



X-FSC X-FRZ

POSITION LIMIT SWITCH

PRODUCT DESCRIPTION

Position limit switches are designed to control the movement of overhead travelling cranes, hoists and machine tools. They operate as auxiliary controllers of electrical motors through power interfaces, such as contactors or PLCs.

Both the enclosure and the head of the limit switches are made of thermoplastic material (nylon reinforced with fibre glass). Materials and components ensure high resistance and endurance and protect the equipment against water and dust.


The X-FCS series has "T" or "Cross" rods which may move to 3 or 4 maintained positions, while the X-FRZ series features a single rod or a rod with roller with spring return movements.

The limit switches are equipped with 1NO+1NC snap action switches or, upon request, with 1NC slow action switches. All switches are of the positive opening type, thus suitable for safety functions.

GENERAL TECHNICAL SPECIFICATIONS

- Conformity to Community Directives: 2006/95/CE 2006/42/CE
- Conformity to Standards: EN 60204-1 EN 60947-1 EN 60947-5-1 EN 60529
- 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**

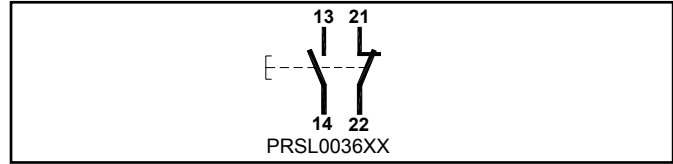
TECHNICAL SPECIFICATIONS OF THE MICROSWITCHES

- Utilisation category: AC 15
- Rated operational current: 3 A
- Rated operational voltage: 250 V
- Rated thermal current: 10 A
- Rated insulation voltage: 300 V~
- Mechanical life: 1x10⁶ operations
- Terminal referencing: according to EN 50013
- Connections: screw-type terminals
- Wires: 1x2.5 mm², 2x1.5 mm²
(UL - (c)UL: use 60°C or 75°C copper (CU) conductor and wire size N° 16-18 AWG)
- Tightening torque: 0.8 Nm
- Markings and homologations: **CE** 

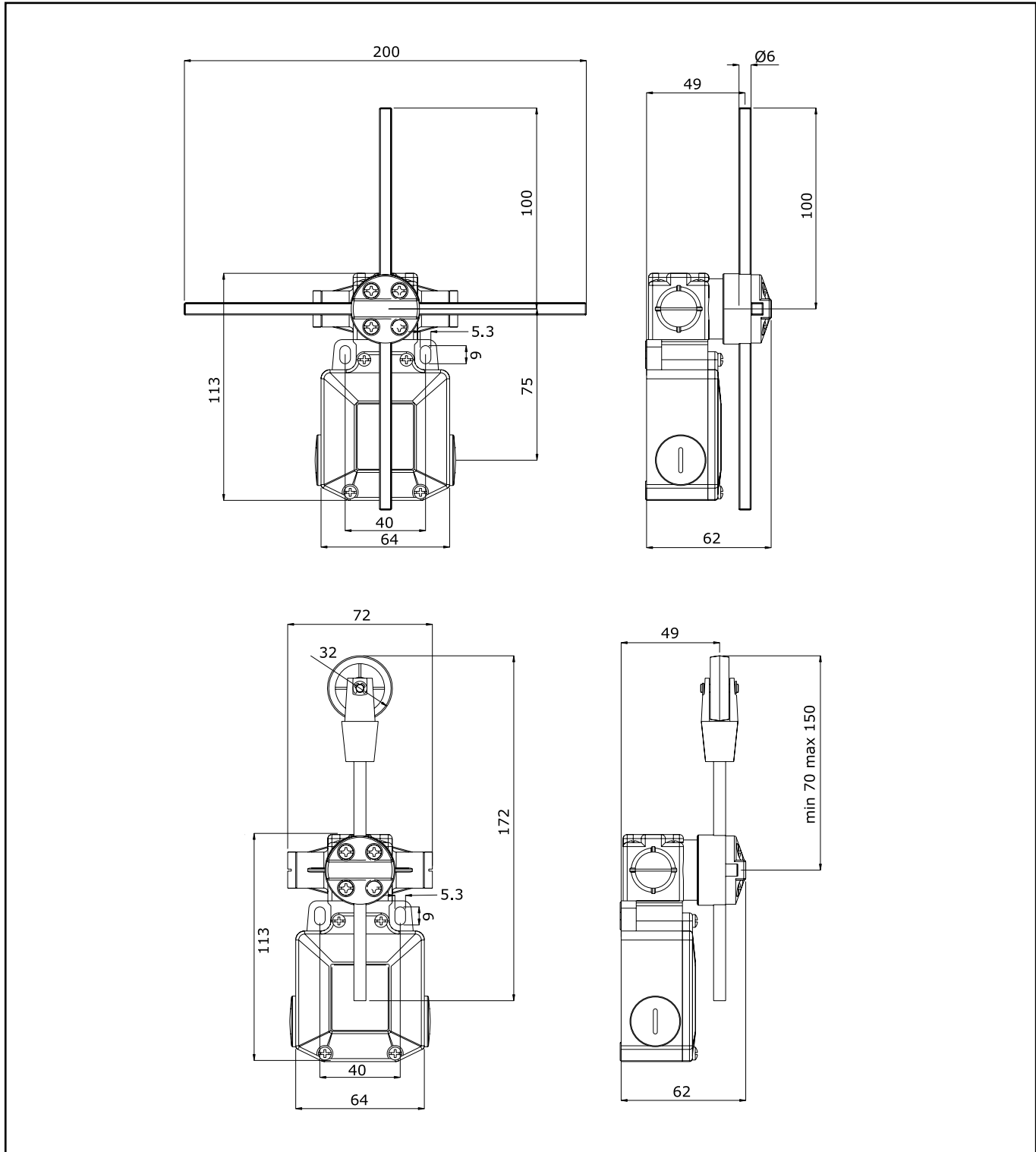
FEATURES OF THE SWITCHES

The snap action single switch PRSL0036XX has 1 NO + 1 NC change over contacts with 2 connecting terminals each. All NC contacts are of the positive opening operation type.

The switches have the following reference for internal wiring.



OVERALL DIMENSIONS



The data and the products illustrated in this brochure may be modified without notice. Under no circumstances can their description have a contractual value.

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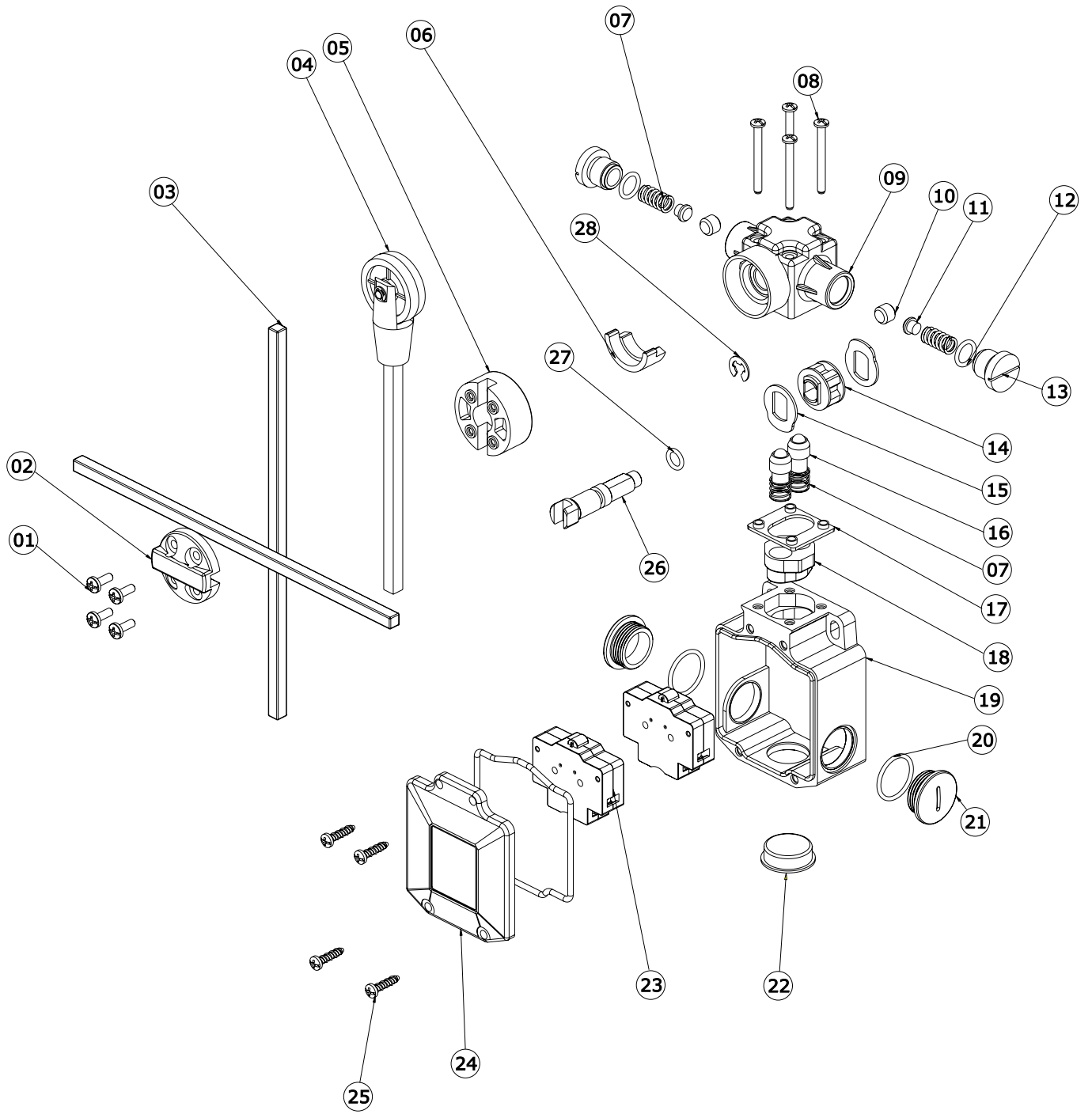
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COMPONENTS

Reference	Code	Description
01	PRVI0176PE	Screw M4x10
02	PRFU2011PE	Cross support plate
03	PRTO3007PE	Rod 6x6x200 mm
04	PRBA1004PI	Rod 6x6x130 mm with roller
05	PRFU2015PE	Cross support
06	PRSL7639PI	180° stop sector
07	PRMO915529	Spring
08	PRVI0090PE	Screw 3.5x35 4.8-Z
09	PRSL5944PI	X-FSC spring return head
10	PRTO812487	Trip pin
11	PRSL9625PI	Pin pushing plug
12	PRGO989037	O-Ring
13	PRTO915515	Head plug
14	PRSL7646PI	Four point cylinder for tripping
15	Codes on request	Cam
16	PRSL7647PI	Sphere holding piston
17	PRGU4006PE	Head gasket
18	PRSL9312PI	Piston holder support
19	PRSL5047PI	Enclosure
20	PRGU0056PE	O-Ring
21	PRPS0070PE	Threaded plug M20
22	PRSL000020	Plug
23	PRSL0036XX	Snap action 1NO+1NC switch
24	PRSL5592PI	Cover with rubber
25	PRVI0097PE	Screw 4x16 UNI9707-Z-TZ
26	PRTO2035PE	Shaft for head
27	PRGO989025	O-Ring
28	PRVV999006	Elastic ring

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X-FSC LIMIT SWITCH STANDARD CODES

Code	Rod	Positions	Actuating travel
PF33710100 PF33710200	T- type cross	3 maintained 3 maintained	
PF33750100	cross	4 maintained	
PF33751100	cross	4 maintained	
PF33752100	cross	4 maintained	

X-FRZ LIMIT SWITCH STANDARD CODES

Code	Rod	Positions	Actuating travel
PF33700100 PF33700200	rod rod and roller	spring return	
PF33701100 PF33701200	rod rod and roller	spring return	
PF33702100 PF33702200	rod rod and roller	spring return	
PF33703100 PF33703200	rod rod and roller	spring return	
PF33704100 PF33704200	rod rod and roller	spring return	
PF33705100 PF33705200	rod rod and roller	spring return	

MAXIMUM ACTUATING DIMENSIONS

T-type rod - Cross rod with 3 maintained positions

- Pre-travel angle for rotation contact operation: 70°-49°
- Maximum rotation angle for each maintained position: 90°
- Average angle for the mechanical tripping: 48°

Rod - Rod and Roller

- Pre-travel angle for rotation contact operation: 24°
- Maximum rotation angle: 65°

Cross rod 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.

