



INSTALLATION OF SINGLE SWITCHES WITH SAFETY FUNCTIONS

- Use **only** switches with the symbol .
- Connect the safety circuit to **the NC normally closed contacts (11-12, 21-22 or 31-32)**.
- **The NO normally open contacts (13-14, 23-24, 33-34)** should be used only for signalling; these contacts are not to be connected with the safety circuit. However, if in the same protection two or more switches are used, it is possible to connect the contact NO to the safety circuit. In this case at least one of the two switches must have a positive opening and a normally closed contact NC (11-12, 21-22 or 31-32) must be connected to the safety circuit.
- Actuate the switch **at least up to the positive opening travel** shown in the travel diagrams with symbol .
- Operate the switch **at least with the positive opening force** indicated.
- The fixing of the device must occur in compliance with the standard EN ISO 14119.

Whenever the machine guard is opened and during the whole opening travel, **the switch must be pressed directly** (fig. 1) or **through a rigid connection** (fig. 2).

Only in this way the positive opening of the NC normally closed contacts (11-12, 21-22, 31-32) is guaranteed.

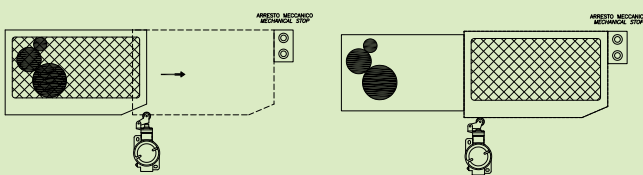


Fig. 1

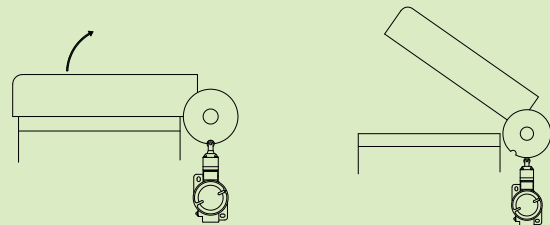


Fig. 2

In safety applications with only one switch for each guard, the switches **must never be activated by a release** (fig. 3) or **through a non rigid connection** (i.e. by a spring).

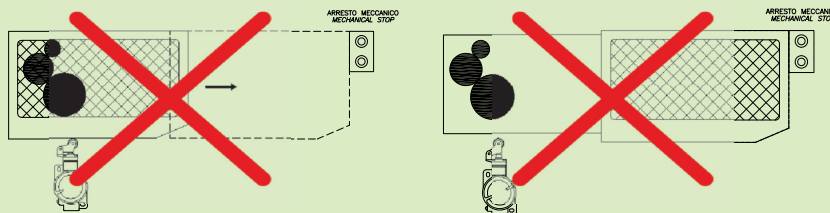
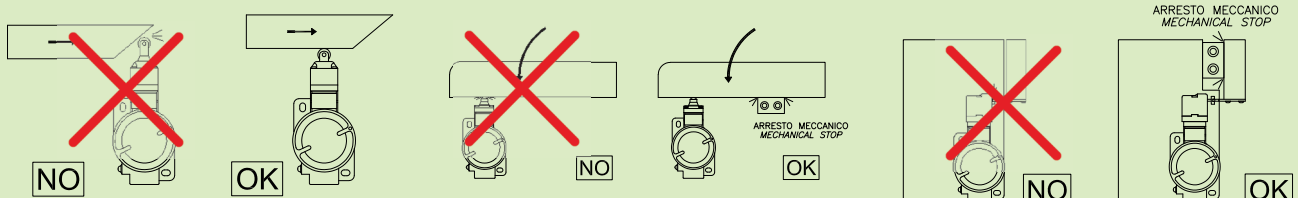


Fig. 3

MECHANICAL STOP

Limit switches must not be used as mechanical stop.

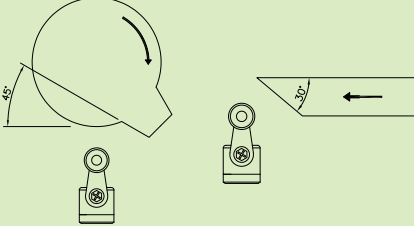
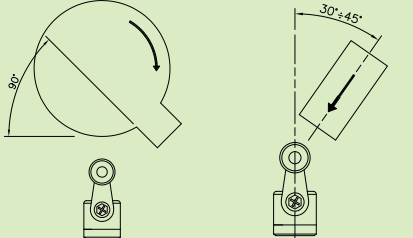
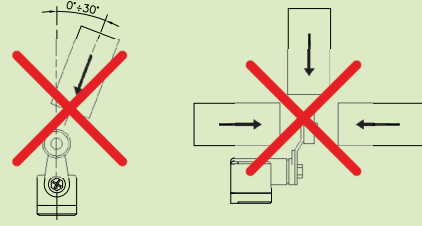
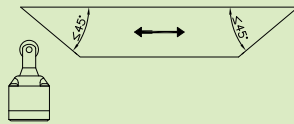
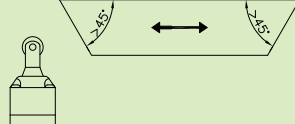
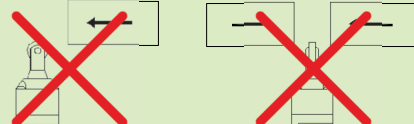

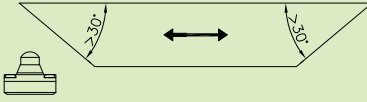
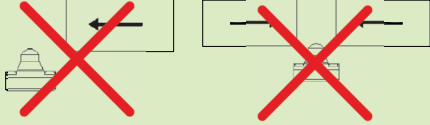


The actuator must not exceed the max. travel as indicated in the travel diagrams.

The guard must not make a mechanical stop on the switch head.

The actuator must not strike directly against the switch head

ACTUATION MODES

Recommended application	Application to avoid Possible application but with mechanical stress for the switch higher than expected, mechanical endurance is not guaranteed	Forbidden application
		
		
		

General prescriptions

- The installation must be performed only by qualified staff aware of the regulations in force in the country of installation.
- The device must be used exactly as supplied, properly fixed to the machine and wired.
- It is not allowed to disassemble the product and use only parts of the same; it is prohibited to modify the device.
- Failure to comply with these requirements or incorrect use during operation can lead to the damage of the device and the loss of the function performed by the device itself. This entails the cessation of the warranty on the item and relieves the manufacturer of any liability.

Device utilization

- Before use, check if the national rules provide for further requirements in addition to those given here.
- Before installation, make sure the device is not damaged in any part.
- Do not use the device as mechanical stop of the actuator.
- Do not apply excessive force to the device once it has reached the end of its actuating travel.
- Do not exceed the maximum actuation travel.
- Do not stress the device with bending and torsion.
- Do not disassemble or try to repair the device, in case of defect or fault replace the whole device.
- In case the device is deformed or damaged replace it completely. There is no guarantee of working for a deformed or damage device.

Wiring and installation

- The installation has to be made by qualified staff.
- Limit the use of these devices to control functions.
- Keep the electrical load below the value specified by the respective utilization category.
- Turn off the power before access to the contacts, also during the wiring.
- Do not paint or varnish the devices.
- Do not bend or deform the device during installation.
- Do not use the device as a support for other parts of the machine (e.g. wireways, conduits, etc.).
- Comply with the minimum and maximum sections of electrical conductors admitted by terminals (if present).
- Do not introduce polluting agents into the device as: talc, lubricants for cable sliding, powder separating agents for multipolar cables, small strands of copper and other pollutants that could affect the proper functioning of the device.
- Verify that the electrical cables, terminals, cable numbering systems and any other part do not obstruct the cover from closing correctly or if pressed between them do not damage or compress the internal contact block.
- After the installation and before commissioning of the machine, verify: the correct operation of the device and all its parts, the correct wiring and tightening of all screws and that the actuating travel of the actuator is shorter than the maximum travel allowed by the device.
- After installation, periodically check for correct device operation.