

The Comepi safety switches are devices designed and manufactured according to IEC international standards and EN European regulations. This device is used on machines where the hazardous conditions remain for a while after the stop signal generation and is helpful for the realization of safety systems according to ISO14119. Performing a personal protection function, a wrong installation or a tampering device can cause serious injury. The installation therefore must be performed according to the standards in effect and by qualified staff only. It is also recommended to check the operation before putting the machine into service and verify periodically the proper operation of the device.

Installation precautions

- Do not use in environments with presence of dust and dirtiness
- During the installation (and the operations) absolutely avoid the penetration of dust and dirtiness inside the head when the key actuator is not inserted.
- Insert the protection cap in the not used key inlet.
- Before any painting cover the key inlets and the identification label
- Do not install in presence of explosive or inflammable gas.
- Do not install in presence of strong vibrations. Shocks and vibrations can in fact preclude the proper operations of the device.
- Do not disassemble and reassemble the operating head: this
 operation, if done so not suitable, can cause malfunctions.
- Do not remove the microswitch inside: a rough placement can preclude the proper operations.
- Take care to us only actuators manufactured by Comepi. The use of any other actuator does not guarantee the safety of the system. Do not use with damaged or deformed actuator.
- Install in way that the actuator cannot damage the operator in condition of open door.
- In case of damaged or worn actuator, replace itself.
- In case of damaged or worn microswitch (or any part of the device), replace the complete device
- Replace the complete device after 1M of operations.
- During the wiring, keep the load under the value given in utilization categories.
- Ensure the connection of the safety contacts to a protection fuse.
- Turn off the power supply before approaching to the switch contacts, also during the wiring.
- Tighten the screws with the indicated torque.

Utilization limits

- Use the switch by following its instructions, observing its operations limits and using it in accordance with the safety standards in force
- The manufacturer refuse all responsibility in case of nonrespect of safety instruction, installation and repairs not performed by qualified staff, use not in accordance with the destination and omission of test.

Device conforms to the Directives:

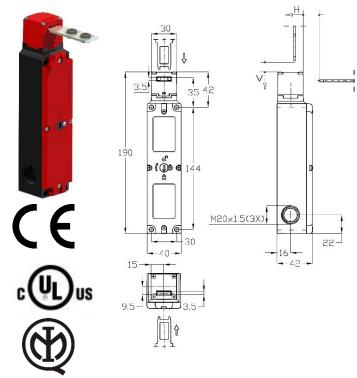
Low Voltage Directive 2014/35/UE according to the standard EN 60947-5-1 Machinery Directive 2006/42/CE according to the standard EN ISO 14119

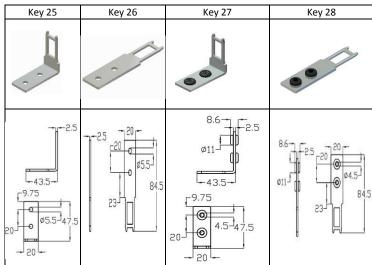
Approvals

cULus according to the standard UL508

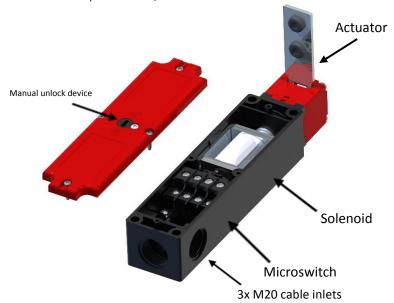
IMQ according to the standard EN60947-5-1







Insertion depth: V = 29mm; H=28mm





Casing		Polimeric casing	Rated impulsive withstand voltage Uimp	2,5 kV	
Operating air temperature		-25°C +55°C	Conventional free air thermal current Ith	10A	
Environmental designation		Type-1 enclosure	Rated operating current AC-15	24V – 10A	230V – 4A
Protection against electrical shock		Classe II	Rated operating current DC-13	24V - 4A	
Max actuating speed		20 m/min	Switching frequency	600 cycles/h	
IP protection degree		IP65	Load factor 0.5		.5
Rated insulation voltage Ui		250V	Restistance between contacts	25 mΩ	
Utilization category according to UL508		A300 – Q300	Terminal marking	According to IEC 60947-5-1	
Connecting terminals	M3 screw	s with cable clamp	Mechanical durability	1 million of operations	
Wiring dimensions*		0.34 1.5 mm ²	B10d	4 million of operations	

^{*}Use only copper conductors 60/70°C, AWG14-18, stranded and solid conductor. Clamps tightening torque 0.8Nm.

		Mechanical interlock			Electrical interlock *			
		a			8			
Actuator		Inserted & locked	Inserted & unlocked	Not inserted	Inserted & locked	Inserted & unlocked	Not inserted	
and the same of th	Solenoid	Not-exctited	Exctited	(6)	Exctited	Not-exctited	(9)	
Contact element	Actuation							
FAI 1 contact moved by actuator + 3 contacts moved by solenoid	Actuator Solenoid Solenoid Solenoid	11 12 22 23 33 34 41 42	11 ———————————————————————————————————	21 — — 22		11 ———————————————————————————————————	11 ———————————————————————————————————	
FA2 1 contact moved by actuator + 3 contacts moved by solenoid	Actuator Solenoid Solenoid Solenoid	13 — 14 21 22 33 — 34 41 42	13 ——14 21 ——22 33 ——34 41 ——42	13 — 14 21 — 22 33 — 34 41 — 42	33 34	13 — 14 21 — 22 33 — 34 41 — 42	13 14 21 22 33 34 41 42	
FA3 2 contact moved by actuator + 2 contacts moved by solenoid	Actuator Solenoid Solenoid Actuator	13 ——14 21 ——22 31 ——52 41 ——42	13 ——14 21 ——22 31 ——32 41 ——42		13 ——14 21 ——22 31 ——52 41 ——42	21 ——22 31 ——32	13 14 21 22 31 32 41 42	

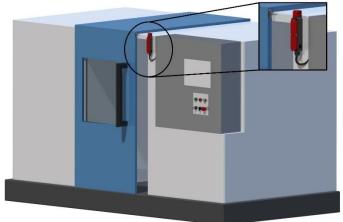
^{*}Attention: In case of lack of voltage the device allows the immediate access to the protected area

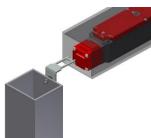
Application and operation examples

This device is useful for guarantee the safety of the operator in case of machines where the hazardous conditions remains for a while time after the generation of the stop signal, because of the mechanical inertia of moving parts, components under pressure or with high temperatures. This device, when used individually, is not suitable for applications in machines where the operator can enter inside the protected area with his whole body, because of the possibility of accidental closing of the protection fences after the operator entry. In order to test the proper operations, verify the correct insertion of the actuator in the operating head and start the machine by closing the protection. In this conditions must be impossible to open the protection, must be impossible to start the machine.

Safety warnings

Safety switches perform a human protection function. The wrong installation can cause serious danger situations, as well as the manumission of the device and of the entire safety system. The device must never be evaded or manumitted in every way. To prevent easy tampering, we recommend to install the device in a place difficult to access by unauthorized personnel, by using physical impediments or tricks to make any tampering more difficult.





Manual unlock device

The device is equipped with a manual unlock device with security screw. The arrow on the cover shows the device status. The unlock can be activated by unscrewing the security screw and turning of 180°. In order to avoid misuse the devices with the security screw sealed by paint.

The CE declaration of this product is available on our website and by mail to tecnico@comepi.it

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