

ExpertSystem XL sensors

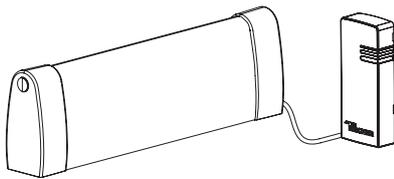
XL-CP42Ax / XL-CP49Ax / XL-CP56Ax / XL-CP56Bx / XL-CP74Ax /
XL-CP80Ax / XL-CP80Bx / XL-CP99Ax

Translation of the original manual with assembly and mounting instructions

Intended use

Sensor

Safety switching device



Pressure-sensitive edges are pressure-sensitive protection systems.

They are specified in accordance with and meet the requirements of standard EN ISO 13856-2. Pressure-sensitive edges consist of a **sensor** and a **safety switching device**.

This manual describes the assembly and mounting of sensors of the XL series. These sensors are active switching profiles. They are made from flexible rubber and mounted on metal mounting profiles. In accordance with the standard EN ISO 13856-2, the use of this sensor for pressure-sensitive edges requires the use of a safety switching device (signal processing and output switching device) specified by BBC Bircher AG and subjected to the prescribed conformity assessment procedure.

The specifications of the various sensor types are listed in their data sheets. These are to be consulted for the selection of a suitable sensor.

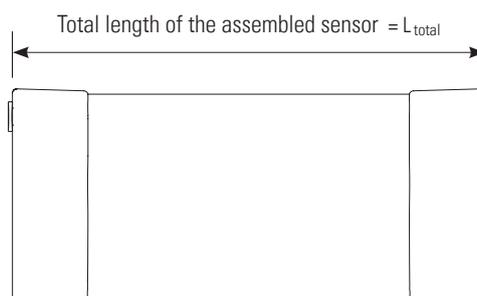
1 Safety instructions



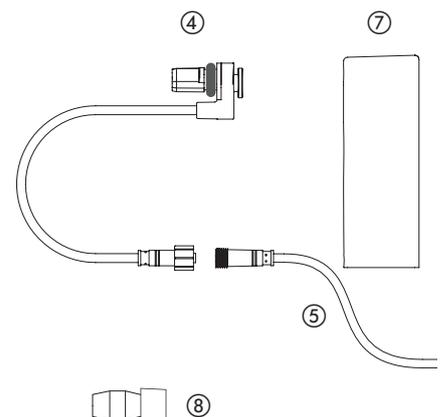
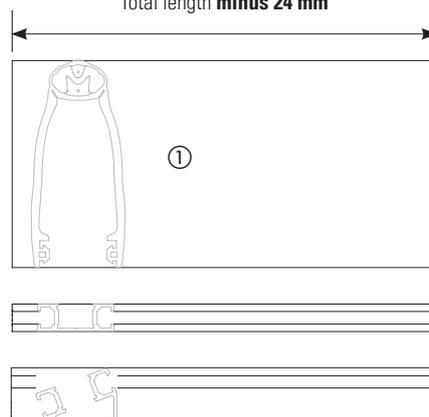
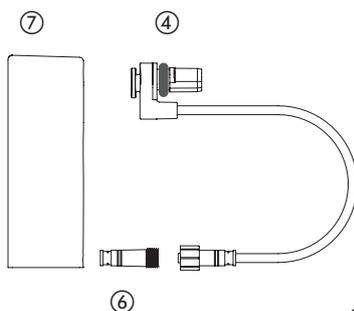
- Read these operating instructions thoroughly before putting the device into operation and keep them for future reference.
 - Do not use this product other than for its specified application.
 - The assembly, mounting, modification or retrofitting of sensors and the commissioning of pressure-sensitive edges may only be undertaken by persons who have completed relevant professional training and have been authorised to carry out such work.
 - Pay attention to all local relevant electrical safety regulations!
 - Failure to follow these safety precautions may cause damage to sensor or objects, serious personal injury, or death.
 - It is the responsibility of the equipment manufacturer to carry out a risk assessment and to install the system, in compliance with applicable local, national and international regulations, safety standards, codes and laws as well as the Machinery Directive 2006/42/EC, should this apply.
 - Always consider the safety functions of your applications as a whole, never just in relation to one individual section of the system.
 - The installer is responsible for testing the system to ensure it meets all applicable safety standards.
- Prior to starting installation or mounting, take the following safety precautions:*
- Ensure that the device/installations cannot be switched on!
 - Ensure that the power supply is disconnected!
 - Cover any neighbouring live parts or remove them!
 - Before switching on the power supply, check the wiring as a precaution to prevent any damage or malfunction affecting the equipment connected to the product.
 - If you are leaving the installation site, make sure that the product is working properly and has been installed correctly. Explain to the building owner/operator the correct way of operating the industrial door and the product.

2 Component overview

- ① Contact profile
- ② Mounting profile, straight or
- ③ Mounting profile, 20°
- ④ Contact end piece
- ⑤ Connection cable
- ⑥ Resistor plug
- ⑦ End cap
- ⑧ End plugs (left / right)



Length of the contact profile and mounting profile:
Total length **minus 24 mm**



Open video tutorial here:



XL sensors can be delivered in a variety of formats.

1. As fully prefabricated sensors in the required length, with or without quick-fastening system and with cable or integrated XRF-TI radio transmitter as option – equally suitable for both customer-specific applications and the series production of industrial doors.
2. As a set in various standard lengths to be cut by the customer and for self-assembly of a sensor – ideal for repairing doors quickly when carrying out service and maintenance in the field.

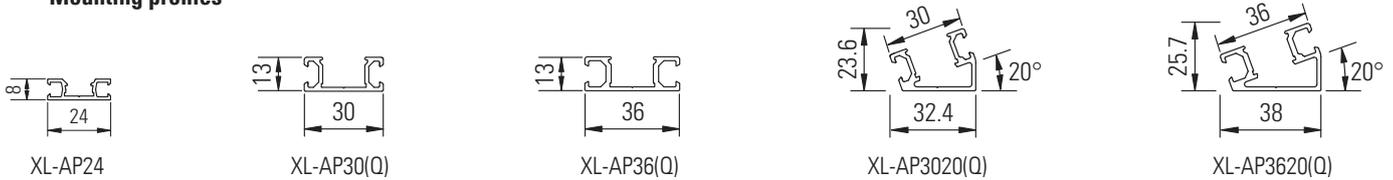
3. As individual components in larger packaging units – suitable for self-assembly XL sensors in industrial door manufacture.

The **assembly** of sensors is described in Chapter 3 below; their **installation** is described in Chapter 4.

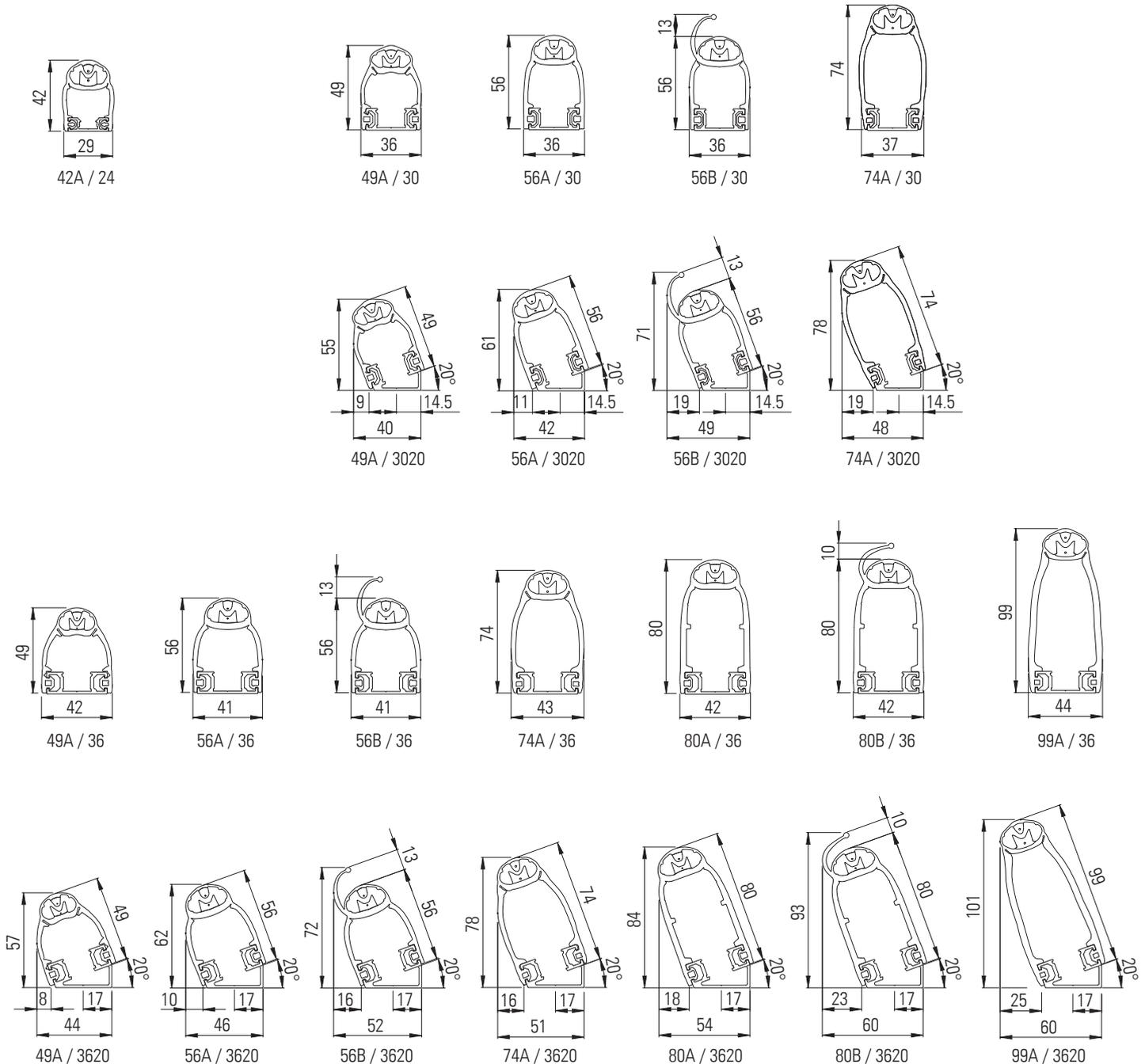
3 Assembly of ExpertSystem XL sensors

3.1 Sensor types, dimensions

Mounting profiles

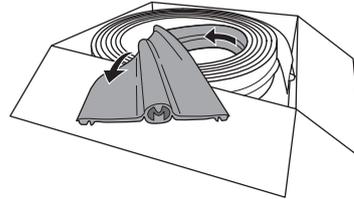


Contact profile mounted on mounting profiles: XL-CP.. / XL-AP..



3.2 Delivery format and storage of contact profile components

XL contact profiles are delivered in coils inside sturdy cardboard boxes on pallets. If they are to be put into long-term storage, the contact profiles must remain inside the boxes and the boxes stored laid flat. Contact end pieces, connection cables and resistor plugs are packaged separately and must remain inside their original packaging until used. The components must be stored in a dry location. Storage temperatures should be between 0°C and 40°C. However, the components can be stored at temperatures from - 30 °C to + 60 °C for short periods of time, e.g. during transport.



Contact profile coil in box

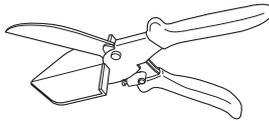
3.3 Tools and accessories

Rubber profile cutters "XL-Cut"

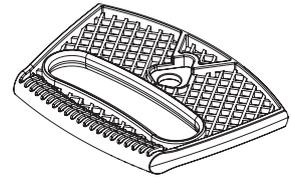


Risk of injury!

Follow the safety instructions for the cutting device.



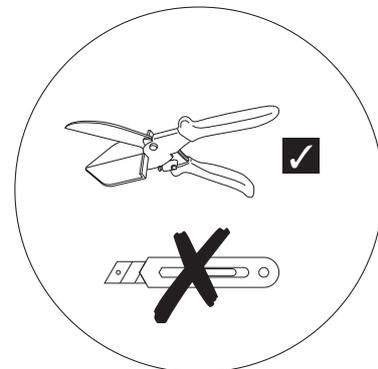
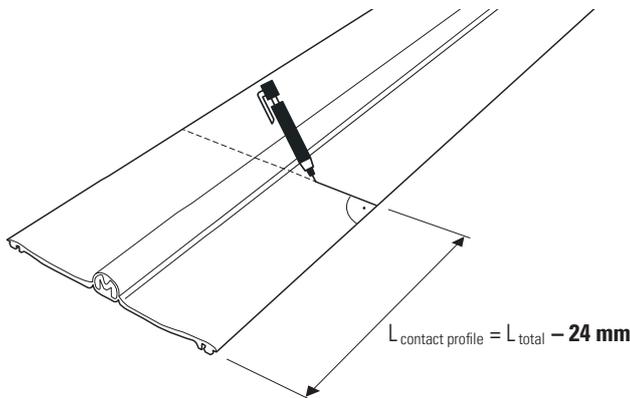
Press-in tool "XL-Ease"



3.4 Assembly of contact profiles

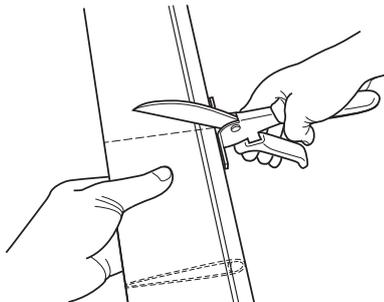
1. Cutting the XL contact profile to length

1

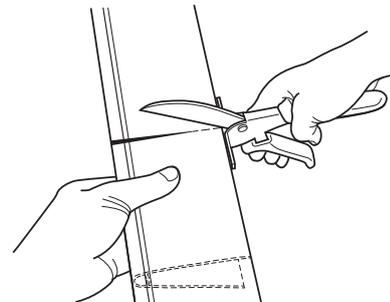


Always cut at right angles

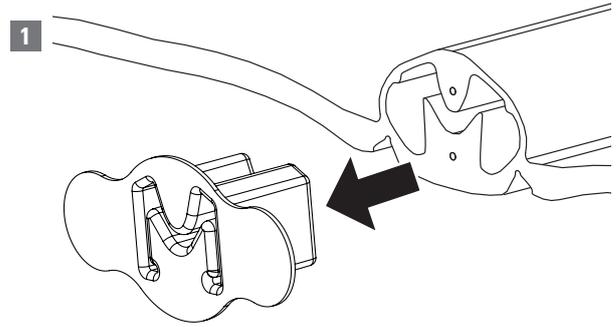
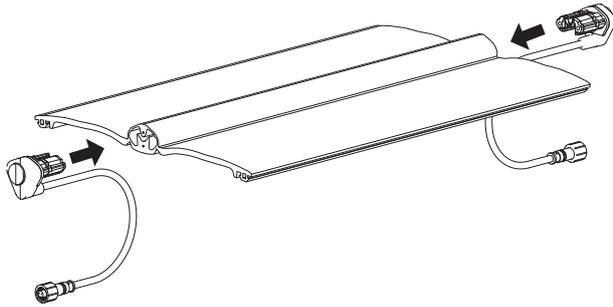
2



3

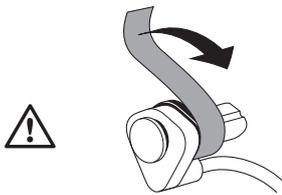


2. Mounting contact end pieces



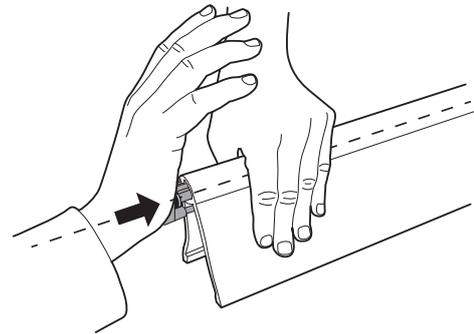
1 Remove protective plug, if present

2



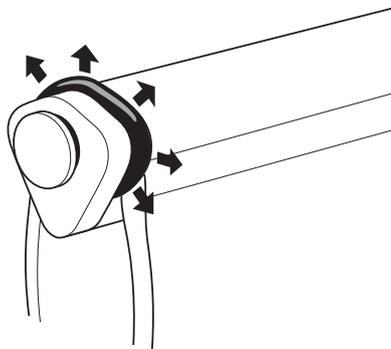
The sealant is highly adhesive; dust and dirt particles will stick to it immediately on contact. Therefore, once you have unpacked a contact end piece and removed the protective cover, you should proceed with particular care and ensure that the working environment is kept clean and tidy until it is pressed into place.

3



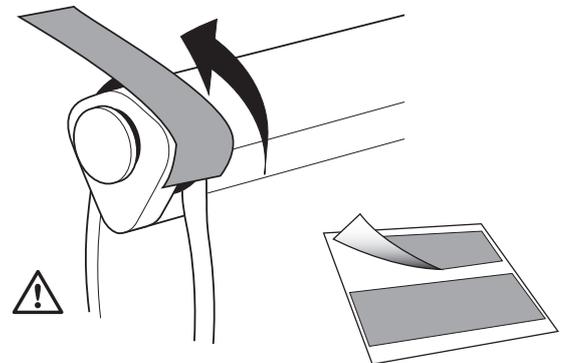
3 Hold the profile shank at an acute angle and check for axial alignment when pressing the contact end piece in.

4



4 The sealant should overflow all the way round the sealing edge.

5



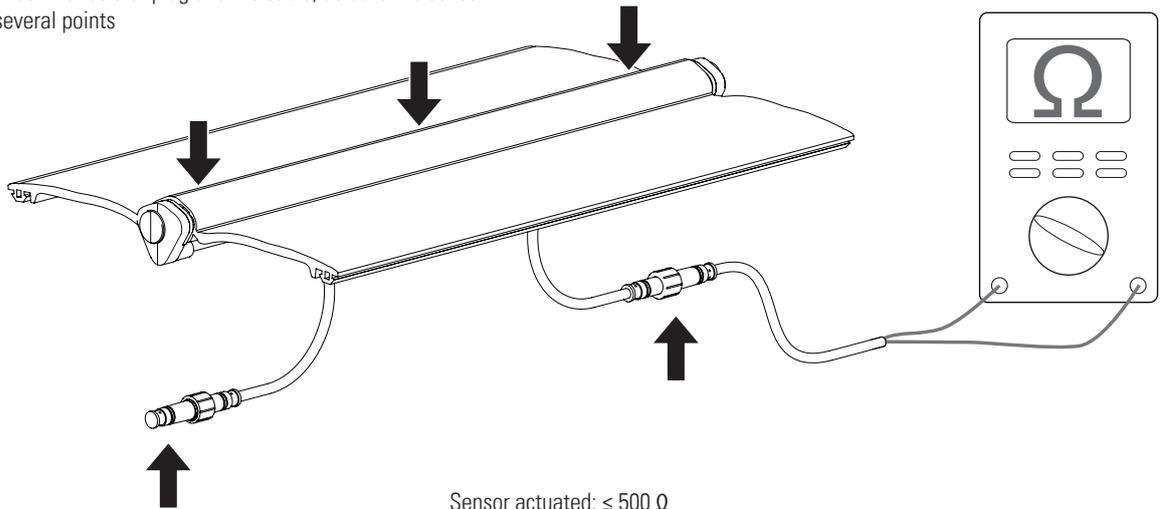
5 Flexible adhesive strips are supplied with the contact end pieces. Apply a strip of adhesive to the center of the sealant from above and over both sides, and then press down well to ensure that the sealant is covered.



Contact end pieces can only be mounted and used once. Reliable contacting and sealing are not guaranteed during disassembly and re-assembly!

3. Intermediate check / Resistance measurement

Connect the resistor plug and the cable, actuate the sensor at several points



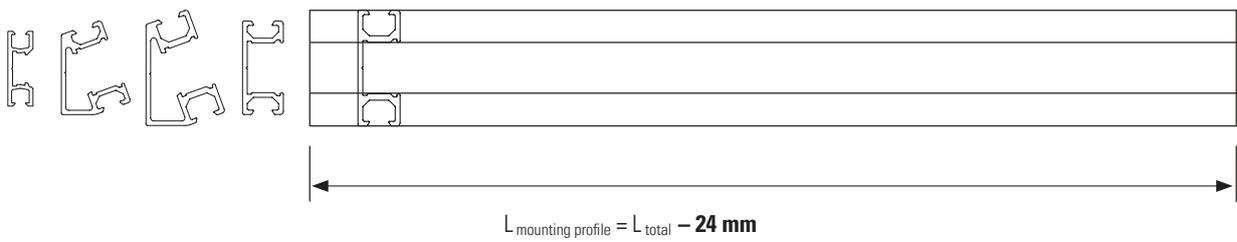
Sensor actuated: $\leq 500 \Omega$

Sensor not actuated with XL-RP8 resistor plug: resistance between 8.0 and 9.0 k Ω

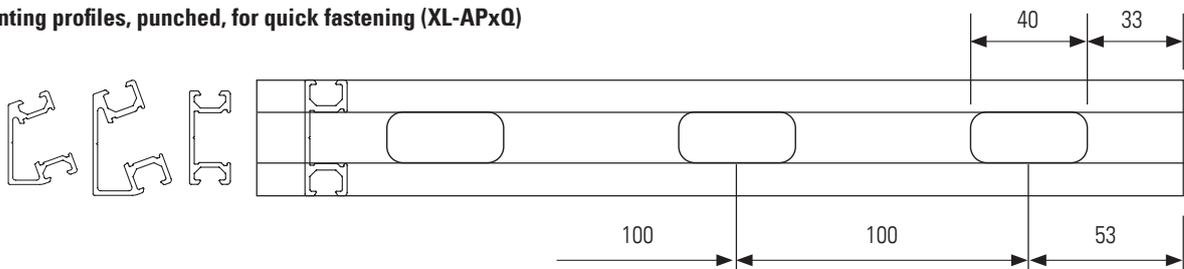
4 Mounting ExpertSystem XL sensors

4.1 Cutting the mounting profile to length

Mounting profiles, solid (XL-APx)



Mounting profiles, punched, for quick fastening (XL-APxQ)



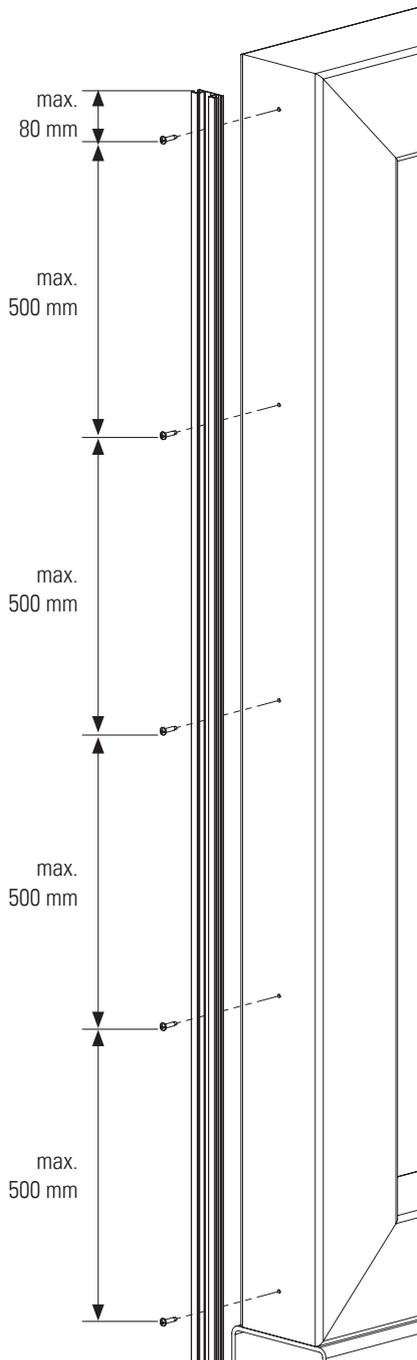
Always cut at right angles

4.2 Mounting the mounting profile

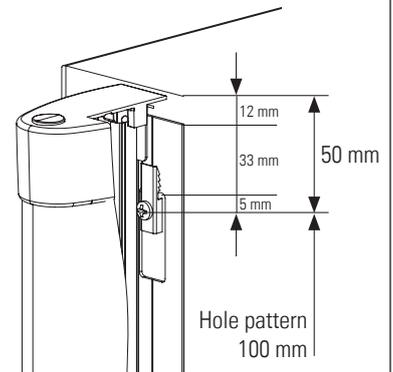
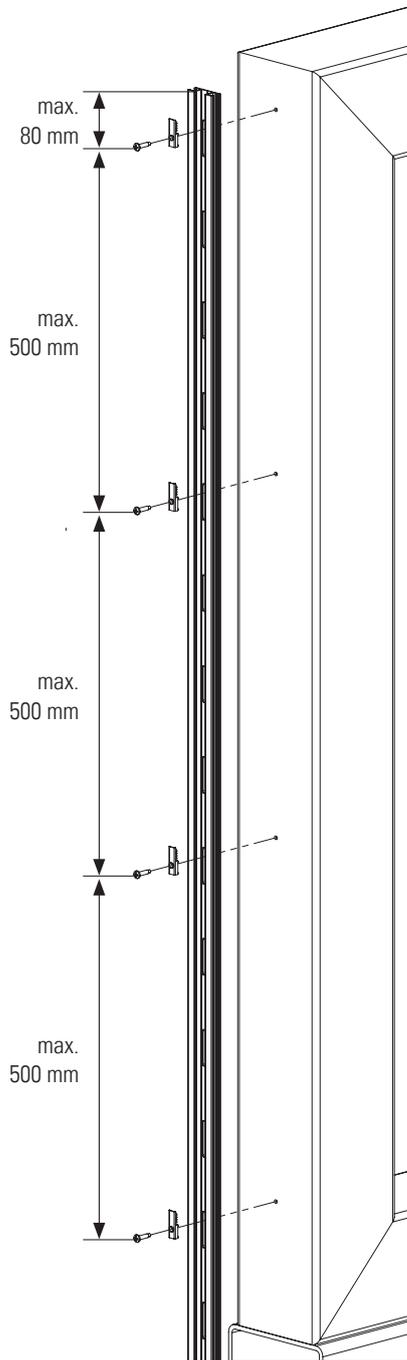
The mounting profile must be mounted on a flat surface.

Mounting with screws

Use pan head or countersunk screws



Mounting with quick-fastening system



1. Use XL-QFIX screws to secure the XL-QME quick-fastening clips firmly in place, as shown in the illustration.
2. Hook the prefabricated sensors into the mounted fastening clips.
3. Using a plastic hammer and a moderate degree of force, drive the mounting profile into the teeth in the clips as far as it will go. To prevent damage, place a suitable piece of wood between the mounting profile and the hammer; do not hammer directly onto the face of the profile.

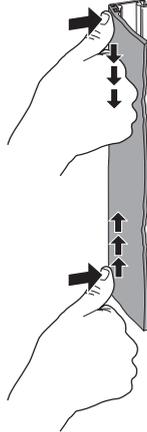
Never drive in the sensor with the end cap attached! If an end cap has already been attached along with its fastening clip, loosen and fold it back from the mounting profile, then perform the mounting work specified in points 2 and 3. Re-attach the end plug once you have finished.



Ensure that any additional holes required for the cable routing are provided in the mounting profiles and door profiles.

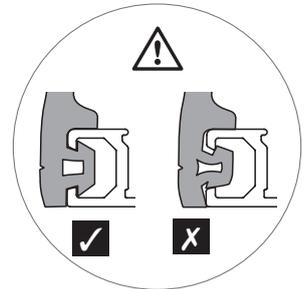
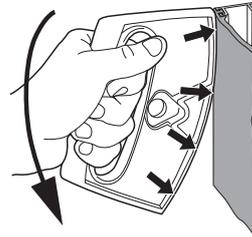
4.3 Mounting the contact profile onto the mounting profile

- 1** Fit the first side of the contact profile flush at both ends of the mounting profile and apply uniform pressure to press it into the mounting profile, working from the ends towards the centre.



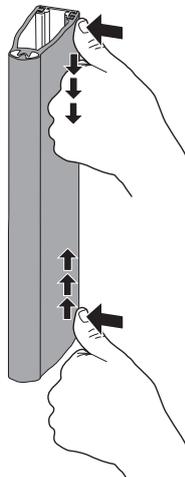
- 2** The rubber retainers must engage fully in the mounting profile.

Tip: Use a tool to help you to push the retainers in. Use the curved edge to roll over the retainers, applying slight pressure.

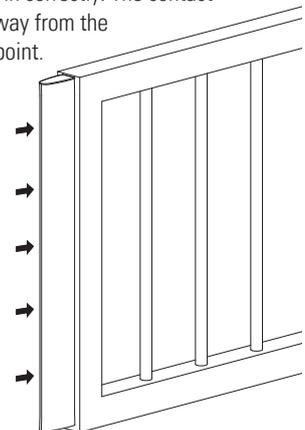
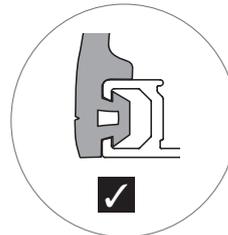


Tip: In case of limited accessibility, one side of the contact profile can be fitted into the mounting profile prior to fixing the mounting profile. This can be helpful for example at folding or swing gates, when sensors are mounted near the ground.

- 3** Always work from both ends towards the centre when pushing in the profile. This prevents unwanted elongation of the rubber profiles.



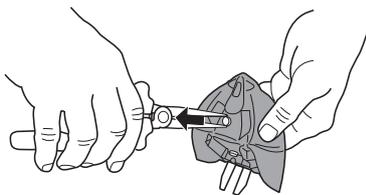
- 4** Push on the profile hard from the front to check that it has been pressed in correctly. The contact profile must not come away from the mounting profile at any point.



4.4 Mounting end caps

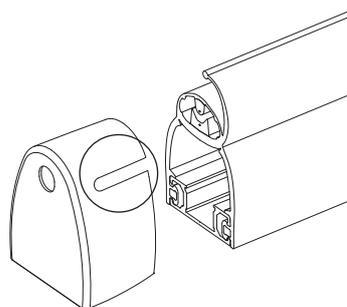
1 a

For vertically mounted sensors: On the lower end cap, remove the nubs for the water outlet.



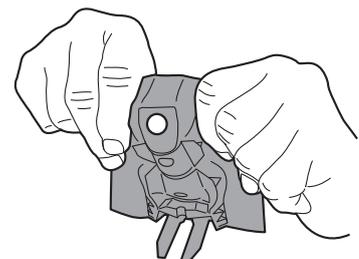
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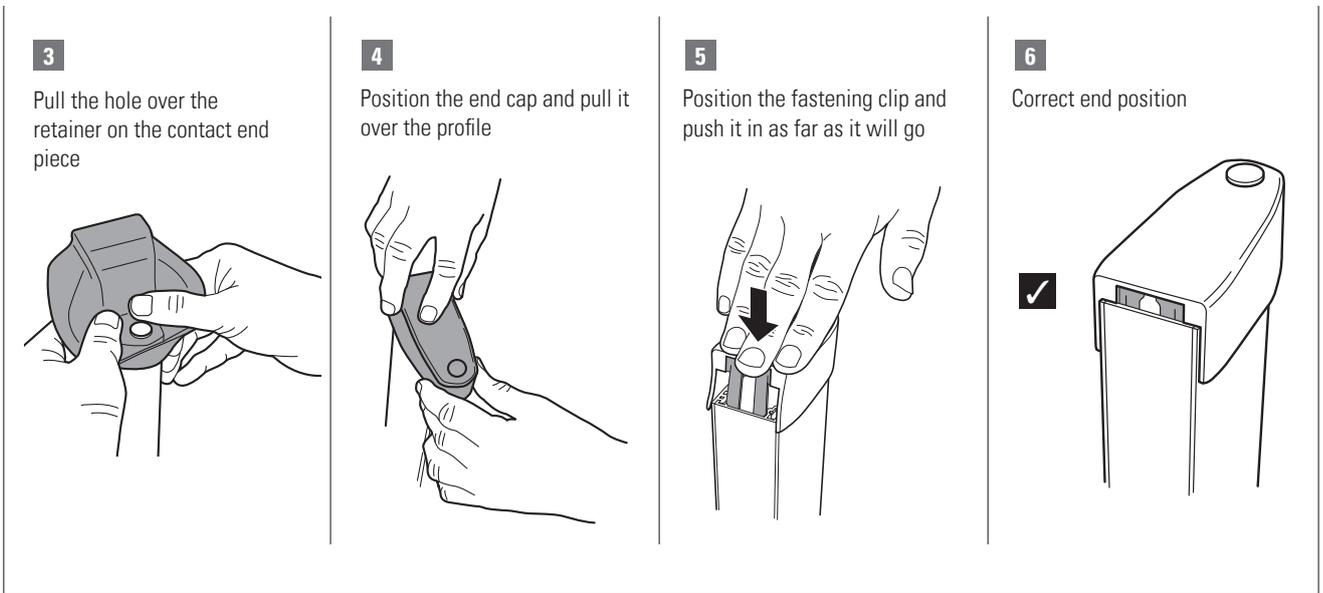
When using sensing profiles with a lip: Remove the pre-stamped recesses for the lip on both end caps (paying attention to left/right).



2

Turn out the end cap at the top





4.5 Checking the sensor installation

Once mounting work has been completed, the sensor must be tested to ensure it is functioning correctly. Measure the resistances by actuating the sensor at several points:

Sensor actuated: $\leq 500 \Omega$

Sensor not actuated with XL-RP8 resistor plug: resistance between 8.0 and 9.0 k Ω

5 Commissioning

Once the sensor has been installed, it must be connected to the safety switching device.



The operating instructions for the corresponding safety switching device must be followed when making the connection as well as when carrying out subsequent installation and commissioning work.

5.1 Note for prefabricated XL sensors with integrated XRF-TI radio transmitter

If the XRF-TI radio transmitter is integrated, the operating instructions for this are enclosed with the sensor. The end of the sensor to which the integrated radio transmitter is connected has a corresponding marking underneath the mounting profile.

6 EU Declaration of Conformity



See attachment

7 WEEE



Devices with this symbol must be treated separately during disposal. This must be done in accordance with the laws of the respective countries for environmentally sound disposal, processing and recycling of electrical and electronic equipment.

8 Contact

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