

# X-FSC / X-FRZ

## Position limit switch



Position limit switches designed to control the movement of overhead travelling cranes, hoists and complex 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 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 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 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 EAC certification.

UK Distributor



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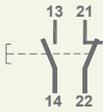
## CERTIFICATIONS

|                                    |  |
|------------------------------------|--|
| 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 specific cable clamp M20 |
| Insulation category  | Class II                                |
| Operation frequency  | 3600 operations/hour max                |
| Cable entry          | Cable clamp 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 <sup>6</sup> operations   |  |
| Connections                | Screw-type terminals   |  |
| Wires                      | 1x2.5 mm <sup>2</sup> , 2x1.5 mm <sup>2</sup><br>(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<br>(All NC contacts are of the positive opening operation type  ) | 1NC<br>(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: 49°
- Maximum rotation angle for each maintained position: 90°
- Average angle for the mechanical tripping: 48°

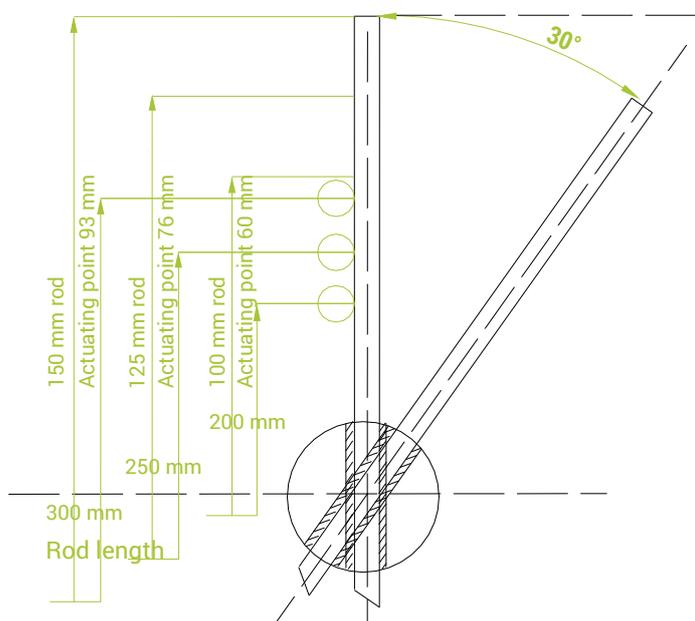
### Rod - Rod and Roller

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

### Cross rod with 4 maintained positions

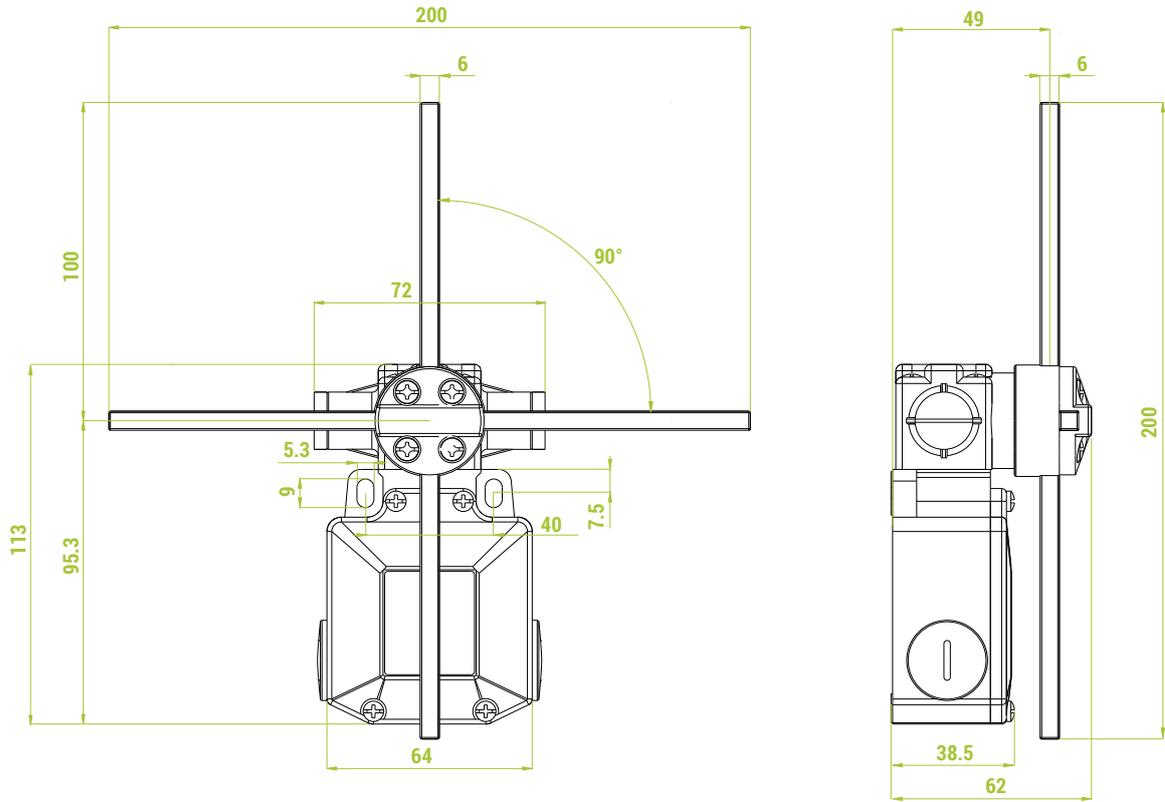
- Pre-travel angle for rotation contact operation: 49°
- Maximum rotation angle for each maintained position: 90°
- Average angle for the mechanical tripping: 48°
- Maintained positions each: 90°

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.

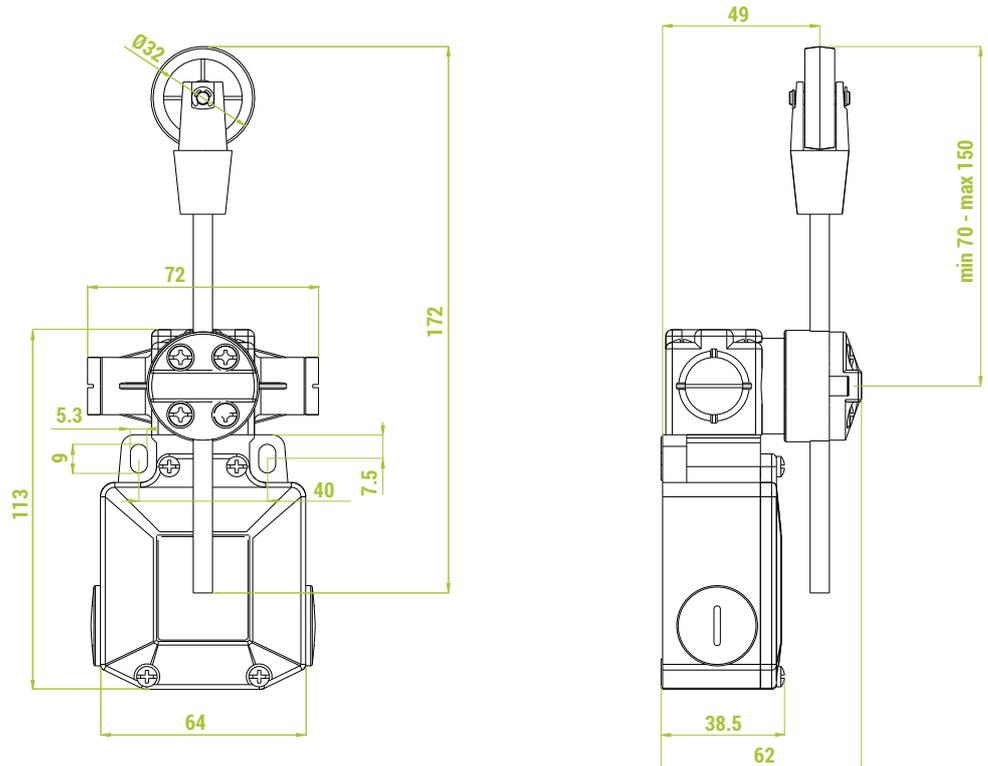


OVERALL DIMENSIONS (mm)

X-FSC

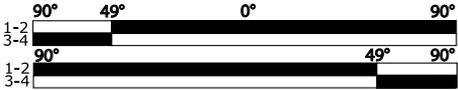
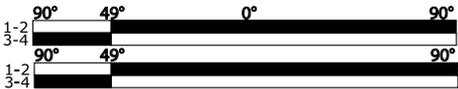
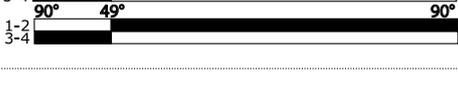
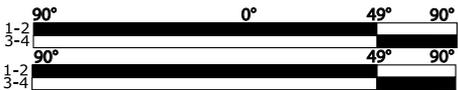
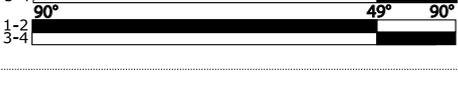
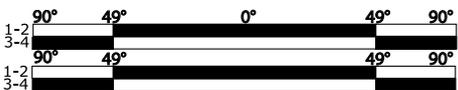
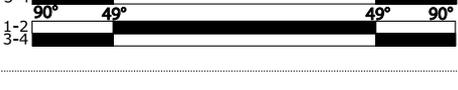
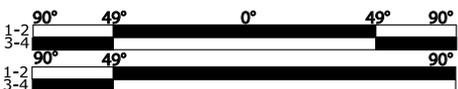
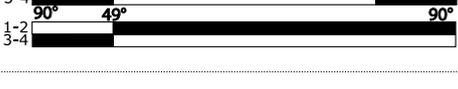
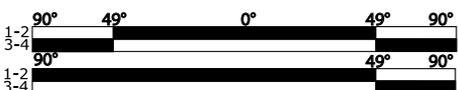
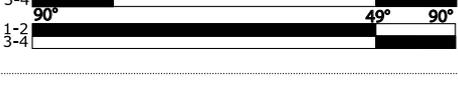
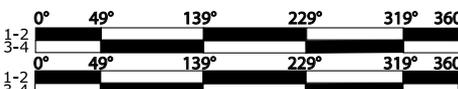
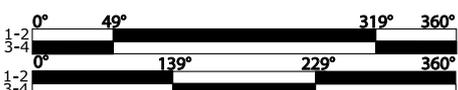
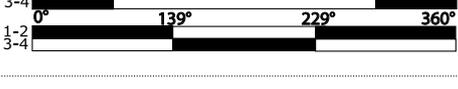
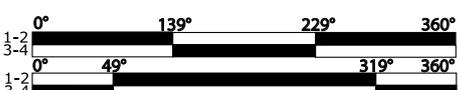


X-FRZ



# 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    | PF33751100 |
|  | 4 maintained | Cross    | PF33752100 |

## LIMIT SWITCHES X-FRZ

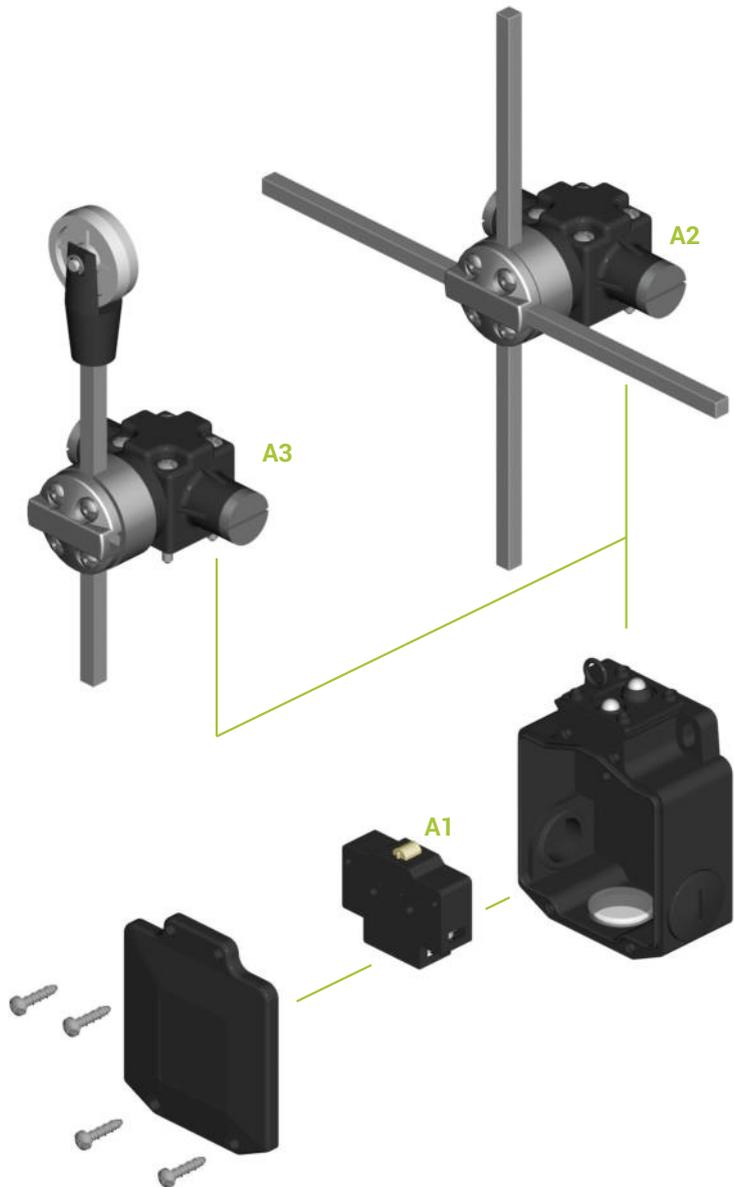
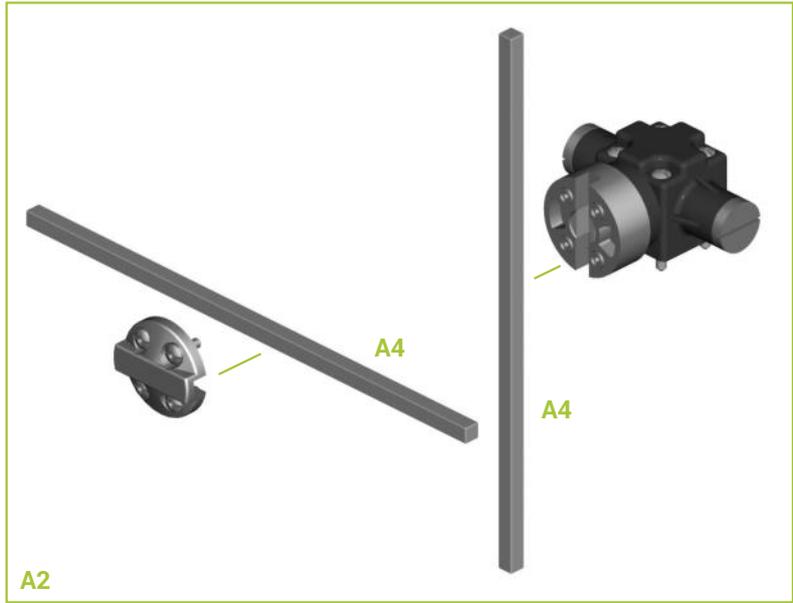
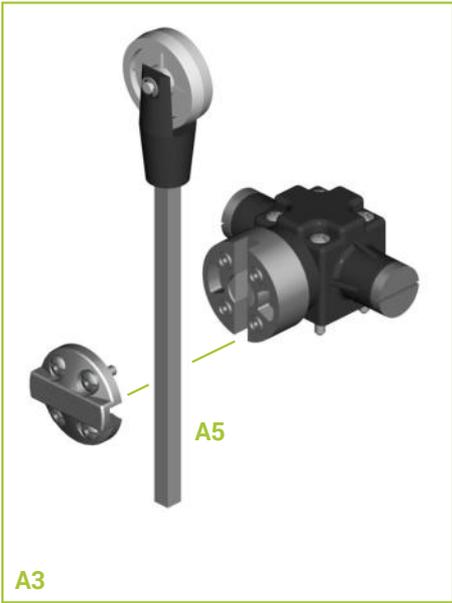
Limit switches X-FRZ are equipped with 1NO+1NC snap action switches PRSL0036XX



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



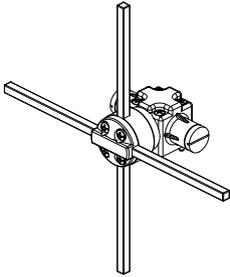
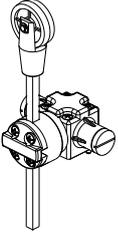
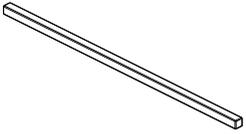
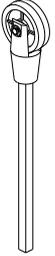
Refer to the following tables for descriptions of components: "Switches" and "Accessories".

## 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<br>Codes on request |
| A3   |   | Head with rod and roller   | PF33_..._TE<br>Codes on request |
| A4   |  | Rod 6x6x200 mm             | PRT03006PE                      |
|      |   | Red rod 6x6x200 mm         | PRT03007PE                      |
|      |   | Rod 6x6x300 mm             | PRT03012PE                      |
| A5   |  | Rod 6x6x130 mm with roller | PRSL0850PI                      |