



# TANGO

## CROSS POSITION LIMIT SWITCH

Tango is a position limit switch designed to control overhead travelling cranes, hoists and machine tools. It operates as auxiliary controller of electrical motors through power interfaces, such as contactors or PLCs.

### DESIGN

Tango is the latest generation of position limit switches: the peculiar design and the use of high performing polymers ensure high resistance and endurance under the heaviest utilization conditions. Its design and overall dimensions facilitate installation and maintenance operations.

### FEATURES

X-type rods can move to 4 maintained positions. Tango is equipped with 1NC slow action switches or, upon request, with 1NO switches. All switches are of the positive opening type, thus suitable for safety functions.

### MATERIALS

Both the enclosure and the head of Tango are made of thermoplastic material (nylon reinforced with fiberglass) ensuring wear resistance and protecting the equipment against water and dust. Inner components are made of techno-polymers guaranteeing a long life-cycle and constant performance even at extreme temperatures.



INDUSTRIAL  
LIFTING



CONSTRUCTION  
LIFTING



INDUSTRIAL  
AUTOMATION

## STANDARDS - MARKINGS - HOMOLOGATIONS

- Conformity to Community Directives:

2006/95/CE: Low Voltage Directive

2006/42/CE: Machinery Directive

- Conformity to 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**

## GENERAL TECHNICAL SPECIFICATIONS

- Storage ambient temperature: -40°C/+70°C

- Operational ambient temperature: -25°C/+70°C

- Protection degree: IP 65

- Insulation category: Class II

- Cable entry: cable clamp M20

- Operation frequency: 3600 operations/hour max

- Markings and homologations: **CE ENEC**

## TECHNICAL SPECIFICATIONS OF THE MICROSWITCHES

- Utilisation category: AC 15

- Rated operational current: 3 A

- Rated operational voltage: 250 V

- Rated thermal current: 10 A

- Rated insulation voltage: 500 V~

- Mechanical life: 1x10<sup>6</sup> operations


- Terminal referencing: according to EN 50013

- Connections: screw-type terminals

- Wires: 1x2.5 mm<sup>2</sup>, 2x1.5 mm<sup>2</sup>

(UL - (c)UL: use 60°C or 75°C copper (CU) conductor and wire 16-18 AWG)

- Tightening torque: 0.6 Nm

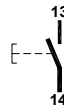
- Markings and homologations: **CE** 

The single switch PRSL1000PI has 1 NO contact.

The single switch PRSL1001PI has 1 NC contact.

All NC contacts are of the positive opening operation type.

The switches have the following reference for internal wiring.

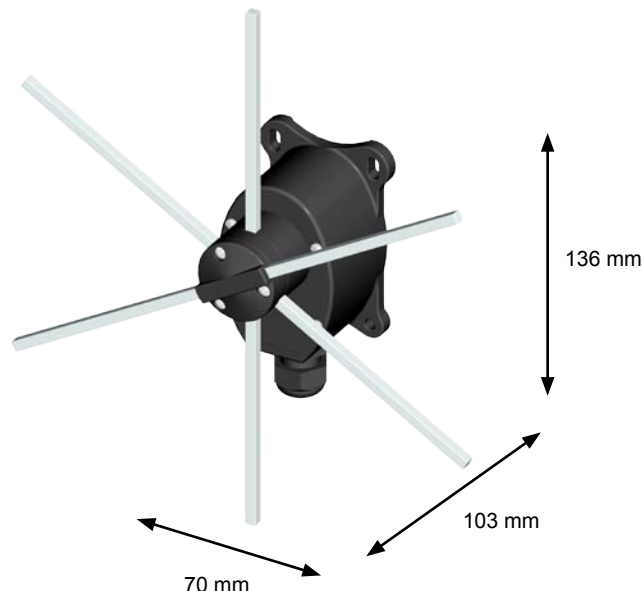


PRSL1000PI



PRSL1001PI

## OVERALL DIMENSIONS



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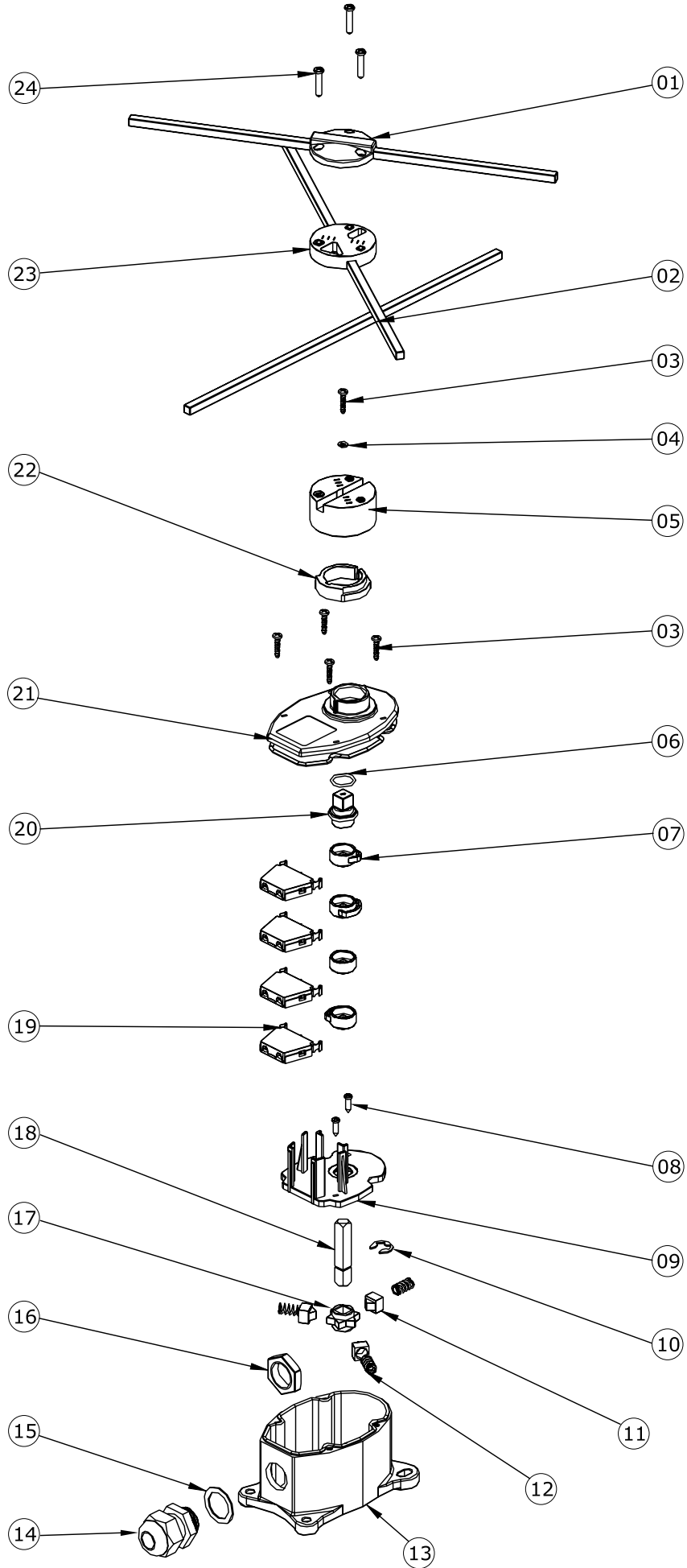
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

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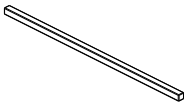



# COMPONENTS

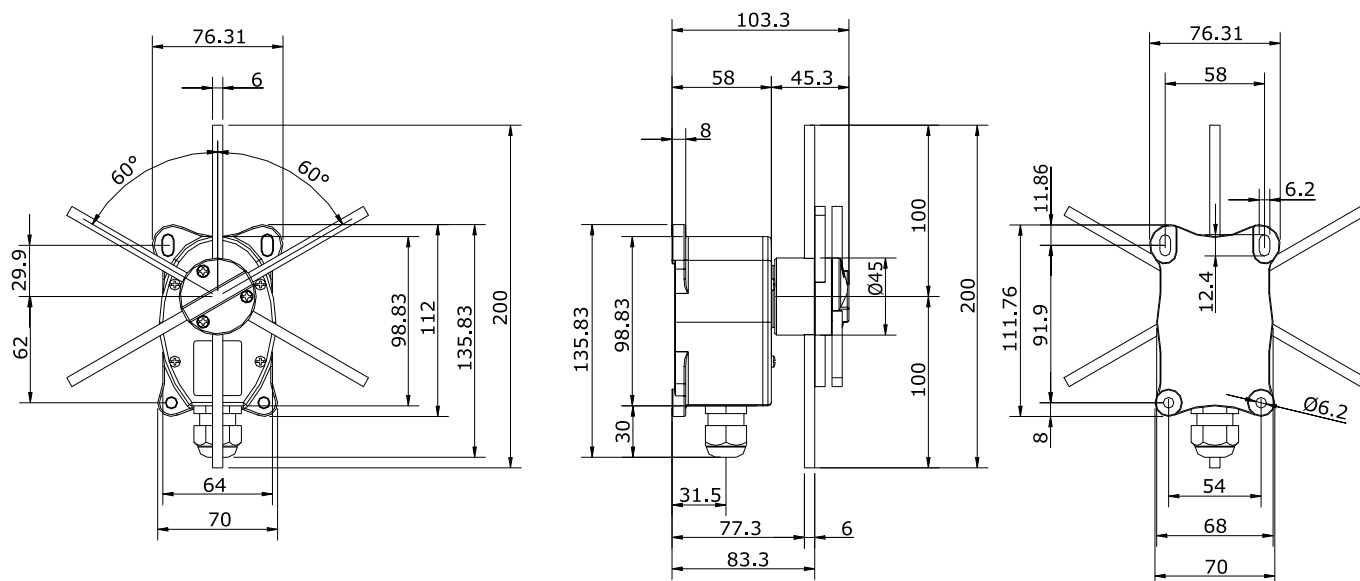
## SWITCHES

REF	DRAWING	DESCRIPTION	SCHEME	CODE
19		1 NO switch		PRSL1000PI
		1 NC switch		PRSL1001PI

## ACCESSORIES

REF	DRAWING	DESCRIPTION	CODE
02		Rod 6x6x200 mm	PRTO3006PE
		Rod 6x6x250 mm	PRTO3011PE
		Rod 6x6x300 mm	PRTO3012PE
14		Cable clamp M20	PRPS0064PE

## OVERALL DIMENSIONS (MM)



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The Tango limit switch is an electromechanical device 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 2006/95/CE 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 -25°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. The limit switches is not suitable for use in environments with a potentially explosive atmosphere.

The Tango limit switch must be fastened through the holes on the side of the case (13); in particular the top holes are slots to facilitate fastening and adjustment of the limit switch, which must be suitably position to ensure correct impact on the drive rods (02). To prevent malfunctions or problems; examine the technical documentation to view the recommended impact points.

Turn the closing screws (24) and loosen the closure of the rod holder (01, 05, 23), then you can move the rods to adjust them; afterwards, tighten the closing screws (24) with a force of 100cN m to ensure secure fastening of the rod holder. We recommend adjusting the impact point of the rods (02) by adjusting the fastening of the entire limit switch and not simply moving the rods.

The switches (19) of the Tango are designed for the auxiliary control of contacts or electromagnetic charges in general (utilization category AC-15 in accordance with EN 60947-5-1). The switches (19) have contacts with positive mechanical opening operation (EN 60947-5-1). Do not connect more than one phase for the switches (19). Never oil or grease the switches (19).

To facilitate wiring the switches (19) the limit switches can be removed from the case (13); after wiring, the switches (19) must be replaced correctly in the case (13), then assemble the cover (21) and tighten the screws (03) with a minimum force of 100cN m.

Installation of the limit switches should be done by competent, trained personnel. The electric wiring must be done in a workmanlike manner by qualified personnel in compliance with the regulations in force.

Before performing installation and maintenance of the limit switches, disconnect the machine from the power mains.

### Operations for installation and correct wiring of limit switch

- Fasten the limit switch securely to prevent malfunctions during use of the device; to fasten it, use the holes on the sides of the case (13); fasten the limit switch so that the drive rods (02) function correctly, by examining the technical documentation to identify the recommended point of impact; adjust the (02), by turning the closing screws (24) on the relative rod holder elements (01, 05, 23). Afterwards, tighten the screws (24) with a force of 100cN m
- Introduce the multi-pole wire in the limit switch through the wire clamp (14), strip the multi-pole cable for a length sufficient to wire it to the switches (19)
- Wire the switches (19) as shown in the wiring diagrams on each (19) (tighten the terminal screws with a torque of 0.8 Nm; insertability of wires into the terminals 1x2,5 mm<sup>2</sup> - 2x1,5mm<sup>2</sup>)
- After wiring tighten the wire in the wire clamp (14)
- Close the limit switch with its cover (21) with the closing screws (03); applying a force of at least 100cN m

### Operations of routine maintenance

- Check the correct tightening of the closing screws (03) on the cover (21)
- Check the conditions of the wires on the switches (19) (if necessary, tighten the screws on the terminals)
- Tighten the multi-pole wire in the wire clamp (14)
- Check the conditions of the complete limit switch (01, 02, 05, 13, 21, 23)
- Check the fastening of the limit switch

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 detailed drawing in the catalogue.