



NEW

Series i10
Series i100
Series i1000
Series T4000



PRODUCT INNOVATION

Switch to safety and performance.
Safety interlocks
with and without magnetic release.

SICK

There are many ways to safeguard machines.

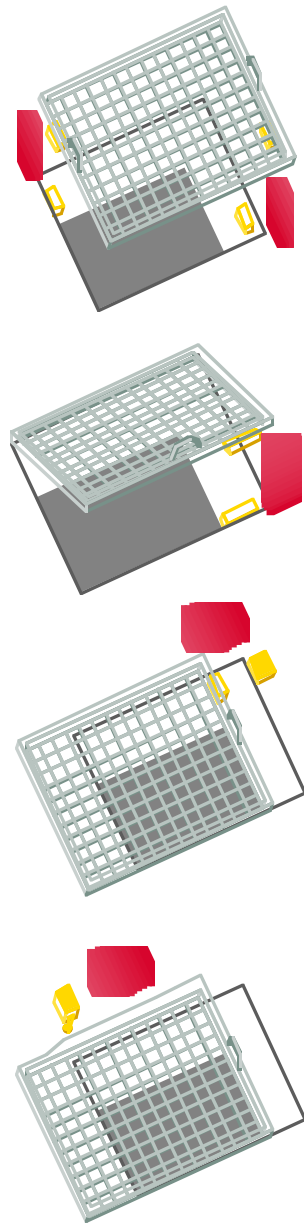
The alternative to opto-electronic solutions: SICK's safety interlocks.

SICK's new safety interlocks now provide the alternative to opto-electronic protective systems – equipped with all the quality features that are typical of SICK's products. With their intelligent technology, small size, great variety and superlative cost-effectiveness, SICK's safety interlocks provide all the options for the most varied of applications.

Merciless, hot and aggressive – but our interlocks are not so easily shaken.

Extremely harsh environmental conditions, external effects such as shocks and vibration, and frequent operation are demands that SICK's safety interlocks can easily handle. They remain alert and on duty throughout the hard industrial day-to-day grind: accurate opening and closing is consistently guaranteed.

From a technical point of view the interlocks are among the most mature of all systems. At the same time they are truly high-tech. Integrated evaluation electronics make external switching relays unnecessary. SICK's safety interlocks are available in plastic or metal versions. A non-contact safety interlock using transponder technology rounds off the programme.



ADVANTAGES AT A GLANCE

- Small sizes
- Safety categories 1–4
- All environmental conditions
- High enclosure ratings (up to IP 67)
- Great flexibility
- Large variety of fittings
- Approval according to BG, BIA, CSA, SAQ, SUVA, and UL

AREAS OF APPLICATION

- Mechanical engineering
- Metal processing
- Plant construction
- Automotive industry
- Robotics and automation
- Food processing and drinks

With four product lines, SICK offers a wide range of safety interlocks for automation, handling and assembly functions.



We open all doors.



Low duty

Plastic series i10 – i10 Lock – i11 mini

Interlocks made of recyclable plastic. 8 approach directions that are quickly and easily adjusted. Small, compact shapes allow a wide variety of applications.

This series of interlocks is available with various switching members and with or without locking.



Variably adjustable approach direction, actuator entry direction and switching direction make SICK plastic interlocks highly flexible components.

Heavy duty

Metal series i100 – i100 Lock

Developed and manufactured for use in mechanical engineering and plant construction. These devices are proof against even the harshest of environmental conditions and are distinguished by the maximum security they offer, their great strength, and their resistance to corrosion. Suitable for safety categories 1–4.



Robust and compact housings withstand hard operating conditions.

Ultra heavy duty

High-end series i1001/2 – i1001/2 Lock

The modular solution for extreme demands. This safety system has the right modules for every application. The inclusion of an “arresting key” allows new configurations to be implemented in your safety facilities.



Unique module concept with trapped-key transfer system for maximum personnel protection.

Non-contact

Electronically encodable series T 4000

This safety interlock uses an electronically encodable actuator that prevents manipulation. It is used wherever high standards of hygiene must be maintained. Also optimal for large and heavy doors and ideal where there is a lot of dirt.



Can be used wherever there are strict hygiene regulations, imprecise door alignments, or heavy vibrations.



ANALYSIS AND SELECTION

SICK would be pleased to assist you in making a risk analysis and selecting the optimal safety interlock system.

Extremely compact and remarkably versatile.



Series i10 – i10 Lock – i11 mini with plastic housings

This versatile line of interlocks has a high-quality, recyclable plastic housing that is the most compact and the lightest of their class. Here you will find reliable security based on sophisticated technology – SICK's qualities precisely.

4 lateral approach directions in addition to 4 from above are quickly and easily

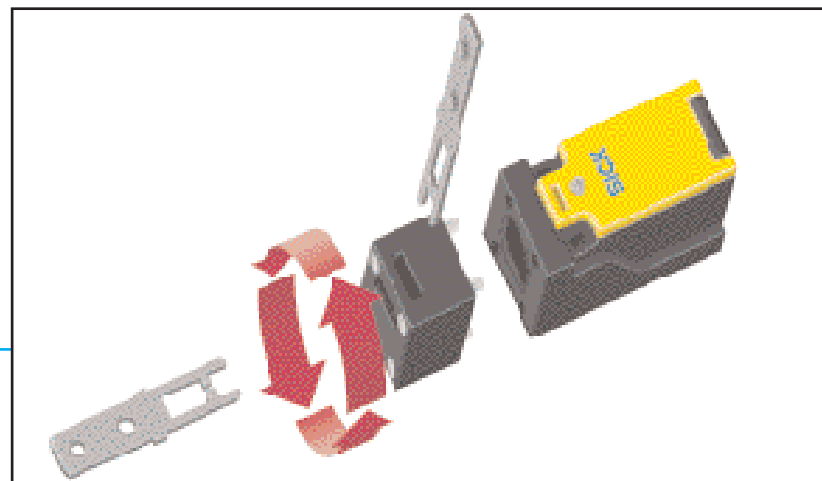
adjusted. The small interlock width allows trouble-free mounting on 30 mm and 40 mm profiles. But the i10 – i10 Lock – i11 mini series' small and light structure is not their only attribute. Their robust, versatile technology is also presentable. Switching elements with 1 to 4 switching members provide flexible connection. From now on you only need one interlock for a variety of applications.

Advantages at a glance:

- Can be mounted on 30 mm and 40 mm profiles
- 4 lateral approach directions
- 4 approach directions from above
- Compact housing
- Small interlock width
- Variable switching members
- Approvals: BG, CSA, SAQ, SUVA, UL

i10 – i10 Lock – i11 mini SERIES OF INTERLOCKS

Frequency of operation	low – average
Environmental conditions	normal
Lock	single
Encoding	via key
Functions	opening, closing, locking



A pre-requisite for modern automation: The i10 – i10 Lock – i11 mini series of plastic interlocks.

One for all – up to safety category 4.



Series i100 – i100 Lock with metal housings

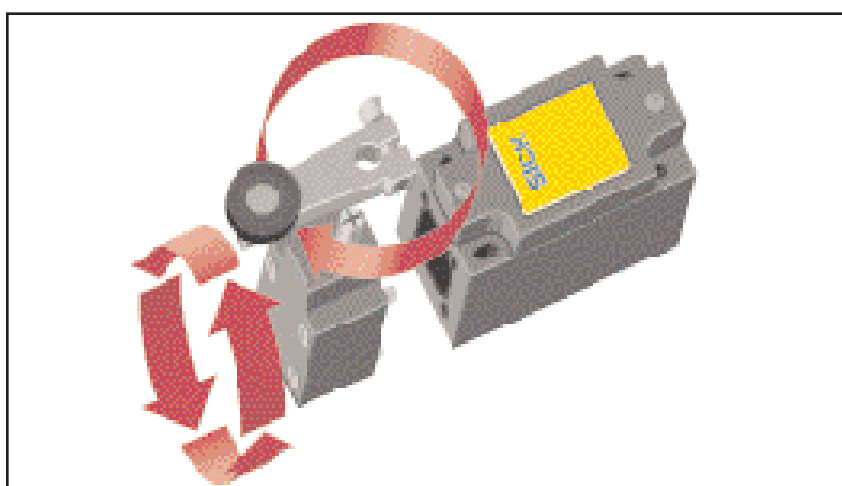
Sophisticated technology forms the basis for the greatest reliability and precision – independent of external influences. Here too, SICK's safety interlocks again demonstrate their excellence. The i100 – i100 Lock series was developed for the harshest conditions in mechanical engineering and plant construction. The series have robust metal housings, and the high-quality materials used for the plunger, driving mechanism and seals guarantee a long life.

i100 – i100 Lock metal interlocks are available in Category 1 (switching member and actuator form one unit) and Category 2 (switching member and actuator do not form a unit). Versatile convertibility of the approach direction, actuator entry direction and switching direction mean that the interlocks are components that can be used anywhere for protecting people and machines.

Advantages at a glance:

- Light-metal diecast housing
- Position interlock according to EN 50041
- Safety categories 1 – 4
- Variable approach direction
- Variable actuator entry direction
- Switching direction left/right

i100 – i100 Lock SERIES OF INTERLOCKS	
Frequency of operation	high
Environmental conditions	shock vibration heat
Lock	double
Encoding	via key
Options	open, closing, locking



Robust light-metal diecast housing guarantees long life.

Modular safety that leaves nothing to chance.



High-end series i 1001/2 – i 1001/2 Lock: Modules for all applications.

The i1000 safety system is not only highly robust but also extremely modular. It is based on the 2 basic elements 1001 – 1002. These can be adapted to the particular application using a safety-key adapter.

Simple control using key-actuated interlock.

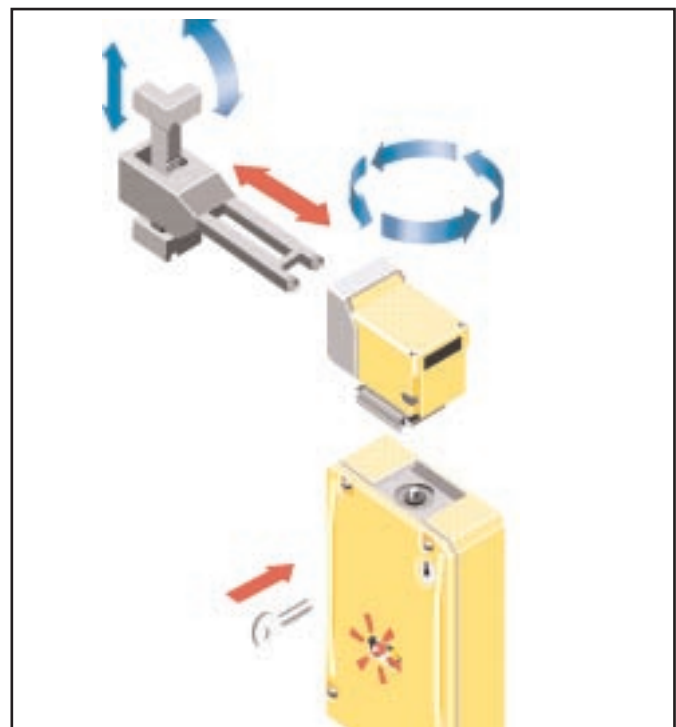
Key-actuated interlocks can be used for programming machines, for example for test and set-up modes. They guarantee the operator maximum labour protection.

The i 1000 safety system. Advantages at a glance:

- Unique modular concept
- Great variety of configurations
- Self-adjusting of alignment errors
- Conforms to the norms EN-954-1, EN 1088, EN 292 and EN 1050
- Trapped-key transfer system
- Encodable with locking and without key with different access rights (general and section keys)
- Cannot be forced open
- Simple mounting
- IP 67 enclosure rating

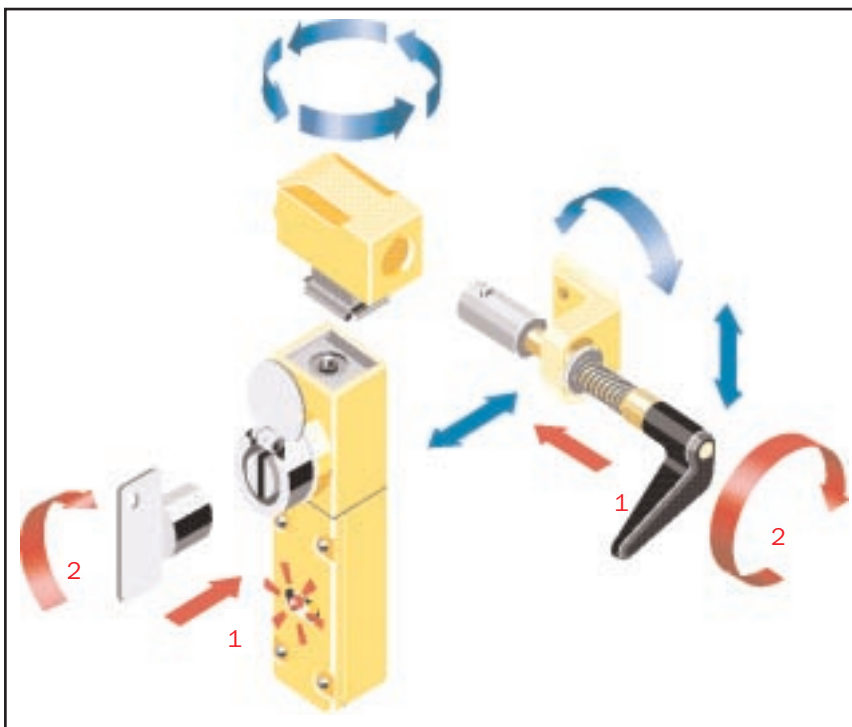
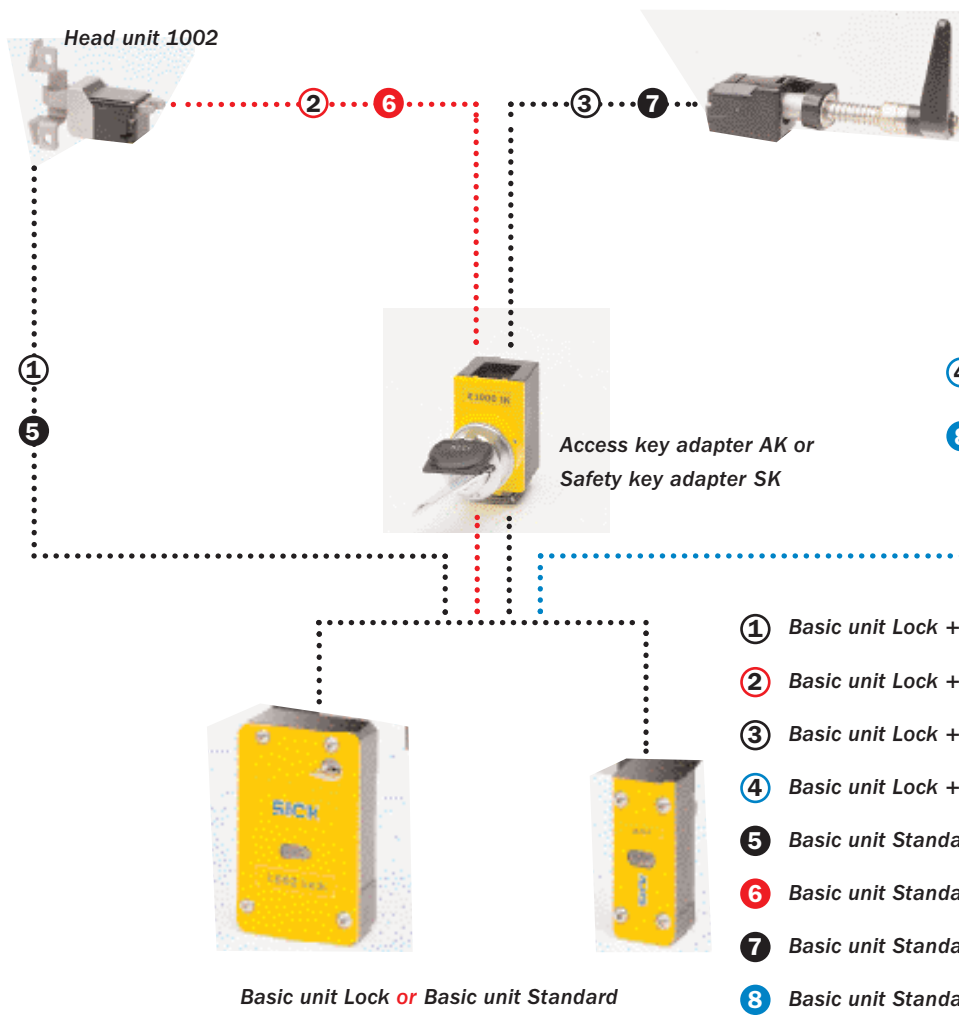
i 1001/2 – i 1001/2 Lock HIGH-END SERIES

Frequency of operation	very high
Environmental conditions	extreme stress alignment errors vibration, heat complex locking positions
Lock	triple
Encoding	via key
Functions	opening/closing, locking, key/enable



i 1002 Lock

The system modules.

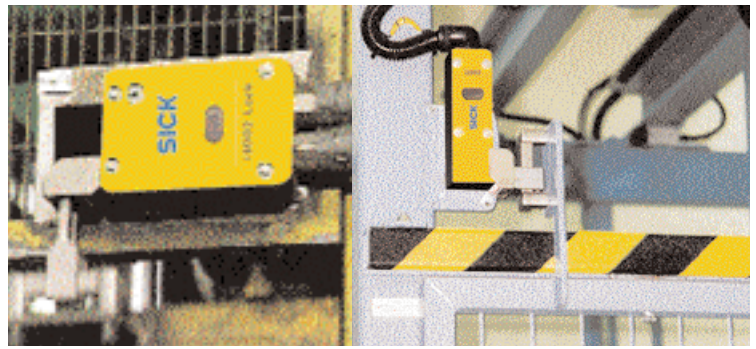


Basic unit Standard + key adapter + head unit 1001



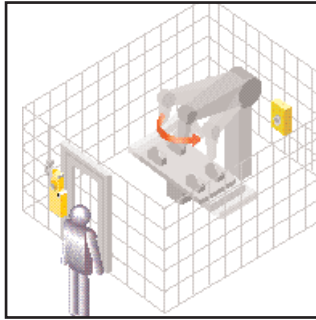
Option: Enabling or programmer key

Your key to increased labour protection and flexibility.

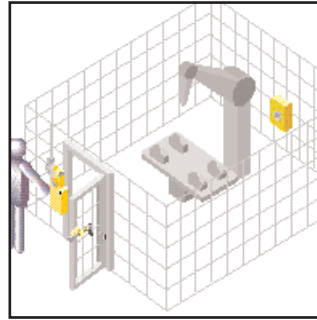


Enable function with trapped-key system.

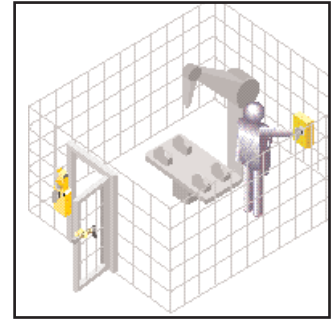
Application example:
Basic unit Lock + head unit 1002 + safety key adapter.
In enable mode nobody can set the machine in motion from outside. The machine is started from inside with the safety key.



Plant in action, door closed, key inserted



Key is removed, plant comes to standstill, door can be opened

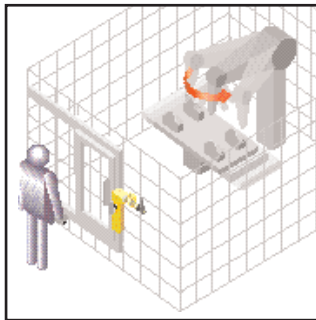


Person enters, key inserted inside, plant runs in enable mode

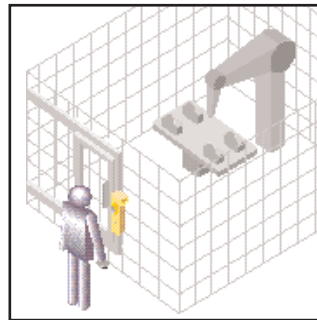


Access function:

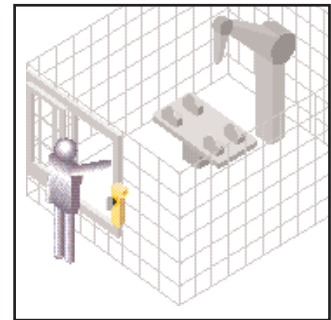
Application example:
Basic unit standard + head unit 1001 + access key adapter.
Only those with an access key can gain access to the machine.



Plant in action, no key inserted



Key is inserted, plant comes to a standstill

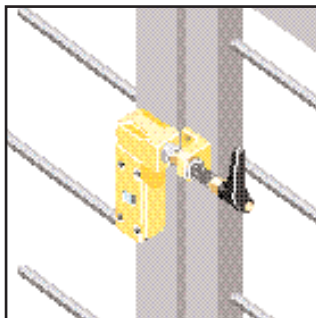


Door can now be opened

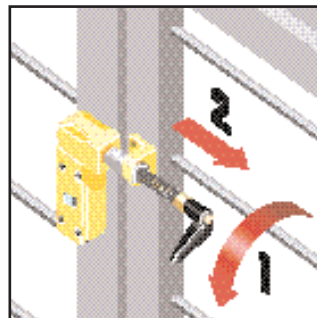


Safety actuator with restart function:

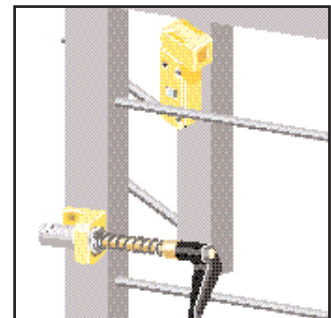
Application example:
Basic unit standard + head unit 1001. The door may only be opened or closed deliberately. Accidental closure of the door does not trigger a machine start.



Door closed and locked



Door closed and unlocked



Door open

Accepts harsh conditions, bars manipulation.



T 4000 series non-contact interlocks

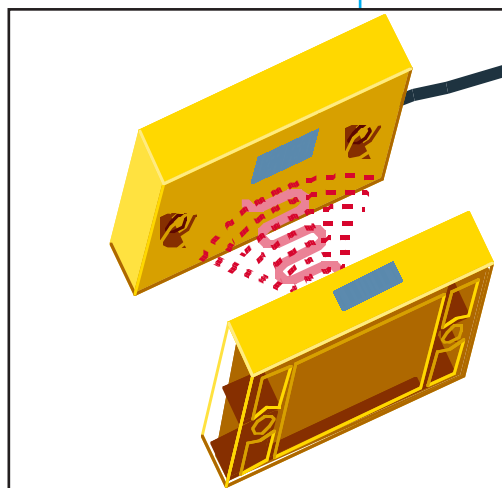
With the T 4000 non contact line of interlocks you remain independent of external influences, and most effectively protect your plant from manipulation. For this interlock operates with an electronic, uniquely encodeable actuator, a technology that has been successfully used for security dead locks in the automotive industry for many years. T 4000 interlocks are the ideal solution wherever exact door alignment is impossible, machine doors vibrate a lot, or for heavy and large doors. Actuators without batteries guarantee continuous, service-free operation.

Advantages at a glance:

- Ideal where there are strict hygiene regulations (e.g. in the food processing industry)
- For imprecise door alignment
- When there is a lot of vibration
- For large and heavy doors
- High security against manipulation
- Conforms to control category 4

T 4000 SERIES OF INTERLOCKS	
Frequency of operation	high
Environmental conditions	aggressive hot vibration
Lock	by encoding
Encoding	electronic
Functions	opening/closing

Ideal for large and heavy doors as well as increased hygienic demands: the T 4000 series of interlocks.



E 100 enabling interlock

Employed as hand-operated command units these interlocks allow work to be carried out in the hazardous areas of machines and plant. In "manual mode", the function of protective systems is cancelled under certain conditions. This allows access to hazardous areas so that programming, adjustment and commissioning work may be carried out.

Enabling interlocks in various designs allow safer work in hazardous areas.

