

7551-7552

Position limit switch



Cross position limit switches designed for controlling the movement of overhead travelling cranes, hoists and complex machine tools. The choice of materials and technical solutions adopted enable use in harsh operating conditions.

FEATURES

- Designed to guarantee excellent performance in the most challenging operating conditions.
- Rods with 4 maintained positions every 90°.
- 4 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: 7551-7552 are classified IP66 with specific cable clamp M20.
- Extreme temperature resistance: -40°C to +70°C.
- It features die-cast aluminum alloy enclosure, with bushings made of sinterized material and head made of zama to resist any violent impact, chemical aggression and rust and reduce the need for routine maintenance operation on the head.
- All materials and components used are wear resistant and guarantee protection of the unit against water and dust.

OPTIONS

- 4 snap action switches with 1NO+1NC change-over contacts or slow action switches with 1NC contact.
- 3 outputs for cable clamps to reduce installation time and make wiring easier.

CERTIFICATIONS

- CE marking and EAC certification.



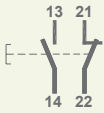
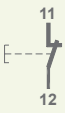
CERTIFICATIONS

| | |
|------------------------------------|--|
| Conformity to Community Directives | 2014/35/UE 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 -40°C/+70°C |
| IP protection degree | IP66 max. with dedicated cable clamp M20 |
| Insulation category | Class I |
| Operation frequency | 3600 operations/hour max |
| Cable entry | Cable clamp M20 |

TECHNICAL SPECIFICATIONS OF THE MICROSWITCHES

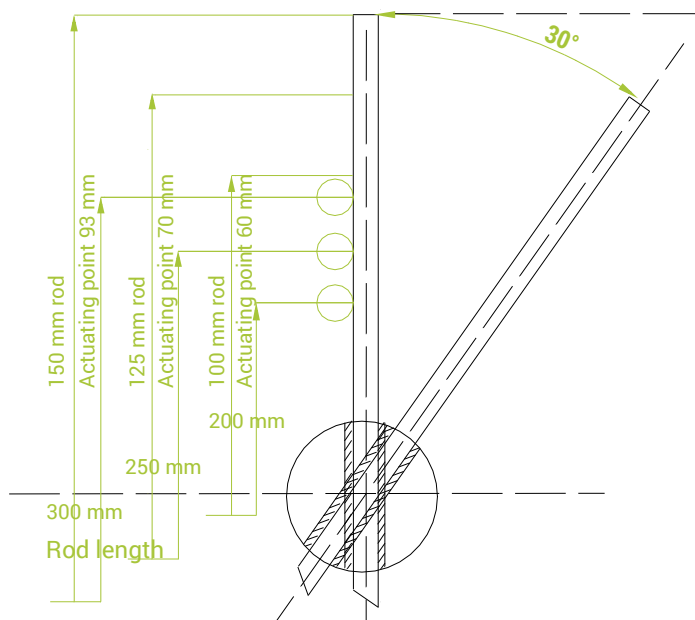
| Code | PRSL0036XX | PRSL0037XX |
|----------------------------|--|--|
| Utilisation category | | AC 15 |
| Rated operational current | | 3 A |
| Rated operational voltage | | 250 Vac |
| Rated thermal current | | 10 A |
| Rated insulation voltage | | 300 Vac |
| Mechanical life | | 1x10 ⁶ operations |
| 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

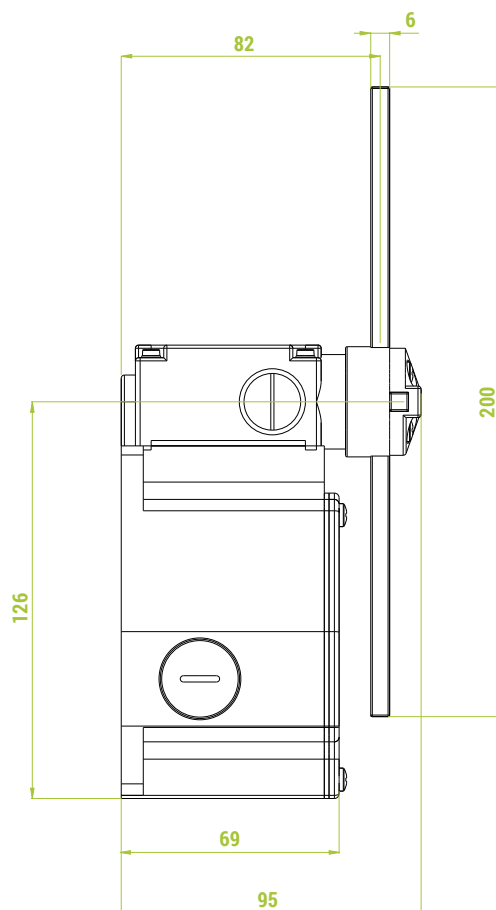
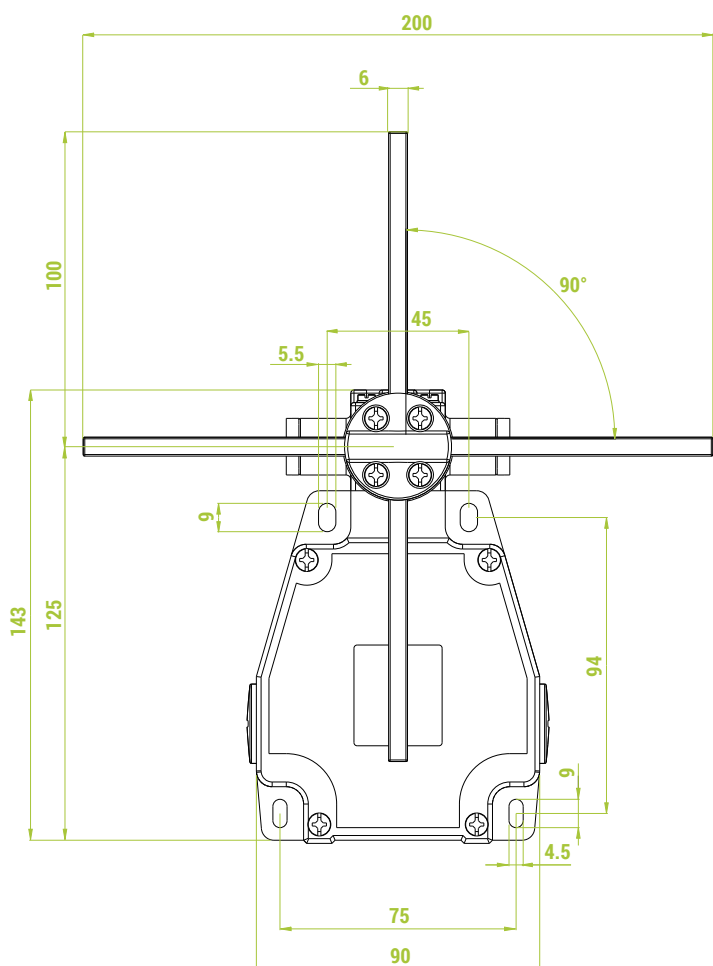
Rods with 4 maintained positions

- 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.

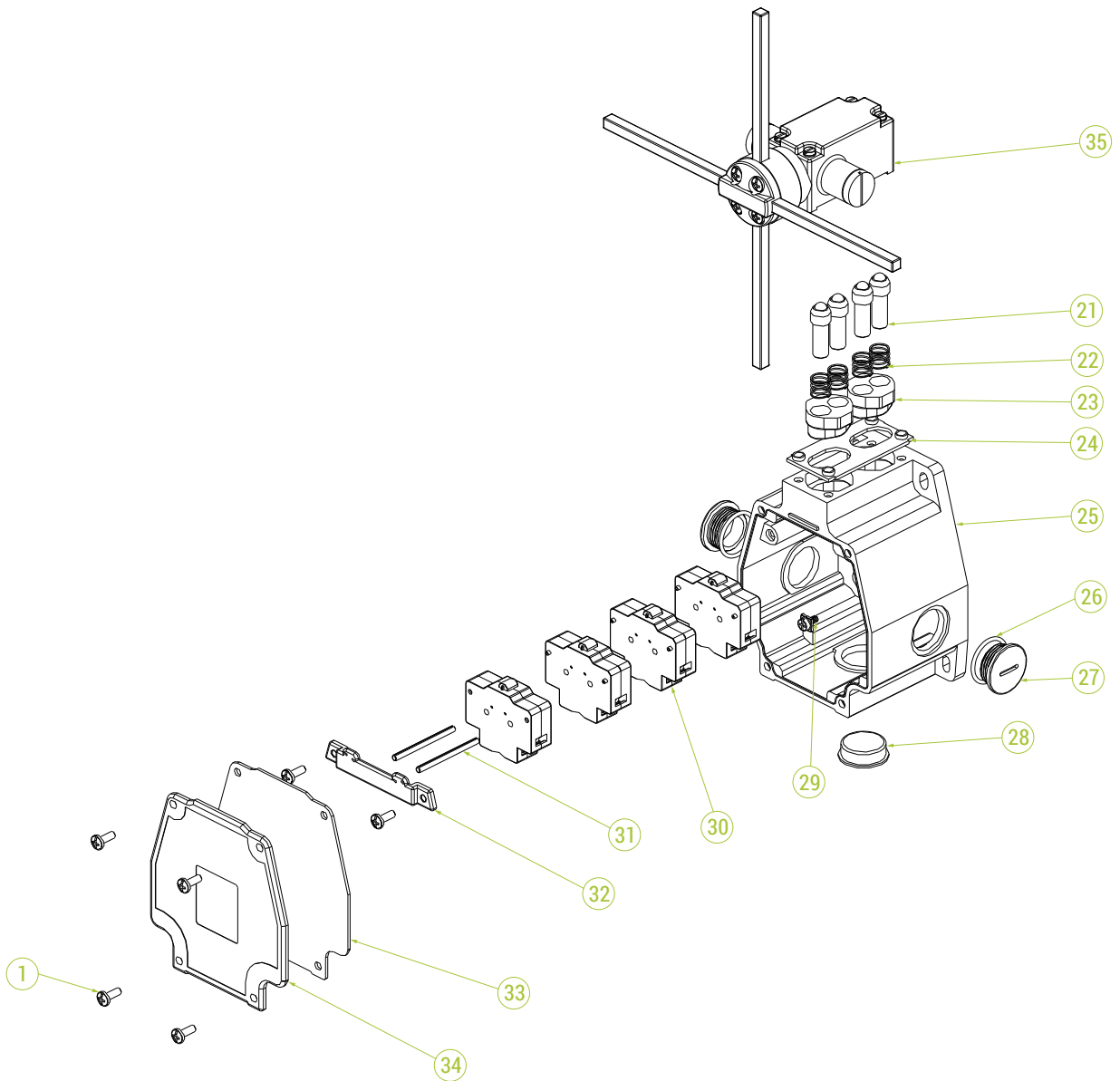
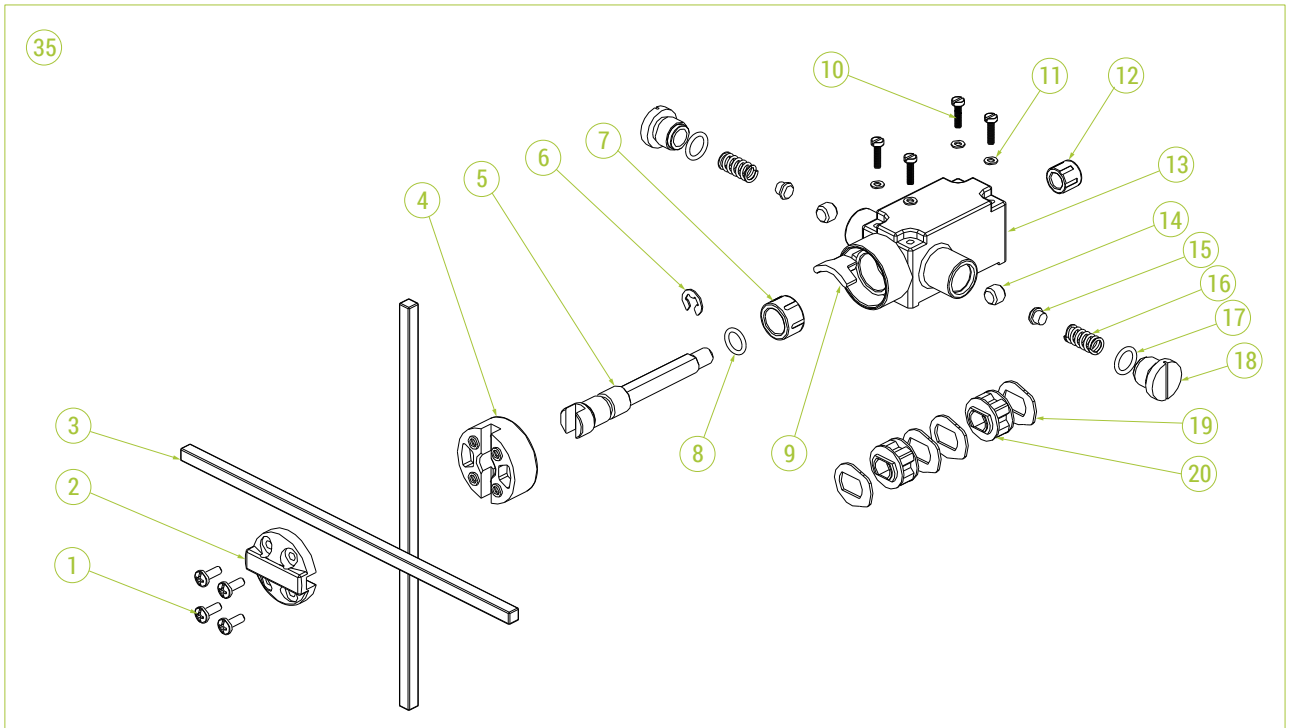


OVERALL DIMENSIONS (mm)



EXPLODED DRAWING

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LIMIT SWITCHES

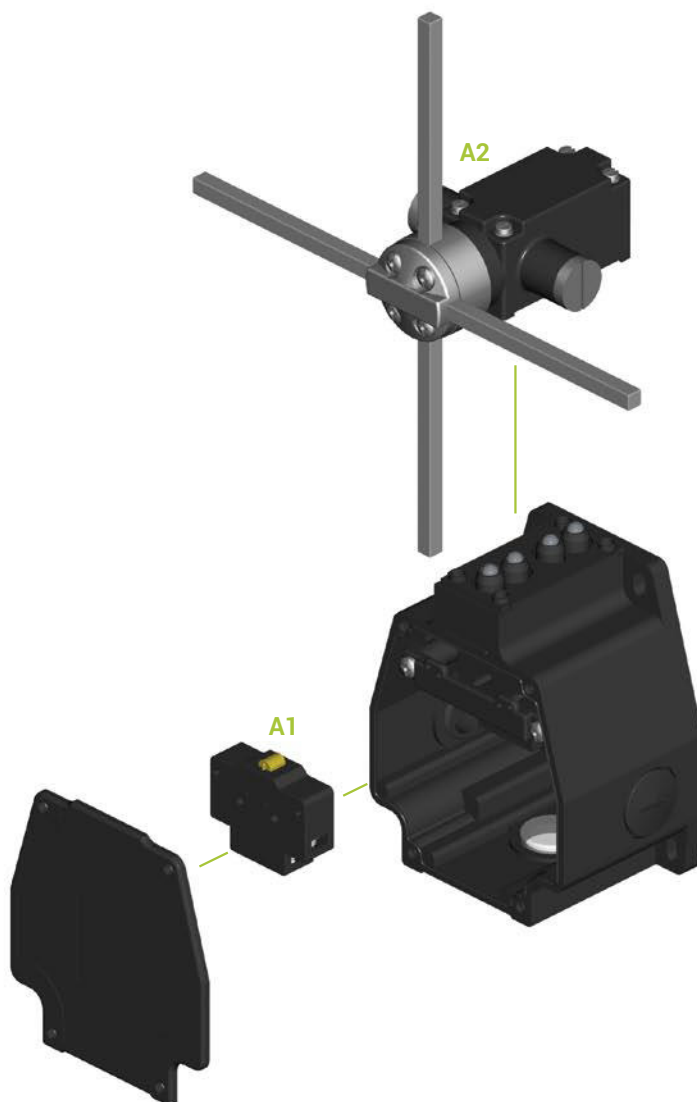
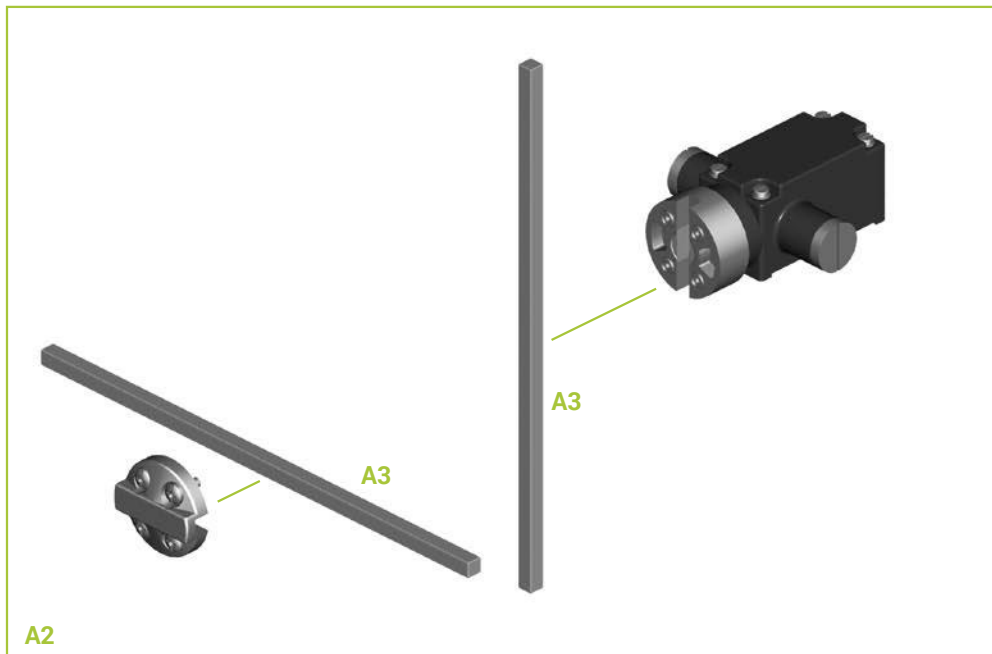
The limit switches are equipped with 1NO+1NC snap action switches PRSL0036XX



| No. of switches PRSL0036XX | Actuating travel | Rod length | Code | | | | | | | | | | | | |
|---|---|------------|------|------|------|-----|--|--|-----|-----|--|--|--|--------|------------|
| 4 | <table border="1"> <tr> <td>180°</td> <td>0°</td> <td>70°</td> <td>180°</td> </tr> <tr> <td colspan="4">1-2 </td> </tr> <tr> <td colspan="4">3-4 </td> </tr> </table> | 180° | 0° | 70° | 180° | 1-2 | | | | 3-4 | | | | 200 mm | PF26755100 |
| | 180° | 0° | 70° | 180° | | | | | | | | | | | |
| | 1-2 | | | | | | | | | | | | | | |
| | 3-4 | | | | | | | | | | | | | | |
| <table border="1"> <tr> <td>180°</td> <td>0°</td> <td colspan="2">160°</td> </tr> <tr> <td colspan="4">1-2 </td> </tr> <tr> <td colspan="4">3-4 </td> </tr> </table> | 180° | 0° | 160° | | 1-2 | | | | 3-4 | | | | | | |
| 180° | 0° | 160° | | | | | | | | | | | | | |
| 1-2 | | | | | | | | | | | | | | | |
| 3-4 | | | | | | | | | | | | | | | |
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| 180° | 70° | 0° | 180° | | | | | | | | | | | | |
| 1-2 | | | | | | | | | | | | | | | |
| 3-4 | | | | | | | | | | | | | | | |
| <table border="1"> <tr> <td>160°</td> <td colspan="2">0°</td> <td>180°</td> </tr> <tr> <td colspan="4">1-2 </td> </tr> <tr> <td colspan="4">3-4 </td> </tr> </table> | 160° | 0° | | 180° | 1-2 | | | | 3-4 | | | | | | |
| 160° | 0° | | 180° | | | | | | | | | | | | |
| 1-2 | | | | | | | | | | | | | | | |
| 3-4 | | | | | | | | | | | | | | | |
| 4 | <table border="1"> <tr> <td>70°</td> <td>0°</td> <td colspan="2">90°</td> </tr> <tr> <td colspan="4">1-2 </td> </tr> <tr> <td colspan="4">3-4 </td> </tr> </table> | 70° | 0° | 90° | | 1-2 | | | | 3-4 | | | | 200 mm | PF26755200 |
| | 70° | 0° | 90° | | | | | | | | | | | | |
| | 1-2 | | | | | | | | | | | | | | |
| | 3-4 | | | | | | | | | | | | | | |
| <table border="1"> <tr> <td>70°</td> <td>0°</td> <td colspan="2">90°</td> </tr> <tr> <td colspan="4">1-2 </td> </tr> <tr> <td colspan="4">3-4 </td> </tr> </table> | 70° | 0° | 90° | | 1-2 | | | | 3-4 | | | | | | |
| 70° | 0° | 90° | | | | | | | | | | | | | |
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| <table border="1"> <tr> <td>90°</td> <td>0°</td> <td colspan="2">70°</td> </tr> <tr> <td colspan="4">1-2 </td> </tr> <tr> <td colspan="4">3-4 </td> </tr> </table> | 90° | 0° | 70° | | 1-2 | | | | 3-4 | | | | | | |
| 90° | 0° | 70° | | | | | | | | | | | | | |
| 1-2 | | | | | | | | | | | | | | | |
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| 90° | 0° | | 70° | | | | | | | | | | | | |
| 1-2 | | | | | | | | | | | | | | | |
| 3-4 | | | | | | | | | | | | | | | |




ASSEMBLY DRAWING

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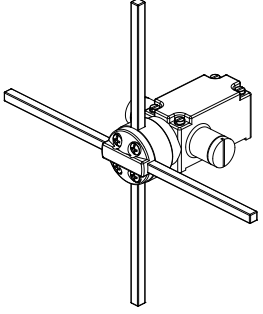
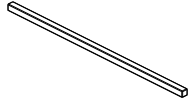


COMPONENTS

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 for 7551 | PF267551TE |
| | | Head for 7552 | PF267552TE |
| A3 |  | Rod 6x6x200 mm | PRT03006PE |

USE AND MAINTENANCE INSTRUCTIONS

The 7551 and 7552 limit switches are electromechanical devices 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 2014/35/UE 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 -40°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; avoid using them for cleaning. The limit switch is not suitable for use in environments with a potentially explosive atmosphere.

Mechanical test for workings to be carried out with activated microswitches.

Steps for the proper installation of the limit switch

- First, position the limit switch so that the machine or one arm of it strikes the rod in the positions indicated in the maximum drive measurements.
- Mark the fastening holes on the supporting wall and drill the holes.
- After fastening, make sure the rod is perfectly vertical, that the rods (3)* are securely fastened in the head (4) and that the points of impact are as verified previously.
- Proceed with electric wiring taking care to tighten the terminals on the switches (30), after manually checking the on/off function.
- Tighten the terminal screws with a torque of 0.8 Nm (insertability of wires into the terminals 1x2,5 mm² - 2x1,5mm²) (UL - (c)UL: use 60 or 75°C conductor and wire size No. 16-18 AWG, stranded or solid).
- Close the lid (34) taking care to position the gasket (33) in its housing.
- Tighten the wire clamp taking care to see that the rubber inside adheres to the sheathing on the wire.

- Make sure the wires are not taut, twisted and/or forced into excessive curvatures.
- The installation will be complete after checking once or twice that the machine is properly slowed and/or stopped by the limit switch installed.

Periodic maintenance steps

- Make sure the limit switch is securely fastened in place and the fasteners are tightened properly.
- Make sure there are no infiltrations of water through the wire clamp(s) and that the rubber sleeve is intact and flexible.
- Open the lid (34) and check that the gasket (33) is intact and flat in its housing.
- Check that the switches (30) are properly wired and the terminals securely fastened; test the on/off mechanism by hand. Make sure the head turns without forcing, that it is clean and moves without uncertainty between one position and the next; make sure the screws (1) on the head are properly tightened. If there is any difficulty in switching and positioning the head, replace the limit switch.
- Check the conditions of the rods (3) and make sure they are positioned correctly: if the rods are not perfectly straight they should be replaced and repositioned carefully in accordance with the specifications.

CAUTION: FOLLOW THE INSTRUCTIONS CAREFULLY WITH REGARD TO THE SPEED AND POSITION OF THE RODS INDICATED IN THE MAXIMUM DRIVE MEASUREMENTS. FAILURE TO FOLLOW THE SPECIFICATIONS INDICATED MAY JEOPARDIZE THE FUNCTION AND SAFETY OF THE SYSTEM.

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 exploded drawing in the catalogue.

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-FSC 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.



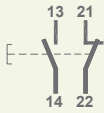
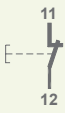
CERTIFICATIONS

| | |
|------------------------------------|--|
| 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°

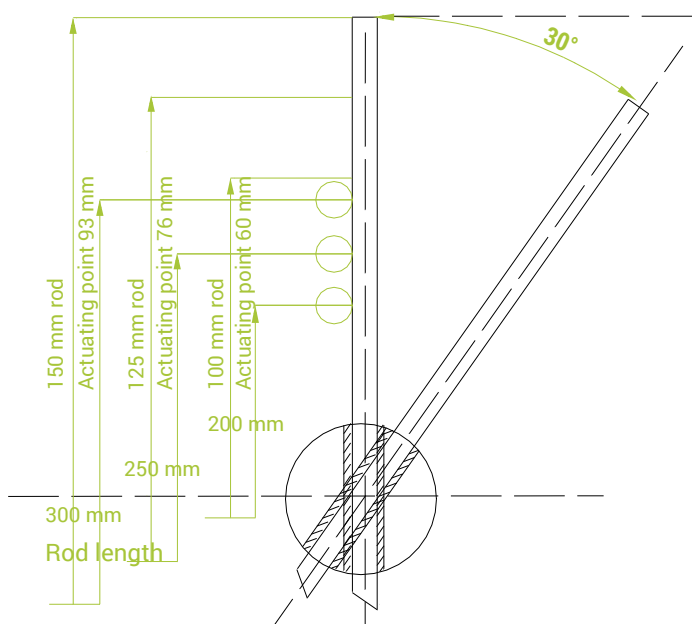
Rod - Rod and Roller

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

Cross rod with 4 maintained positions

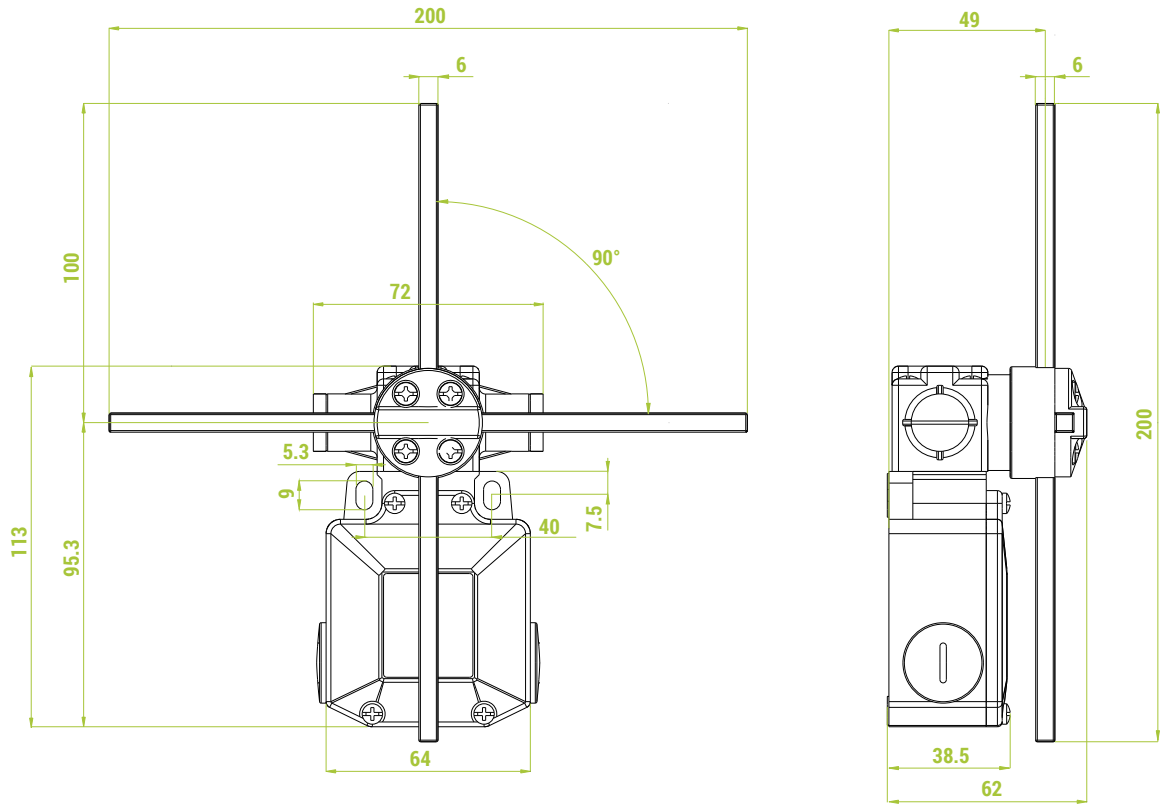
- Pre-travel angle for rotation contact operation: 49°
- Maximum rotation angle for each maintained position: 90°
- Average angle for the mechanical tripping: 48°
- Maintained positions each: 90°

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.

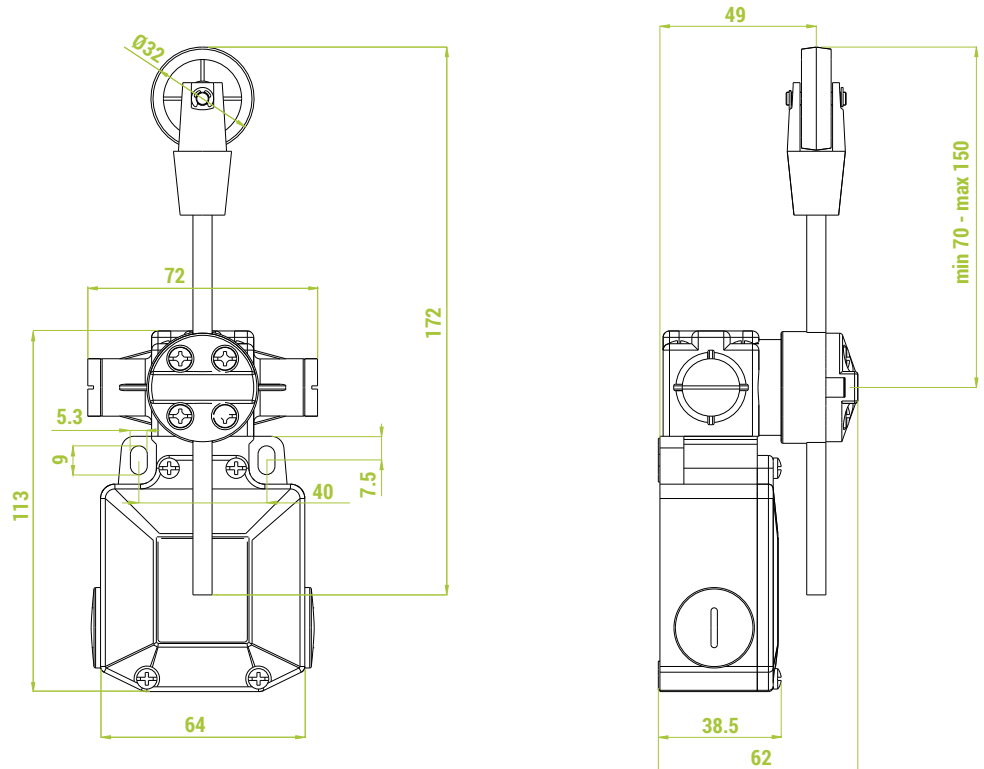


OVERALL DIMENSIONS (mm)

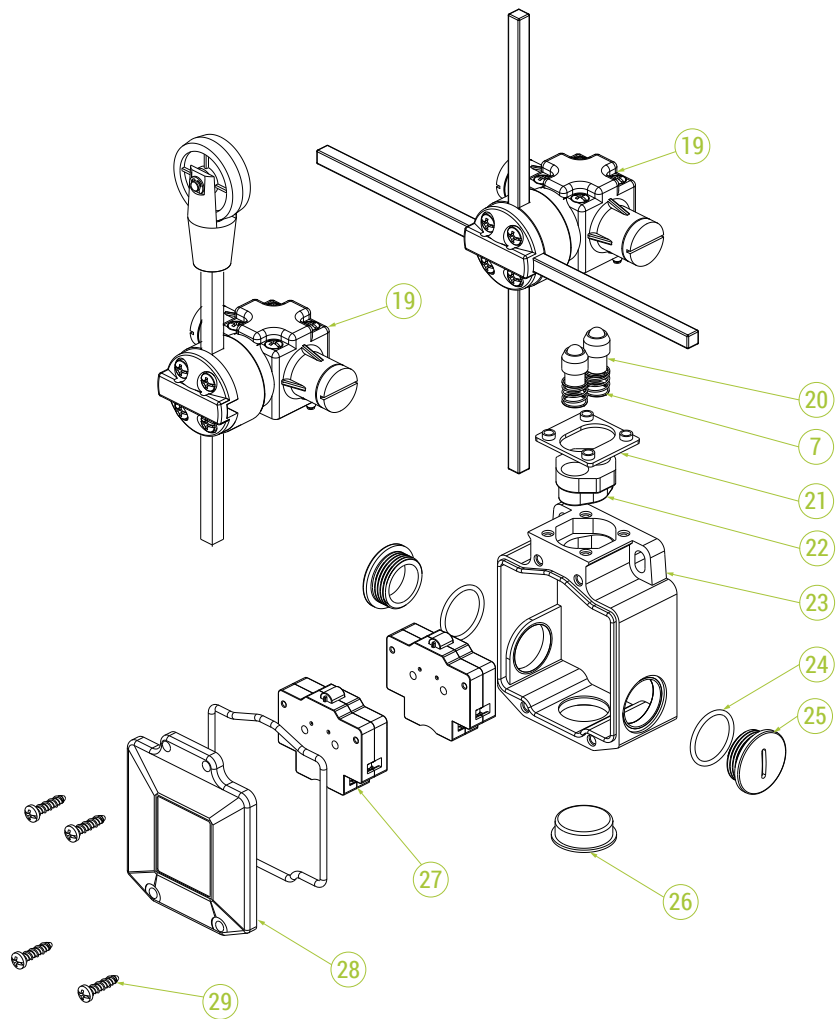
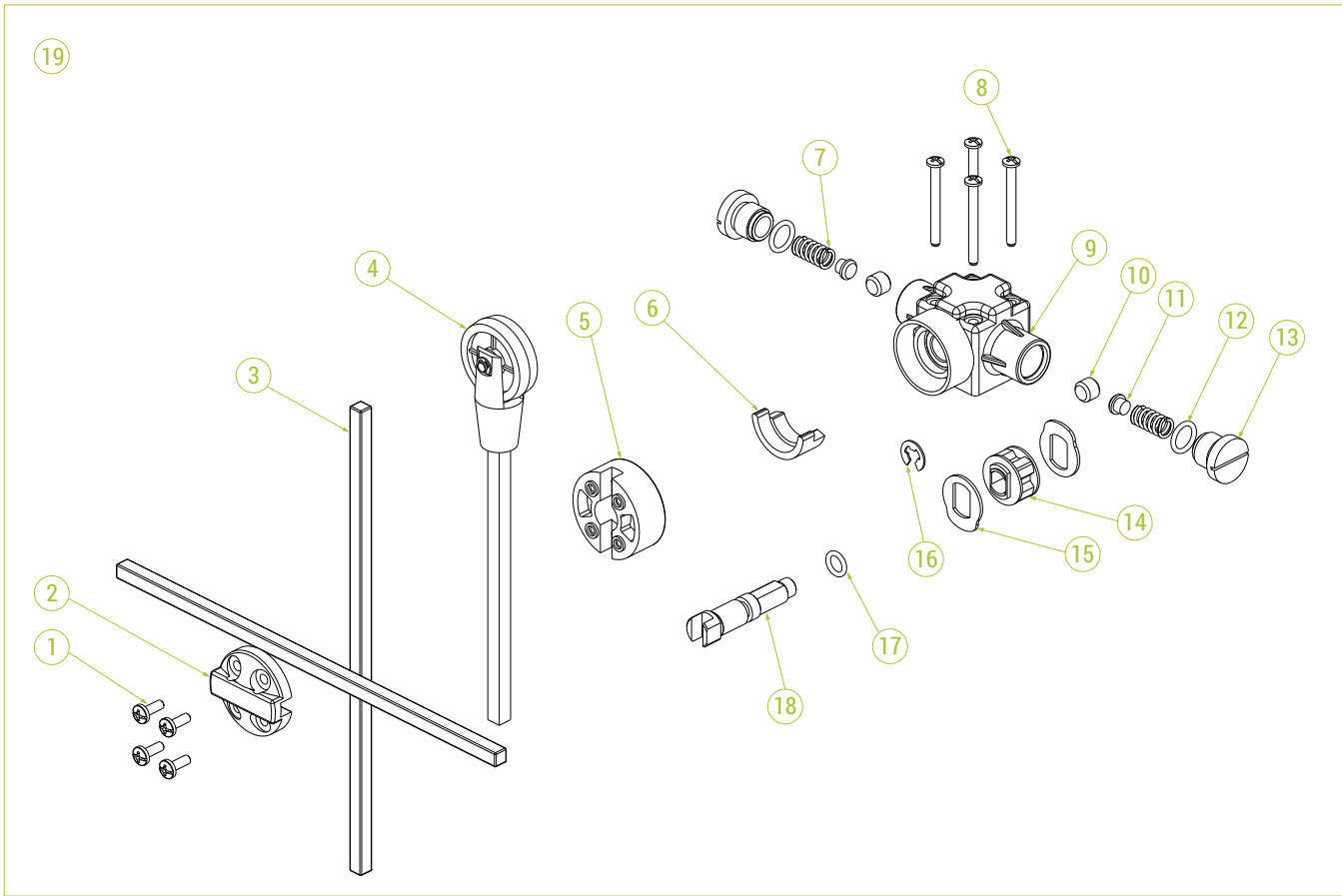
X-FSC



X-FRZ



EXPLODED DRAWING



LIMIT SWITCHES X-FSC

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



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| 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

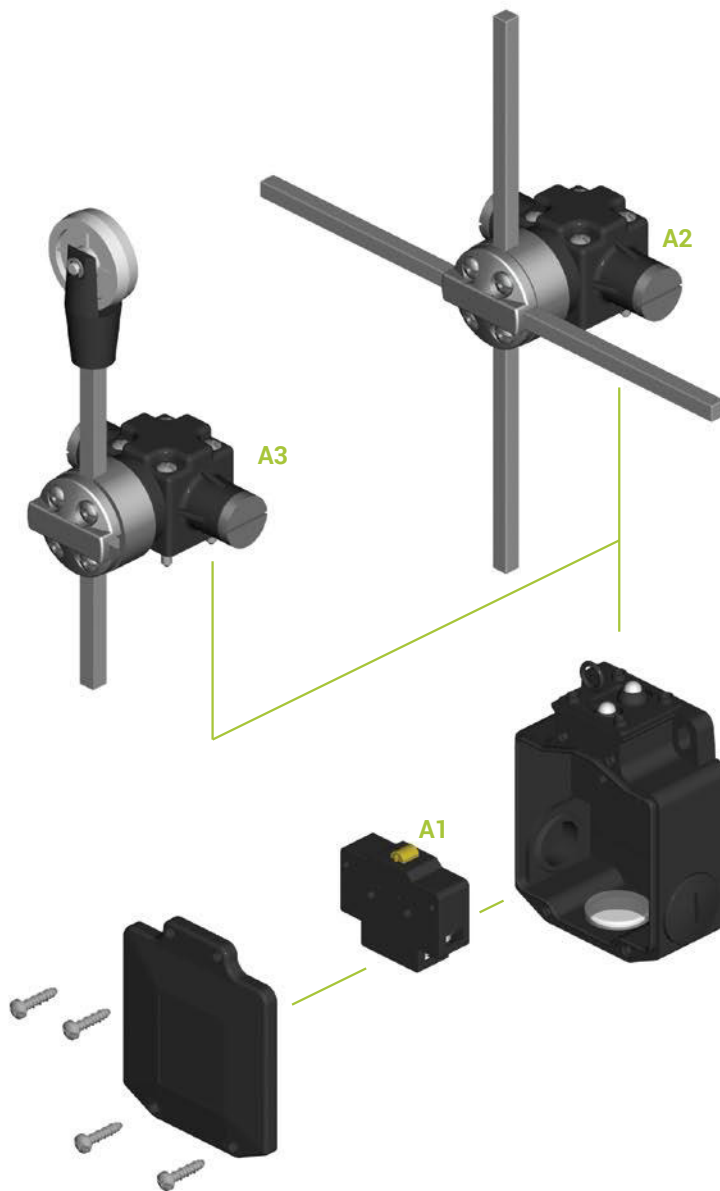
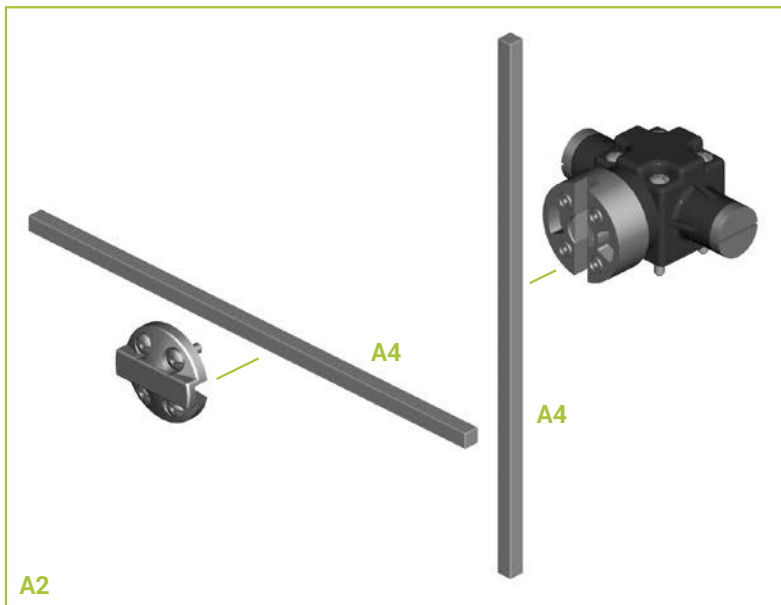
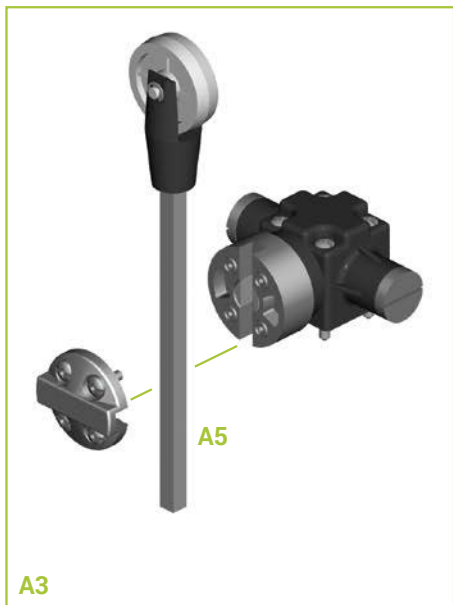
Limit switches X-FRZ are equipped with 1NO+1NC snap action switches PRSL0036XX



| 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

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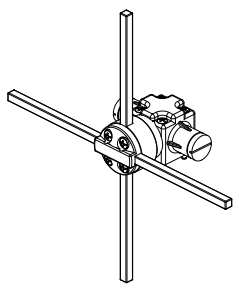
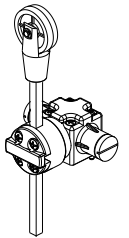
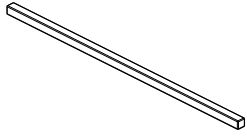
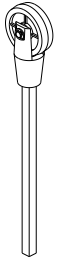


COMPONENTS

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 | PRT03007PE |
| A5 |  | Rod 6x6x130 mm with roller | PRSL0850PI |

USE AND MAINTENANCE INSTRUCTIONS

The limit switches X-SFC and X-FRZ are electromechanical devices 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; avoid using them for cleaning. The limit switches is not suitable for use in environments with a potentially explosive atmosphere.

Operations for installation and correct wiring of limit switch

- Important: for correct operations, install the device far from sources of heat that could raise its temperature higher than 70°C.
- Position the limit switch so that the machine or one arm of it strikes the rod (3)* in the positions indicated in the maximum drive measurements; make sure the wires are not taut, twisted and/or force into excessive curvatures.
- Mark the fastening holes on the supporting wall and drill the holes.
- After fastening, make sure the rod is perfectly vertical, that the rods (3) are securely fastened in the head and that the points of impact are as verified previously.
- Proceed with electric wiring taking care to tighten the terminals on the switches (27), after manually checking the on/off function.
- Tighten the terminal screws with a torque of 0.8 Nm; insertability of wires into the terminals 1x2.5 mm² - 2x1.5mm² (UL - (c)UL: use 60 or 75°C conductor and wire size No. 16-18 AWG, stranded or solid).
- Close the lid (28) taking care to position the gasket in its housing.

- Tighten the wire clamp taking care to see that the rubber inside adheres to the sheathing on the wire.
- The installation will be complete after checking once or twice that the machine is properly slowed and/or stopped by the limit switch installed.

Operations of routine maintenance

- Make sure the limit switch is securely fastened in place and the fasteners are tightened properly.
- Make sure there are no infiltrations of water through the wire clamp(s) and that the rubber sleeve is intact and flexible. Open the lid (28) and check that the gasket is intact and flat in its housing.
- Check that the switches (27) are properly wired and the terminals securely fastened; test the on/off mechanism by hand.
- Make sure the head turns without forcing, that it is clean and moves without uncertainty between one position and the next.
- Make sure the screws (1) on the head are properly tightened. If there is any difficulty in switching and positioning the head, replace the limit switch.
- Check the conditions of the rods (3) and make sure they are positioned correctly: if the rods are not perfectly straight they should be replaced and repositioned carefully in accordance with the specifications.

NOTE: FOLLOW THE INSTRUCTIONS CAREFULLY WITH REGARD TO THE SPEED AND POSITION OF THE RODS INDICATED IN THE MAXIMUM DRIVE MEASUREMENTS. FAILURE TO FOLLOW THE SPECIFICATIONS INDICATED MAY JEOPARDIZE THE FUNCTION AND SAFETY OF THE SYSTEM.

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 exploded drawing in the catalogue.

STANDARD

Position limit switch



Cross position limit switch designed for controlling the movement of overhead travelling cranes, hoists and complex machine tools. Standard is used in building and industrial hoisting applications, in automation and in the entertainment industry.

FEATURES

- Standard box size 80x70x39 mm, with 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: Standard is 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

- 1 or 2 snap action switches with 1NO+1NC change-over contacts or slow action switches with 1NC contact.
- Heads with 15 different types of actuators for different applications.

CERTIFICATIONS

- CE marking and EAC certification.



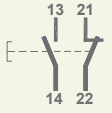
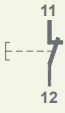
CERTIFICATIONS

| | |
|------------------------------------|--|
| Conformity to Community Directives | 2014/35/UE 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 |

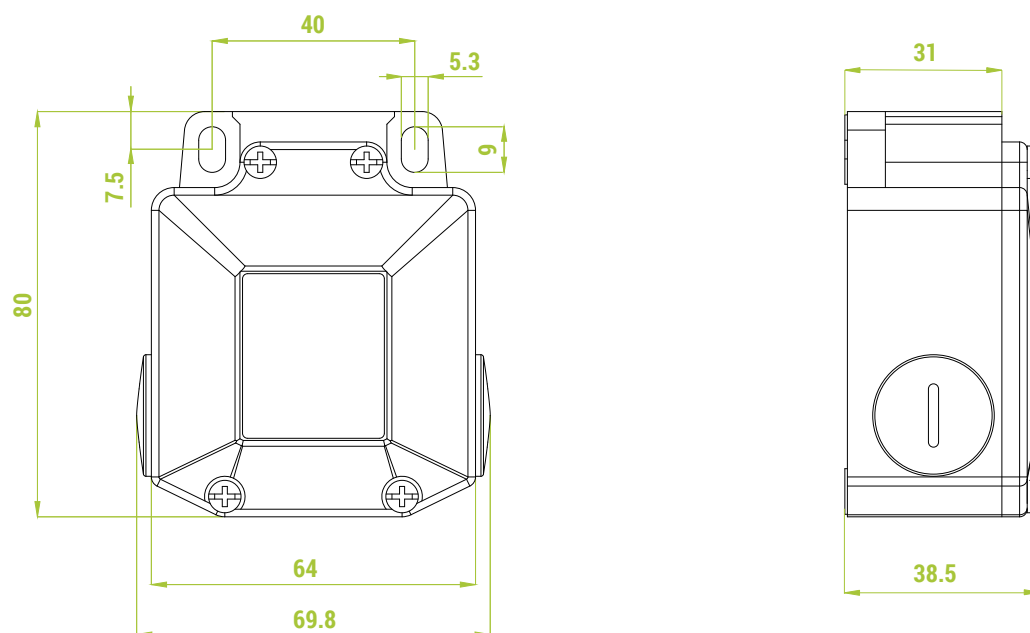
GENERAL TECHNICAL SPECIFICATIONS

| | |
|----------------------|--|
| 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 |
| Operating position | Any position |

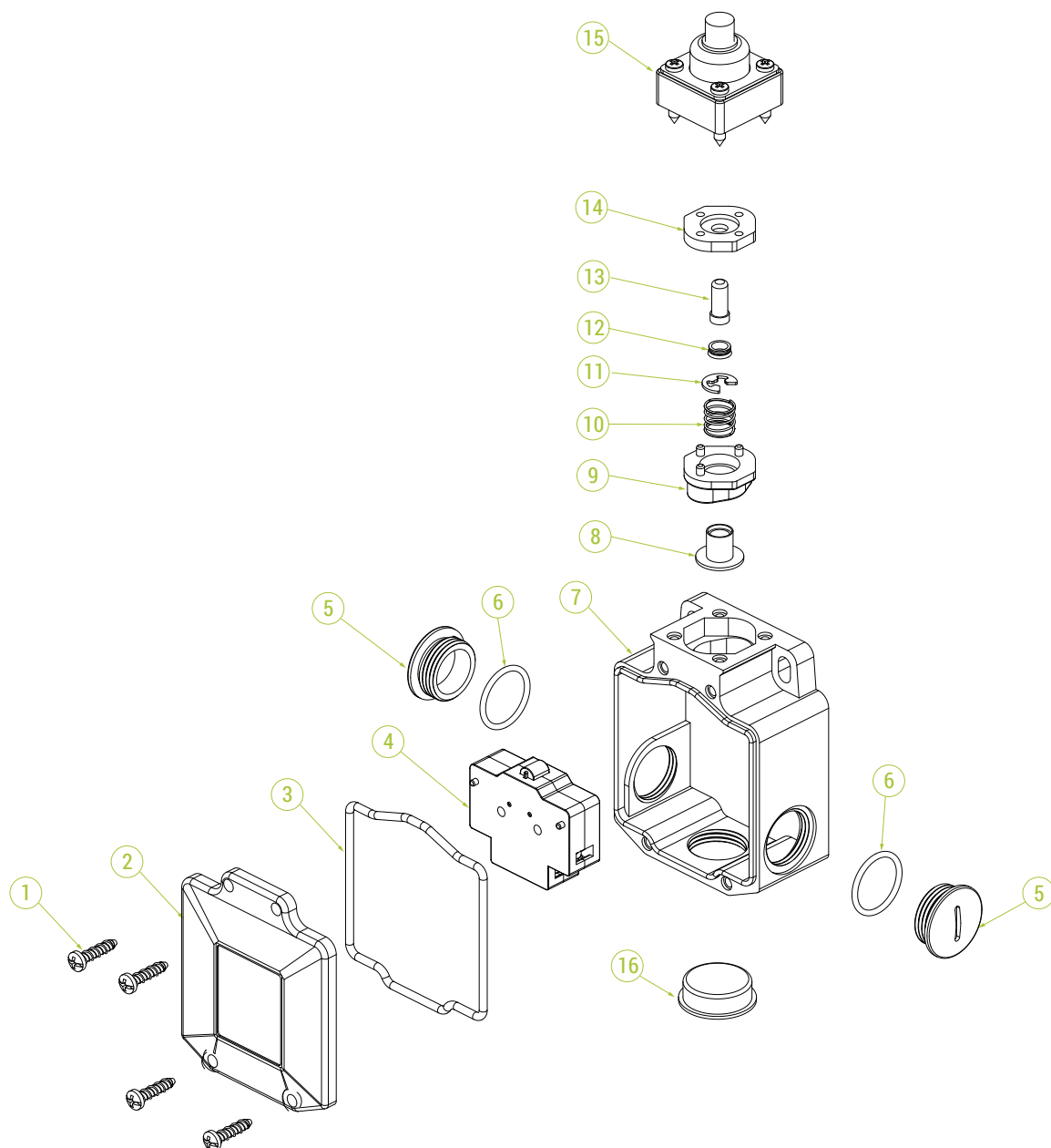
TECHNICAL SPECIFICATIONS OF THE MICROSWITCHES

| 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: conduttori in rame (CU) 60°C o 75°C con cavo 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 ) | 1NO+1NC (All NC contacts are of the positive opening operation type ) |
| Scheme |  |  |
| Markings and homologations | CE cULus EAC | |

OVERALL DIMENSIONS (mm)

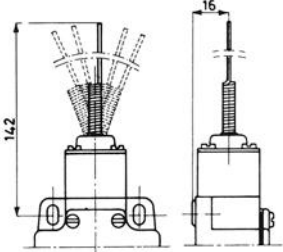
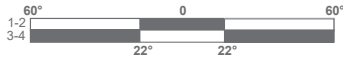

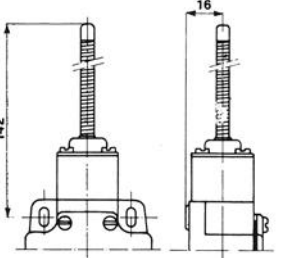
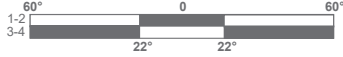
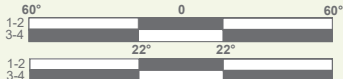


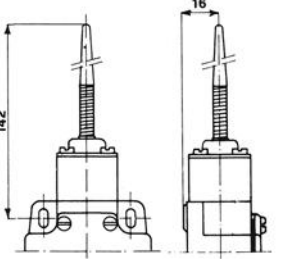
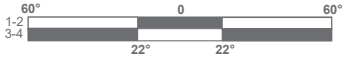
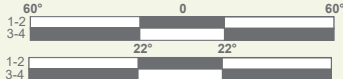


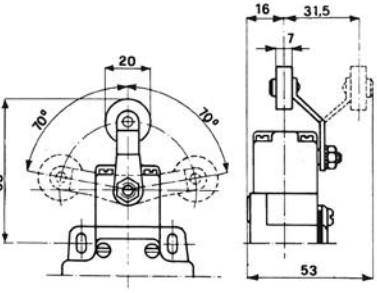
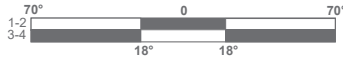

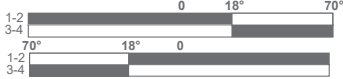


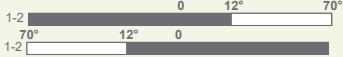


EXPLODED DRAWING



LIMIT SWITCHES

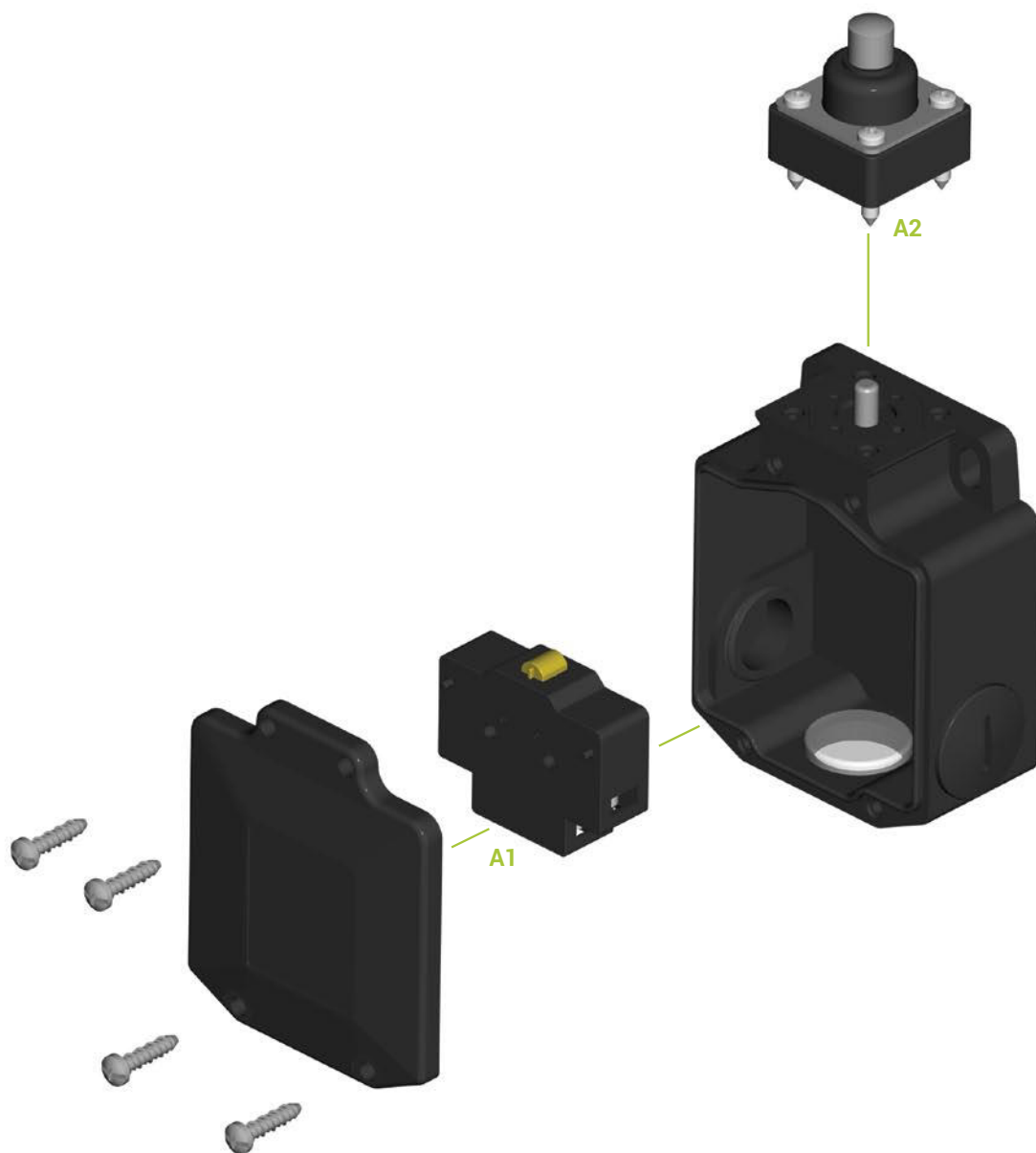
| Description and overall dimensions (mm) | Switch type | | Actuating travel | Code |
|---|--------------------------------------|----------------------------------|------------------|------------|
| | PRSL0036XX 1NO+1NC snap action | PRSL0037XX 1NC slow action | | |
| <p>Plunger</p> | 1 | - | | PF33770100 |
| | 2 | - | | PF33770200 |
| | - | 1 | | PF33770600 |
| | - | 2 | | PF33770700 |
| <p>Ball plunger</p> | 1 | - | | PF33771100 |
| | 2 | - | | PF33771200 |
| | - | 1 | | PF33771600 |
| | - | 2 | | PF33771700 |
| <p>Roller plunger</p> | 1 | - | | PF33772100 |
| | 2 | - | | PF33772200 |
| | - | 1 | | PF33772600 |
| | - | 2 | | PF33772700 |
| <p>Central roller lever</p> | 1 | - | | PF33773100 |
| | 2 | - | | PF33773200 |
| | - | 1 | | PF33773600 |
| | - | 2 | | PF33773700 |
| <p>Angular roller lever</p> | 1 | - | | PF33774100 |
| | 2 | - | | PF33774200 |
| | - | 1 | | PF33774600 |
| | - | 2 | | PF33774700 |

| Description and overall dimensions (mm) | Switch type | | Actuating travel | Code |
|--|--------------------------------------|----------------------------------|--|------------|
| | PRSL0036XX 1NO+1NC snap action | PRSL0037XX 1NC slow action | | |
|  | 1 | - |  | PF33775100 |
| | - | 1 |  | PF33775600 |
|  | 1 | - |  | PF33776100 |
| | 2 | - |  | PF33776200 |
| | - | 1 |  | PF33776600 |
| | - | 2 |  | PF33776700 |
|  | 1 | - |  | PF33777100 |
| | 2 | - |  | PF33777200 |
| | - | 1 |  | PF33777600 |
| | - | 2 |  | PF33777700 |
|  | 1 | - |  | PF33780100 |
| | 2 | - |  | PF33780200 |
| | 2 | - |  | PF33780400 |
| | - | 1 |  | PF33780600 |
| | - | 2 |  | PF33780700 |
| | - | 2 |  | PF33780900 |

| Description and overall dimensions (mm) | Switch type | | Actuating travel | Code | | | | | |
|---|--------------------------------------|----------------------------------|------------------|------|--|------------|---|--|------------|
| | PRSL0036XX 1NO+1NC snap action | PRSL0037XX 1NC slow action | | | | | | | |
| | | | 1 | - | | PF33782100 | | | |
| | | | 2 | - | | PF33782200 | | | |
| | | | 2 | - | | PF33782400 | | | |
| | | | - | 1 | | PF33782600 | | | |
| | | | - | 2 | | PF33782700 | | | |
| | | | - | 2 | | PF33782900 | | | |
| | | | | | | 1 | - | | PF33783100 |
| | | | | | | 2 | - | | PF33783200 |
| | | | | | | 2 | - | | PF33783400 |
| | | | | | | - | 1 | | PF33783600 |
| - | 2 | | | | | PF33783700 | | | |
| - | 2 | | | | | PF33783900 | | | |
| | | | 1 | - | | PF33784100 | | | |
| | | | 2 | - | | PF33784200 | | | |
| | | | 2 | - | | PF33784400 | | | |
| | | | - | 1 | | PF33784600 | | | |
| | | | - | 2 | | PF33784700 | | | |
| | | | - | 2 | | PF33784900 | | | |

| Description and overall dimensions (mm) | Switch type | | Actuating travel | Code | |
|---|--------------------------------------|----------------------------------|------------------|------------|------------|
| | PRSL0036XX 1NO+1NC snap action | PRSL0037XX 1NC slow action | | | |
| | 1 | - | | PF33785100 | |
| | 2 | - | | PF33785200 | |
| | 2 | - | | PF33785400 | |
| | - | 1 | | PF33785600 | |
| | - | 2 | | PF33785700 | |
| | - | 2 | | PF33785900 | |
| | | 1 | - | | PF33786100 |
| | | 2 | - | | PF33786200 |
| | | 2 | - | | PF33786400 |
| | | - | 1 | | PF33786600 |
| - | | 2 | | PF33786700 | |
| - | | 2 | | PF33786900 | |
| | 1 | - | | PF33787100 | |
| | 2 | - | | PF33787200 | |
| | 2 | - | | PF33787400 | |
| | - | 1 | | PF33787600 | |
| | - | 2 | | PF33787700 | |
| | - | 2 | | PF33787900 | |

ASSEMBLY DRAWING



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 | PF337_ _ _TE The head code is the same of the corresponding limit switch code, ending with TE instead of 00 |

USE AND MAINTENANCE INSTRUCTIONS

The Standard position limit switch is an electromechanical device for low voltage control circuits (EN 60947-1, EN 60947-5-1) to be used as electrical equipment on machines (EN 60204-1) in compliance with the fundamental requirements of the Low Voltage Directive 2014/35/UE and of the Machine Directive 2006/42/CE.

The limit switch is designed for use in industrial environments under even severe climatic conditions (operational temperature from -25°C to $+70^{\circ}\text{C}$ suitable for use in tropical environment). The equipment is not suitable for use in environments with potentially explosive atmosphere, corrosive agents or a high percentage of sodium chloride (saline fog). Oils, acids or solvents may damage the equipment. Do not connect more than one phase to each switch. Do not oil or grease the control elements or the switches; avoid using them for cleaning.

The installation of the limit switch shall be carried out by expert and trained personnel. Wiring shall be properly done according to the current instructions.

Prior to the installation and the maintenance of the limit switch, the main power of the machinery shall be turned off.

Steps for the proper installation of the limit switch

- First, position the limit switch so that the machine or one arm of it strikes or pushes, depending on the limit switch type, the rod, the lever, the spring or the piston on the head of the limit switch. Follow the instructions carefully with regards to the positions indicated in the maximum actuating dimensions and travel in the technical documentation.
- Mark the fastening holes on the supporting wall and drill the holes. After fastening, make sure the rod is perfectly vertical, that the rods (03) are securely fastened in the head and that the points of impact are as verified previously.
- Loosen the fixing screw and remove the cover.
- Insert the cable into the limit switch through the cable clamp (not supplied).

- Strip the cable to a length suitable for wiring the switches.
- Tape the stripped part of the cable.
- Clamp the wire into the cable clamp.
- Connect the switches according to the contact scheme printed on the switches or on the technical documentation.
- Close the limit switch checking the proper positioning of the rubber in the cover and tighten the screws.

Periodic maintenance steps

- Make sure the limit switch is securely fastened in place and the fasteners are tightened properly.
- Make sure there are no infiltrations of water through the wire clamp (not supplied) and that the rubber sleeve is intact and flexible.
- Open the cover and check that the gasket is intact and flat in its housing.
- Check that the switches are properly wired and the terminals securely fastened; test the on/off mechanism manually.
- Make sure the head turns on is pushed without forcing, that it is clean and moves without uncertainty between one position and the next; make sure the screws on the head are properly tightened. If there is any difficulty in switching and positioning the head, replace the limit switch.
- Check the conditions of the levers or pistons and make sure they are positioned correctly: if the levers are not perfectly straight they should be replaced and repositioned carefully in accordance with the specifications.

In case any component of the limit switch is modified, the validity of the markings and the guarantee on the equipment are annulled. Should any component need replacement, use original spare parts only.

TER declines all responsibility for damages caused by the improper use or installation of the equipment.

