

7551-7552

Position limit switch



Cross position limit switches designed for controlling the movement of overhead travelling cranes, hoists and complex machine tools. The choice of materials and technical solutions adopted enable use in harsh operating conditions.

FEATURES

- Designed to guarantee excellent performance in the most challenging operating conditions.
- Rods with 4 maintained positions every 90°.
- 4 fixing holes.
- Positive opening NC contacts for safety functions.
- Mechanical life of switches: 1 million operations.
- Operation frequency: 3600 operations/hour max.
- IP protection degree: 7551-7552 are classified IP66 with specific cable clamp M20.
- Extreme temperature resistance: -40°C to +70°C.
- It features die-cast aluminum alloy enclosure, with bushings made of sinterized material and head made of zama to resist any violent impact, chemical aggression and rust and reduce the need for routine maintenance operation on the head.
- All materials and components used are wear resistant and guarantee protection of the unit against water and dust.

OPTIONS

- 4 snap action switches with 1NO+1NC change-over contacts or slow action switches with 1NC contact.
- 3 outputs for cable clamps to reduce installation time and make wiring easier.

CERTIFICATIONS

- CE marking and EAC certification.

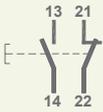
CERTIFICATIONS

Conformity to Community Directives	2014/35/UE Low Voltage Directive
	2006/42/CE Machinery Directive
Conformity to CE Standards	EN 60204-1 Safety of machinery - Electrical equipment of machines
	EN 60947-1 Low-voltage switchgear and controlgear
	EN 60947-5-1 Low-voltage switchgear and controlgear - Control circuit devices and switching elements - Electromechanical control circuit devices
	EN 60529 Degrees of protection provided by enclosures
Markings and homologations	CE EAC

GENERAL TECHNICAL SPECIFICATIONS

Ambient temperature	Storage -40°C/+70°C
	Operational -40°C/+70°C
IP protection degree	IP66 max. with dedicated cable clamp M20
Insulation category	Class I
Operation frequency	3600 operations/hour max
Cable entry	Cable clamp M20

TECHNICAL SPECIFICATIONS OF THE MICROSWITCHES

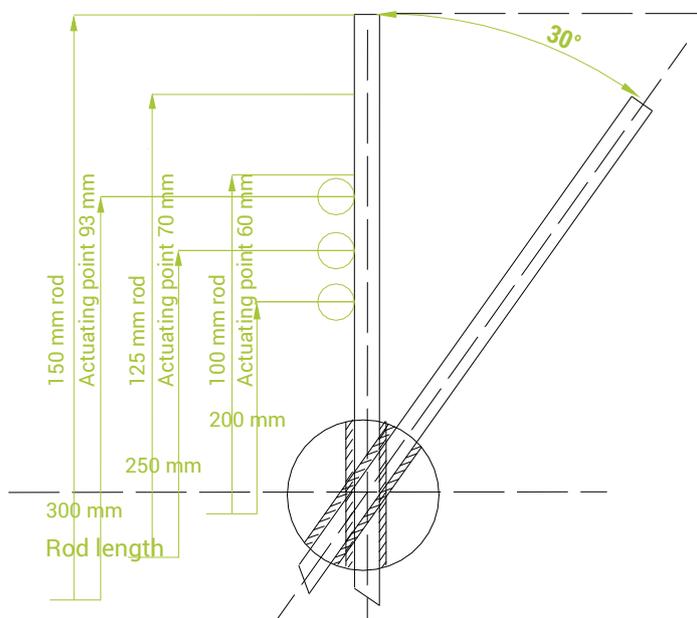
Code	PRSL0036XX	PRSL0037XX
Utilisation category		AC 15
Rated operational current		3 A
Rated operational voltage		250 Vac
Rated thermal current		10 A
Rated insulation voltage		300 Vac
Mechanical life		1x10 ⁶ operations
Connections	Screw-type terminal	
Wires	1x2.5 mm ² , 2x1.5 mm ² (UL - (c)UL: use 60°C or 75°C copper (CU) conductor and wire 16-18 AWG)	
Tightening torque	0.8 Nm	
Microswitch type	Double break, snap action	Double break, slow action
Contacts	1NO+1NC (All NC contacts are of the positive opening operation type )	1NC (All NC contacts are of the positive opening operation type )
Scheme		
Markings and homologations	CE cULus EAC	

MAXIMUM ACTUATING DIMENSIONS

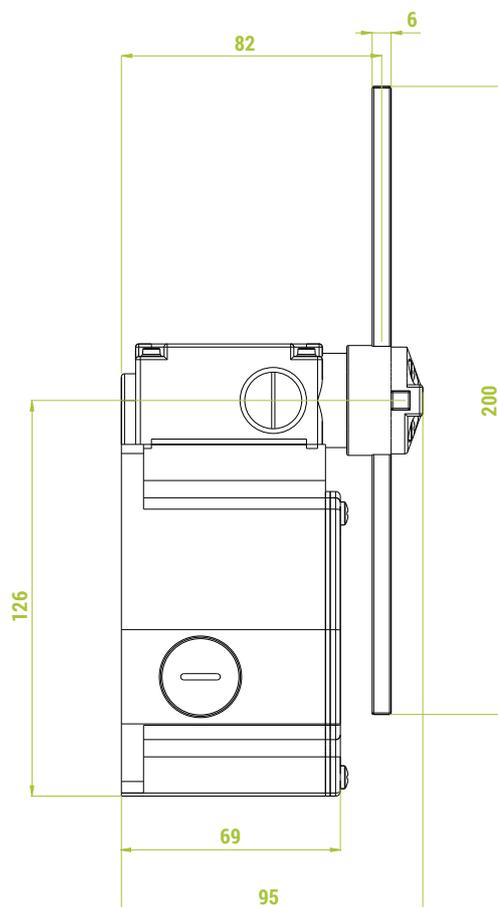
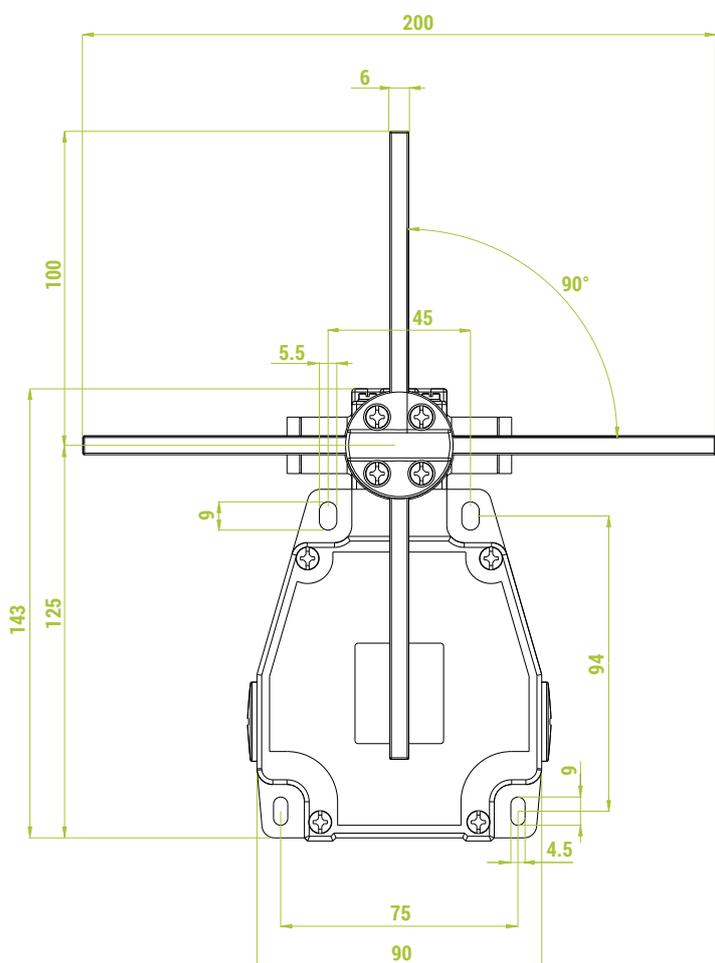
Rods with 4 maintained positions

- Pre-travel angle for rotation contact operation: 49°
- Maximum rotation angle for each maintained position: 90°
- Average angle for the mechanical tripping: 48°
- Maintained positions each: 90°

In order to ensure proper operations, the dimensions shall not be increased; anyhow, they can be decreased, taking into account that the closer the impact point is to the center of the head, the higher the impact and the mechanical wear of rod and shaft are. **IMPORTANT:** the maximum impact speed is 1.35 m/s, referring to the ideal impact points showed in the drawing.

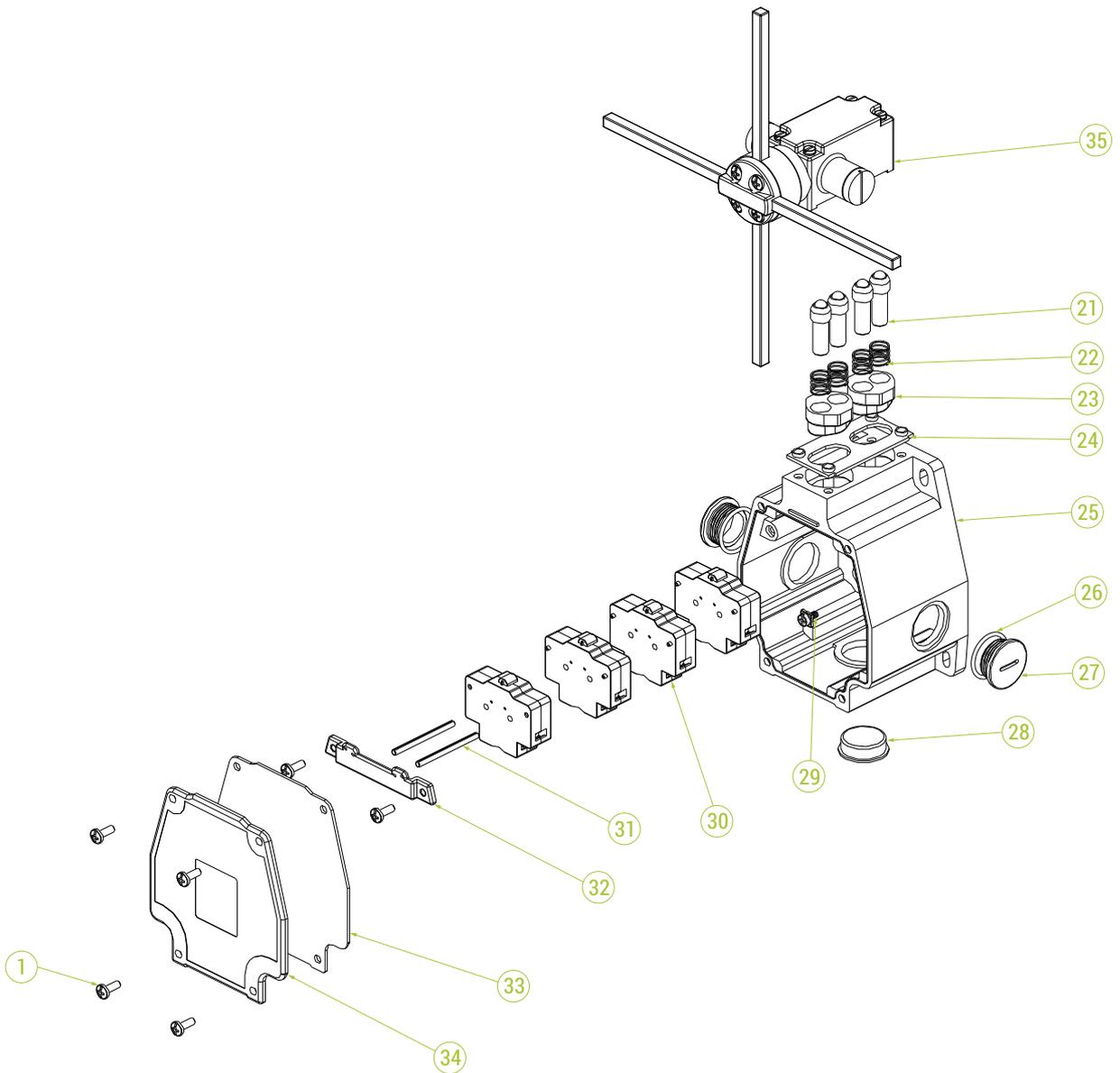
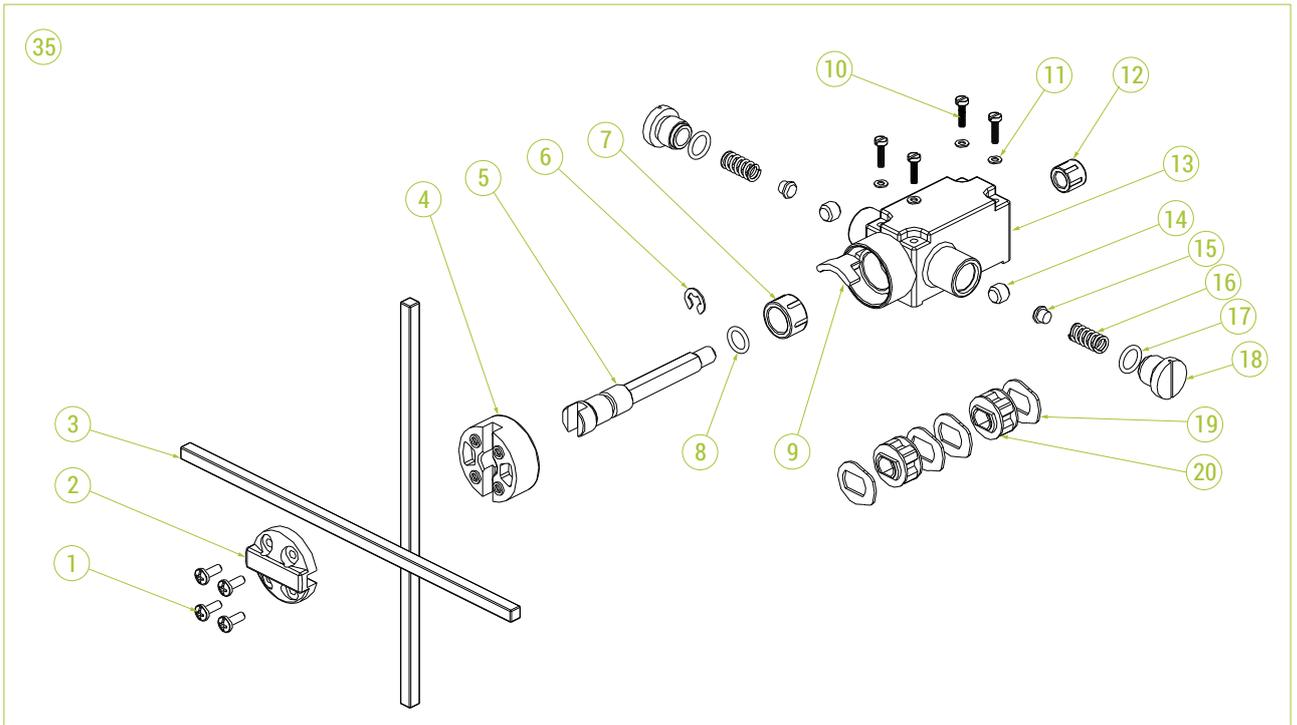


OVERALL DIMENSIONS (mm)



EXPLODED DRAWING

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LIMIT SWITCHES

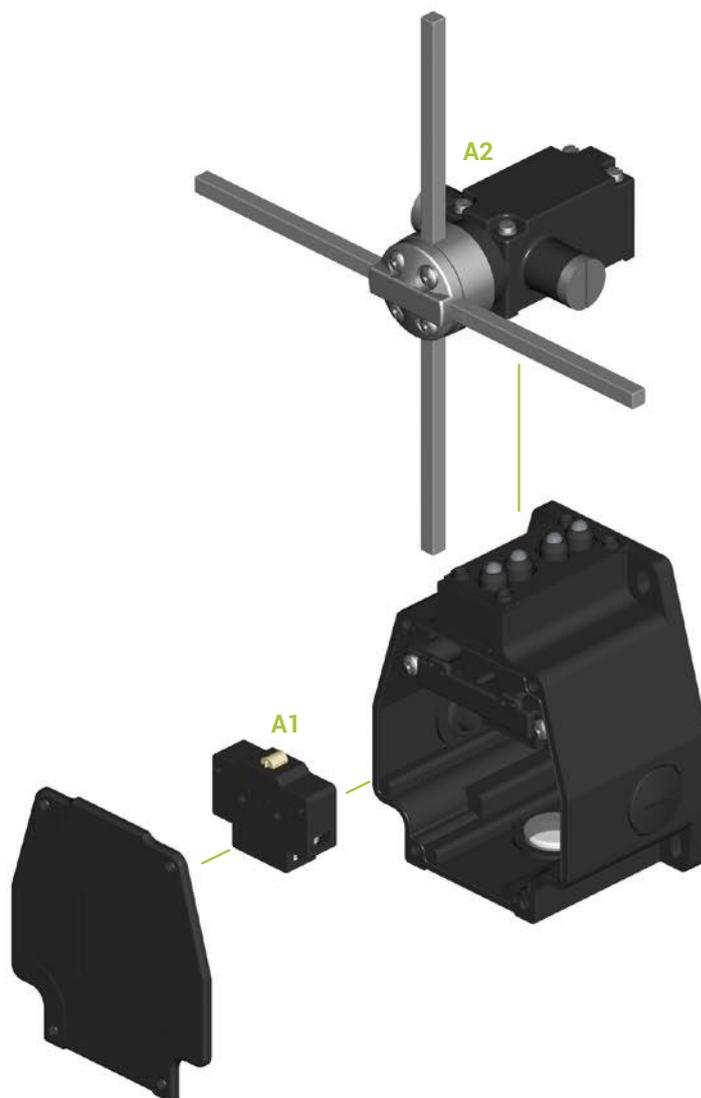
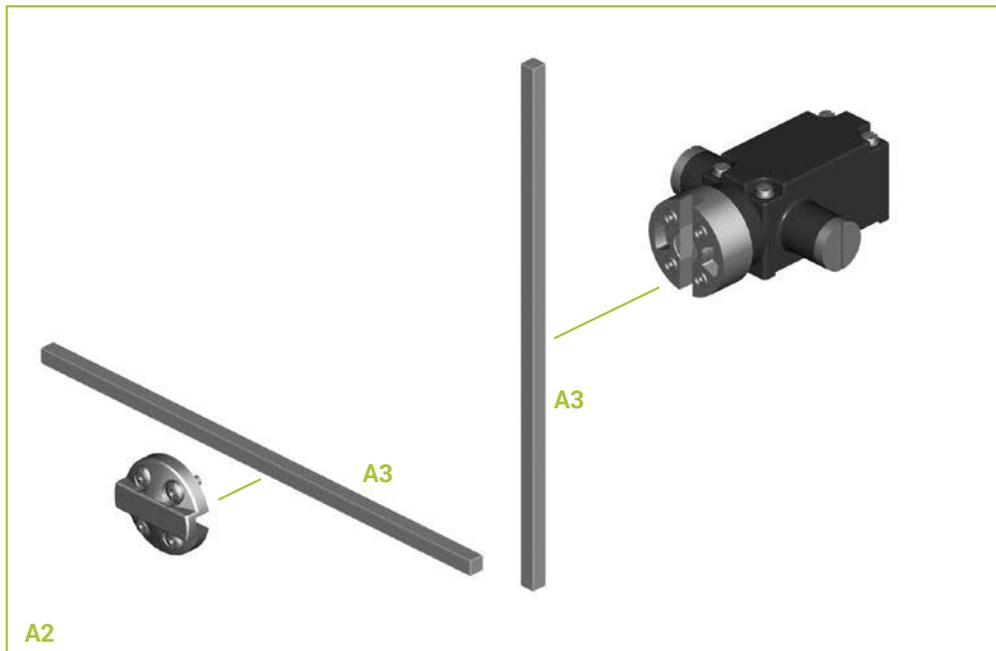
The limit switches are equipped with 1NO+1NC snap action switches PRSL0036XX



No. of switches PRSL0036XX	Actuating travel	Rod length	Code												
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ASSEMBLY DRAWING

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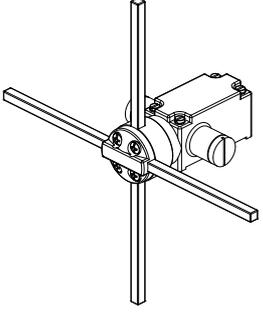


COMPONENTS

Switches

Ref.	Drawing	Description	Scheme	Code
A1		1NO+1NC snap action switch		PRSL0036XX
		1NC slow action switch		PRSL0037XX

Accessories

Ref.	Drawing	Description	Code
A2		Head for 7551	PF267551TE
		Head for 7552	PF267552TE
A3		Rod 6x6x200 mm	PRT03006PE

USE AND MAINTENANCE INSTRUCTIONS

The 7551 and 7552 limit switches are electromechanical devices for low voltage control circuits (EN 60947-1, EN 60947-5-1) for use as electric equipment on machines (EN 60204-1) in compliance with the essential requisites of the Low Voltage Directive 2014/35/UE and the Machine Directive 2006/42/CE.

The limit switch is designed for use in industrial environments with even very severe climatic conditions (working temperatures from -40°C to +70°C and is suitable for use in tropical environments). The equipment is not suitable for use in environments with a potentially explosive atmosphere, in the presence of corrosive agents or high percentage of sodium chloride (saline mist). Contact with oil, acids and solvents may damage the equipment; avoid using them for cleaning. The limit switch is not suitable for use in environments with a potentially explosive atmosphere.

Mechanical test for workings to be carried out with activated microswitches.

Steps for the proper installation of the limit switch

- First, position the limit switch so that the machine or one arm of it strikes the rod in the positions indicated in the maximum drive measurements.
- Mark the fastening holes on the supporting wall and drill the holes.
- After fastening, make sure the rod is perfectly vertical, that the rods (3)* are securely fastened in the head (4) and that the points of impact are as verified previously.
- Proceed with electric wiring taking care to tighten the terminals on the switches (30), after manually checking the on/off function.
- Tighten the terminal screws with a torque of 0.8 Nm (insertability of wires into the terminals 1x2,5 mm² - 2x1,5mm²) (UL - (c)UL: use 60 or 75°C conductor and wire size No. 16-18 AWG, stranded or solid).
- Close the lid (34) taking care to position the gasket (33) in its housing.
- Tighten the wire clamp taking care to see that the rubber inside adheres to the sheathing on the wire.

- Make sure the wires are not taut, twisted and/or forced into excessive curvatures.
- The installation will be complete after checking once or twice that the machine is properly slowed and/or stopped by the limit switch installed.

Periodic maintenance steps

- Make sure the limit switch is securely fastened in place and the fasteners are tightened properly.
- Make sure there are no infiltrations of water through the wire clamp(s) and that the rubber sleeve is intact and flexible.
- Open the lid (34) and check that the gasket (33) is intact and flat in its housing.
- Check that the switches (30) are properly wired and the terminals securely fastened; test the on/off mechanism by hand. Make sure the head turns without forcing, that it is clean and moves without uncertainty between one position and the next; make sure the screws (1) on the head are properly tightened. If there is any difficulty in switching and positioning the head, replace the limit switch.
- Check the conditions of the rods (3) and make sure they are positioned correctly: if the rods are not perfectly straight they should be replaced and repositioned carefully in accordance with the specifications.

CAUTION: FOLLOW THE INSTRUCTIONS CAREFULLY WITH REGARD TO THE SPEED AND POSITION OF THE RODS INDICATED IN THE MAXIMUM DRIVE MEASUREMENTS. FAILURE TO FOLLOW THE SPECIFICATIONS INDICATED MAY JEOPARDIZE THE FUNCTION AND SAFETY OF THE SYSTEM.

Any change to parts of the limit switch will invalidate the rating plate data and identification of the device, and render the warranty null and void. In case of replacement of any part, use only original replacements.

TER is not liable for damages caused by improper use of the device and installation which is not made correctly.

* Please refer to the exploded drawing in the catalogue.