

X-FSC / X-FRZ

Position limit switch



Cross position limit switches designed for controlling the movement of overhead travelling cranes, hoists and complex machine tools. Heads with different types of rods and movement for specific applications.

FEATURES

- 2 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: X-FSC and X-FRZ are classified IP65 with specific cable clamp M20.
- Extreme temperature resistance: -25°C to +70°C.
- Enclosure and head in thermoplastic material.
- All materials and components used are wear resistant and guarantee protection of the unit against water and dust.

OPTIONS

- 2 snap action switches with 1NO+1NC change-over contacts or slow action switches with 1NC contact.
- X-FCS features cross rods in 3 or 4 maintained positions or T rods in 3 maintained position, movement every 90°.
- X-FRZ has a single rod or a rod with roller with 65° movements and spring return.

CERTIFICATIONS

- CE marking and EAC certification.



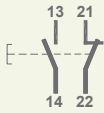
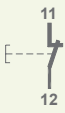
CERTIFICATIONS

Conformity to Community Directives	2006/95/CE 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 -25°C/+70°C
IP protection degree	IP65 max. with dedicated cable clamp M20
Insulation category	Class II
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

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°

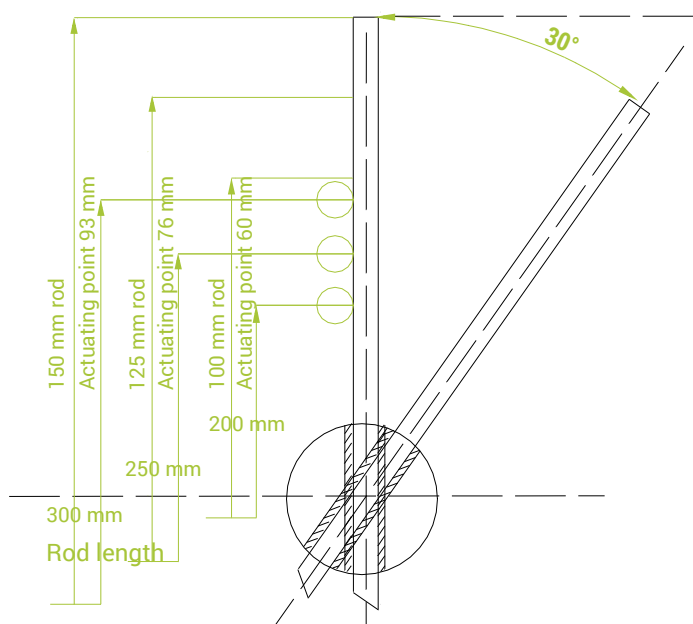
Rod - Rod and Roller

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

Cross rod with 4 maintained positions

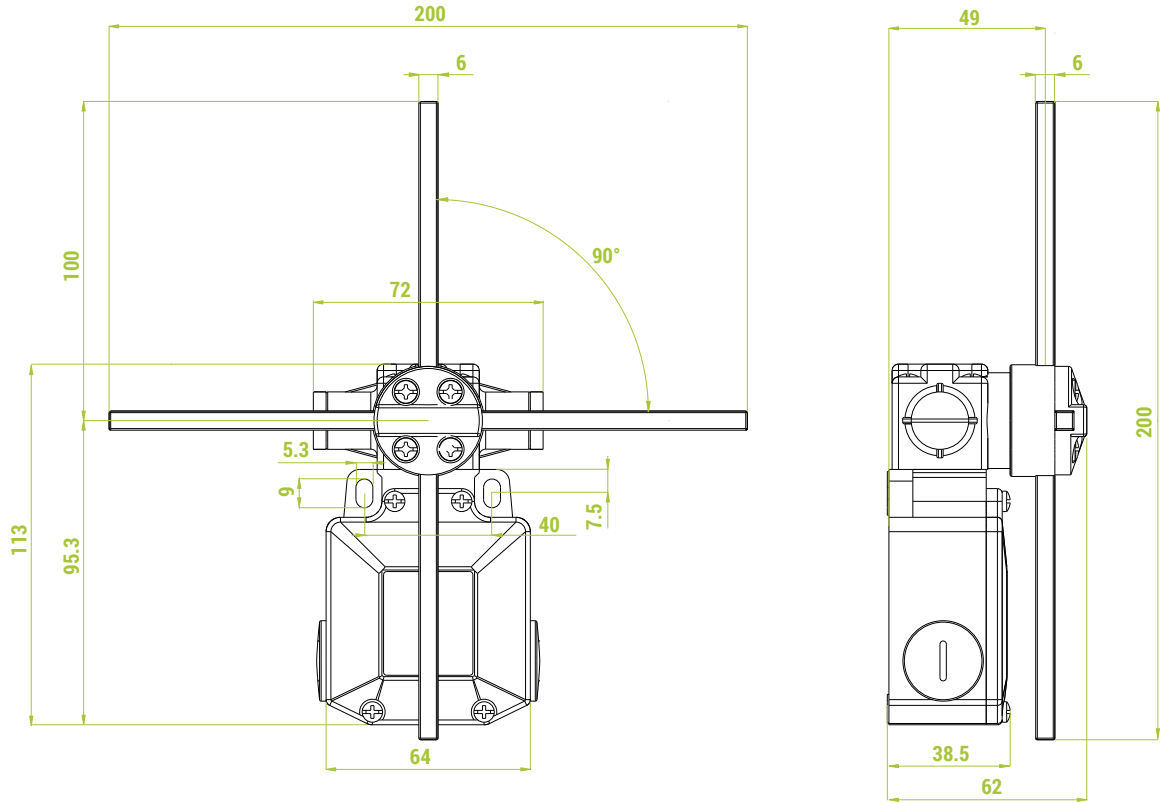
- Pre-travel angle for rotation contact operation: 49°
- Maximum rotation angle for each maintained position: 90°
- Average angle for the mechanical tripping: 48°
- Maintained positions each: 90°

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.

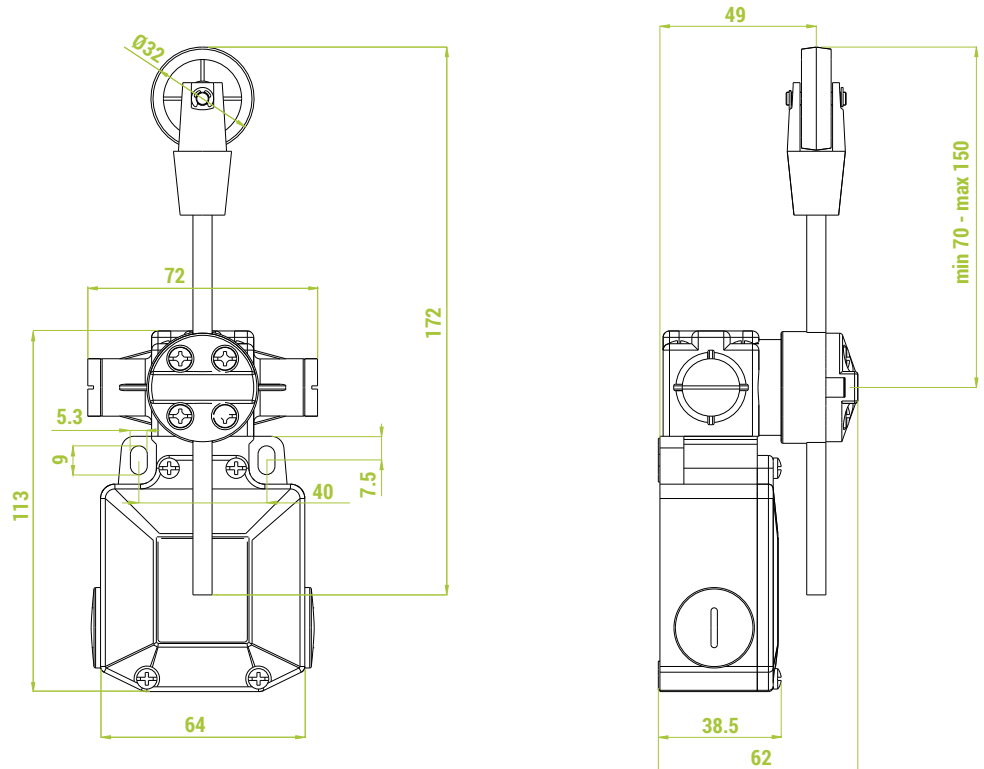


OVERALL DIMENSIONS (mm)

X-FSC



X-FRZ



LIMIT SWITCHES X-FSC

Limit switches X-FSC are equipped with 1NO+1NC snap action switches PRSL0036XX



Actuating travel	Positions	Rod	Code
	3 maintained	"T" type	PF33710100
	3 maintained	Cross	PF33710200
	3 maintained	"T" type	PF33711100
	3 maintained	Cross	PF33711200
	3 maintained	"T" type	PF33712100
	3 maintained	Cross	PF33712200
	3 maintained	"T" type	PF33713100
	3 maintained	Cross	PF33713200
	3 maintained	"T" type	PF33714100
	3 maintained	Cross	PF33714200
	3 maintained	"T" type	PF33715100
	3 maintained	Cross	PF33715200
	4 maintained	Cross	PF33750100
	4 maintained	Cross	PF33751100
	4 maintained	Cross	PF33752100

LIMIT SWITCHES X-FRZ

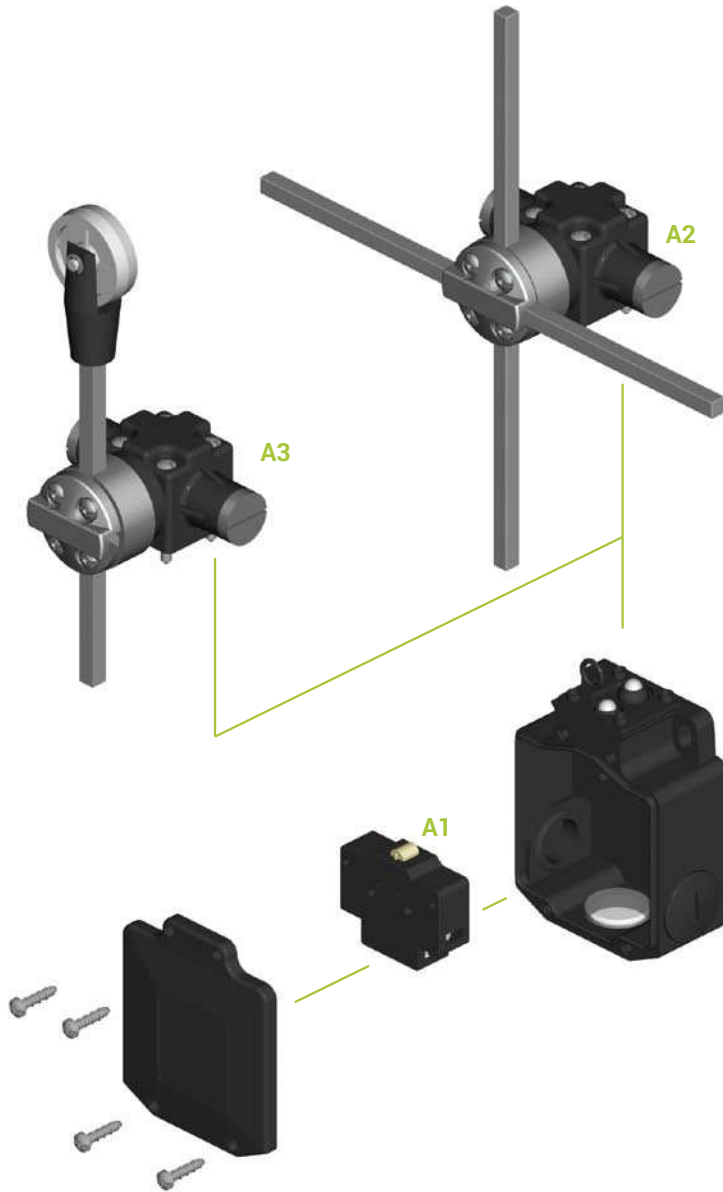
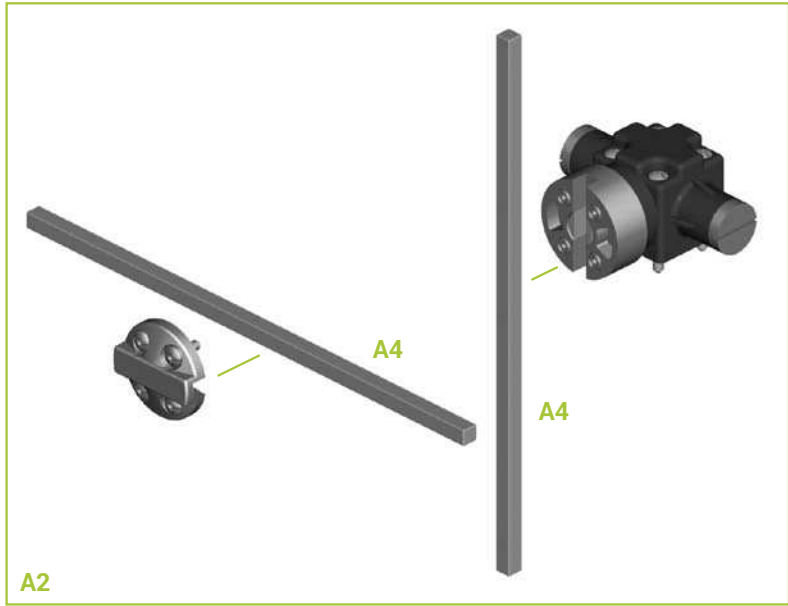
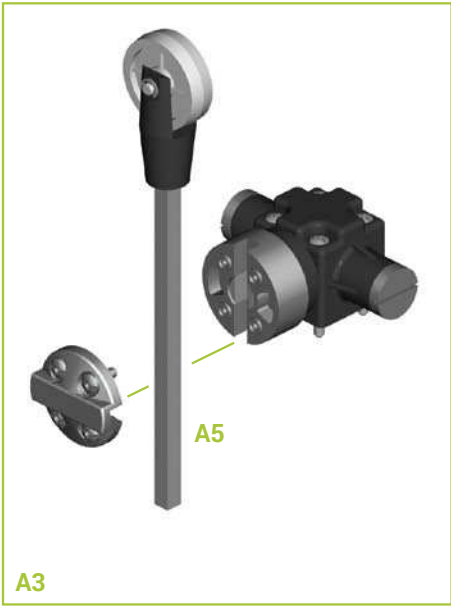
Limit switches X-FRZ are equipped with 1NO+1NC snap action switches PRSL0036XX



5

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




ASSEMBLY DRAWING



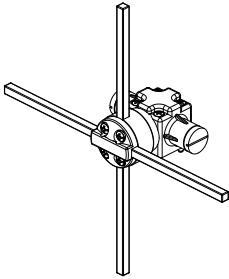
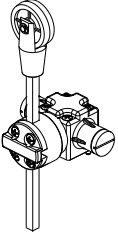
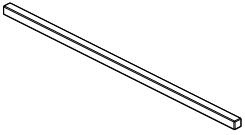
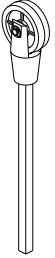
The descriptions of all the components can be found in the following charts: "Switches" and Accessories".

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 with cross rods	PF33_..._TE Codes on request
A3		Head with rod and roller	PF33_..._TE Codes on request
A4		Rod 6x6x200 mm	PRT03006PE
		Red rod 6x6x200 mm	PRT03007PE
		Rod 6x6x300 mm	PRT03012PE
A5		Rod 6x6x130 mm with roller	PRSL0850PI