

SAFE-T-RIP®

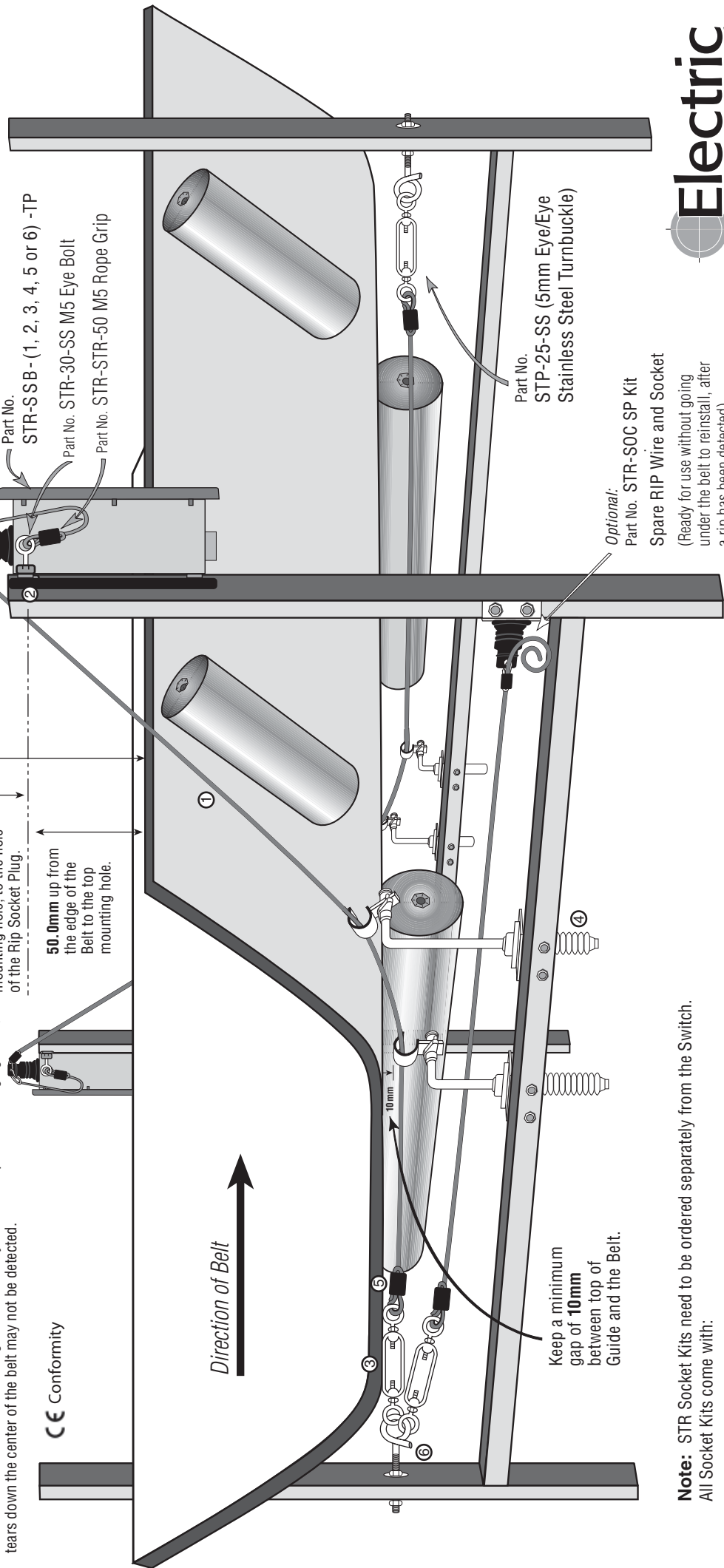
P/No's: STR-SSB

Preferred Setup Instructions

Installation, Design, Setting Instruction and Technical Documentation

Note: The correct Belt Rip pick up detachment operation of the Rip Socket, is in a sideways motion to the attachment point. This means once the Socket is tensioned, the detachment becomes very sensitive to even a small tear in the belt. This is the reason Electric Control Products recommends using the STR-SSB/-TP. With the Socket in the vertical position, it is strong enough to tension and resist vibration, but will trigger on a large or small tear with precision.
The SAFE-T-RIP detection is designed for side ways tears or flaps of belt hanging down, tears down the center of the belt may not be detected.

If the Socket is disconnected from Rip Switch Plug, the Tether Point Wire is used to retrieve Rip Wire easily to reset the Rip Switch. The attachment point is a M6 x 40 Stainless Steel Eye Bolt which may be fitted through the STR's mounting foot or any other M6 hole. The Tether Point Wire is approximately 1 m in length and can be adjusted to your preference.



ACN: 060 617 987

Note: STR Socket Kits need to be ordered separately from the Switch.

All Socket Kits come with:

- ① Different lengths of 2.4 mm ID x 3.2 mm OD PVC coated Wire Rope..
- ② M5 Eye Bolt.
- ③ M5 Turnbuckle.
- ④ Different versions of Rope Guides with each part number.
- ⑤ 3 x Rope Grips.
- ⑥ Pig Tail.

Belt Rip Switch Installation Position:

Every feed point; every end roller, and with overland conveyors, every 500 metres or at any problem point.

Optional:

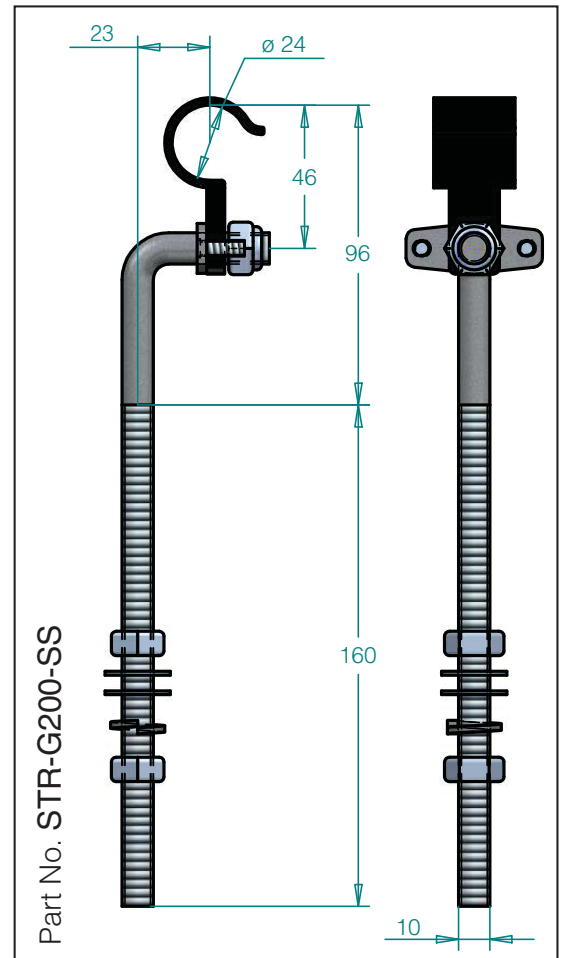
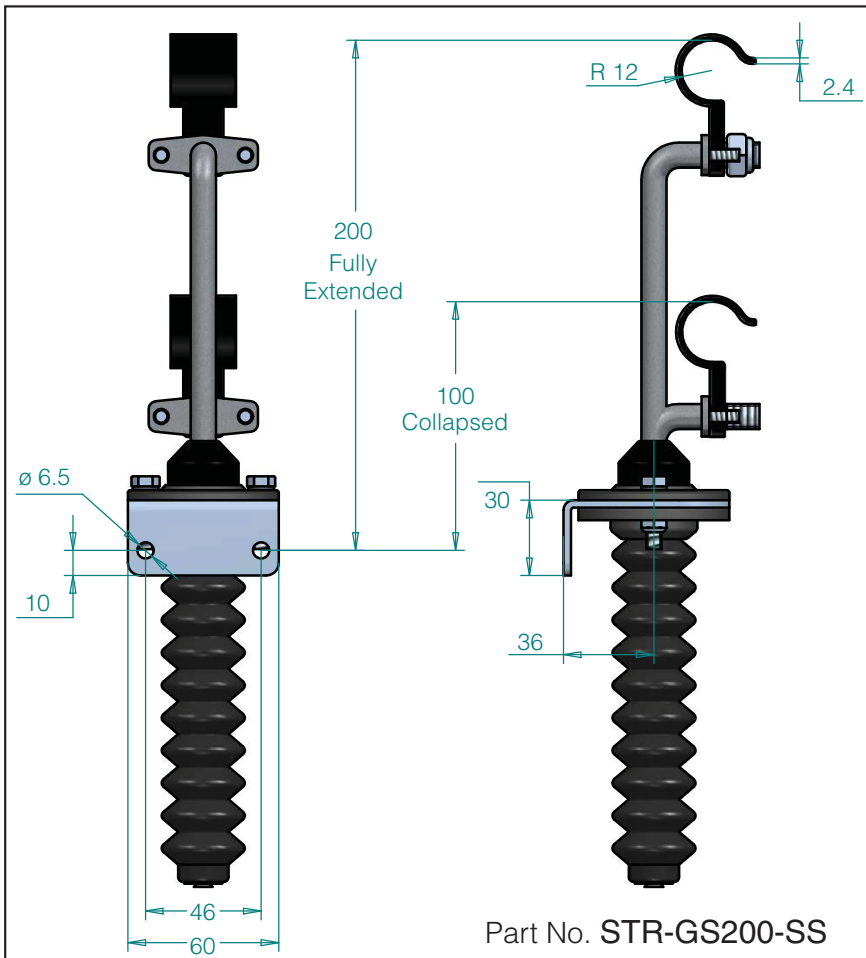
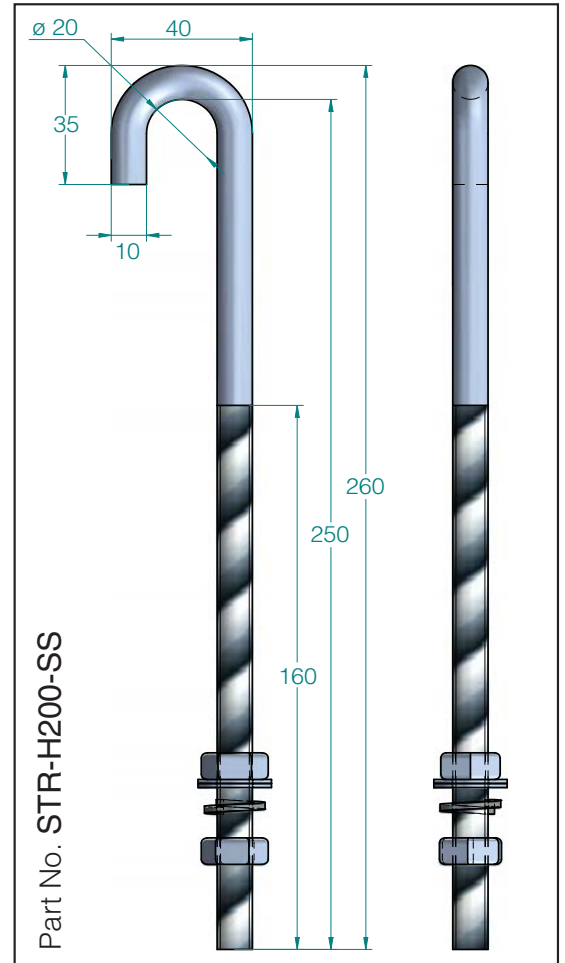
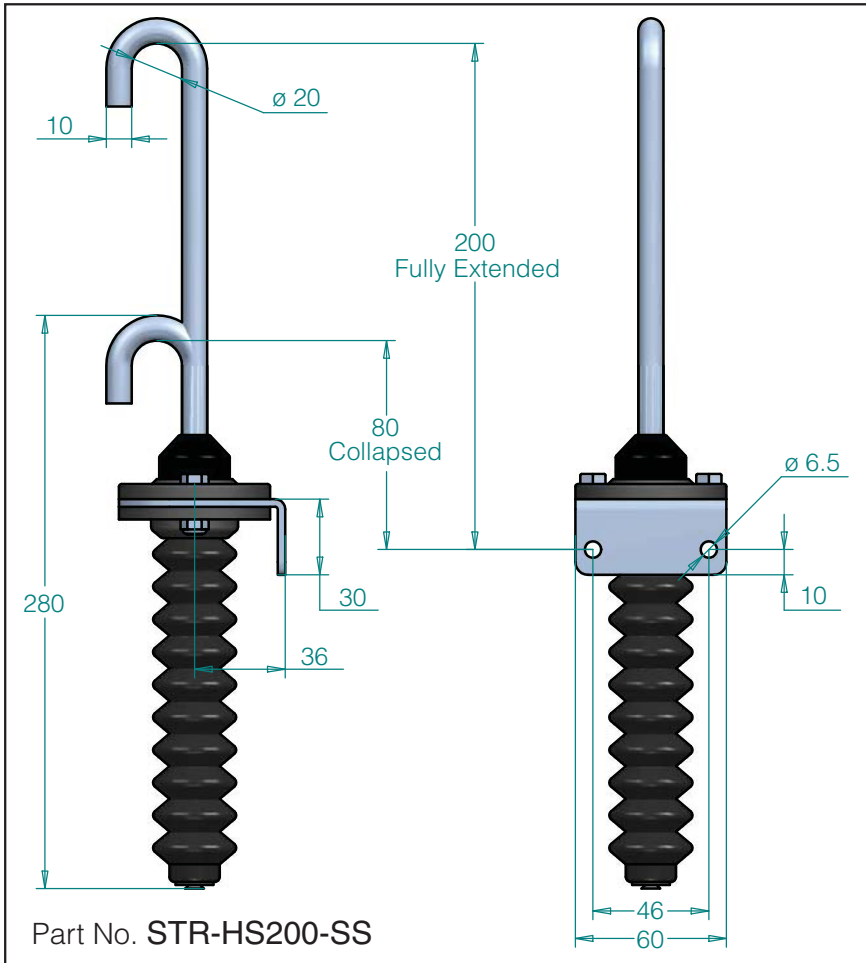
Part No. STR-SOC SP Kit

Spare RIP Wire and Socket

(Ready for use without going under the belt to reinstall, after a rip has been detected).

Part No.
STP-25-SS (5mm Eye/Eye
Stainless Steel Turnbuckle)

TECHNICAL SPECIFICATIONS

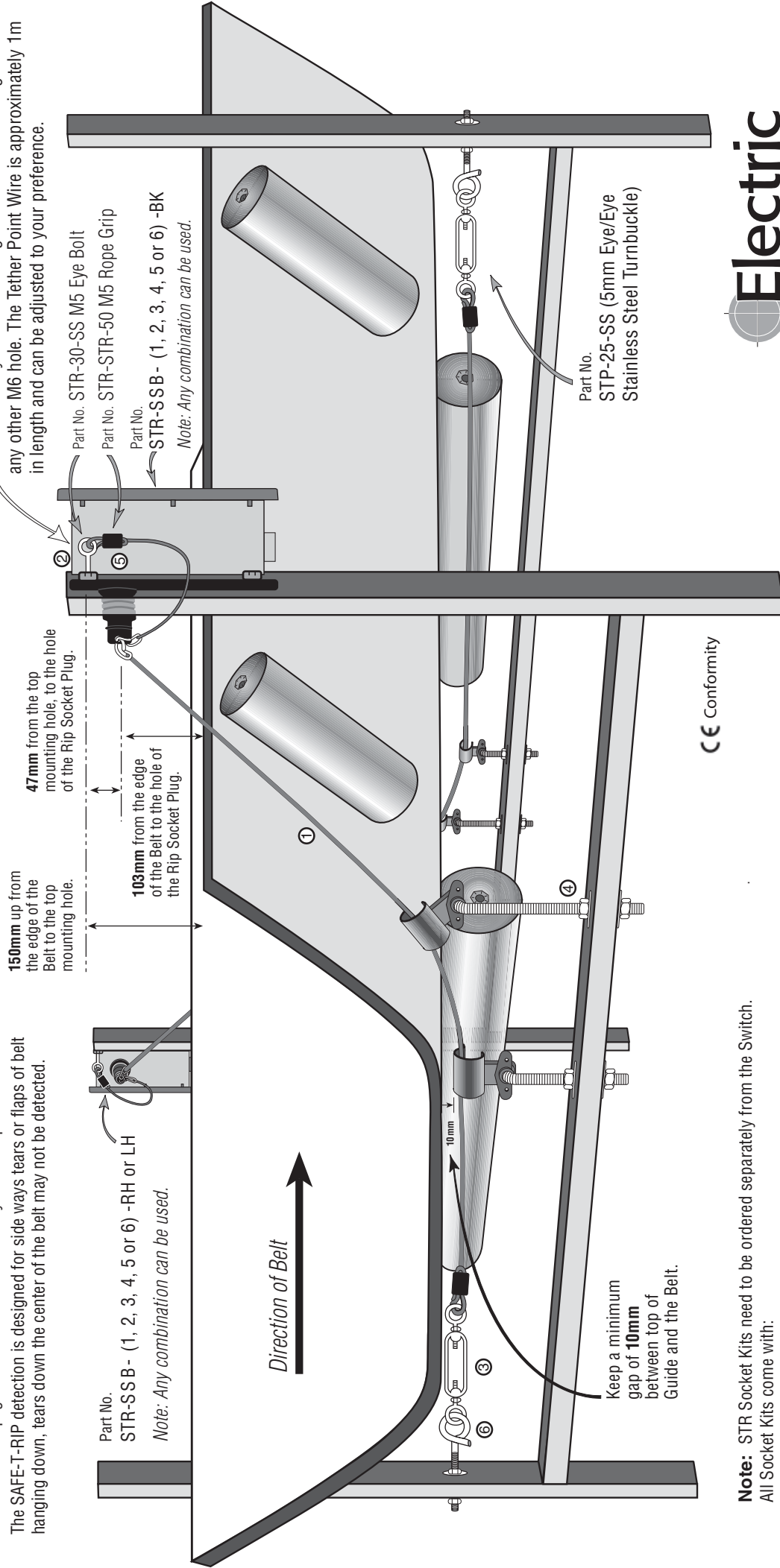


P/No's: STR-SSB

Note: The correct Belt Rip pick up detachment operation of the Rip Socket, is in a sideways motion to the attachment point. This means once the Socket is tensioned, the detachment becomes very sensitive to even a small tear in the belt. See Preferred Set Up Installation Instructions on page 1 for the most sensitive style of set up.

The SAFE-T-RIP detection is designed for side ways tears or flaps of belt hanging down, tears down the center of the belt may not be detected.

If the Socket is disconnected from Rip Switch Plug, the Tether Point Wire is used to retrieve Rip Wire easily to reset the Rip Switch. The attachment point is a M6 x 40 Stainless Steel Eye Bolt which may be fitted through the STR's mounting foot or any other M6 hole. The Tether Point Wire is approximately 1m in length and can be adjusted to your preference.



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- ⑤ 3 x Rope Grips.
- ⑥ Pig Tail.

Belt Rip Switch Installation Position:

Every feed point; every end roller, and with overland conveyors, every 500 metres or at any problem point.

TECHNICAL SPECIFICATIONS

| STR-1 Electrical Characteristics | | |
|----------------------------------|--------|------------------|
| Contact Form | | A |
| Contact Material | | Ru |
| Contact rating max | W / VA | 10 |
| Switching voltage max | VDC | 200 |
| | VAC | 140 |
| Switching current max | A | 1 |
| Carrying current max | A | 1.2 |
| Breakdown voltage min | VDC | 240 |
| Contact resistance max (Initial) | mΩ | 100 |
| Insulation resistance min | Ω | 10 ¹⁰ |

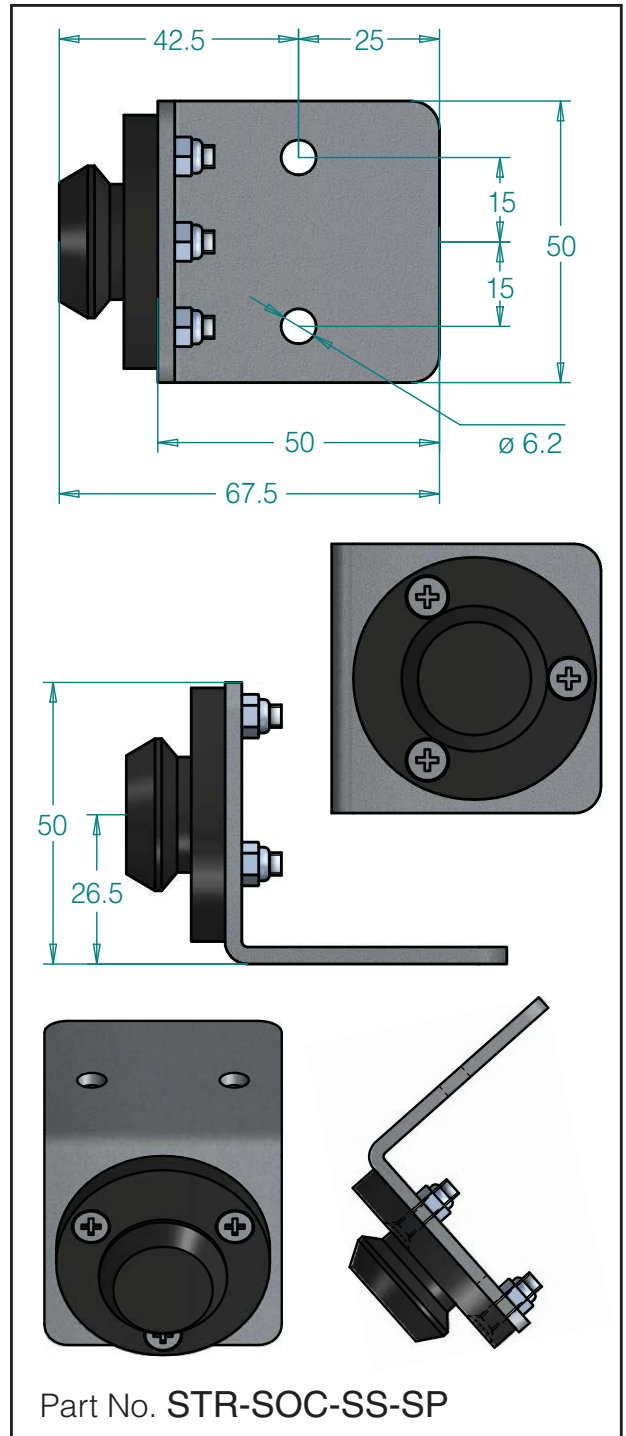
| Environmental Characteristics | | |
|-------------------------------|----|-------------|
| Operating temperature | °C | -60 to +155 |
| Vibration (50-2000 Hz) | g | 20 |
| Shock (1/2 sin 11 ms) | g | 100 |

| STR-2 and STR-3 Electrical Characteristics | | |
|--|--------|------------------|
| Contact Form | | C |
| Contact Material | | Rh |
| Contact rating max | W / VA | 5 |
| Switching voltage max | VDC | 175 |
| | VAC | 120 |
| Switching current max | A | 0.25 |
| Carrying current max | A | 1.5 |
| Breakdown voltage min | VDC | 200 |
| Contact resistance max (Initial) | mΩ | 100 |
| Insulation resistance min | Ω | 10 ¹⁰ |

| Environmental Characteristics | | |
|-------------------------------|----|-------------|
| Operating temperature | °C | -40 to +125 |
| Vibration (50-2000 Hz) | g | 30 |
| Shock (1/2 sin 11 ms) | g | 50 |

Safety Micro Switch with Direct Opening Action Specifications

| | | |
|---------------------------------------|---------------------------------------|---|
| IEC 60947-5-1 Annex K classification | <input type="checkbox"/> Type 1 | <input checked="" type="checkbox"/> Type 2 Direct Opening |
| Change-over contact element | <input checked="" type="checkbox"/> C | <input type="checkbox"/> Za <input type="checkbox"/> Zb |
| Contact material | Ag-Ni | |
| Utilization category | AC-15 | DC-13 |
| Operational voltage | 230 V | 60 V DC |
| Operational current | 1,5 A | 0.5 Amp DC |
| Frequency | 50/60 Hz | — |
| Number of electrical cycles | 6050 (6 min ⁻¹) | |
| Number of mechanical cycles | 6050 (6 min ⁻¹) | |
| Conventional free air thermal current | 10 A | |
| Conventional enclosed thermal current | — | |
| Service Temperature | -30° C No Icing | +80° C |



IMPORTANT NOTICE:

IEC 60947-5-1 2016
AS 60947-5-1 2015
Clause K.7.1.4.6.1
Form C or Form Za

Form C or Form Za change over contact elements.
Only one contact element (Make or Break) in each switch shall be used.

Specifications (short-circuit with standability)

| | | |
|---|---------------------------|---------------------------|
| Rated conditional short-circuit current | 3 00 A | 1 000 A |
| Short circuit protective device | Fuse 6 A gG (IEC 60269-2) | Fuse 6 A gR (IEC 60269-4) |

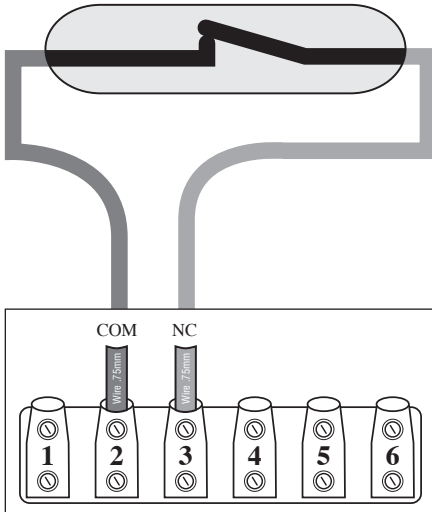
Wiring Diagram

CE Conformity

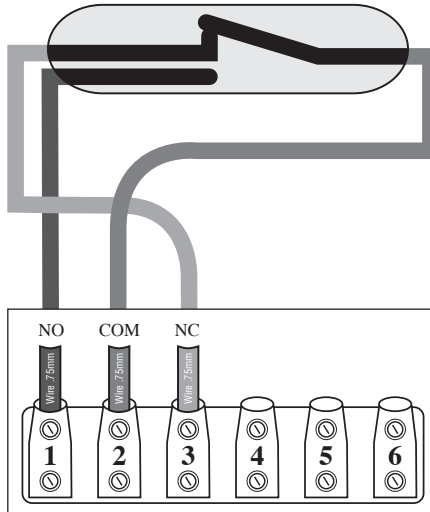
A.C.N. 060 617 987

Switches shown with Socket attached

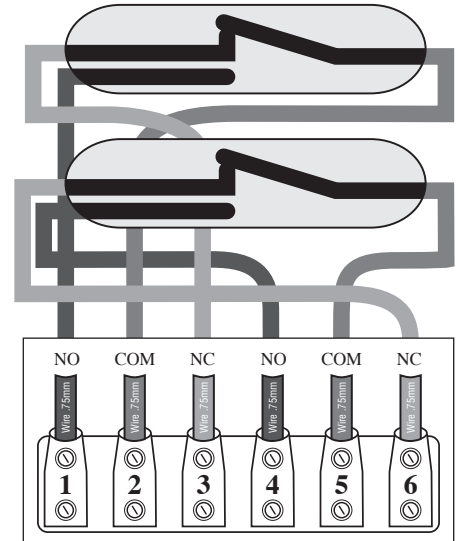
STR - 1



STR - 2

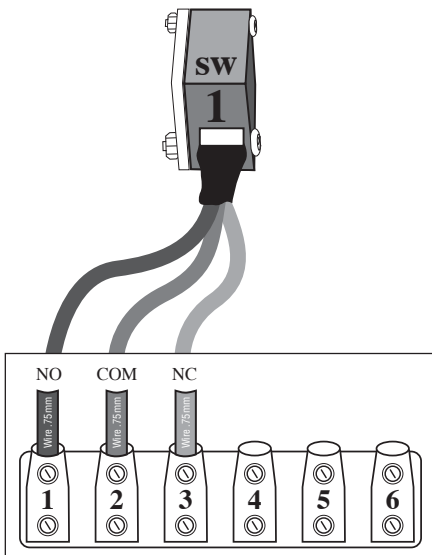


STR - 3

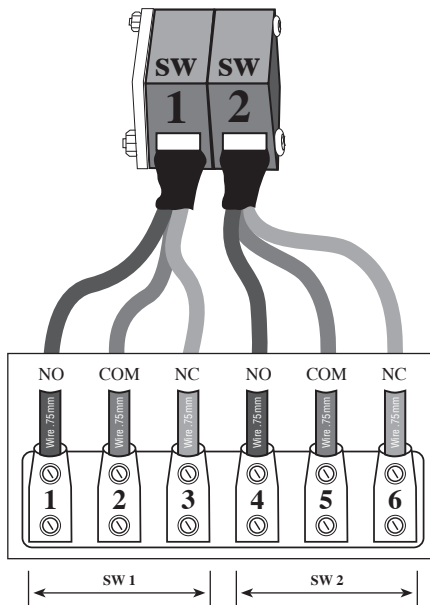


Switches shown with Socket attached

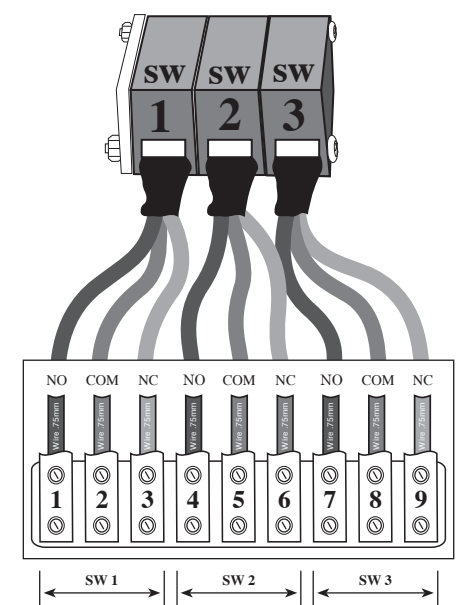
STR - 4



STR - 5



STR - 6



STR-SSB-?

Terminals made of polyamide with undetachable nickel plated brass screws.

Terminal Hole Diameter 4.2 mm

Voltage Rating 150 - 300 V

Current 50 Amps

Cable Size 20 - 8 AWG 0.75 mm² - 10 mm²

Tightening torque 0.8 Nm

Temperature Rating - 40°C to + 100°C

Number of Clamped Conductors

| | | | |
|------------------------------|------------------------------|----------------------------|----------------------------|
| 5 | 3 | 2 | 1 |
| AWG 16 / 1.5 mm ² | AWG 14 / 2.5 mm ² | AWG 12 / 4 mm ² | AWG 10 / 6 mm ² |

STR-SSB-?-K

Terminals made of PA66 with undetachable screws.

Voltage Rating 400 V

Current 24 Amps

Cable Size 24 - 12 AWG 0.2 mm - 4 mm Sqm

Tightening torque 0.6 Nm

Temperature Rating -40°C to +100°C

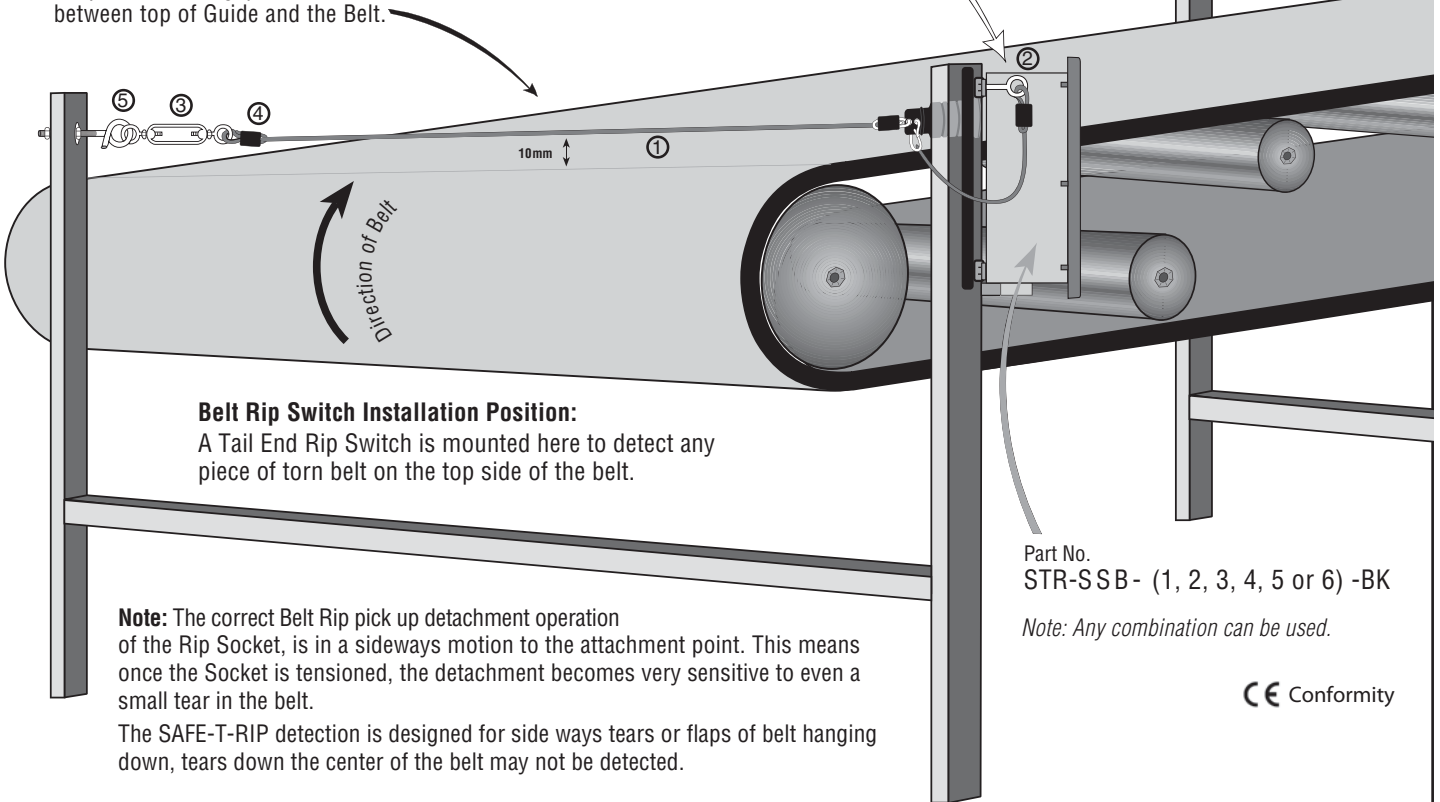
2 Conductors with the same cross section, stranded,
Twin ferrule with plastic sleeve (min-max) 0.5 - 1.5 mm²

Installation Instructions

SAFE-T-RIP®

TAIL END RIP

Keep a minimum gap of **10mm** between top of Guide and the Belt.



Belt Rip Switch Installation Position:

A Tail End Rip Switch is mounted here to detect any piece of torn belt on the top side of the belt.

Note: The correct Belt Rip pick up detachment operation of the Rip Socket, is in a sideways motion to the attachment point. This means once the Socket is tensioned, the detachment becomes very sensitive to even a small tear in the belt.

The SAFE-T-RIP detection is designed for side ways tears or flaps of belt hanging down, tears down the center of the belt may not be detected.

Note: STR Socket Kits need to be ordered separately from the Switch. All Socket Kits come with:

- ① Different lengths of 2.4 mm ID x 3.2 mm OD PVC coated Wire Rope.
- ② M5 Eye Bolt.
- ③ M5 Turnbuckle.
- ④ 3 x Rope Grips.
- ⑤ Pig Tail.

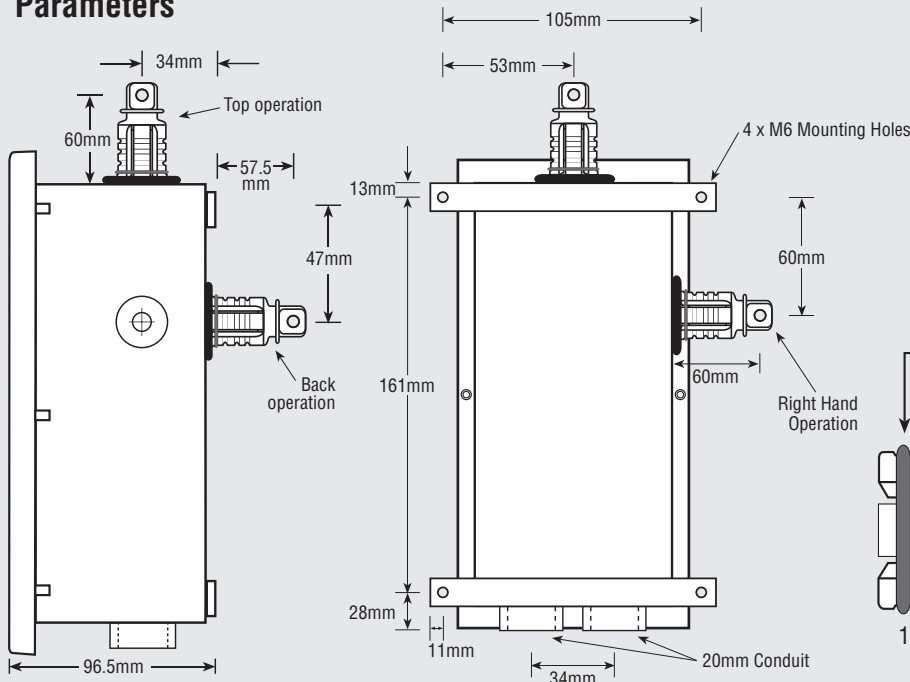
Part No.
STR-SSB- (1, 2, 3, 4, 5 or 6) -BK

Note: Any combination can be used.

CE Conformity

Electric Control
PRODUCTS
ACN: 060 617 987

Dimension And Torque Parameters

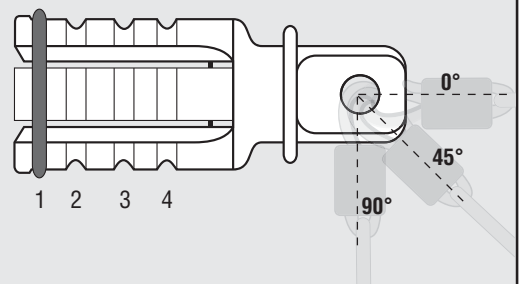


Move stainless steel spring clip for Socket detachment tensions.

The kilograms of force (kgf) to disconnect the socket will vary due to installation type. The information listed below is using a constant force applied and is only a guide.

| Tension No. | 0°- 45° | 45°- 90° |
|-------------|---------|----------|
| 1 | 40 kgf | 6.5 kgf |
| 2 | 16 kgf | 4 kgf |
| 3 | 16 kgf | 3 kgf |
| 4 | 8 kgf | 2.5 kgf |

Tensions:
No. 1: Highest tension
No. 4: Lowest tension



Standards

The **SAFE-T-RIP** complies with the relevant parts of these Standards:

| | |
|---------------------------|--|
| IEC 60947-5-1 Ed 3.1 | Control circuit devices & switching elements |
| AS/NZS IEC 60947-5-1:2015 | Control circuit devices & switching elements |

Ce Conformity to:

| | |
|------------|-----------------------|
| 2006/42/EC | Machinery Directive |
| 2014/35/EU | Low Voltage Directive |

Workshop Tested

All switches are either hand or robotically tested by trained technicians before leaving ELECTRIC CONTROL PRODUCTS and have a date and name label of manufacture inside them. The switches are then packed insuring full working order to our stringent test parameters. A certification certificate is available on request for full compliance to the relevant standards.

Modifications of Switch

Any modifications are **ONLY** to be made by ELECTRIC CONTROL PRODUCTS or one of their registered repairers. Any unauthorized modifications may not comply with the relevant standards and may diminish the integrity and workings of the switch and the warranty will become void.

ELECTRIC CONTROL PRODUCTS and their registered repairers or distributors will not be responsible for any damage caused to the altered switch or any item in, on, related or near the switch, nor any injury incurred, nor actions resulting from the unauthorized alterations.

Returns Policy/ Re Stocking

Please return any defective switch to place of purchase for assessment. If they are deemed to be warranty repairs or not. Return warranty switches as per warranty clause. Restocking returns will only be accepted if received by ELECTRIC CONTROL PRODUCTS in their original condition and within thirty (30) days of delivery date stated on delivery documentation. A restocking fee applies (contact place of purchase for costs).

Warranty

Electric Control Products of Perth Western Australia contact sales@safe-t-products.com.au warranty period is Twenty Four (24) months from date of purchase or longer if indicated by Electric Control Products. For warranty to be valid the goods must be received by Electric Control Products before the end of the Twenty Four (24) month period. Electric Control Products warrants that if any product is defective, it will, at its option, replace or repair the product. **This warranty shall not apply to any defect which arises from improper use, failure to follow the products instruction, or any repair or modification made without the consent of Electric Control Products.**

The customer must contact the Distributor of the product or Electric Control Products of Perth Western Australia via Email sales@safe-t-products.com.au before returning the faulty product. If returned they must be suitably packaged and, where relevant, returned in accordance with any particular instructions which Electric Control Products or one of its distributors may have notified the customer at the time of contact for warranty. **Returned products must be accompanied by an advice note stating the nature of any defect being claimed.** Any products or parts which are replaced by Electric Control Products or one of its distributors shall become the property of Electric Control Products. **Title to replacement products shall pass to the customer on delivery, and the period of the warranty shall be calculated from the date of the defective product.**

All warranty returns to Electric Control Products will be sent by the customer's freight at their cost. All benefits under this warranty are in addition to other rights and remedies of the consumer under a law in relation to the goods or services to which the warranty relates. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Product Life Expectancy

Electric Control Products **estimate** the product life expectancy to 10-15 years. Products should be changed after a maximum of 10 year life.

Note: Color fading is not necessarily product failure but a natural progression of any materials through it's life span. This is also dependent on the environment the product is installed in. A shorter or longer product life maybe experienced due to environmental situations. Electric Control Products can't give a written life expectancy on any of it's products due to the different situations the products are used.

Technical Support

Technical advice will be given at any time by Electric Control Products or Distributor on any of the Electric Control Product range. Contact Electric Control Products or your local Distributor for this service.

Obsolete Products

Notification will be given to Distributors only for the products becoming obsolete and a time frame of when this will occur. Please contact Distributors for this information.

The Obsolete product range will have spare parts for 12 months after becoming obsolete or until they run out, complete products will be available for a short time after it has become obsolete.

Maintenance Procedure

All **SAFE-T-RIP** switches require minimal maintenance but as in AS/NZS 4024.1:2014 a maintenance procedure **MUST** be carried out.

Recommended 6 Month Maintenance

1. Visual inspection of enclosure to ensure IP67 rating and correctly operating device. ie. Damaged enclosure, etc.
2. Inspect the SAFE-T-RIP GUIDE which is under the belt for damage or wear and replace if necessary.
3. Activate the **SAFE-T-RIP** by pulling the socket off then clean the inside & reattach.
4. Inspect rip wire for wear or deterioration and replace if necessary.
5. Check the rip wire is free from obstructions and is held in the wire guides.
6. After inspection, check the set position of the switch as per installation instructions.

Full Safety Maintenance every 12 Months

Remove cover & check for corrosion or water ingress. Replace if necessary.

Check electrical connections for security and corrosion.

Clean lid seal and replace cover & torque down lid screws as per reed switch wiring diagram.

Clean lid seal and replace cover & torque down lid screws as per dimensions and torque parameters section.