

The COMEPI safety limit switches are devices designed and made in compliance with the international IEC regulations and the EN European standards. They can be used for monitoring guards on industrial machines and for building safety systems in compliance with standard EN ISO 14119. Being a protection equipment for operators, its incorrect installation or tampering can damage people, even seriously. The device installation must be carried out according to the regulations in force by authorized staff only. Make sure the switch works properly before starting the machine and periodically check the correct operation of the equipment.

**Installation precautions**

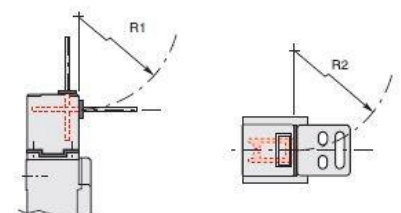
- Before starting the machine, check the proper operation of the safety system. Periodically check the correct operation of the device.
- The device installation must be carried out by authorized and qualified staff only.
- The device use must be limited to the applications meeting the regulations requirements.
- The device installation and the safety system design must be carried out only by people knowing the regulations in force.
- The device installation and the safety system design must be carried out in compliance with the regulations in force.
- In case of doubts or special applications, please contact COMEPI Technical Support.
- Do not install in dusty or dirty places.
- During installation and operation, it is fundamental to prevent dust and dirt from entering the opening when the start key is not inserted.
- Before any painting operation, cover the opening and the identification label.
- Do not install in places where there are flammable dusts or gases.
- Do not install in places with strong vibrations; impacts and vibrations can prevent the switch correct operation.
- Use only proper actuators supplied by COMEPI, suitable for the model used; otherwise safety could be void.
- Install the actuator in a suitable way, so that it does not harm the operator when the door is open.
- If the microswitch is damaged or worn, replace the whole device to ensure safety.
- If the actuator is damaged or worn, replace it.
- Replace the equipment after exceeding the mechanical durability limit.
- During wiring, keep load under the value of the use category.
- Check that safety contacts are connected to a protection fuse.

**Technical data**

Casing	Technopolymer or painted metal casing		Rated impulsive withstand voltage Uimp	6 kV		
Air temperature during operation	-25°C ... +70°C		Conventional thermal current Ith	10A		
Environmental designation	Type-1 enclosure		Operational current AC-15	24V 10A	120V 6A	400V 4A
Protection against electrical shocks	Class I (metal casing)	Class II (thermoplastic casing)	Operational current DC-13	24V 6A	125V 0.55A	250V 0.4A
Degree of protection IP	IP65 (plastic casing)	IP66 (metal casing)	Maximum switching frequency	3600 cycles/hour		
Rated insulation voltage Ui	500V (400V Z02-X12P-X21P-W03P)		Load factor	0.5		
Utilization categories according to UL508	A600 – Q600 (A300-Q300 X12P-X21P-W03P)		Resistance between contacts	25 mΩ		
Connecting terminals	Screws M3.5 with cable clamp (M3 for 3 poles contacts type)		Terminal marking	According to IEC 60947-5-1		
Dimensions of connecting cables*	0.34 ... 1.5 mm <sup>2</sup>		Mechanical durability	1 million operations		
			B10d	2 million operations		

\*Only use copper conductors 60/70°C, AWG14-18, stranded and solid conductor. Terminals maximum tightening torque 0.8Nm

Valori minimi [mm]							
Minimum values [mm]	KEY 3	KEY 4	KEY 5 / 45	KEY 6 / 46	KEY 7	KEY 8	KEY 9 / 49
R1	400	400	400	400	250	350	180
R2	400	400	400	400	350	350	200



Before reaching the switch contacts, make sure the device is not supplied with power.

Tighten the screws with the specified tightening torques (0.5Nm plastic, 0.8Nm metal).

The device must not be disposed of following special procedures, just comply with the regulations in force in the country where the device is used.

**Use limits**

Use the switch complying with the regulations in force within its operation limits. The manufacturer is not to be held responsible for damages if: the device was not used properly, instructions were not followed, assembly and maintenance operations were carried out by unauthorized or unskilled staff.

**This device complies with the following Directives:**

- Low Voltage Directive 2014/35/EU
- According to standard EN 60947-5-1
- Machinery Directive 2006/42/EC
- According to standard EN ISO 14119
- Directive RoHS 2002/95/EC

**Approvals**

cULus according to standard UL508 – IMQ according to EN 60947-5-1 (for the complete list of the certified products, please contact COMEPI Technical Support).

**Use and operation examples**

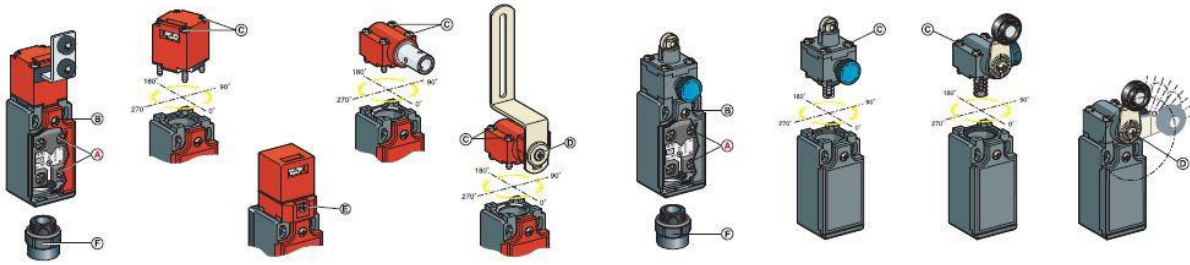
This kind of device is typically used to monitor the safety guards on industrial machines. When the guard is closed, the microswitch is in the normal operation condition, while when the guard is open, the signal controlling the machine stop due to dangerous situation is produced. A single device cannot be used to ensure safety when the guard protects the perimeter of machines for which dangerous conditions may last a certain time after generating the stop signal. Moreover, this device cannot be used as emergency stop device. To test the proper operation of the equipment, check the correct insertion of the actuator into the head opening and close the guard starting the machine. When opening the guard, the machine stop signal will have to be produced. The machine restart must be impossible while the actuator is not inserted in the device opening. The device must not be used as mechanical lock and it is necessary to avoid actuator impacts on the head, due to misalignment of components.


**Safety warnings**

Safety switches protect operators. An incorrect installation as well as the tampering of the device and of its safety system can cause even extremely dangerous situations. Never bypass or tamper with the device. In order to avoid any tampering attempt, it is advisable for the installer to mount the device in a place that cannot be easily reached by unauthorized staff, even using physical barriers or other means to make tampering difficult.

The CE declaration of this product is available in the [download](#) section of website [www.comepi.it](http://www.comepi.it) or by writing to the following email address: [tecnico@comepi.it](mailto:tecnico@comepi.it)

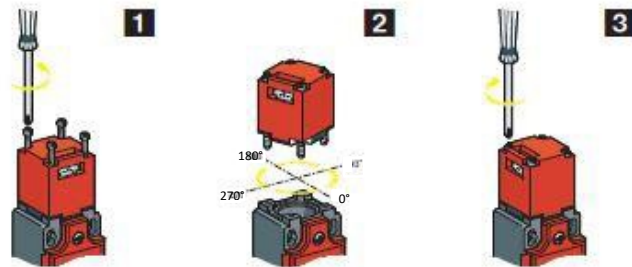
**COPPIE DI SERRAGGIO - TIGHTENING TORQUES**



	<b>A</b>		<b>B</b>		<b>C</b>		<b>D</b>		<b>E</b>		<b>F</b>	
 <b>Viti / Screws</b>	Morsetti blocco contatti Contact block terminals M3.5 ± pozidriv 2		Chiusura coperchio Closing cover ø3 ± pozidriv 1		Fissaggio testina Assembling head ø3 ± pozidriv 1		Fissaggio leva Assembling lever M3.5 ± pozidriv 2		Regolazione testa K80 K80 head adjusting M3 Philips No. 1		Adattatore 1/2" NPT 1/2" NPT adaptor -	
<b>Coppia di serraggio Tightening torque</b>	Raccomandato Recommended N.m/lb.in	Max N.m/lb.in	Raccomandato Recommended N.m/lb.in	Max N.m/lb.in	Raccomandato Recommended N.m/lb.in	Max N.m/lb.in	Raccomandato Recommended N.m/lb.in	Max N.m/lb.in	Raccomandato Recommended N.m/lb.in	Max N.m/lb.in	Raccomandato Recommended N.m/lb.in	Max N.m/lb.in
<b>Finecorsa Termoplastici Thermoplastic Limit switches</b>	0.8 / 7	0.9	0.5 / 4.3	0.8	0.5 / 4.3	0.8	0.5 / 4.3	0.8	0.3 / 2.6	0.5	17 / 150	18
<b>Finecorsa Metallici Metal Limit switches</b>	0.8 / 7	0.9	0.8 / 7	0.9	0.8 / 7	0.9	0.5 / 4.3	0.8	0.3 / 2.6	0.5	-	-

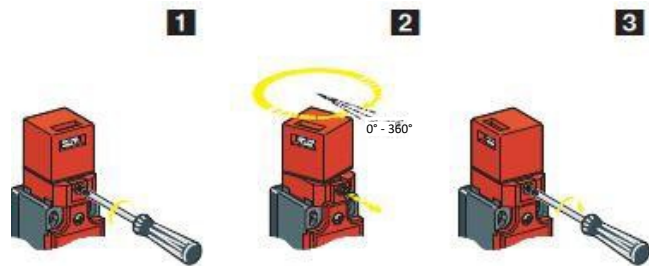
**Head orientation for models with 90° adjustable head**

- 1) Unscrew the four head fastening screws
- 2) Turn the head to reach the desired position
- 3) Fix the head in the desired position placing the actuating cam in the correct position and tightening with the maximum tightening torque:  
0.5N/m for models with thermoplastic casing  
0.8N/m for models with metal casing

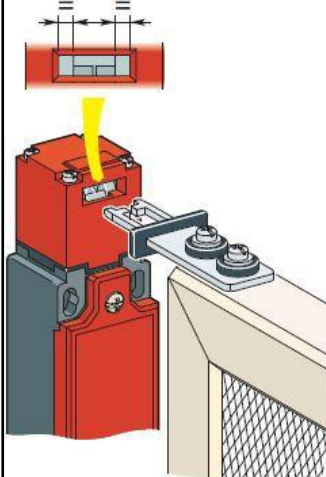


**Head orientation for models with 360° adjustable head**

- 1) Unscrew the locking screw on the device
- 2) Adjust the head to the desired position
- 3) Tighten the orienting screw checking that the head remains in the correct position
- 4) For a correct operation in each application, use the spacer supplied with the device.

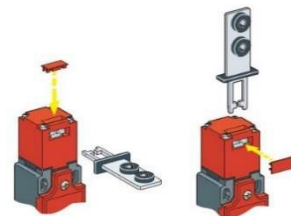
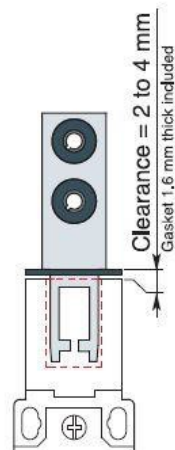


**Actuator adjustment**



Clearance = 2 to 4 mm  
Gasket 1.6 mm thick included

**Warning!** The device must not be used either as a mechanical lock or as a guide



**Warning!** To prevent dust or dirt from entering the unused opening, always use the closing plug supplied with the device