

Description

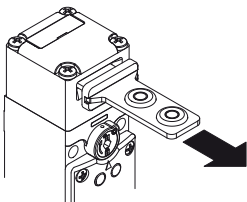


These switches are used on machines where the hazardous conditions remain for a while, even after the machines have been switched off, for example because of mechanical inertia of pulleys, saw disks, parts under pressure or with high temperatures. They can also be used when it is necessary to control machine guards allowing the opening of protections only under specific conditions.

The versions with solenoid actuated NC contacts are considered interlocks with locking in accordance with ISO 14119, and the product is marked on the side with the symbol shown.

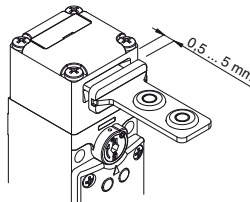


Holding force of the locked actuator



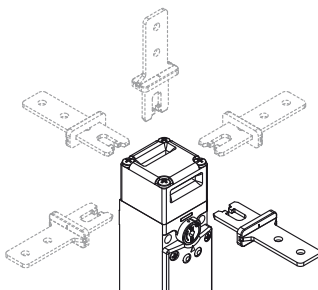
The strong interlocking system guarantees a maximum actuator holding force of $F_{1max} = 2800 \text{ N}$.

Wide-ranging actuator travel



The head of this switch is equipped with an actuator with a wide range of travel. In this way the guard can oscillate along the direction of insertion (4.5mm) without causing unwanted machine shutdowns. This extensive travel is available in all actuators, in order to ensure maximum device reliability.

Orientable heads and devices



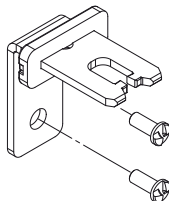
The head can be quickly oriented in four different directions after unscrewing the 4 fixing screws. Also the key release device and the release button can be rotated in 90° steps, thus obtaining as many as 32 different configurations with the same article.

Contact blocks with 4 contacts



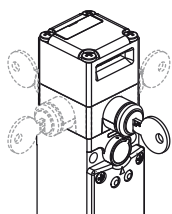
Innovative contact block with 4 contacts, available in different contact configurations to monitor the actuator or the solenoid (patented). The unit is supplied with captive screws and self-lifting plates. Removable finger protection for eyelet terminals. Highly reliable electric contacts with four support points and double interruption

Safety screws for actuators



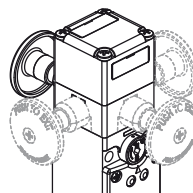
As required by EN ISO 14119, the actuator must be fixed immovably to the door frame. Pan head safety screws with one-way fitting are available for this purpose. With this screw type, the actuators cannot be removed or tampered with using common tools. See accessories on page 295.

Key release device with orientable lock



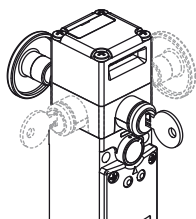
The auxiliary key release device is used to allow the maintenance or the entry into the machinery to authorized personnel only. Rotating the key, will make the same action of the solenoid, that is move solenoid contacts and release the actuator. The device can be rotated allowing the installation of the safety switch inside the machinery and making the release device accessible outside the protection. In this way, the switch is better protected against possible tampering and the external side/surface of the machinery remains smooth.

Emergency release button



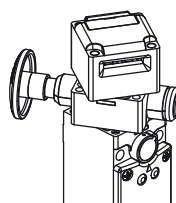
This device is used when the safety switch controls hazardous areas where operators may physically enter with all their body. The release button, oriented towards inside the machinery, allows the exit of the operator accidentally trapped also in case of possible black-out. Pushing the button, it will be actuated the same function of the auxiliary release device. To reset the switch, just return the button to its initial position. The emergency button can be rotated, is available with different lengths and it is fixed to the switch by a screw, so to allow the installation of the switch inside or outside the guards.

Key release device and emergency release button



This device performs the two above mentioned functions at the same time. Also in this case the device can be rotated and the release button can be ordered with different lengths. The activation of the button has the priority on the lock, that is with the closed lock it is still possible to press the button and release the switch. To reset the switch it is necessary to bring lock and button to their initial position.

Not detachable heads and devices



The head and the release device can be adjusted but cannot be detached from each other. This makes the switch more secure since the installer does not need to worry about how to assemble the various pieces, and the switch is less likely to become damaged (small parts being lost, dirt getting in etc.)



Signalling LED type A

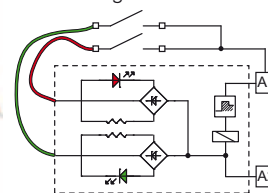


In the version with signalling LED type A, two green LEDs are switched-on directly by the solenoid power supply. Wiring is not necessary.

Signalling LED type B



In the version with signalling LED type B, two LED connection wires are available, one green and one red. Through suitable connections to the contact block, it is possible to see the different states of the switch from the exterior.



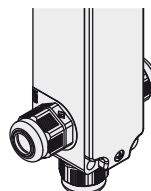
Protection degree IP67

IP67

These devices are designed to be used in the toughest environmental conditions and they pass the IP67 immersion test acc. to IEC 60529.

They can therefore be used in all environments where the maximum protection of the housing is required.

Three conduit entries



The switch is equipped with three cable entries in different directions. This allows its application in series connections or in narrow places.

Extended temperature range

-40°C

This range of switches is also available in a special version with an ambient operating temperature range of -40°C to +80°C.

They can be used for applications in cold stores, sterilisers and other devices with low temperature environments. Special materials that have been used to realize these versions, maintain unchanged their features also in these conditions, widening the installation possibilities.

Sealable auxiliary release device



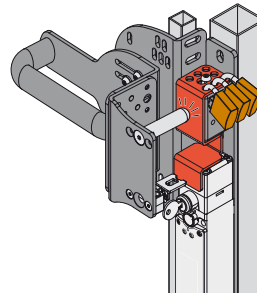
Versions with working principle D are supplied with a sealable auxiliary release device used by technicians during the installation or to access the machine in case of black-out. The auxiliary release device acts on the switch exactly as if the solenoid was energised, actuating therefore also the corresponding electrical contacts. Can only be actuated with a couple of tools, this ensures adequate resistance to tampering. If required it can be sealed by means of the hole provided.

Laser engraving



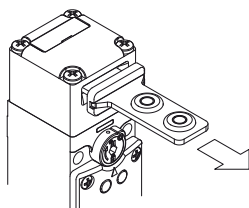
All the FG series switches are indelibly marked with a dedicated laser system that allows the marking to be also suitable for extreme environments. This system that does not use labels, prevents the loss of plate data and the marking is more resistant over time.

Access monitoring



These switches alone cannot protect operators or maintenance men where they may physically enter with all their body in the hazardous area, because a voluntary closing of the protection behind them could allow the restart of the machine. If the authorization to the machine restart is completely granted by these switches, it must be foreseen a system to avoid that risk, as for example the pad lockable device to lock the actuator entry, item VF KB2 at page 104 or a safety handle with padlocks as for example VF AP-P11B-200P (page 143).

Holding force of the unlocked actuator



The inside of each switch features a device which holds the actuator in its closed position. Ideal for all those applications where several doors are unlocked simultaneously, but only one is actually opened. The device keeps all the unlocked doors in their position with a retaining force of 30 N~, stopping any vibrations or gusts of wind from opening them.