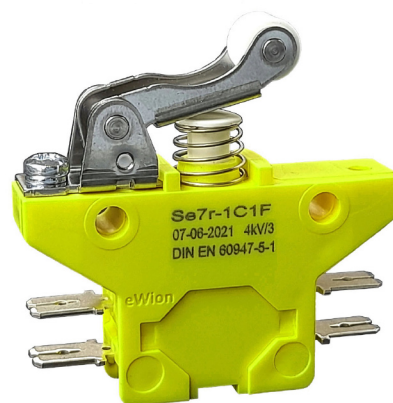
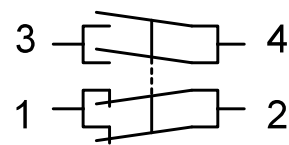


## Assembly instruction

## Declaration of incorporation

## Snap action switch, S37 series

Dual changeover switches with  
redundant contact bridges  
and self cleaning



Before installing, commissioning, operating or maintaining the snap-action switches, these instructions must be read and understood completely and carefully.

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### 1. Description

Snap action switch S37.  
 Two-circuit changeover with double interruption with two galvanically separated circuits, and with self-cleaning redundant contact bridges.  
 Snap action switch S37 has been developed in accordance with DIN EN 60947-5-1, DIN EN 60947-1, GB 14048.5.  
 Design and geometry based on DIN 41636-6, type F.

### 2. Intended use

Snap-action switches series S37 were developed to be used as part of a complete system or machine to switch and conduct electrical current. Use snap switches only as intended and only for the approved purpose.

### 3. Connection, dimensions, shape

#### Screw connection

#### Blade terminals

#### Circuit diagram

Blade terminals  
 6.3 x 0.8  
 2.8 x 0.8

#### Push button


Position X(mm)	Free position	Operating position	Total travel position	Release position
X(mm)	8.85 ±0.2	6.6 ±0.35	4.9	7.8 ±0.35
Actuator position				
Force F (N)	-	Operating force ≥ 3.6	-	Release force > 0.3

#### Roller lever

Position X(mm)	Free position	Operating position	Total travel position	Release position
X(mm)	20.4 ±0.5	16.6 ±0.5	13.0	18.4 +0.9
Actuator position				
Force F (N)	-	Operating force ≥ 3.0	-	Release force > 0.2

# EU-Konformitätserklärung

## EU-declaration of conformity

<b>Hersteller:</b> <b>Manufacturer:</b>	<b>eWion components GmbH</b> Robert-Bosch-Str. 8 85117 Eitensheim Tel.: 0049 (0)8458 3234-70 e-mail: info@ewion.de
<p>Hiermit erklären wir, dass die nachfolgend aufgeführten Bauteile aufgrund der Konzipierung und Bauart den Anforderungen der unten angeführten Europäischen Richtlinien entsprechen.</p> <p>We hereby declare that the components listed below are due to their design and Design meet the requirements of the European directives listed below.</p>	
<b>Bezeichnung des Produktes:</b> <b>Name of the product:</b>	Schnappschalter Baureihe S37 Snap-action switch, series S37
<b>Typ:</b> <b>Type:</b>	siehe Typenschlüssel See type code
<b>Beschreibung des Bauteils:</b>  <b>Description of the component:</b>	Mikroschalter, (Zweikreiswechsler mit Doppelunterbrechung und mit galvanisch getrennten Schaltkreisen)  Microswitch, (Dual circuit changer with double break and with galvanically separated circuits)
<b>Einschlägige Richtlinien:</b> <b>Relevant directives:</b>	Maschinenrichtlinie 2006/42/EG, RoHS-Richtlinie 2011/65/EU Directive 2006/42/EC, RoHS directive 2011/65/EU
<b>Angewandte Normen:</b> <b>Applied standards:</b>	DIN EN 60947-5-1, DIN EN 60947-1
<b>Name und Anschrift des Bevollmächtigten:</b> <b>Identity and address of the authorized representative:</b>	Paul Wirz eWion components GmbH Robert-Bosch-Str. 8 85117 Eitensheim
<b>Ort und Datum der Ausstellung:</b> <b>Place and date of issue:</b>	Eitensheim, 2021-11-22
<b>Rechtsverbindliche Unterschrift:</b> <b>Legally binding signature:</b>	 <hr/> Paul Wirz, (Geschäftsführer, CEO)

## 5. General information and safety information:

Basic health and safety requirements for the design and construction of machines according to the Machinery Directive 2006/42 / EC (Appendix I) apply to partly completed machinery.

The following requirements of the Machinery Directive 2006/42 / EC are applied and complied with:

- Principles of safety integration, - Protection against mechanical hazards,
- Risks due to other hazards, - maintenance, - information.

Snap action switch S37 represents an partly completed machinery;


an partly completed machinery may only be put into operation when it has been determined that the machine in which the partly completed machinery is to be installed complies with the provisions of the Machinery Directive 2006/42 / EC.

Snap-action switch S37 also meets the requirements of Directive 2011/65 / EU.

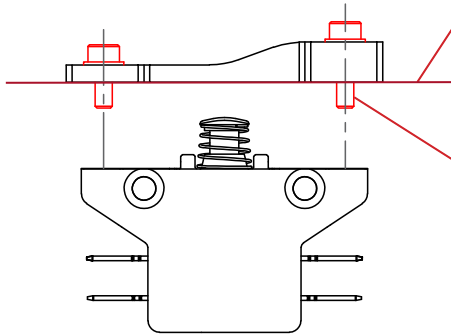
In accordance with the requirements of the Machinery Directive 2006/42 / EC, the special technical documents in accordance with Annex VII Part B were created. eWion components GmbH undertakes to transmit the special documents for the partly completed machinery in electronic form to the national authorities upon justified request.

	<b>This symbol indicates a danger</b>
	Snap action switches may only be installed and inspected by professionally qualified staff.
	Switches may not be converted or changed. Changes to the switch can reduce the safety of people and machines affect, they are not permitted and lead to caveat emptor and exclusion of liability.
	Torque tools must be used for assembly and fastening of the snap action switch. The specified maximum tightening torques for fastening the snap action switch and fastening the connecting cables must not be exceeded.
	Snap-action switches are used to switch and conduct electrical current; touching electrically conductive parts, cables and housings in the connection area can lead to injuries or death.
	Clearance and creepage distances on switch mountings, connections and lines must be observed during installation. If snap-action switches are to be mounted on a conductive surface, the use of insulating foils between several switches or between the switch and the conductive mounting surface is recommended.
	Improper handling of the switches such as: painting, cleaning or using chemicals, using adhesives can reduce the electrical insulation strength of the switch. Check switches for possible damage before commissioning. The damaged switches are no longer safe and must not be used.
	Transport damage, cracks or mechanical deformations on the housing can reduce the electrical insulation strength of the switch. Check switches for possible damage before commissioning. The damaged switches are no longer safe and must not be used.
	Snap-action switches may only be used under the operating conditions specified in the technical data sheets. There is a risk to life through improper use. Information on voltage, amperage, IP environment, operating temperature and degree of pollution, etc. must be observed. Failure to do so will result in death or serious injury.
	In the event of improper use or damage, for example when using the switch as an mechanical end stop or as a spacer, hazards or damage to people or to machine or system parts can arise.
	Snap action switches and cables conduct and switch electrical current during operation and can heat up, Touching electrically conductive parts, wires and housing can cause burns. Before starting maintenance, repairs, make sure the components and switches have cooled down.
	Before mountig, work or maintenance on snap action switches, switch off the voltage and secure it against being switched on, Short circuit and earth wires/cables.
	Snap action switches must be inspected and, if necessary, replaced after every fire that has occurred in the system.
	Snap action switches must not be painted, greased or oiled.
	After disassembly, switches must be properly disposed of. (Switches contain precious and non-ferrous metals such as copper, tin, nickel, zinc, silver, etc.)

## 6. Installation instructions:

	Snap action switches may only be installed on a flat, clean surface at two fastening points that do not generate any mechanical tension in the switch / switch housing. During installation, the switch must be aligned in such a way that no lateral forces act on the housing or actuator after it has been switched over several times.
	Snap action switches are to be installed paint-free, cleaning agent-free or chemical-free and adhesive-free. This also applies to all connecting elements such as screws, nuts, other threaded elements, etc.
	The specified maximum tightening torques only apply to paint-free, grease-free, oil-free threaded connections. Here (with the specified tightening torques) the use of self-locking nuts, self-locking nuts with plastic rings, clamping nuts, etc. is also not permitted.
	Assembly is with standardized, certified connecting elements, preferably made of stainless steel, or with surface finishing, for example to be carried out galvanized. The condition of the connections, switches and assembly must be inspected regularly.
	Effective strain relief for the connecting cables must be guaranteed.
	For details and dimensions, please refer to the dimension sheet for the specific switch version.

### 7. Installation snap action switch with push button



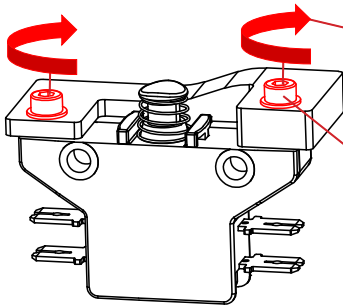
Snap action switches may only be installed on a flat, clean surface at two fastening points which do not cause any mechanical tension in the switch / switch housing.



The length of the screw-in **M3** thread must be at least **3.6mm** and must not be longer than **5mm**.



Snap-action switches must be installed without paint, cleaning agents, chemicals or adhesives. This also applies to all connecting elements such as screws, nuts, other threaded elements, etc.

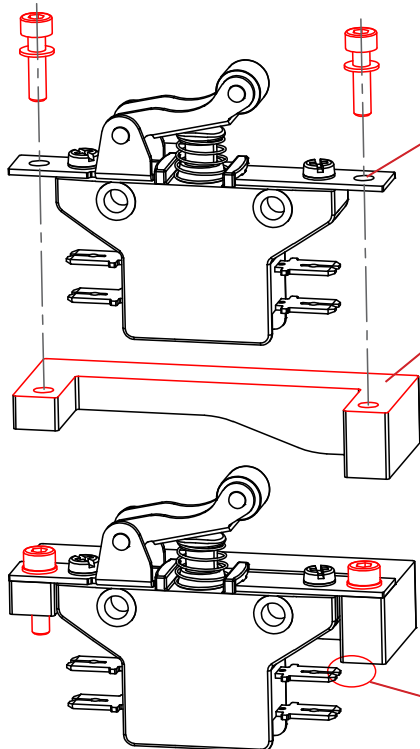


The maximum tightening torque for this type of installation is **0.9Nm**. The specified maximum tightening torques only apply to paint-free, grease-free, oil-free threaded connections.



Only **M3** screws may be used. **M3** nuts are built into the switch on both sides.

### 8. Installation with roller lever and/or with mounting plate(s)



**Ø3.5mm**, we recommend to use **M3** screw.

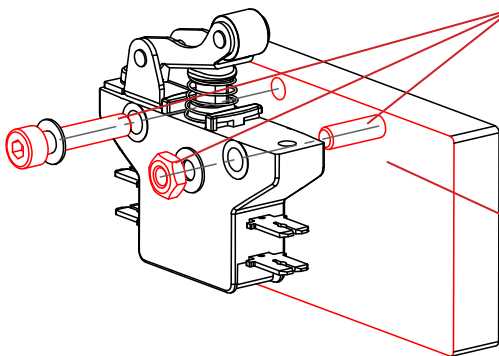


Snap action switches may only be installed on a flat, clean surface at two fastening points which do not cause any mechanical tension in the switch / switch housing.



Clearance and creepage distances on switch mountings, connections and cables must be respected during assembly.

## 9. Lateral mount via mounting holes



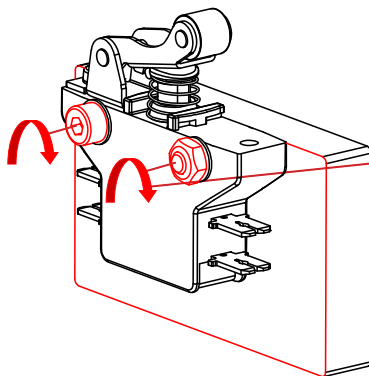
We recommend to use **M4** screw / thread / nut.



Snap action switches may only be installed on a flat, clean surface at two fastening points which do not cause any mechanical tension in the switch / switch housing.

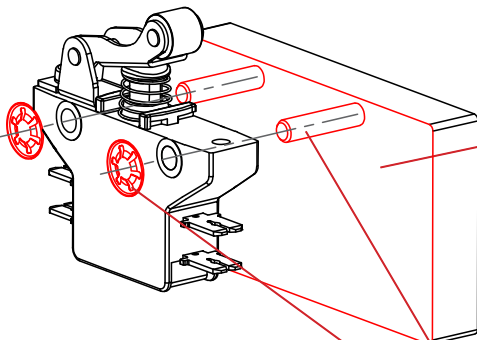


Snap-action switches must be installed without paint, cleaning agents, chemicals or adhesives. This also applies to all connecting elements such as screws, nuts, other threaded elements, etc.



The maximum tightening torque for this type of installation is **1.0Nm**.  
The specified maximum tightening torques apply only for paint-free, grease-free, oil-free Threaded connections. Here (with specified Tightening torques) is also the use of self-locking nuts, self-locking nuts with Plastic ring, clamping nuts, etc. are not permitted.

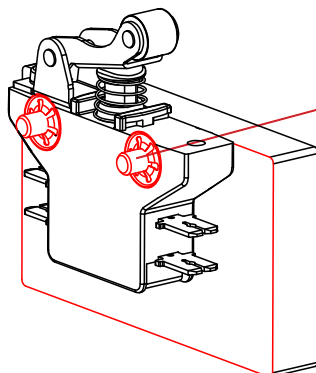
## 10. Mounting with clamping washers



Snap action switches may only be installed on a flat, clean surface at two fastening points which do not cause any mechanical tension in the switch / switch housing.

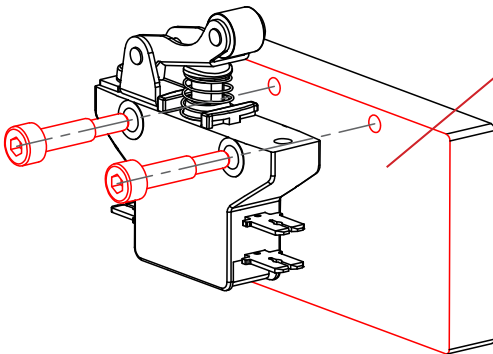


Snap-action switches must be installed without paint, cleaning agents, chemicals or adhesives. This also applies to all connecting elements such as screws, nuts, other threaded elements, etc.



We recommend to use pins  $\varnothing 4.0\text{mm}$  and suitable clamping washers. Mount the switch so that there is no play. To one to ensure a secure hold of the clamping disc pins that protrude must be fitted.

### 11. Mounting with collar screw $\varnothing 4.0\text{mm}$



Snap action switches may only be installed on a flat, clean surface at two fastening points which do not cause any mechanical tension in the switch / switch housing.

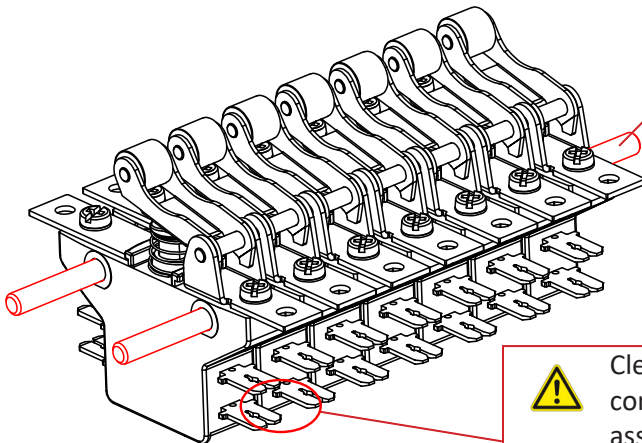


Snap-action switches must be installed without paint, cleaning agents, chemicals or adhesives. This also applies to all connecting elements such as screws, nuts, other threaded elements, etc.



Collar screw, collar  $\varnothing 4.0\text{mm}$  Necessary free space for a switch (free collar length)  $> 12\text{mm}$

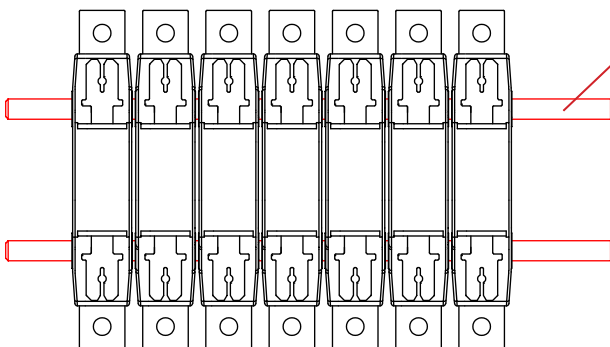
### 12. Packet assembling of crane control, controller etc., mounting on two round bars



Snap action switches may be mounted on two round rods which do not cause any mechanical tension in the switch / switch housing.



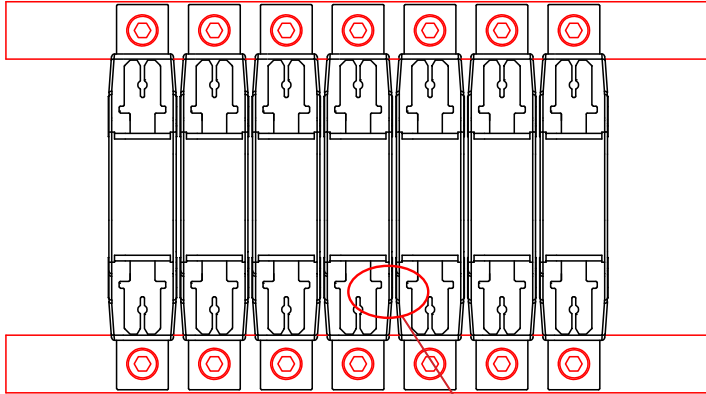
Clearance and creepage distances on switch mountings, connections and cables must be respected during assembly. Use of insulating foils recommended between multiple switches.



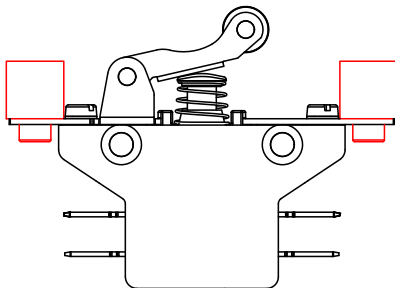
We recommend to use round bars  $\varnothing 4.0\text{mm}$ . Mount the switch so that there is no play.



### 13. Packet assembling of crane control, controller etc., mounting on two rectangle profile

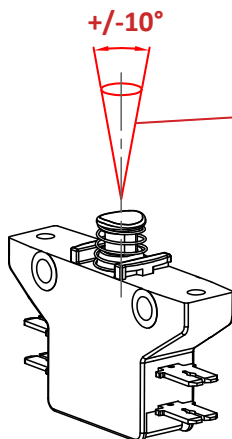


Clearance and creepage distances on switch mountings, connections and cables must be respected during assembly. Use of insulating foils recommended between multiple switches.



Snap action switches may be placed on two rectangular profiles, be mounted on two attachment points which do not cause any mechanical tension in the switch / switch housing.

### 14. Operation snap action switch with push button, actuation, actuation direction



Snap action switches without a roller lever may only be operated vertically. (Axially in the direction of travel of the actuator button) Should the direction of force deviate more than  $\pm 10^\circ$  the use of the roller lever version is possible.

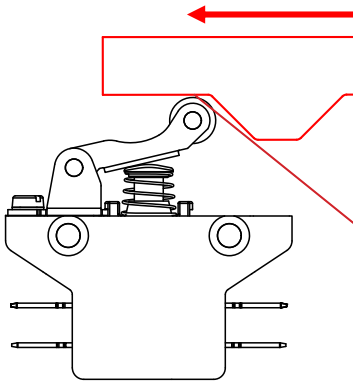


While actuated, the gap must be **0.1mm to 0.2mm**. (to avoid damages)  
 Use feeler gauge when installing.



Using the switch as a mechanical end stop is not allowed.

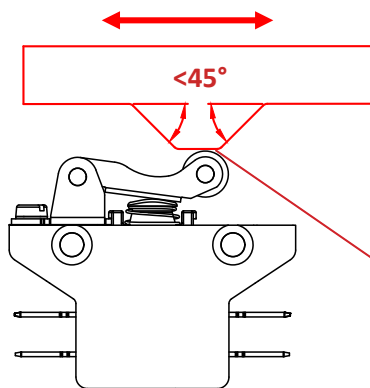
## 15. Operation with linear actuation



The surface of the actuator should be flat and smooth, preferably polished. The edges of the actuating edge should be round.

Laser cut Surface contour is not permitted.

The cam is not allowed to touch the roller from the roller lever. The gap **0.1mm - 0.2mm** is recommended



Maximum switching frequency, 18,000 actuations per Hour or 300 actuations per minute.



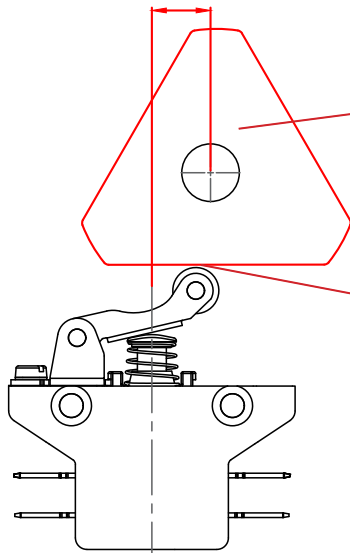
While actuated, the gap must be **0.1mm to 0.2mm**. (to avoid damages)  
Use feeler gauge when installing.



Using the switch as a mechanical end stop is not allowed.

## 16. Operation with cam actuator

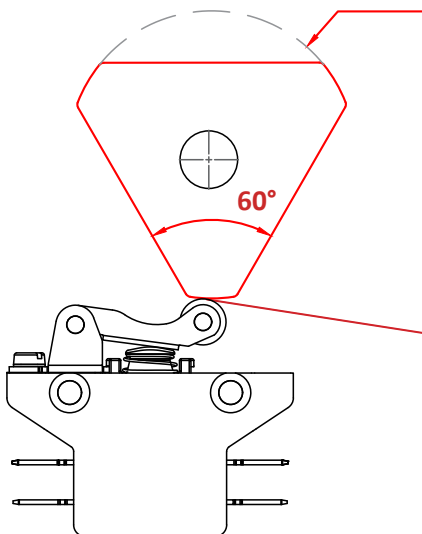
3mm bis 10 mm



The surface of the actuator should be flat and smooth, preferably polished. The edges of the actuating edge should be round. Laser cut Surface contour is not permitted.

The cam is not allowed to touch the roller from the roller lever. The gap **0.1mm - 0.2mm** is recommended.

Ø 50mm bis Ø 60mm



Maximum switching frequency, 18,000 actuations per Hour or 300 actuations per minute.

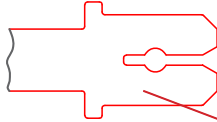
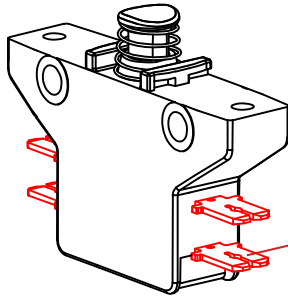


While actuated, the gap must be **0.1mm to 0.2mm**. (to avoid damages)  
Use feeler gauge when installing.



Using the switch as a mechanical end stop is not allowed.

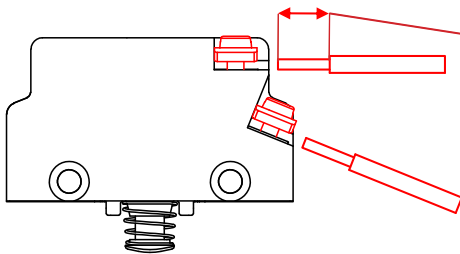
**17. Blade terminals standard design**



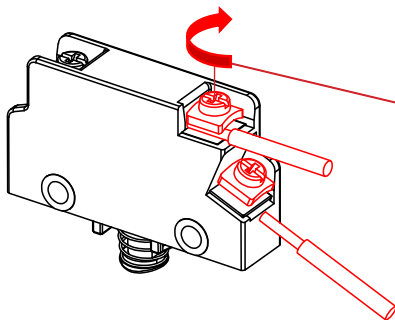
Flat connector size  
**6.3mm x 0.8mm** or  
**2.8mm x 0.8mm**

Push-in sleeve only paint-free, grease-free, oil-free assemble.

**18. SScrew connection with supplied standard screw/clamping washer**

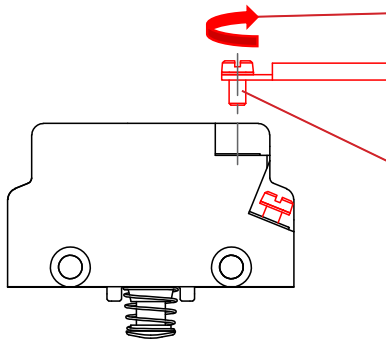


Stripping of the strand **9mm**.  
 Permissible cable cross-section:  
 $\varnothing 0.75\text{mm}^2$  to  $\varnothing 2.5\text{mm}^2$ .



The maximum tightening torque for this Connection type is **0.9Nm**.  
 The specified maximum tightening torques apply only for paint-free, grease-free, oil-free Threaded connections.

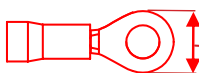
**19. Screw connection on the customer side with ring cable lug or fork cable lug with a self-assembled screw**



The maximum tightening torque for this Connection type is **0.9Nm**.  
 The specified maximum tightening torques apply only for paint-free, grease-free, oil-free



Only **M3** screws may be used. **M3** nuts are built into the switch.  
 The length of the screw-in **M3** thread must Be at least **3mm** and must not be longer than **5.3mm**.



Permissible width of ring cable lug or Fork cable lug etc. is max. **7mm**.



Permissible thickness of ring cable lug or Fork cable lug etc. is max. **2mm**.

# eWion components GmbH

Please contact us if you need detailed information,  
about our snap-action switches.

Special designs are available according to customer requirements.  
If required, customer-specific, application-related  
Assembly instructions and declarations of incorporation created.

**eWion components GmbH**

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