COMEPI

Safety Devices

AGENDA

- Safety Production Overview
- Safety Standards Overview
- Safety Devices Applications According to Reference Standards
- Safety Limit Switches With Rope and Manual Reset
- FEP: Safety Electromagnetic Switch With Separate Actuator
- Safety Limit Switches With Separate Actuator
- Hinge Mount Safety Limit Switches
- Safety Hinges
- Safety Magnetic Sensors
- Safety Modules

Safety Production Overview

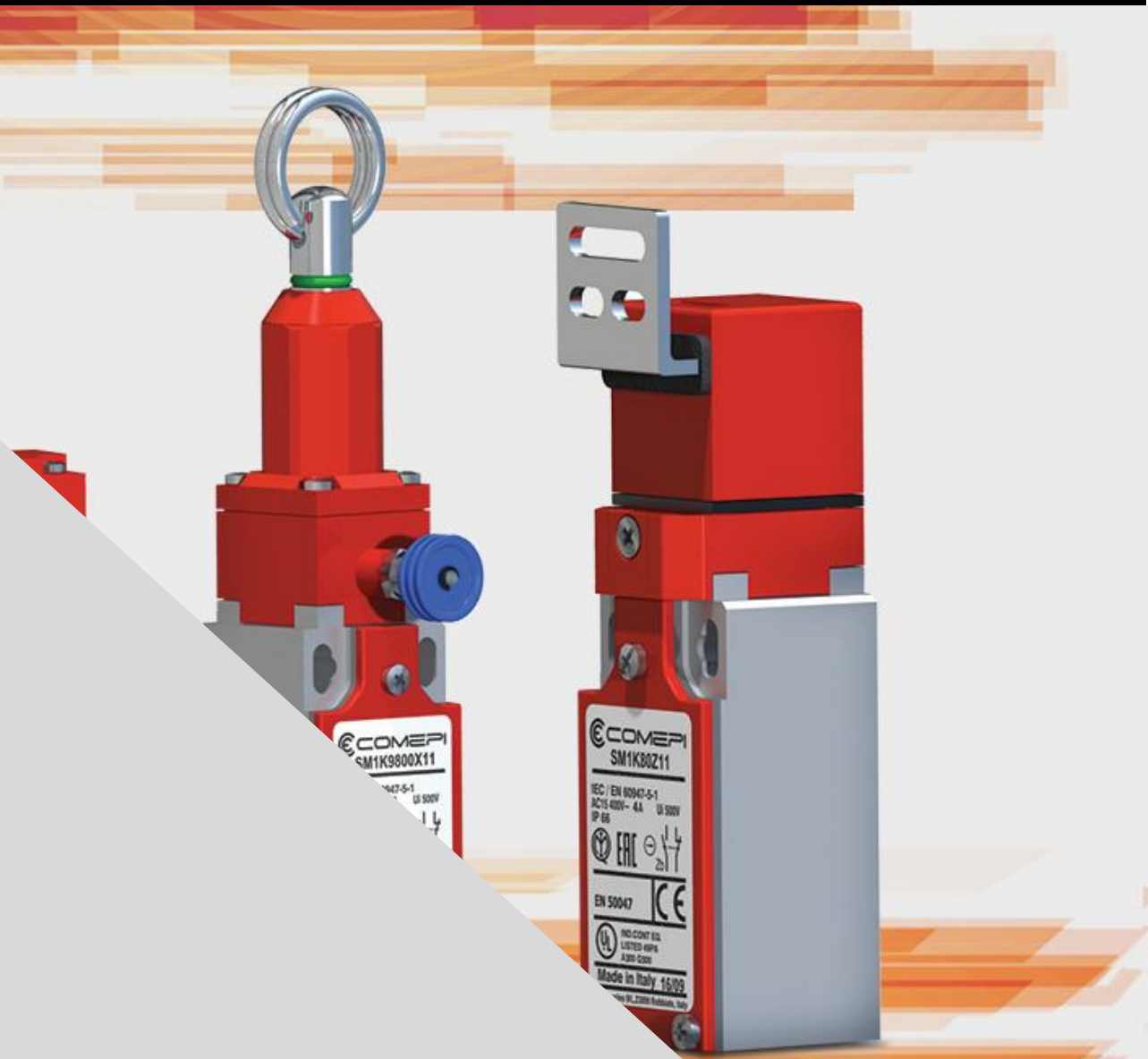
KEY INFORMATION

Over 2.000 available items

5 involved production lines

International Sales:
Europe, Africa, America, Southern Asia, Australia

Product Category:
Safety limit switches, Safety hinges, Safety Interlocking device with guard locking, Safety magnetic sensors, Emergency stop devices, Safety modules



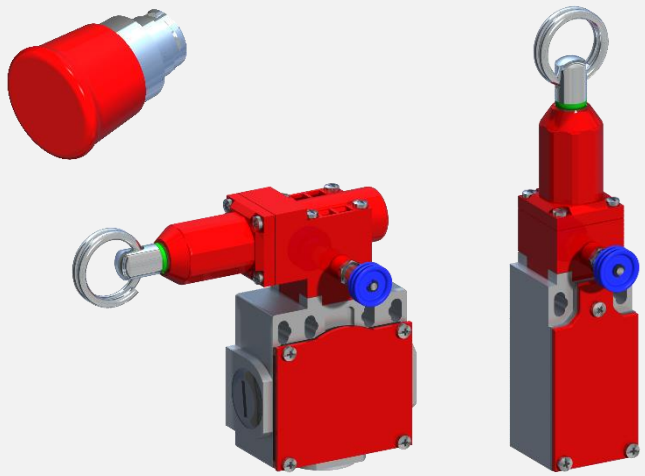
CE Declaration

2014/35/EU Low Voltage Directive

- EN / IEC 60947-1: Low-voltage switchgear and control gear – Part 1: General rules
- EN / IEC 60947-5-1: Low-voltage switchgear and control gear – Part 5-1: Control circuits devices and switching elements – Electromechanical control circuit devices

2006/42/EU Machinery Directive

- EN / IEC 60947-5-5: Low-voltage switchgear and control gear – Part 5-5: Electrical emergency stop devices
- EN ISO 14119: Interlocking devices associated with guards
- EN ISO 13849-1: Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design
- EN 62061: Safety of machinery: Functional safety of electrical, electronic and programmable electronic control systems

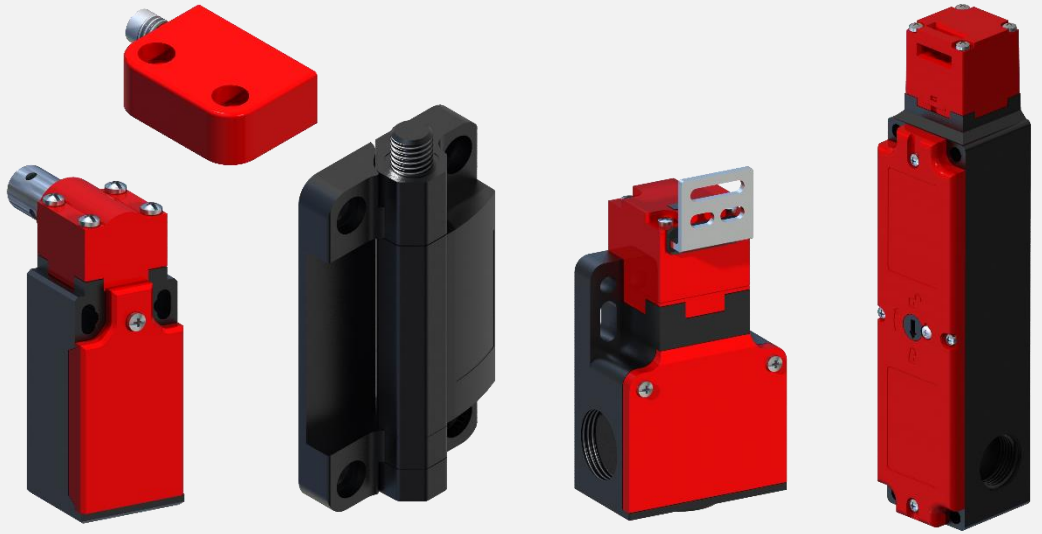


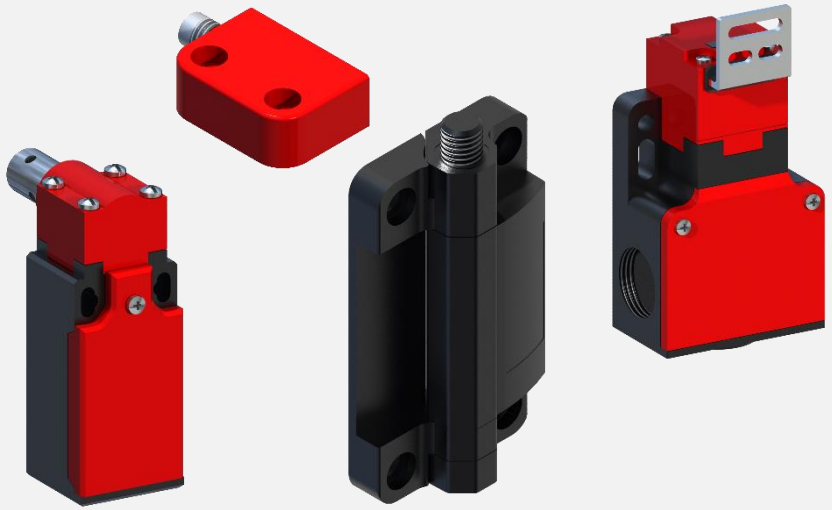
Emergency stop devices

A manually operated control circuit device used to initiate an emergency stop function.

Interlocking devices

Mechanical, electrical or other type of device, the purpose of which is to prevent the operation of hazardous machine functions under specified conditions (generally as long as a guard is not closed)





Interlocking guard

Guard associated with an interlocking device so that, together with the control system of the machine, the following function are performed:

1. The hazardous machine function covered by the guard **cannot operate until the guard is closed**
2. If guard is opened while the hazardous machine functions are operating, a **stop command** is given
3. When the guard is closed, the hazardous machine functions covered by the guard can operate

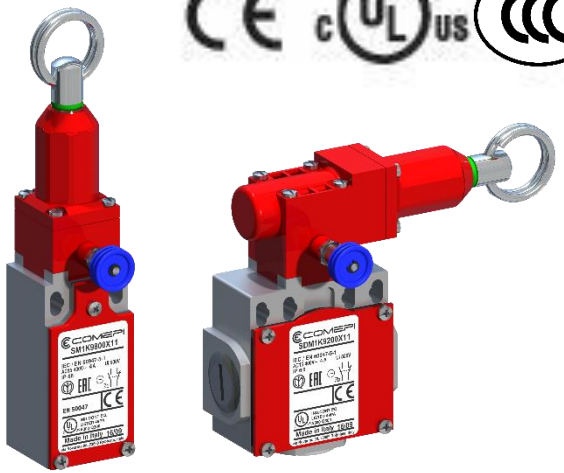
Interlocking guard with guard locking

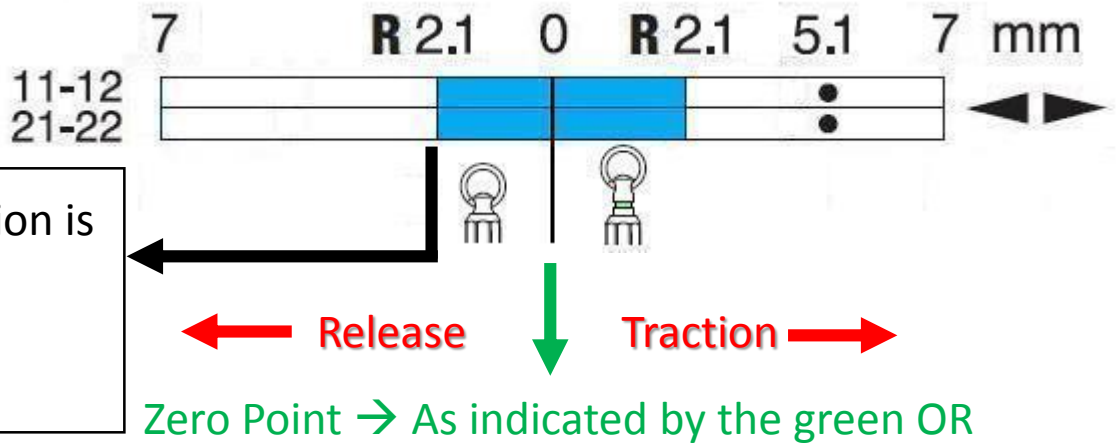
Guard associated with an interlocking device so that, together with the control system of the machine, the following function are performed:

1. The hazardous machine functions covered by the guard cannot operate until the guard is closed and locked
2. The guards remains closed and locked until the risk due to the hazardous machine function covered by the guard has disappeared
3. When the guard is closed and locked, the hazardous machine functions covered by the guard can operate

Safety limit switches with rope and manual reset

- Rope safety switches with manual reset
- Helpful component for emergency stop according to *EN 60947-5-5*
- Metal casing (IP66)
- Different width sizes and types of electrical connections
- Axial or horizontal actuation
- E-stop in both direction: useful in case of rope cutting or similar
- One switch can cover up to 16m without accessories (depending on switch type)
- Accessories (rope, stay bolt, etc..) useful to guarantee a cover up to 35m
- Contact blocks with positive opening operations of the NC contacts
- Capability for strong current switching
- Compatible with all slow action microswitches

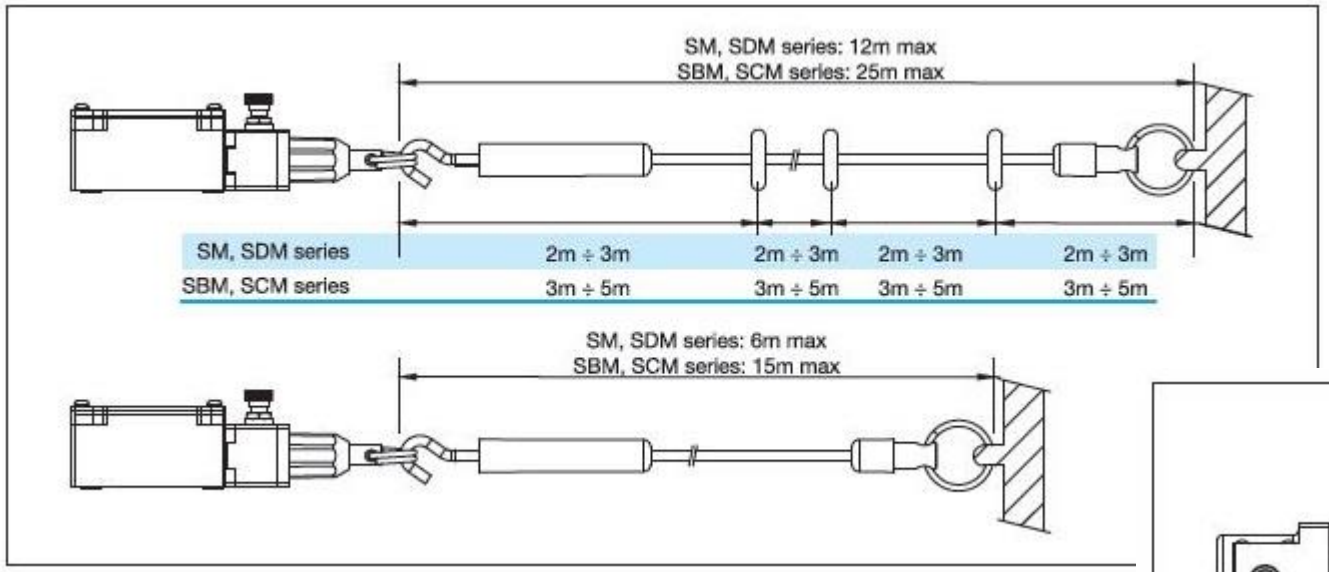


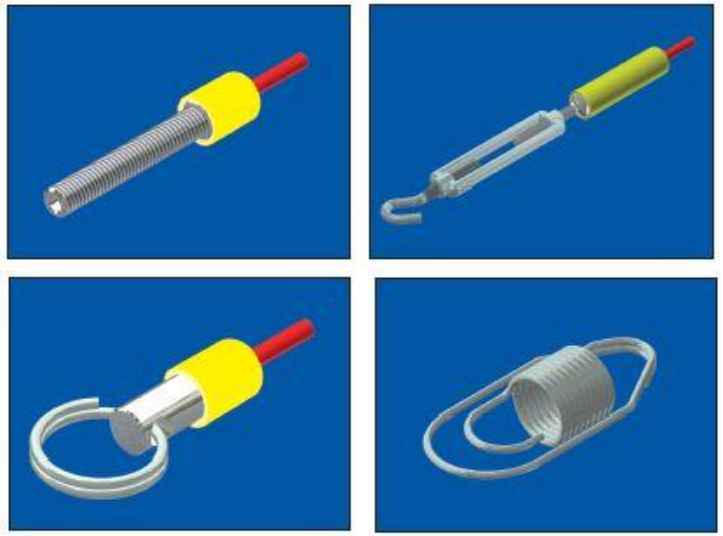


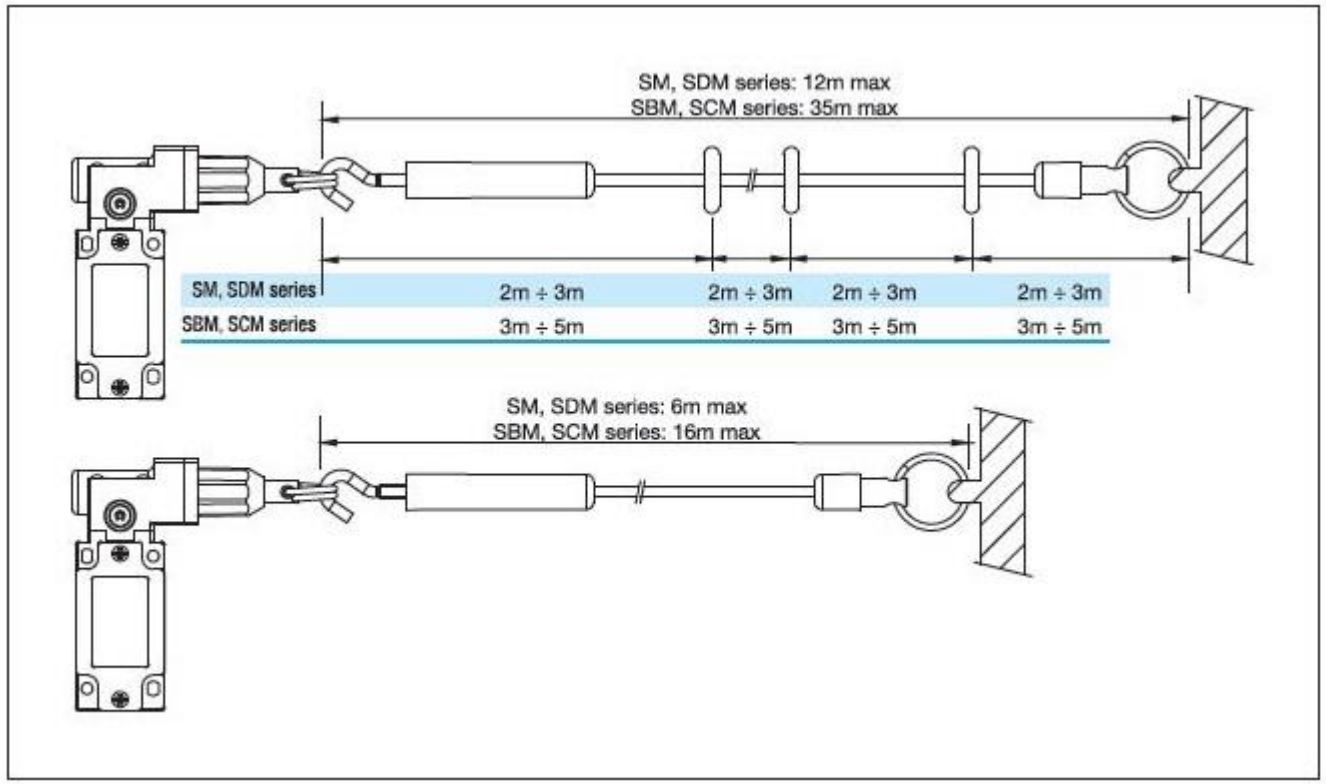
The contacts commutation is simultaneous
to the snap of the reset device

Zero Point → As indicated by the green OR

Installation accessories and allowed distances

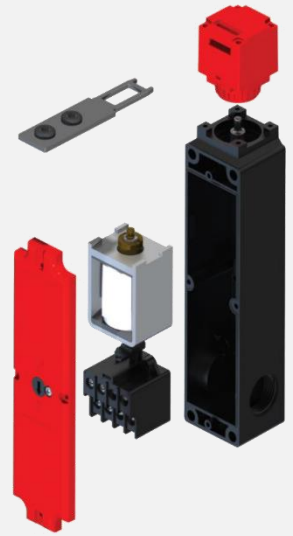


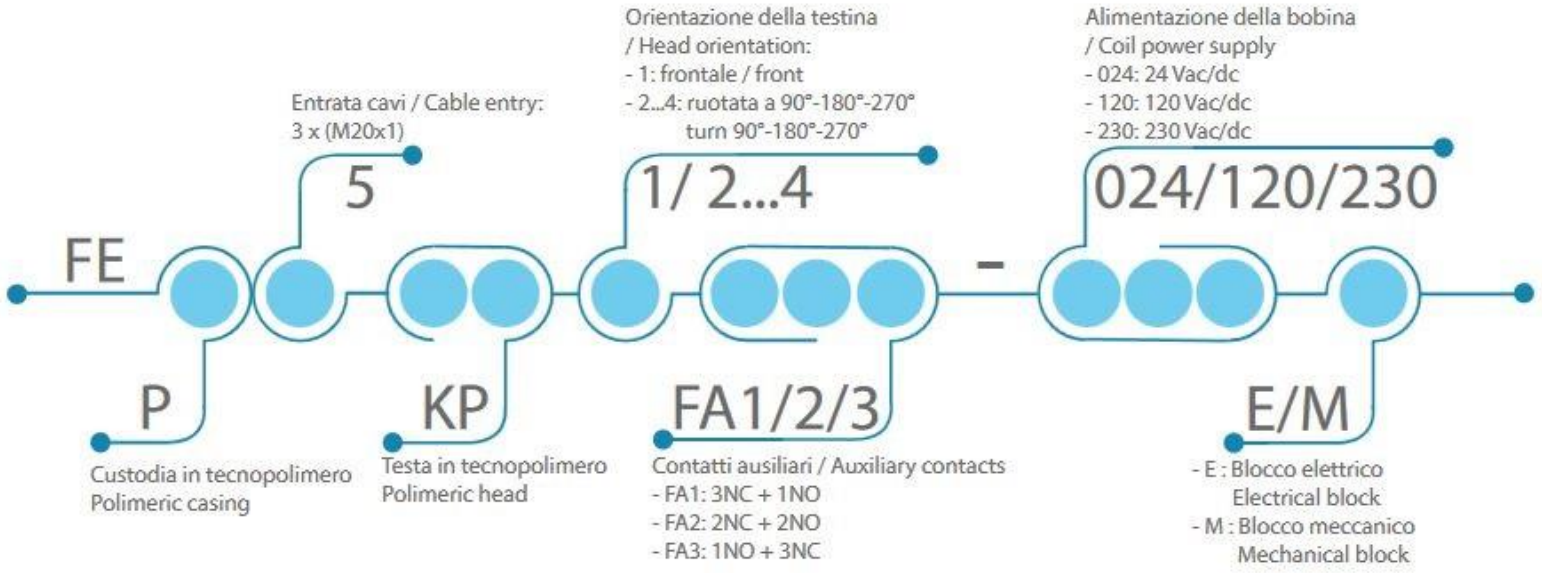




Safety electromagnetic switch with separate actuator

- Interlocking guard with guard locking commanded by solenoid
- Helpful component for safety systems realized according to *EN ISO 14119*
- Signal generated by actuator or solenoid for a complete monitoring
- Ensure protection in presence of inertia
- Prevents the entry in a dangerous area until the unlock signal
- Retention force of 1200N
- Equipped with emergency manual unlock device
- Reinforced polymeric casing (IP65)



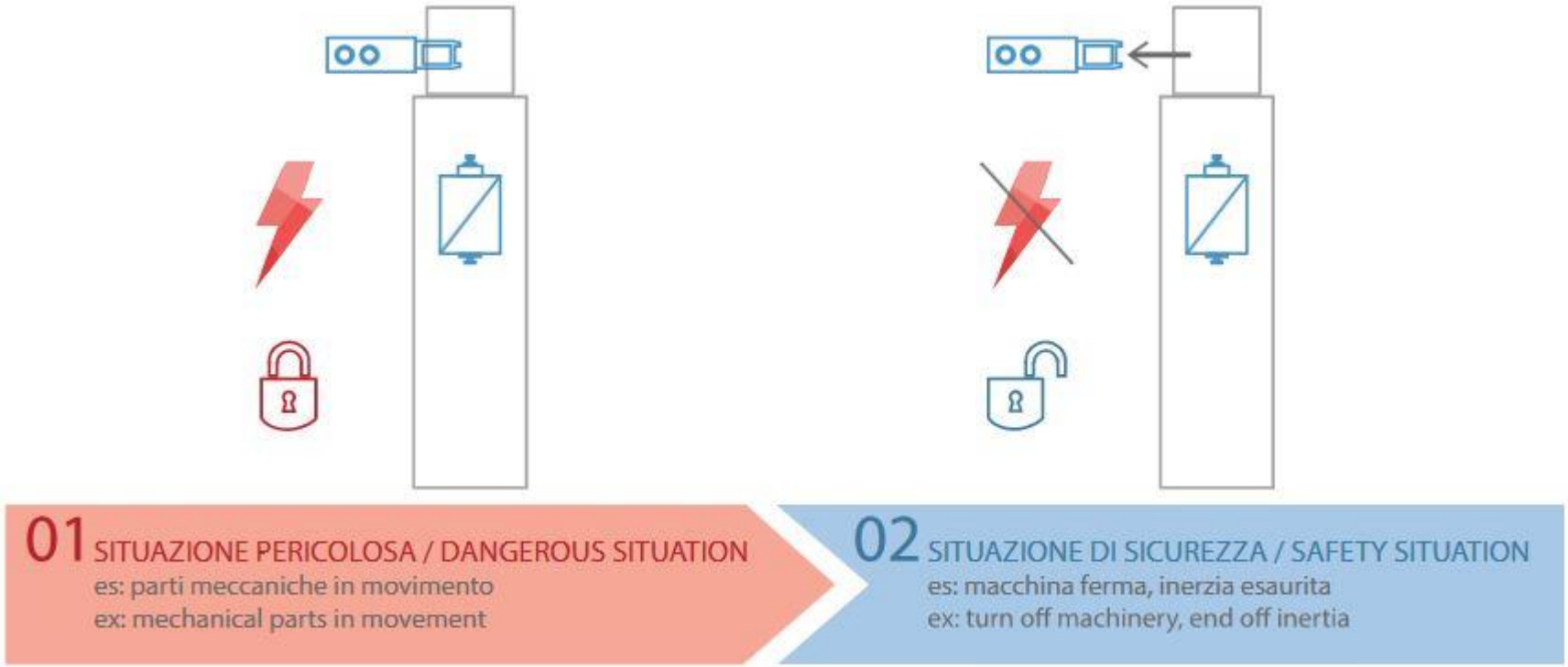


Mechanical interlock

- Actuator locked when solenoid is not actuated
- The release is possible by supplying voltage

Electrical interlock

- Actuator locked when solenoid is actuated
- The release is possible by switching off the power supply



Safety electromagnetic switch with separate actuator

FA1 1 contact operated by actuator (1NC)
3 contacts operated by solenoid (1NO+2NC)

FA2 1 contact operated by actuator (1NO)
3 contacts operated by solenoid (1NO+2NC)

FA3 2 contacts operated by actuator (1NO+1NC)
2 contacts operated by solenoid (2NC)

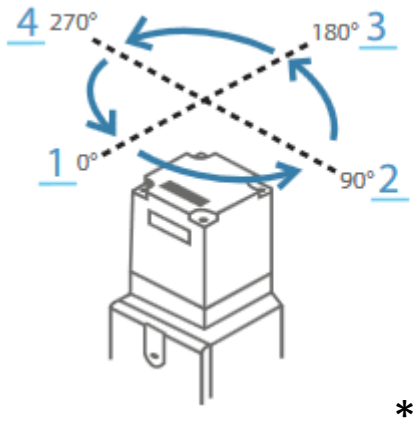
Solenoids → Three different kind of power supply

024 V AC/DC

120 V AC/DC

230 V AC/DC

Head orientation → 90° factory* orientable head



1 0° standard

2 90° destra/right

3 180° destra/right

4 270° destra/right

*Operation not possible for the user

Actuators → To be ordered separately

Safety limit switch with separate actuator

- Specific use for monitoring protectors with angular movement
- Helpful component for safety systems realized according to *EN ISO 14119*
- Polymeric or metal casing (IP65 or IP66)
- Different width sizes and types of electrical connections
- Adjustable head and adjustable lever
- Compatibility with all COMEPI microswitches
- Contact blocks with positive opening operations of the NC contacts
- Capability for strong current switching

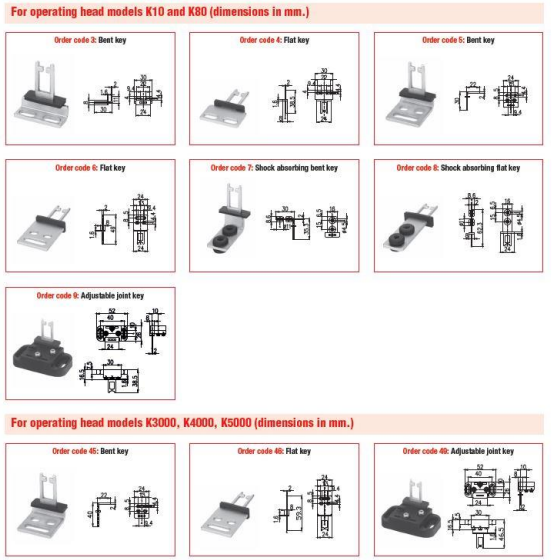
- Useful to monitoring and protecting the mobile shelters of industrial machines without inertia
- Opening of machine guards causes the immediate stopping of the machine drive

Safety limit switch with separate actuator

SP1K10X11

- Microswitch
- Operating head
- Cable inlet
- Casing type and material

Actuators for every application, to be ordered separately



Hinge Mount Safety Limit Switches

- Easy use with key actuator
- Helpful component for safety systems realized according to *EN ISO 14119*
- Polymeric or metal casing (IP65 or IP66)
- Different width sizes and types of electrical connections
- Adjustable (90°) or fully turning head
- Compatibility with all COMEPI microswitches
- Contact blocks with positive opening operations of the NC contacts
- Capability for strong current switching

- Ideal for the monitoring and protection of light industrial machines without inertia equipped with angular movement protectors
- Opening of machine guards causes the immediate stopping of the machine drive

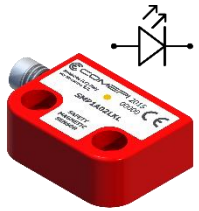
- Polymeric casing – IP67
- Helpful component for safety systems realized according to *EN ISO 14119*
- 2NO + 2NC or 1NO + 3NC contacts
- Connection with cable or 8 poles M12 connector
- Top, bottom or back output for maximum versatility
- Adjustable angle of commutation with regulation screw
- Positive opening operations

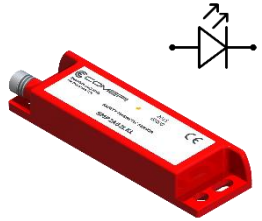
- IP67 → Ideal for applications when the machinery needs to be washed frequently
- High resistance to solvents, oils, greases and chemical agents
- Available complementary hinges and fixing support

Safety Magnetic Sensors

- Helpful component for safety systems realized according to *EN ISO 14119*
- Two different housing sizes (36 or 88 mm)
- 2NC or 1NO + 1NC or 1NO + 2NC internal contacts
- IP67 degree of protection
- Ideal for applications with big presence of dust
- Difficult to by-pass
- Intervention from all directions (5mm actuating distance)
- With cable, M8 integrated connector or Cable + M12 connector

- The combined use of the devices MS1A31 and SMP allows the monitoring of the safety gates along all the machine perimeter, also thanks to the **series connection of multiple magnetic sensors**
- Optionally provided with LED status indicator





Big versatility thanks to different sizes, actuating distance, type of connection and contact configuration

Safety Magnetic Target
SMP1AMG
Actuation distance: 5 mm.

Safety Magnetic Target
SMP2AMG
Actuation distance: 5 mm.

Safety Magnetic Target
SMP2BMG
Actuation distance: 8 mm.

Safety Modules

- Polymeric housing for DIN rail mounting
- 24, 120 or 230V
- 1 or 2 channels input
- Manual/automatic start
- 3NO Safety contacts + 1NC signaling contact
- Suitable for use in safety systems with electromechanical/magnetically devices (limit switches or safety sensors) and with optical barriers
- Comply with requirements of European Directives: Low Voltage – Machines – Electromagnetic Compatibility

- Cross monitoring of the channels in order to reach SIL 3 and PL e safety ratings (approved by IMQ CE-Type Exam).
- Admits the re-start only after receiving all inputs consensus signal
- Detects all safety components faults and can manage internal fault by maintaining the safety situation

SIL3
PLe

Thanks for your attention