downarrow$ 13 $\circ$ 14    |
| Switching element 45 |  | $\downarrow$ 41 $\circ$ 42<br>$\ominus$ 31 $\circ$ 32<br>$\downarrow$ 21 $\circ$ 22<br>$\ominus$ 11 $\circ$ 12       | $\downarrow$ 41 $\circ$ 42<br>$\ominus$ 31 $\circ$ 32<br>$\downarrow$ 21 $\circ$ 22<br>$\ominus$ 11 $\circ$ 12       | $\downarrow$ 41 $\circ$ 42<br>$\ominus$ 31 $\circ$ 32<br>$\downarrow$ 21 $\circ$ 22<br>$\ominus$ 11 $\circ$ 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/6020598](http://www.sick.com/6020598)



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# SICK AT A GLANCE

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