

# Installation and commissioning instructions

## Ex-contact protection relay XR-6x0, XR-6x1

### Important safety instructions please read and note !

The precondition for a perfect and safe operation of the contact protection relays are proper transport, storage and mounting, professional installation and commissioning, operation as intended and maintenance.

These activities may only be carried out by persons with the necessary expertise and qualifications. The relevant safety regulations for the assembly and operation of electrical equipment and the assembly requirements for **equipment in Ex-areas** must be complied with.

Please contact the manufacturer if the information included in these instructions is not adequate in some way. In addition, the EC-Type Examination Certificate **TÜV 10 ATEX 555760** has to be considered.

### Electrical connection

The operating voltage must lie within the voltage range of the XR-6x0, XR-6x1. The electrical connection must be made while without power. In case of activated line monitoring, probes with **built-in line break resistor (100k)** must be used.

## Installation

The contact protection relays XR-6x0, XR-6x1 are intended for mounting on standard mounting rails 35mm according to DIN EN 50 022. The maximum ambient temperature of the electrode relay (see technical data) must not be exceeded at the place of installation.

## Connecting the sensors

The sensor for channel 1 must be connected to terminals **E0** (COM), **E1** (max.) and **E2** (min.).  
The sensor for channel 2 must be connected to terminals **E5** (COM), **E6** (max.) and **E7** (min.).

### Comment:

Care must be taken when installing the sensor line that it is installed with adequate distance to power cables. If this is not possible, the use of a shielded cable can reduce interference from coupling.

## Connecting the supply voltage

Make the electrical connection according to the imprint on the enclosure cover at the terminals identified with **A1(+)** and **A2(-)**; refer to the type plate for the voltage. According to EN 61010-1, all-pole disconnection is to be provided in the building installation which must be accessible as disconnecting device – marked as such – near the contact protection relay. Over-current protection of the devices is provided by a fuse matching the supply voltage.

## Connecting the potential-free output contacts

Device	Terminal	Assignment	Relay not actuated/released
<b>XR-61x Channel 1</b>	12	<b>NC</b> Normally closed contact	
<b>XR-62x Channel 1</b>	11	<b>COM</b> Common port	
	14	<b>NO</b> Normally open contact	

<b>XR-61x Channel 1</b>	22	<b>NC</b> Normally closed contact	
<b>XR-62x Channel 2</b>	21	<b>COM</b> Common port	
	24	<b>NO</b> Normally open contact	

As output, two potential-free change-over contacts are available at the XR-61x, one potential-free change-over contact per channel is available at the XR-62x.

## Display elements / operator controls:

LED GREEN "PWR"	LIGHTING	Ready for operation
	DARK	Power failure
LED RED "ERR"	LIGHTING	Line fault (active only when DIP switch 3 is in ON position)
	DARK	No line fault, otherwise DIP switch 3 is in OFF position
LED YELLOW "OUT"	LIGHTING	Float floated up (contact is closed)
	LIGHTING	Float still floated up (at min./max. Controlling) (DIP 4 = OFF: Contact closed)
	DARK	Float in normal position (DIP 4 = OFF: contact open)

## Function button

Relays XR-611 and XR-621 are equipped with an alarm memory. This means, the alarm is stored until the cause of the fault was corrected and the alarm acknowledged with the button on the front of the relay.

## Options

The desired device function can be made at the 4-pole DIP switch after opening the device being **without power**. To prevent damage caused by electrostatic discharge at circuit parts, the adjustment must be carried out with anti-static tools.

DIP switch for channel 1		Switch 1
Switch 1: OFF and Switch 2: OFF	Switching delay approx. 0.2 sec.	
Switch 1: ON and Switch 2: OFF	Switching delay approx. 2 sec.	
Switch 1: OFF and Switch 2: ON	Switching delay approx. 4 sec.	
Switch 1: ON and Switch 2: ON	Switching delay approx. 10 sec.	
Switch 3: ON = Line monitoring <b>ON</b>	OFF = Line monitoring <b>OFF</b>	
Switch 4: ON = <b>closed-circuit current</b>	OFF = <b>operating current</b>	
DIP switch for channel 2		Switch 2
Switch 1: OFF and switch 2: OFF	Switching delay approx. 0.2 sec.	
Switch 1: ON and switch 2: OFF	Switching delay approx. 2 sec.	
Switch 1: OFF and switch 2: ON	Switching delay approx. 4 sec.	
Switch 1: ON and switch 2: ON	Switching delay approx. 10 sec.	
Switch 3: ON = Line monitoring <b>ON</b>	OFF = Line monitoring <b>OFF</b>	
Switch 4: ON = <b>closed-circuit current</b>	OFF = <b>operating current</b>	

## Commissioning / Setting

The setting can be made for the 2-channel devices separately for each channel. Set the desired device function at the DIP switches and then close the enclosure again correctly.

The device is delivered ready for operation and does not need any adjustments for commissioning.

## Function check

To check the function, the floats connected to the relay must be checked while the medium rises and/or drops. The switching function needs to be checked by the status LEDs (yellow) on the relay and the downstream devices of warning elements for each channel.

## Maintenance / Cleaning

The relay does not require any special maintenance beyond the general inspection / function check of the electrical system.

## Technical Data

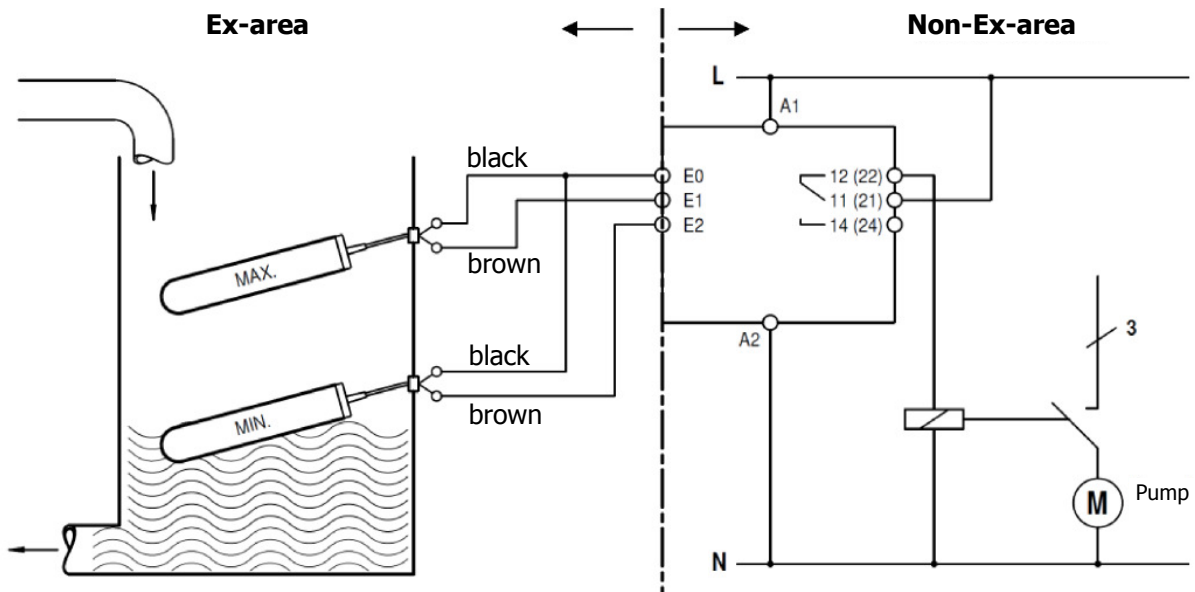
<b>Electrical data:</b>	See EC type test certificate <b>TÜV 10 ATEX 555760</b>
<b>Dimensions WxDxH:</b>	XR-6xx-B: 22.5 x 114,5 x 99mm, XR-6xx-C: 22.5 x 114,5 x 112mm
<b>Storage temperature:</b>	- 30 ... + 80 °C
<b>Operating temperature:</b>	- 20 ... + 60 °C
<b>IP protection class:</b>	Terminals IP 20; Housing IP 40

## Type key

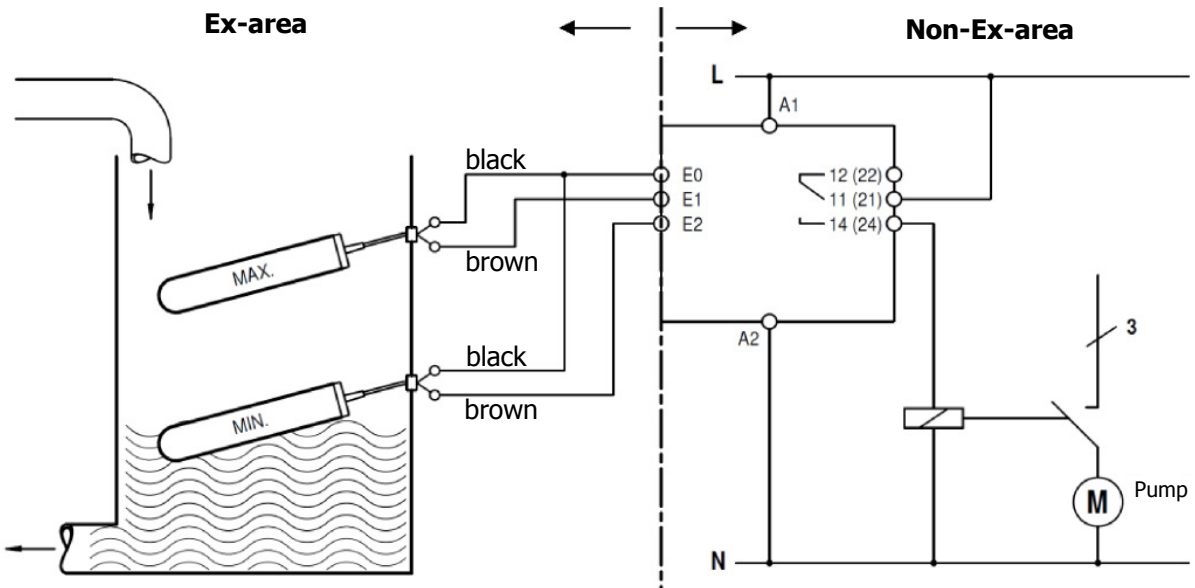
**Basic designation**

<p><b>Number of channels</b> 1 = 1 channel 2 = 2 channels</p> <p><b>Option</b> 0 = without acknowledge button (standard) 1 = with acknowledge button</p> <p><b>Housing</b> B = Plugged clamps (for screwing) C = Plugged clamps (spring force)</p> <p><b>Output</b> 1 = 1 change-over contact (2 channel version) 2 = 2 change-over contacts (1 channel version)</p> <p><b>Switching delay</b> 0 = 0,2 - 2 - 4 - 10 seconds adjustable</p> <p><b>Supply voltage</b> 0 = 24 V DC 6 = 230 V DC 9 = 20...230 V AC/DC multi voltage power supply unit</p> <p><b>Construction form</b> <b>without indication</b> = 22,5 mm mounting rail K = 19" board version B = Bus connection option at 24 VDC</p> <p><b>Optional: SIL</b> „safety integrity level“ TÜV NORD 4479912399841-013 1 = SIL 1 2 = SIL 2</p>	<p>XR-6</p> <p>□ □ □ □ □ 0 □ □ □ □</p>
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Connection Example XR-61x



Closed-circuit current: min. / max.



Operating circuit current: min. / max.

Connection Example XR-62x

