XRF-RD
Dual channel receiver to XRF wireless transmission system

Original operating instructions
Intended use: Monitoring safety edges and switches on industrial doors and gates

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.
- Only trained and qualified personnel may install and initialize the device.
- Only authorized factory personnel may perform hardware/software changes or repairs to the product.
- 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.
- Safety devices that are classified as Category 2 according to EN ISO 13849-1 must be tested regularly – at least once per cycle.

- If the safety device is not requested operationally at least once a year, it must be checked manually by the operator at least once a year.
- During the operation of electrical components – e.g. in the case of a short circuit, hot and ionised gases can be emitted; protection covers must not be removed!
- The sensor should only be operated from a safety extra low voltage (SELV) system with safe electrical separation according to EN 61558. The wiring must be protected against mechanical damage.
- Check the voltage data on the label of the switching device.
- Pay attention to all local relevant electrical safety regulations.
- Ensure that the device/installations cannot be switched on.
- Ensure that the power supply is disconnected.
- Protect the device with a housing against contamination or harsh environments.
- Disconnect device from mains in the event of a fault.
- After accessing the inside of the device, ensure the cover/protection seal is closed tightly to achieve the designated protection rating.

2 Common applications

Transmitter Tx1 (input 1) corresponds to receiver output 1
Transmitter Tx2 (input 1) corresponds to receiver output 2

Figure 1.a
Max.14 transmitters in this configuration

Transmitter input 1 corresponds to receiver output 1
Transmitter input 2 corresponds to receiver output 2

Figure 1.b
Max.7 transmitters in this configuration
3 Installation

According to the application, e.g. figure 1.a or 1.b

4 Wiring

VIN

Test

Inputs for stationary sensing edges

IN1

IN2

Output 1

Output 2

Battery low

Out 3

Power supply

(12–36 V AC/DC)

Only to be wired
in case of a
Cat. 2 application

Vin

Test

Inputs for stationary sensing edges

IN1

IN2

Output 1

Output 2

Battery low

Out 3

(36 V AC/DC / 1 A)

Do not wire
12/13 and 14/11
simultaneously

(36 V AC/DC / 1 A)

Do not wire
23/22 and 24/21
simultaneously

(36 V AC/DC / 0.1 A)

Note: When using the NC outputs (13/12, 23/22), in Cat. 3 set-up, the wiring with the control must be permanently installed and protected against external damage according to EN ISO 13849-2 Table D.4 or else Cat. 2 applies and a test signal is needed.

5 Configuration

Configure mode

Receiver

LED

Long press joystick

Beep

LED

Flashes orange

Release joystick

(see also manual of transmitter)

5.1a Pairing, using the first inputs of different transmitters

Pair to output 1

Move joystick left

Orange

Press button

Flashes orange

Release button

Pair to output 2

Move joystick right

Orange

Press button

Flashes orange

Release button

5.1b Pairing, using both inputs of transmitter

Pair to both outputs

Move joystick upwards

Orange

Press button

Flashes orange

Release button

5.2 Bircher signal indicator (BSI) Details see supplementary sheet

Buzzer + LED flashing green level of Bircher signal indicator

5.3 Configure inputs for stationary sensors

Receiver

Press joystick again

Move joystick
acc. to requested
configuration (see 7.2)
5.4 Configure test input

![Image of a diagram showing a joystick and labels for input and output configurations]

**Leave configuration mode (always possible)**

```
<table>
<thead>
<tr>
<th>Receiver</th>
<th>Press joystick</th>
<th>Move joystick acc. to requested configuration (see 7.2)</th>
</tr>
</thead>
</table>

```

**Clear pairings**

```
<table>
<thead>
<tr>
<th>Receiver</th>
<th>Press joystick, and hold (&gt; 5 s)</th>
<th>Flashes orange</th>
<th>Release joystick</th>
<th>All pairings deleted</th>
</tr>
</thead>
</table>
```

6 System test, mandatory after each set-up!

**Does the door/gate stop when the sensing element is activated?**

```
<table>
<thead>
<tr>
<th>Green</th>
<th>Press each safety edge</th>
<th>Orange</th>
<th>Example shows channel 1</th>
</tr>
</thead>
</table>
```

7 Receiver

### 7.1 Status LED, LCD, outputs

<table>
<thead>
<tr>
<th><strong>LED</strong></th>
<th><strong>Display</strong></th>
<th><strong>Output 1</strong></th>
<th><strong>Output 2</strong></th>
<th><strong>Output 3</strong></th>
<th><strong>Buzzer</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>SYS</td>
<td>14–11</td>
<td>13–12</td>
<td>24–21</td>
<td>23–22</td>
<td>5–6</td>
</tr>
<tr>
<td><strong>No power supply</strong></td>
<td>--</td>
<td>--</td>
<td>CLOSED</td>
<td>open</td>
<td>open</td>
</tr>
<tr>
<td><strong>Power-up</strong></td>
<td>red</td>
<td>20</td>
<td>CLOSED</td>
<td>open</td>
<td>open open</td>
</tr>
<tr>
<td><strong>System ready, no sensor pressed</strong></td>
<td>green</td>
<td>--</td>
<td>8k2 closed</td>
<td>8k2 CLOSED</td>
<td>open</td>
</tr>
<tr>
<td>&quot;*&quot; both dots flashing</td>
<td>--</td>
<td>8k2 closed</td>
<td>8k2 CLOSED</td>
<td>open open</td>
<td></td>
</tr>
<tr>
<td><strong>Sensor 1 pressed (main closing edge)</strong></td>
<td>orange</td>
<td>--</td>
<td>CLOSED</td>
<td>open</td>
<td>open open</td>
</tr>
<tr>
<td><strong>Sensor 2 pressed (secondary closing edge)</strong></td>
<td>orange</td>
<td>--</td>
<td>8k2 CLOSED</td>
<td>CLOSED open</td>
<td></td>
</tr>
<tr>
<td><strong>Stationary sensor 1 pressed (output 1)</strong></td>
<td>orange</td>
<td>--</td>
<td>CLOSED</td>
<td>open</td>
<td>open open</td>
</tr>
<tr>
<td><strong>Stationary sensor 2 pressed (output 2)</strong></td>
<td>orange</td>
<td>--</td>
<td>8k2 CLOSED</td>
<td>CLOSED open</td>
<td></td>
</tr>
<tr>
<td><strong>Wicket door open</strong> (XRF-TW on channel 2)</td>
<td>orange</td>
<td>--</td>
<td>8k2 CLOSED</td>
<td>CLOSED open</td>
<td></td>
</tr>
<tr>
<td><strong>Configuration</strong></td>
<td>a = Pairing; b = BSL; c = Stationary edges; d = Test Input</td>
<td>--</td>
<td>CLOSED</td>
<td>open open open</td>
<td>upon action</td>
</tr>
<tr>
<td><strong>Configuration mode, memory full</strong></td>
<td>--</td>
<td>--</td>
<td>CLOSED open open open</td>
<td>10x</td>
<td></td>
</tr>
<tr>
<td><strong>Low battery</strong></td>
<td>green</td>
<td>--</td>
<td>8k2 CLOSED</td>
<td>8k2 CLOSED</td>
<td>CLOSED 3x every min.</td>
</tr>
<tr>
<td><strong>Test input active</strong></td>
<td>green</td>
<td>--</td>
<td>CLOSED open</td>
<td>CLOSED open</td>
<td>CLOSED open</td>
</tr>
<tr>
<td>&quot;*&quot; 1&quot; dot stable, 2&quot; dot flashing</td>
<td>--</td>
<td>--</td>
<td>CLOSED open open open</td>
<td>(see 8.2)</td>
<td></td>
</tr>
<tr>
<td><strong>Error</strong></td>
<td>a = Broken cable between edge and input, resistor out of range</td>
<td>--</td>
<td>CLOSED open open open</td>
<td>(see 8.2)</td>
<td></td>
</tr>
<tr>
<td>b = Tx lost or empty battery</td>
<td>--</td>
<td>--</td>
<td>CLOSED open open open</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c = System error</td>
<td>--</td>
<td>--</td>
<td>CLOSED open open open</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7.2 Menu structure

8 Trouble shooting

8.1 Warning indicator for low battery voltage

To find out which transmitter has low battery voltage:
Press each edge.

8.2 Errors (see 7.1)

9 Technical data

Receiver
Supply voltage
12–36 V DC
12–36 V AC, 48–62 Hz
Power consumption
max. 1.0 W
Safety outputs (2 x 2 relays)
max. 36 V AC/DC; 1 A (NC with 1A fuse)
Output battery low (SSR)
max. 36 V AC/DC; 0.1 A
Input stat. sensors
Sensors with 8.2 kOhm resistor
Test input
max. 36 V DC; 36 V AC, 48–62 Hz
max. 11 mA
Uth > 10 V AC/DC
Antenna connection
optional
SMA (f)
Number of supported sensors
max. 14
(stationary sensors included)
Mounting
DIN-rail
Protection class IEC 60529
IP20

System
Operating frequency
868.3 MHz
Reaction time
Typ. 15 ms
Range
60 m (at optimal condition)
According to EN ISO 13849-1
PLd for Cat. 3 applications
+ test input for Cat. 2 applications
Operating temperature
–20 °C to +60 °C

9 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.

10 EU Declaration of Conformity

See attachment

12 Contact

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