

X-FSC / X-FRZ

Position limit switch



Position limit switches designed to control the movement of overhead travelling cranes, hoists and machine tools. Heads with different types of rods and movements 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 gland 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 contacts or slow action switches with 1NC contact.
- X-FSC features cross rods with 3 or 4 maintained positions or T rods with 3 maintained positions, movement every 90°.
- X-FRZ has a single rod or a rod with roller with spring return movement every 65°.

CERTIFICATIONS

- CE marking and UKCA marking.

CERTIFICATIONS

Conformity to Community Directives	2006/95/CE Low Voltage Directive
	2006/42/CE Machinery Directive
Conformity to UKCA Directives	Supply of Machinery (Safety) Regulations 2008
	Electrical Equipment (Safety) Regulations 2016
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 UKCA

GENERAL TECHNICAL SPECIFICATIONS

Ambient temperature	Storage -40°C/+70°C
	Operational -25°C/+70°C
IP protection degree	IP65 max. with specific cable gland M20
Insulation category	Class II
Operation frequency	3600 operations/hour max
Cable entry	Cable gland M20

TECHNICAL SPECIFICATIONS OF THE SWITCHES

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 terminals	
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 \ominus)	1NC (All NC contacts are of the positive opening operation type \ominus)
Scheme		
Markings and homologations	CE UKCA cULus	

MAXIMUM ACTUATING DIMENSIONS

T-type rod - Cross rod with 3 maintained positions

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

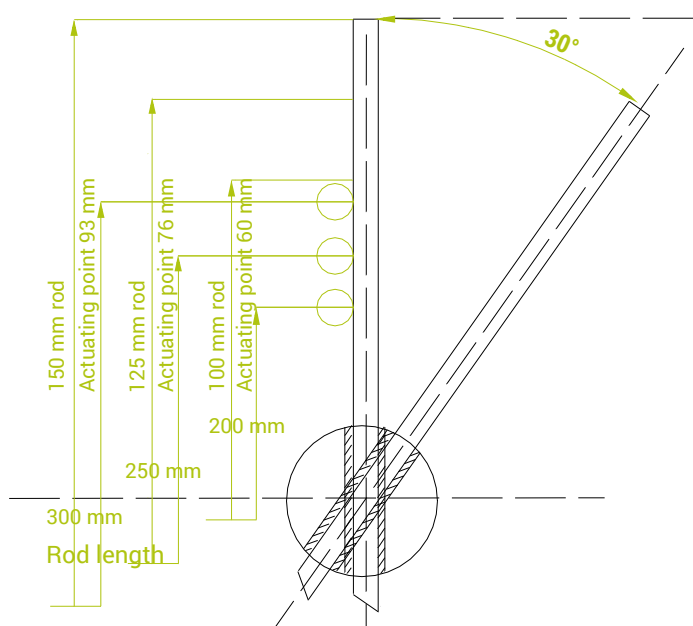
Rod - Rod and Roller

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

Cross rod with 4 maintained positions

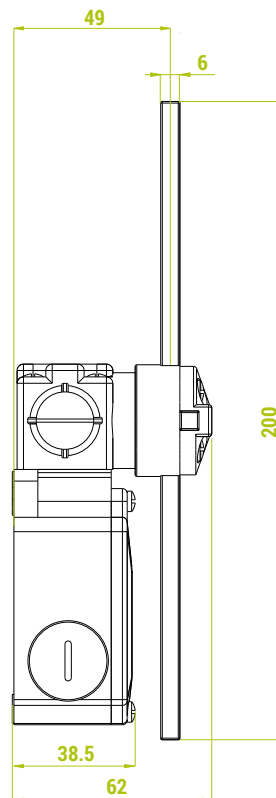
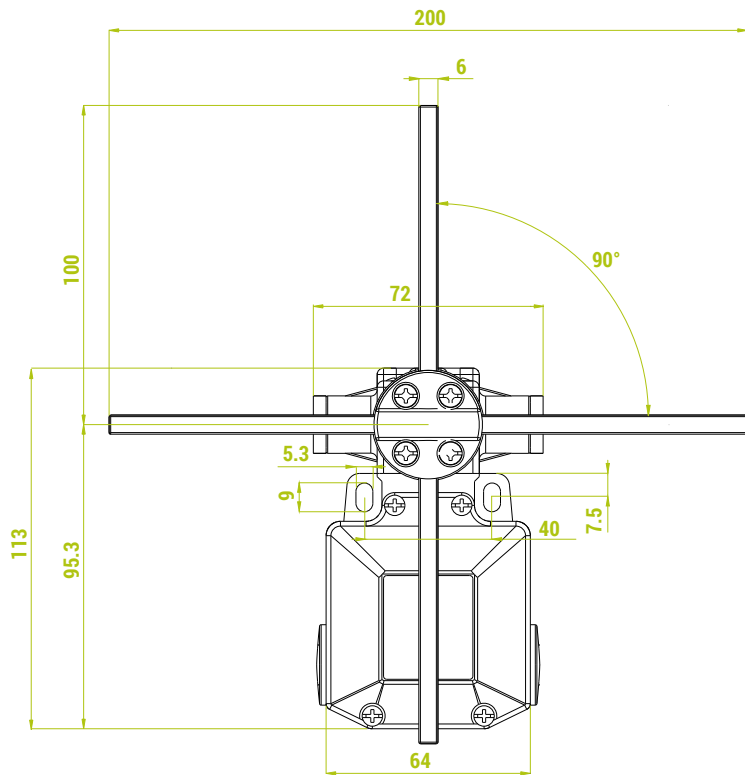
- Pre-travel angle for rotation contact operation: 49°
- Maximum rotation angle for each maintained position: 90°
- Average angle for the mechanical tripping: 48°
- Maintained positions every: 90°

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 shown in the drawing.

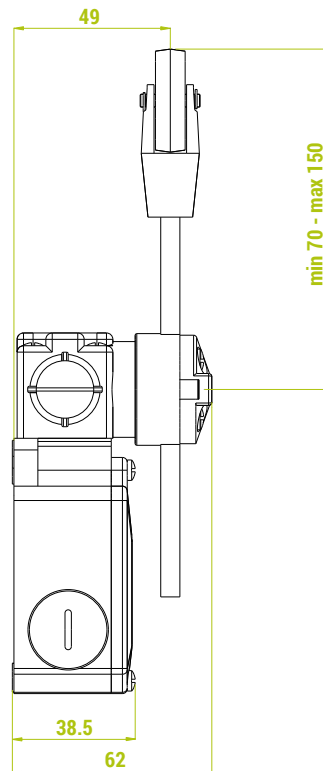
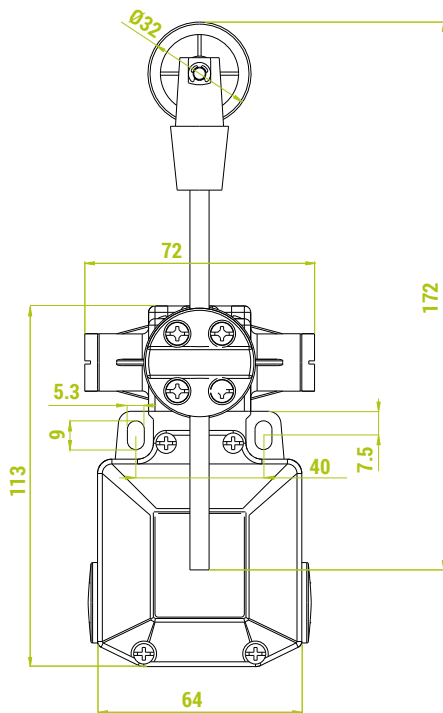


OVERALL DIMENSIONS (mm)


X-FSC

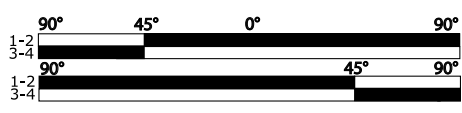
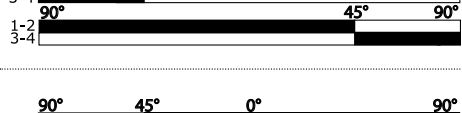
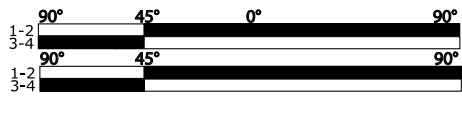
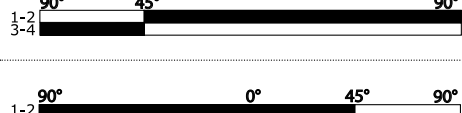
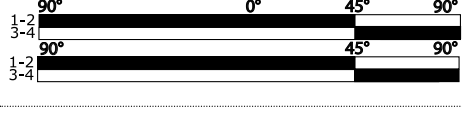
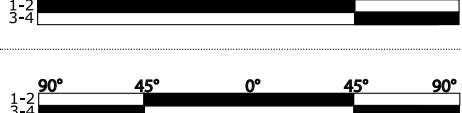
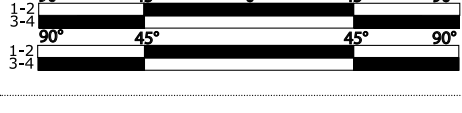
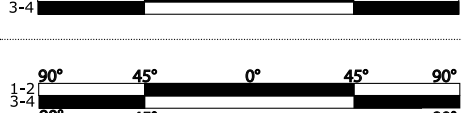
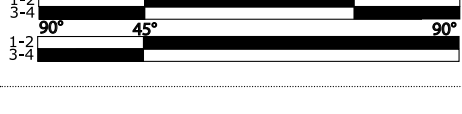
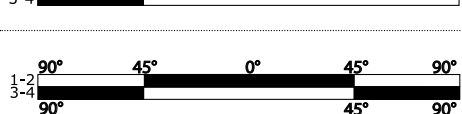
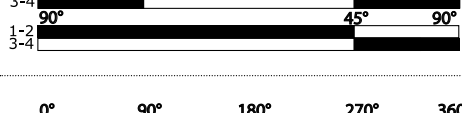
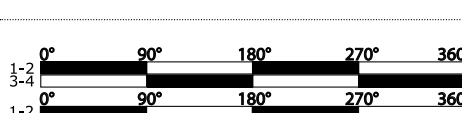
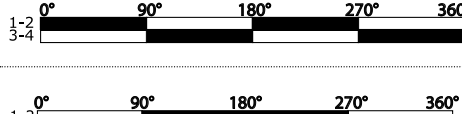
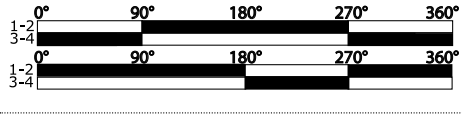
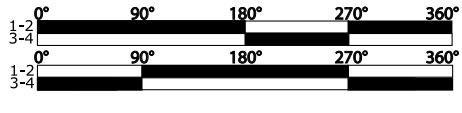


X-FRZ



LIMIT SWITCHES X-FSC

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

Actuating travel	Positions	Rods	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

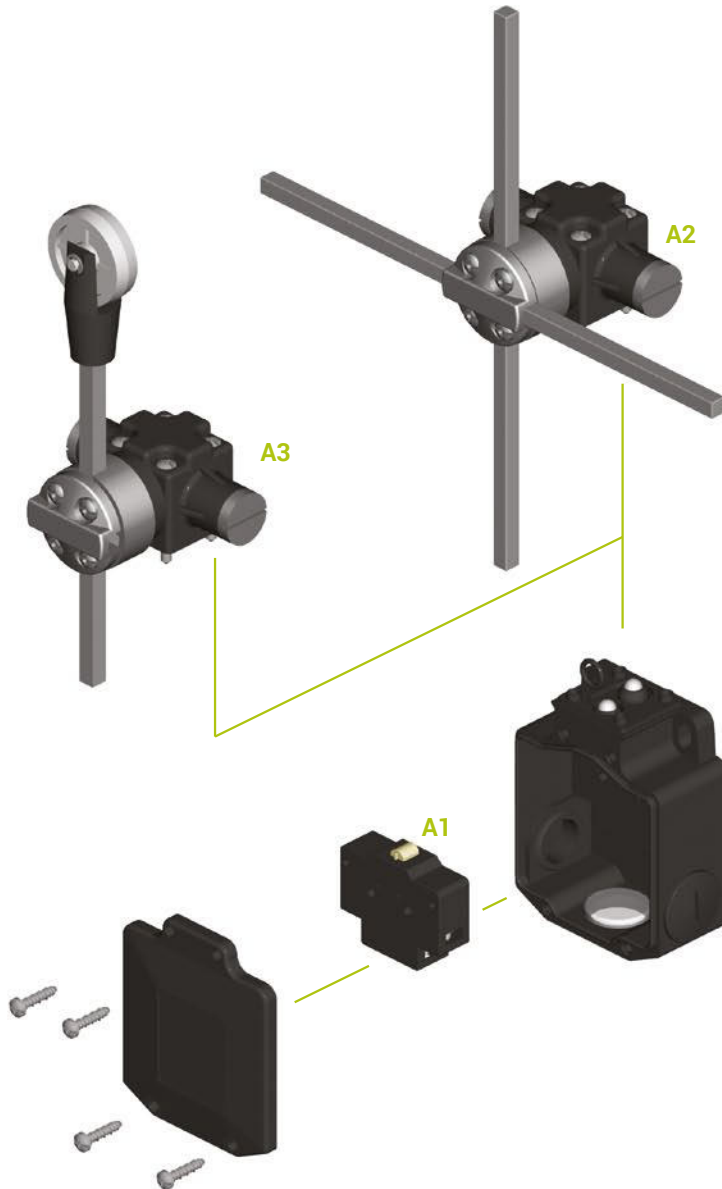
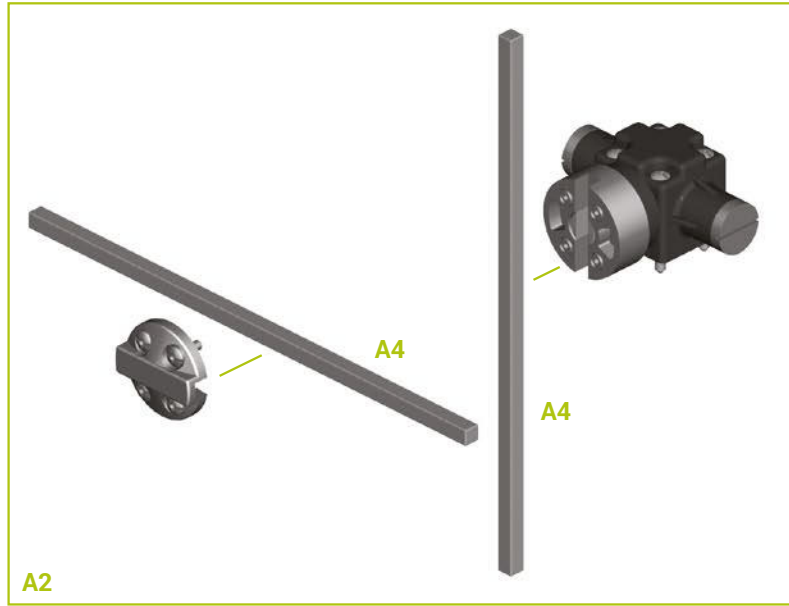
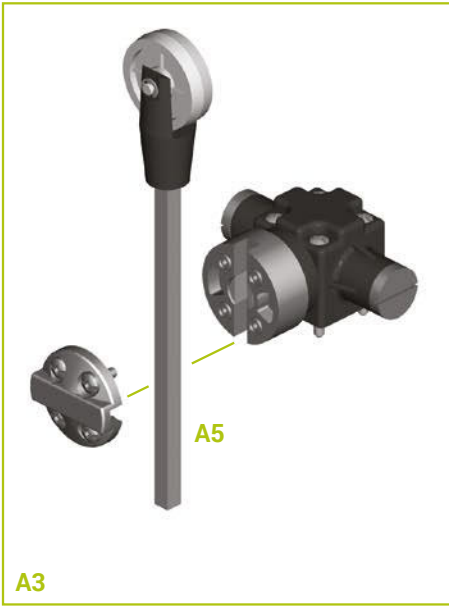
LIMIT SWITCHES X-FRZ

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



Actuating travel	Positions	Rods	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



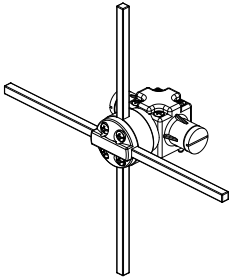
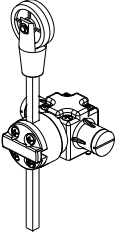
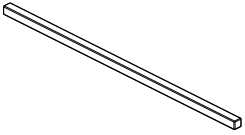
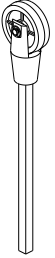
Refer to the following tables for descriptions of components: "Switches" and "Accessories".

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