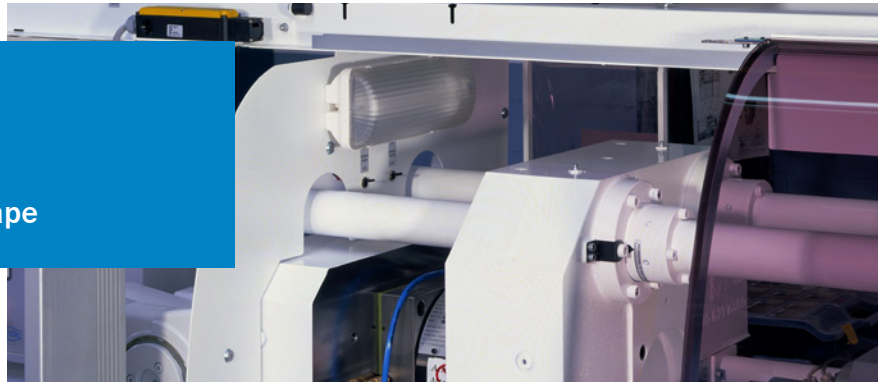







## i10 Lock Safety Locking Devices


Highly flexible with narrow shape

Highly flexible with narrow shape







**Additional information**

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**Product description**

The i10 Lock safety switch forms part of the product family of safety locking devices. Its narrow shape enables it to be mounted easily and directly on guard door frames. Different switching

elements and actuators make it very flexible, mechanically and electrically. As a result, this safety switch can be adapted to the application in question.

**At a glance**

- Narrow plastic housing
- Either rigid or mobile actuators
- 3 cable entry glands M20 x 1.5 or M12 plug connector
- Locked by spring force and magnetic force
- Locking and door monitoring

**Your benefits**

- Simple mounting without additional mounting plate – directly on the aluminum profile of the guard door frame
- High flexibility of the electrical connection due to three cable entry glands
- Improved diagnostics due to additional signaling contacts
- Practical adjustment: With choice of actuators – suitable for any door
- Different switching elements enable the appropriate solution for electrical installation
- Quick device exchange due to variants with M12 plug connector

## Detailed technical data

You can find more detailed data in the operating instructions. Download at [www.mysick.com](http://www.mysick.com).

### Locking type: electrical

Type	i10-E0233 Lock	i10-E0253 Lock	i10-E0313S02 Lock	i10-E0453 Lock	i10-E0454 Lock
Housing material	Glass-fiber reinforced thermoplastic				
Enclosure rating	IP 67				
Safety-related parameters B <sub>10d</sub> parameter	3 x 10 <sup>6</sup> switching cycles, with small load				
Ambient operating temperature from ... to	-20 °C ... +55 °C				
Approach speed	≤ 20 m/min				
Actuation force	≥ 10 N				
Locking force	≤ 1,300 N				
Actuation frequency	≤ 7,000 /h				
Switching principle	Slow action switching element				
Number of positive action N/C solenoid monitoring contacts	2				
Number of N/O solenoid monitoring contacts	1	0			
Number of positive action N/C door monitoring contacts	0		1	2	
Number of N/O door monitoring contacts	0	1		0	
Number of N/C door monitoring contacts	1		0		
Usage category in compliance with IEC/EN 60947-5-1	AC-15/DC-13				
Rated operating current (voltage)	4 A (230 V AC) 4 A (24 V DC)			1 A (24 V AC) 1 A (24 V DC)	
Rated insulation voltage U <sub>i</sub>	250 V			30 V	
Rated impulse withstand voltage U <sub>imp</sub>	2,500 V AC			1,500 V AC	
Switching voltage (switching current)	≥ 12 V DC (10 mA)				
Switching current (switching voltage)	≥ 1 mA (24 V DC)				
Solenoid operating voltage	24 V (20.4 V ... 26.4 V) DC				
Power consumption	≤ 8 W				
Duty cycle	100 %				
Connection type	Cable gland			Connector	
Number of cable glands x size of the screwed joint	3 x M20			1 x M12, 8-pin	
Connection cable cross-section	0.34 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>				
Short-circuit protection	4 A gG			1 A gG	
Weight	0.46 kg			0.5 kg	

## Locking type: mechanical

Type	i10-M0233 Lock	i10-M0253 Lock	i10-M0453 Lock	i10-M0454 Lock
Housing material	Glass-fiber reinforced thermoplastic			
Enclosure rating	IP 67			
Safety-related parameters B <sub>10d</sub> parameter	3 x 10 <sup>6</sup> switching cycles, with small load			
Ambient operating temperature from ... to	-20 °C ... +55 °C			
Approach speed	≤ 20 m/min			
Actuation force	≥ 10 N			
Locking force	≤ 1,300 N			
Actuation frequency	≤ 7,000 /h			
Switching principle	Slow action switching element			
Number of positive action N/C solenoid monitoring contacts	2			
Number of N/O solenoid monitoring contacts	1	0		
Number of positive action N/C door monitoring contacts	0		2	
Number of N/O door monitoring contacts	0	1	0	
Number of N/C door monitoring contacts	1		0	
Usage category in compliance with IEC/EN 60947-5-1	AC-15/DC-13			
Rated operating current (voltage)	4 A (230 V AC) 4 A (24 V DC)		1 A (24 V AC) 1 A (24 V DC)	
Rated insulation voltage U <sub>i</sub>	250 V		30 V	
Rated impulse withstand voltage U <sub>imp</sub>	2,500 V AC		1,500 V AC	
Switching voltage (switching current)	≥ 12 V DC (10 mA)			
Switching current (switching voltage)	≥ 1 mA (24 V DC)			
Solenoid operating voltage	24 V (20.4 V ... 26.4 V) DC			
Power consumption	≤ 8 W			
Duty cycle	100 %			
Connection type	Cable gland		Connector	
Number of cable glands x size of the screwed joint	3 x M20		1 x M12, 8-pin	
Connection cable cross-section	0.34 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>			
Short-circuit protection	4 A gG		1 A gG	
Weight	0.46 kg		0.5 kg	

## Ordering information

- Locking type: electrical

Solenoid monitoring contacts		Door monitoring contacts			Connection type	Model name	Part no.
Number of positive action N/C	Number of N/O	Number of positive action N/C	Number of N/O	Number of N/C			
2	1	0	0	1	Cable gland	i10-E0233 Lock	6022585
	0	0	1	1		i10-E0253 Lock	6020536
		1	1	0		i10-E0313S02 Lock	6011368
		2	0	0		i10-E0453 Lock	6020598
					Connector	i10-E0454 Lock	6045056

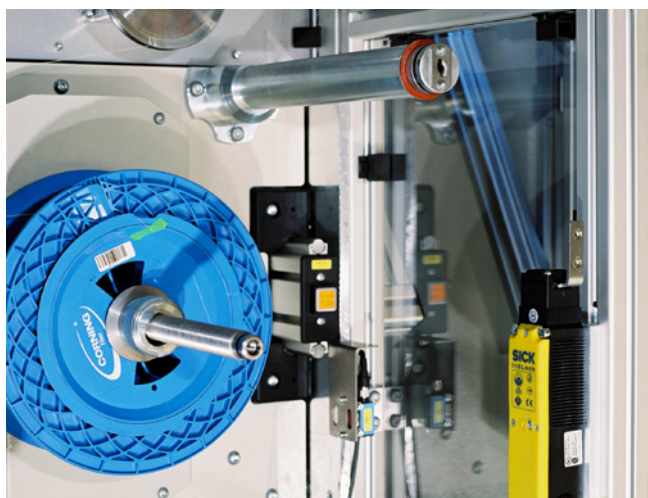
- Locking type: mechanical

Solenoid monitoring contacts		Door monitoring contacts			Connection type	Model name	Part no.
Number of positive action N/C	Number of N/O	Number of positive action N/C	Number of N/O	Number of N/C			
2	1	0	0	1	Cable gland	i10-M0233 Lock	6022580
	0	0	1	1		i10-M0253 Lock	6027397
		2	0	0		i10-M0453 Lock	6029934
					Connector	i10-M0454 Lock	6045055

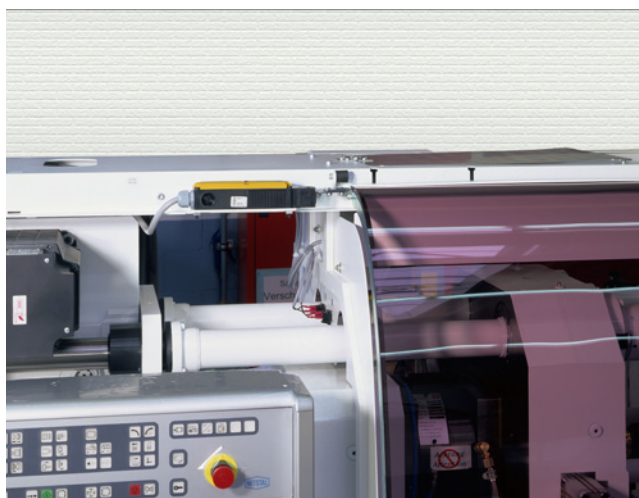
## Application

You can find more applications using the application finder at [www.mysick.com](http://www.mysick.com).

- Monitoring of rotatable, laterally sliding or removable protective devices
- Personal protection for follow-on movements
- Process protection for automated production systems



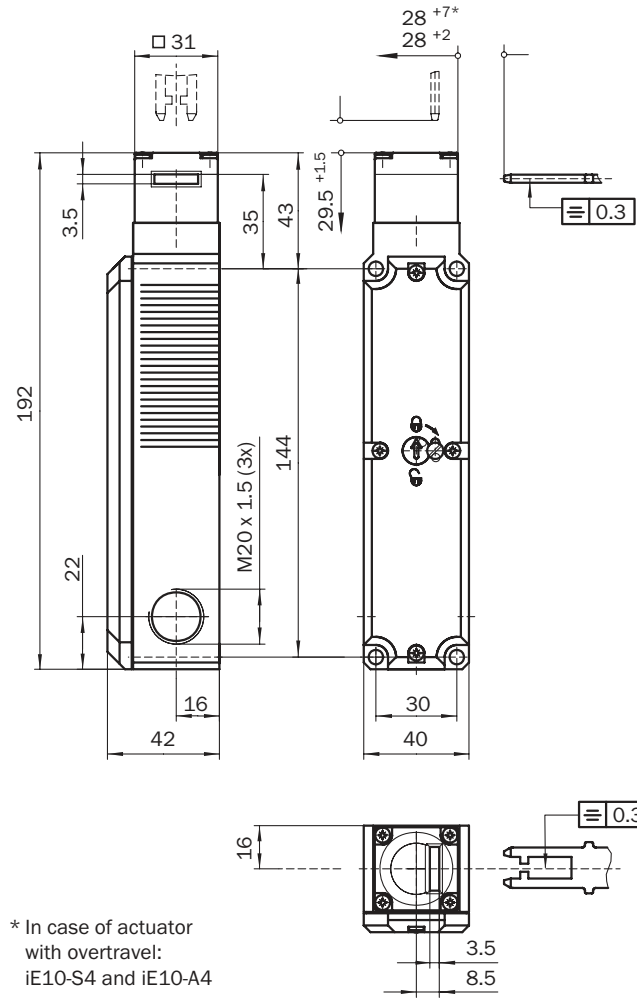
Access protection on an assembly system



Access protection on an injection molding machine

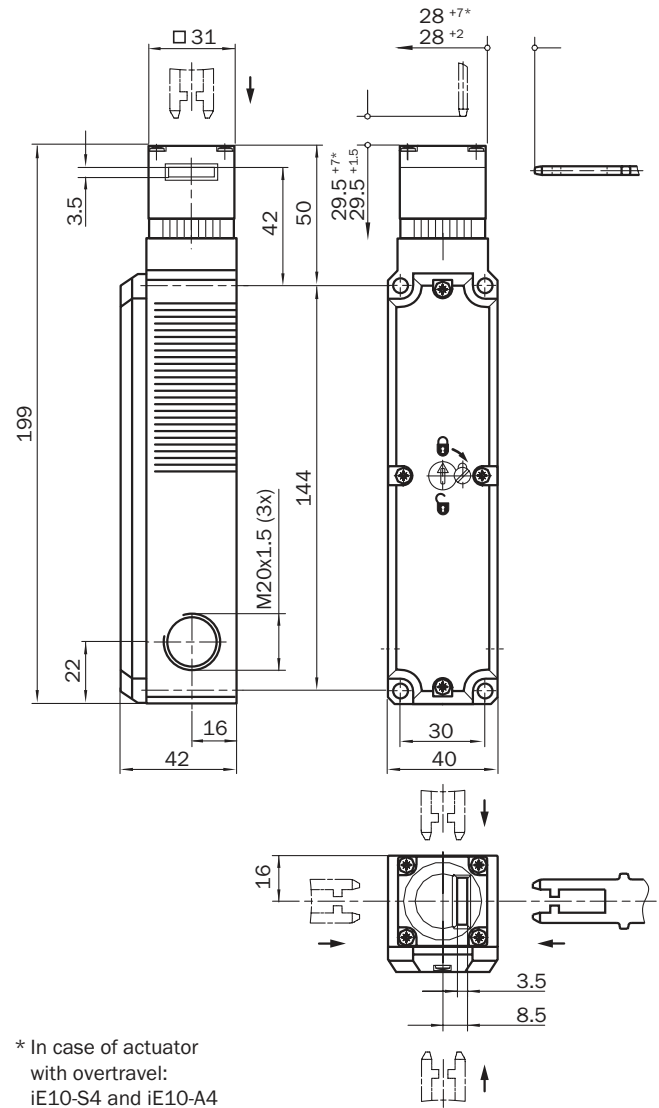
Dimensional drawings

i10-E0233 Lock, i10-E0253 Lock, i10-E0453 Lock,  
i10-M0233 Lock, i10-M0253 Lock, i10-M0453 Lock



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

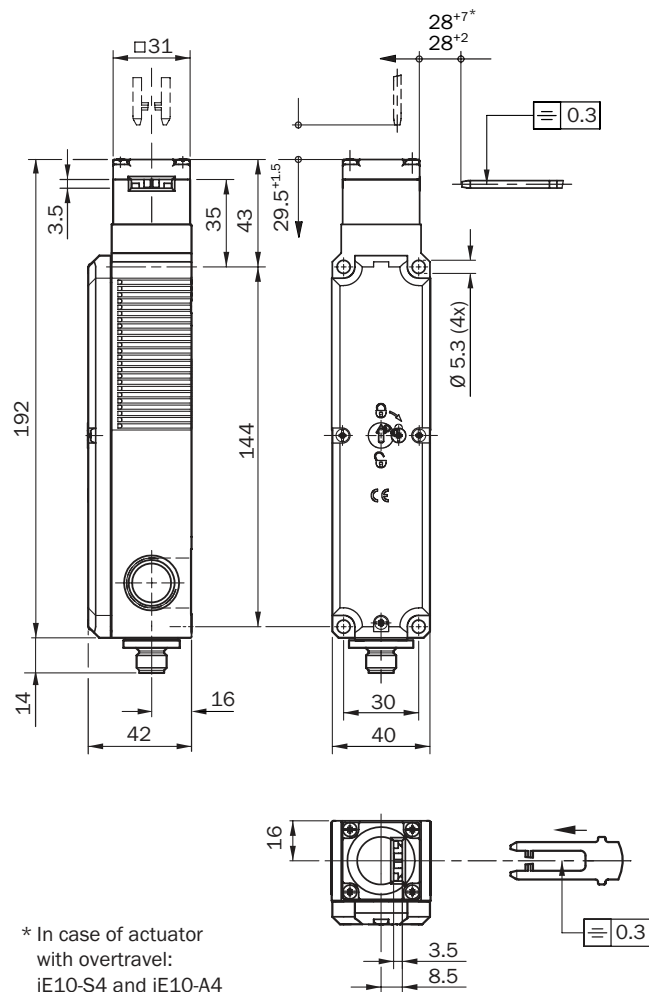
i10-E0313S02 Lock



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

All dimensions in mm

**i10-E0454 Lock**  
**i10-M0454 Lock**



All dimensions in mm

**Switching elements**

	Actuator inserted		Actuator removed
	locked	unlocked	
<b>Switching element 23</b>	$\ominus$ 41 $\overline{\text{N/C}}$ 42 $\ominus$ 33 $\overline{\text{N/O}}$ 34 $\ominus$ 21 $\overline{\text{N/C}}$ 22 $\ominus$ 11 $\overline{\text{N/C}}$ 12	$\ominus$ 41 $\overline{\text{N/C}}$ 42 $\ominus$ 33 $\overline{\text{N/O}}$ 34 $\ominus$ 21 $\overline{\text{N/C}}$ 22 $\ominus$ 11 $\overline{\text{N/C}}$ 12	$\ominus$ 41 $\overline{\text{N/C}}$ 42 $\ominus$ 33 $\overline{\text{N/O}}$ 34 $\ominus$ 21 $\overline{\text{N/C}}$ 22 $\ominus$ 11 $\overline{\text{N/C}}$ 12
<b>Switching element 25</b>	$\ominus$ 41 $\overline{\text{N/C}}$ 42 $\ominus$ 31 $\overline{\text{N/C}}$ 32 $\ominus$ 21 $\overline{\text{N/C}}$ 22 $\ominus$ 13 $\overline{\text{N/O}}$ 14	$\ominus$ 41 $\overline{\text{N/C}}$ 42 $\ominus$ 31 $\overline{\text{N/C}}$ 32 $\ominus$ 21 $\overline{\text{N/C}}$ 22 $\ominus$ 13 $\overline{\text{N/O}}$ 14	$\ominus$ 41 $\overline{\text{N/C}}$ 42 $\ominus$ 31 $\overline{\text{N/C}}$ 32 $\ominus$ 21 $\overline{\text{N/C}}$ 22 $\ominus$ 13 $\overline{\text{N/O}}$ 14
<b>Switching element 31</b>	$\ominus$ 41 $\overline{\text{N/C}}$ 42 $\ominus$ 31 $\overline{\text{N/C}}$ 32 $\ominus$ 21 $\overline{\text{N/C}}$ 22 $\ominus$ 13 $\overline{\text{N/O}}$ 14	$\ominus$ 41 $\overline{\text{N/C}}$ 42 $\ominus$ 31 $\overline{\text{N/C}}$ 32 $\ominus$ 21 $\overline{\text{N/C}}$ 22 $\ominus$ 13 $\overline{\text{N/O}}$ 14	$\ominus$ 41 $\overline{\text{N/C}}$ 42 $\ominus$ 31 $\overline{\text{N/C}}$ 32 $\ominus$ 21 $\overline{\text{N/C}}$ 22 $\ominus$ 13 $\overline{\text{N/O}}$ 14
<b>Switching element 45</b>	$\ominus$ 41 $\overline{\text{N/C}}$ 42 $\ominus$ 31 $\overline{\text{N/C}}$ 32 $\ominus$ 21 $\overline{\text{N/C}}$ 22 $\ominus$ 11 $\overline{\text{N/C}}$ 12	$\ominus$ 41 $\overline{\text{N/C}}$ 42 $\ominus$ 31 $\overline{\text{N/C}}$ 32 $\ominus$ 21 $\overline{\text{N/C}}$ 22 $\ominus$ 11 $\overline{\text{N/C}}$ 12	$\ominus$ 41 $\overline{\text{N/C}}$ 42 $\ominus$ 31 $\overline{\text{N/C}}$ 32 $\ominus$ 21 $\overline{\text{N/C}}$ 22 $\ominus$ 11 $\overline{\text{N/C}}$ 12

**Switching element 23:**

2 positive action N/C contacts + 1 N/O contact + 1 N/C as door contact

**Switching element 25:**

2 positive action N/C contacts + 1 N/O contact as door contact + 1 N/C as door contact

**Switching element 31:**

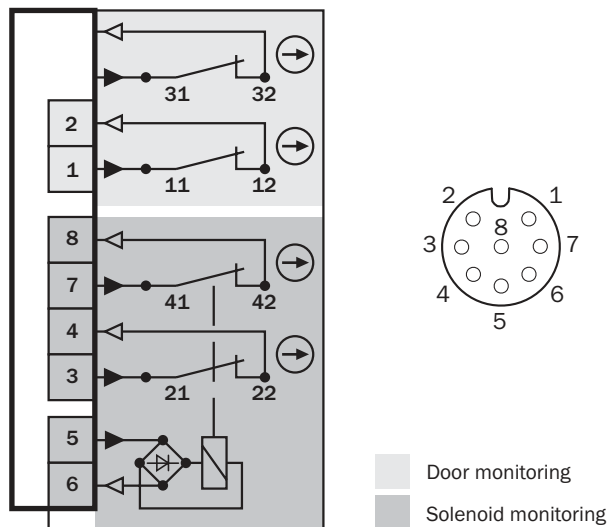
2 positive action N/C contacts + 1 N/O contact as door contact + 1 positive action N/C as door contact

**Switching element 45:**

2 positive action N/C contacts + 2 positive action N/C as door contacts

Connection diagram

i10-E0454 Lock  
i10-M0454 Lock



Accessories

Actuators

- Items supplied: Including two safety screws


Figure	Design	Actuation option	Method of actuation	Door radius	Type	Part no.
	Angled	Rigid	-	≥ 1,000 mm	iE10-A1	5306535
			With overtravel	≥ 1,000 mm	iE10-A4	5308497
	Radial	Semiflexible	Door hinged at top/ bottom	≥ 90 mm	iE10-R1	5306528
			Door hinged on left/ right	≥ 100 mm	iE10-R2	5306529
	Straight	Rigid	-	≥ 1,000 mm	iE10-S1	5306527
		Rubber-mounted	-	≥ 1,000 mm	iE10-S2	5306530
		Rigid	With overtravel	≥ 1,000 mm	iE10-S4	5308383

Lock


Figure	Remark	Property	Type	Part no.
	Lock for mechanical unlocking mechanism	Parallel closing	iE10-K2	5308270




Alignment guide

Figure	Type	Part no.
	iE10-G1	5318460

Connecting cables

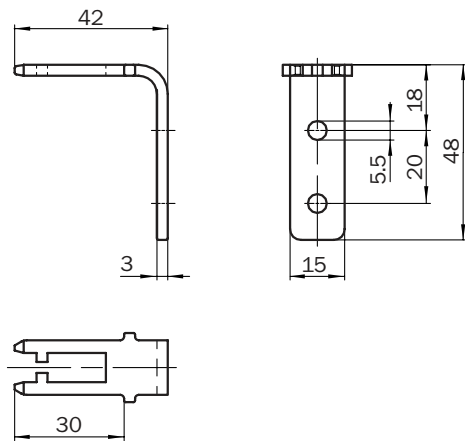
Figure	Direction of cable outlet	Cable length	Type	Part no.
	Straight	5 m	DOL-1208-G05MA	6020993
		10 m	DOL-1208-G10MA	6022152
		15 m	DOL-1208-G15MA	6022153
		30 m	DOL-1208-G30MA	6022242

Cable gland

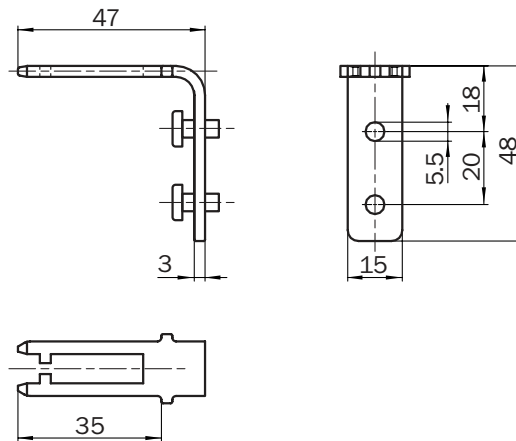
Figure	Type	Part no.
	Cable gland M20	5309164

Dimensional drawings actuators

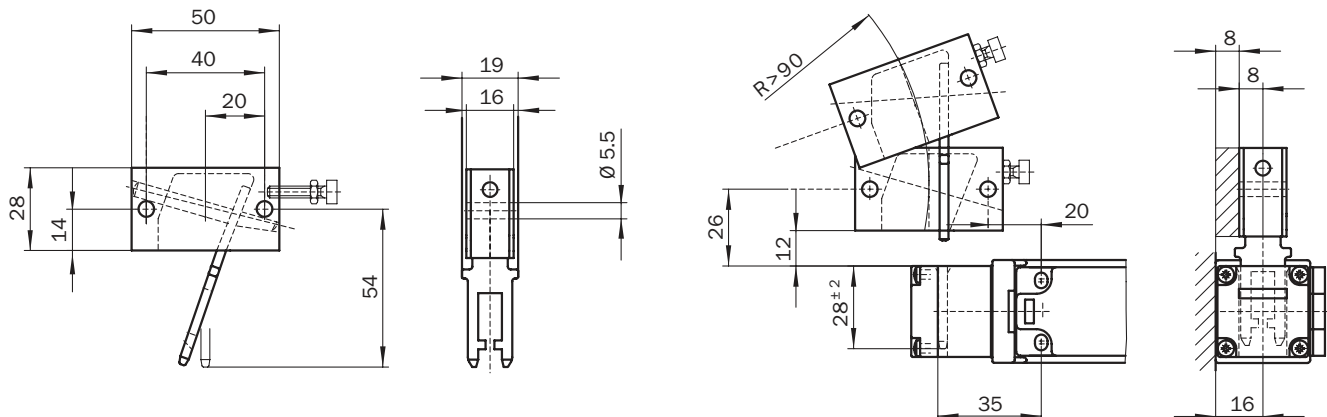
iE10-A1



iE10-A4

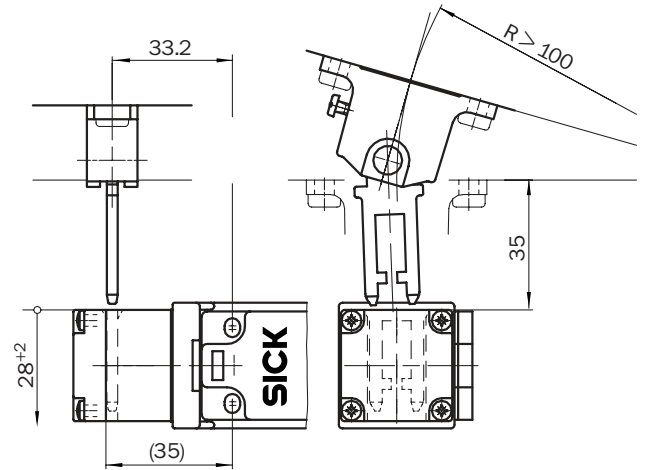
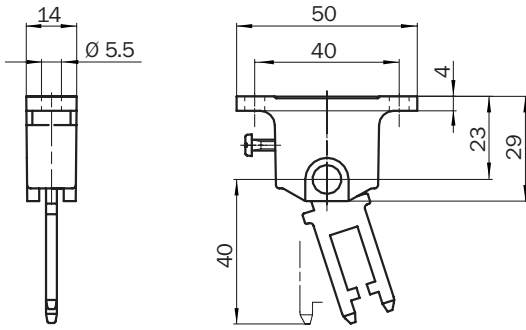


iE10-R1

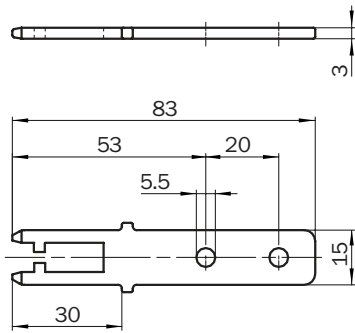


All dimensions in mm

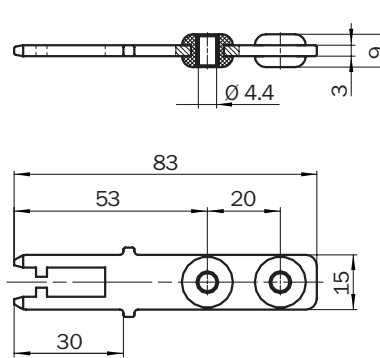
**iE10-R2**



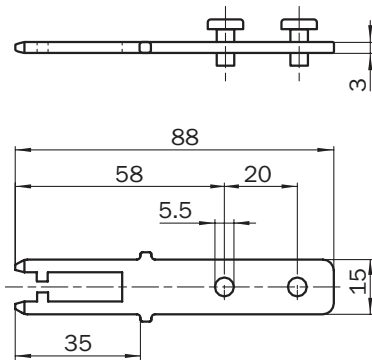
**iE10-S1**



**iE10-S2**



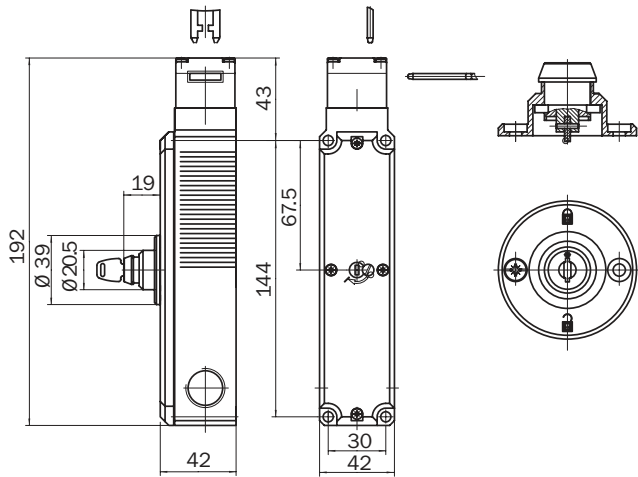
**iE10-S4**



All dimensions in mm

## Dimensional drawings lock

### iE10-K2

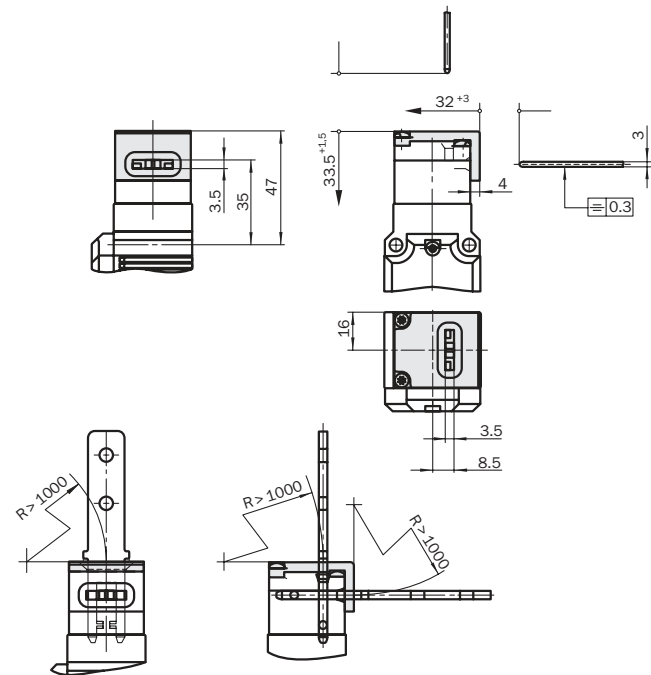


The mechanical unlocking mechanism of the i10 Lock can easily be operated via a key. The lock on the front of the i10 Lock is fixed with two screws.

- Parallel closing locking mechanism
- Fixing screws and two keys supplied with delivery.

## Dimensional drawings alignment guide

### iE10-G1



The metal alignment guide provides the actuator with a wider entry area into the safety switch. With the alignment guide, the safety switch is better protected against damage.

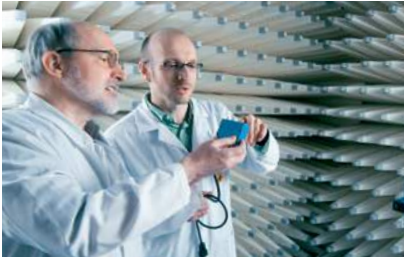
It can be secured to the safety switch with the two M3 x 34 self-tapping screws (screws supplied with delivery).

It can only be used in combination with actuators with overtravel (iE10-A4, iE10-S4).

It can not be used with special locking devices (i10-E0313S02), which already have a longer top entry overtravel.

All dimensions in mm

## SICK at a glance



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- Complete system solutions for analysis and flow measurement of gases and liquids



### Comprehensive services

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