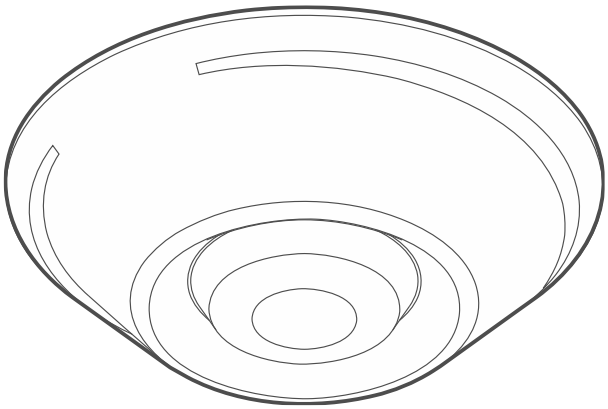
Digital passive infrared detector
for ceiling mount installation

AQUA RING S

Firmware version 4.00

EN



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IMPORTANT

The device should be installed by qualified personnel.

Prior to installation, please read carefully this manual.

Changes, modifications or repairs not authorized by the manufacturer shall void your rights under the warranty.

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The following symbols may be used in this manual:

 - note,

 - caution.

CONTENTS

The AQUA Ring S detector detects motion in the protected area. This manual applies to the detector with electronics version 4.2.

1. Features

- Motion detection with passive infrared sensor (PIR).
- Selectable detection sensitivity.
- Digital motion detection algorithm.
- Digital temperature compensation.
- Built-in end-of-line resistors (2EOL: 2 x 1.1 kΩ).
- LED indicator.
- Supervision of supply voltage.
- Tamper protection against enclosure opening.

2. Specifications

Power supply ..... 12...24 VAC/DC -10% / +15%
Standby current consumption:
AC power ..... 11.5 mA
DC power ..... 5 mA
Maximum current consumption
AC power ..... 12.5 mA
DC power ..... 6 mA
EOL resistors ..... 2 x 1.1 kΩ
Outputs
alarm (NC relay, resistive load) ..... 40 mA / 27 VAC/DC
tamper (NC) ..... 100 mA / 30 VAC/DC
Relay contact resistance ..... 26 Ω
Alarm signaling period ..... 2 s
Detectable speed ..... 0.3...3 m/s
Warm-up period ..... 30 s
Recommended installation height ..... 2.2...4.5 m
Protected area:
mounting at a height of 2.4 m ..... 36 m^2
mounting at a height of 3.7 m ..... 80 m^2
Complied with standards ..... EN 50130-5, EN 50131-1, EN 50130-4
Environmental class according to EN 50130-5 II
Operating temperature range ..... -10°C...+55°C
Maximum humidity ..... 93±3%
Dimensions ..... ø97 x 29 mm
Weight ..... 57 g

3. Description

The alarm output will turn on for 2 seconds when the infrared sensor (PIR) detects motion.

Supply voltage control

When the voltage drops below 9 V (± 5%) for more than 2 seconds, the detector will indicate a trouble. The trouble is indicated by the alarm output and the LED turning on. Signaling will continue as long as the trouble exists.

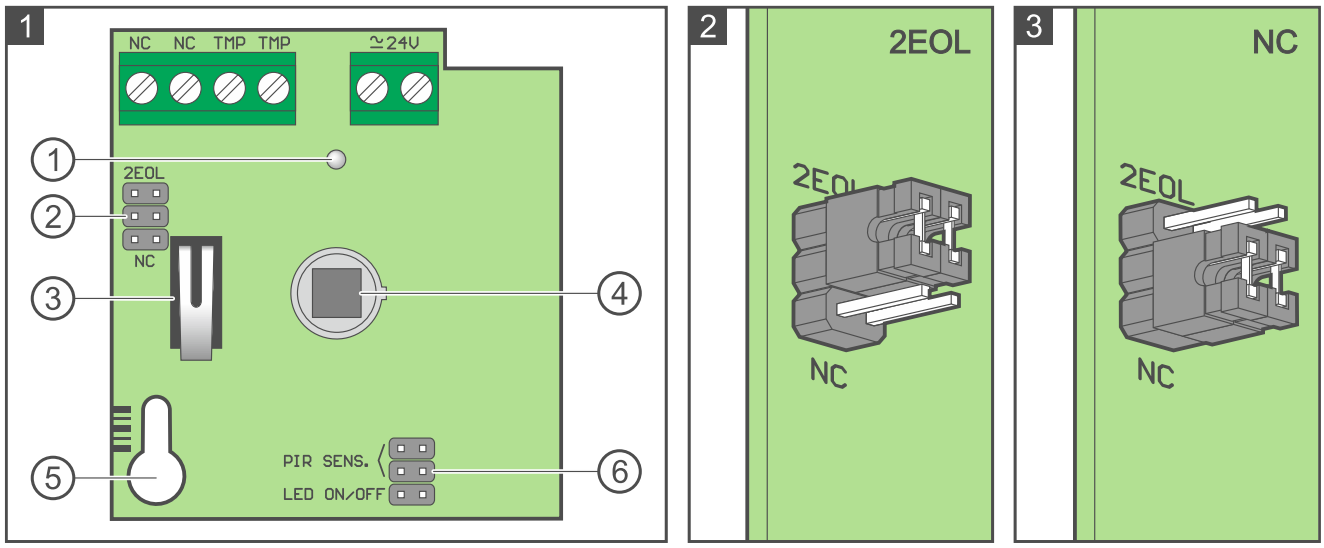
LED indicator

The LED indicates:

- warm-up – blinking rapidly for 30 seconds,
- alarm – ON for 2 seconds,
- trouble (low supply voltage) – ON for entire duration of the trouble.

4. Electronics board

Do not touch the pyroelectric sensor, so as not to soil it.



(1) red LED indicator.

(2) pins for configuration of the detector outputs. Available settings are shown in the figures:

2 – built-in resistors are used – connect the detector outputs as shown in Fig. 10.

3 – built-in resistors are not used – connect the detector outputs as shown in Fig. 11.

(3) tamper switch (NC).

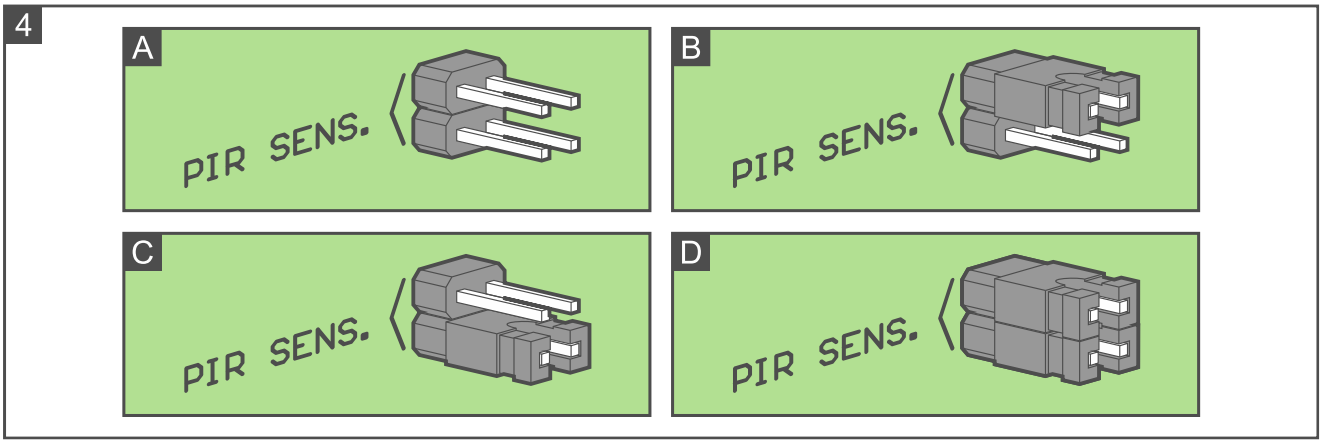
(4) PIR sensor (quad element pyrosensor).

(5) fixing screw hole.

(6) detector configuration pins:

PIR SENS. – selecting the PIR sensor detection sensitivity – see: Fig. 4 (A – low sensitivity, B and C – medium sensitivity, D – high sensitivity)

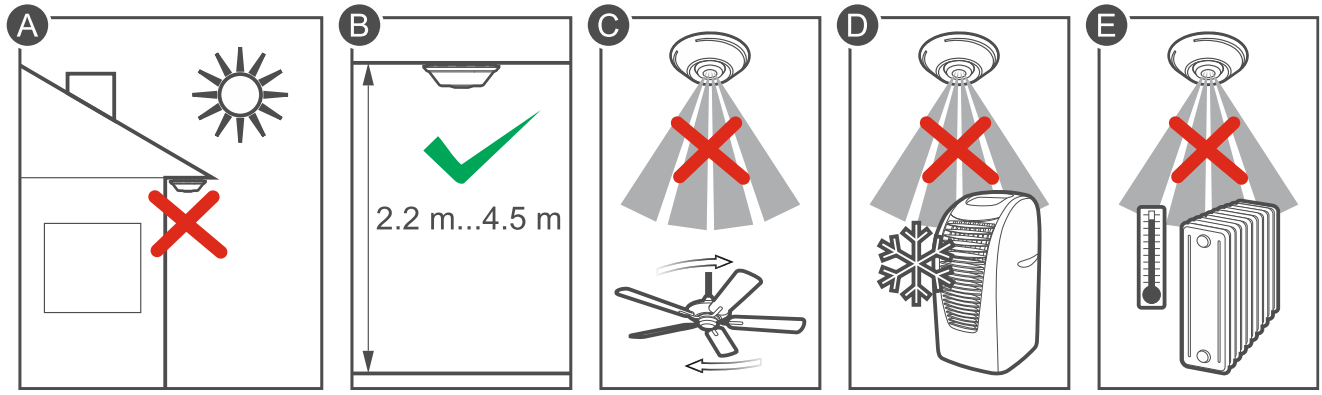
LED ON/OFF – enabling/disabling the LED (jumper on – LED enabled; jumper off – LED disabled).



Terminals

NC - alarm output (NC relay).
TMP - tamper output (NC).
⎓24V - 12...24 VAC/DC power input.

5. Selecting a mounting location



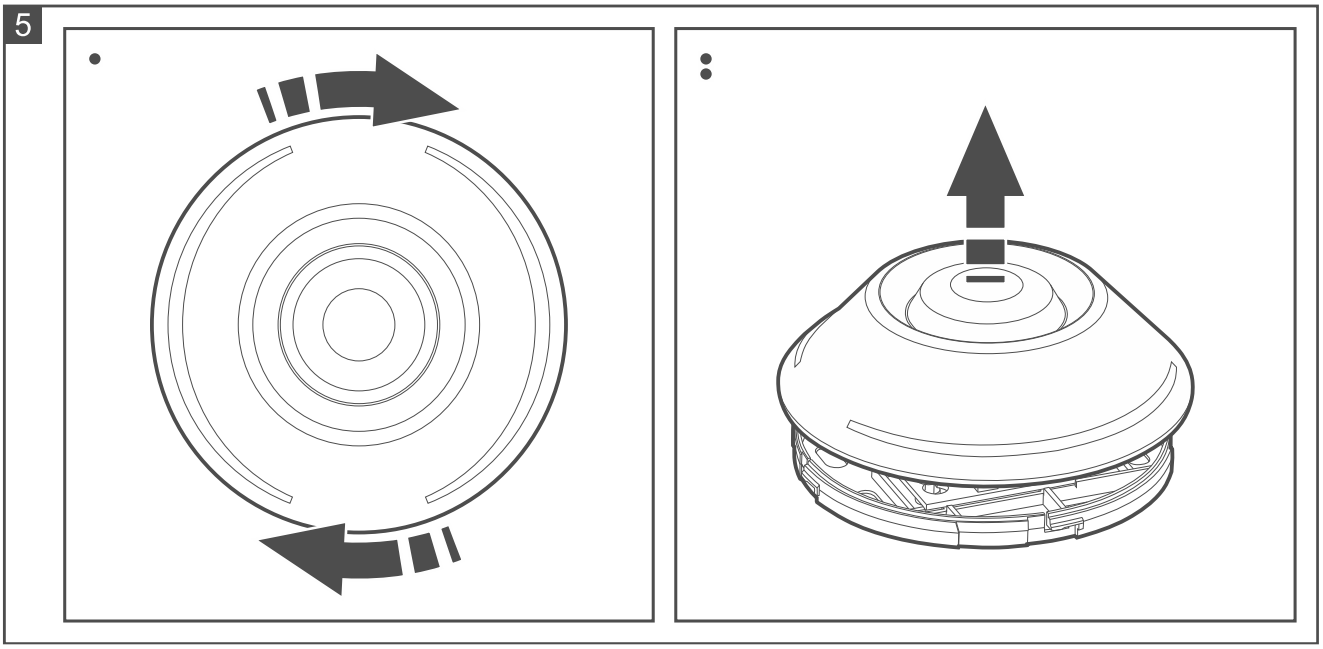
- Do not install the detector outdoors (A).
- Install the detector at the recommended height (B).
- Do not point the detector towards fans (C), air conditioners (D) or heat sources (E).

6. Installation

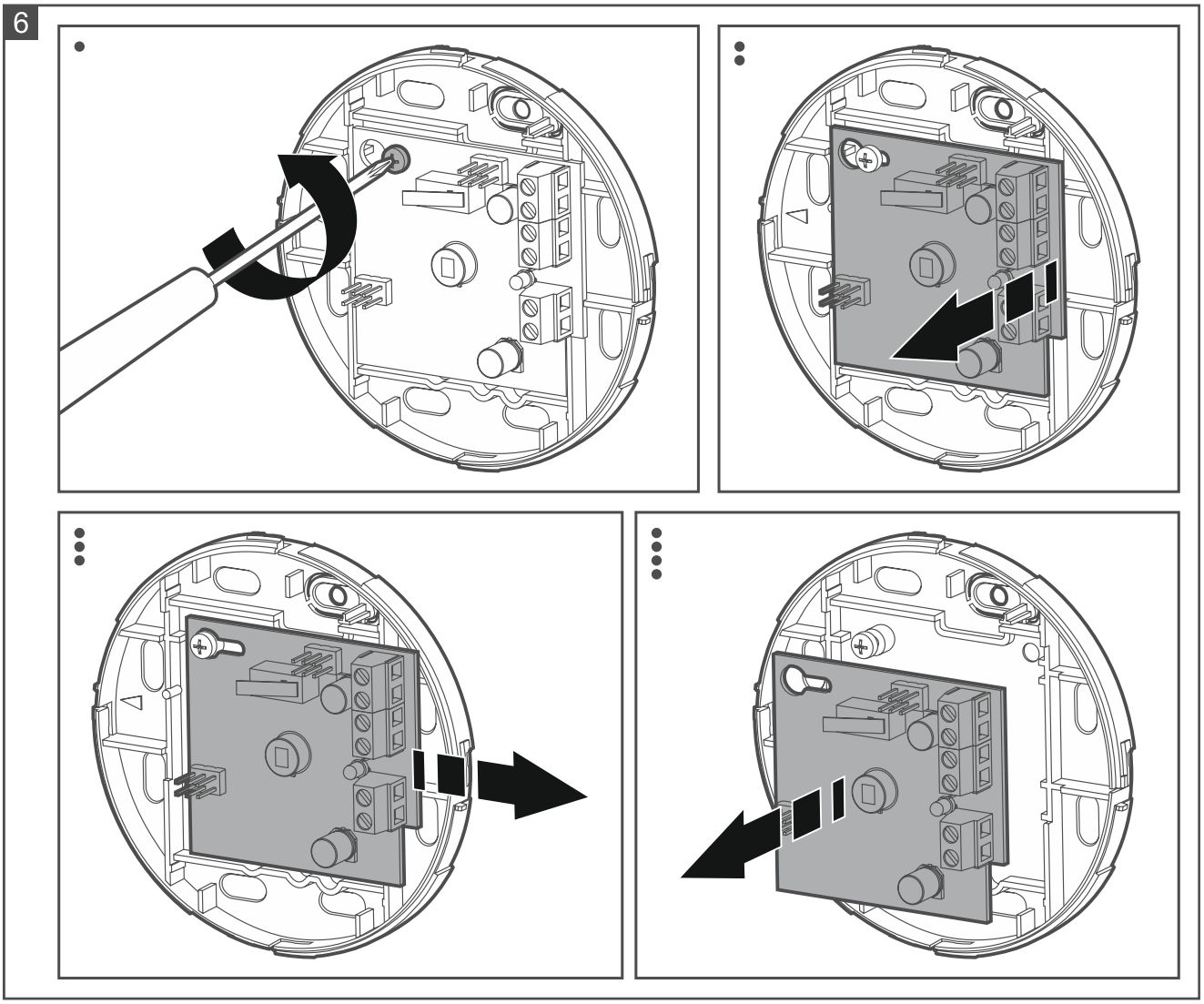
Disconnect power before making any electrical connections.

The detector is designed for indoor installation.

1. Open the enclosure (Fig. 5).
2. Remove the electronics board (Fig. 6).
3. Make the openings for screws (Fig. 7) and cable (Fig. 8) in the enclosure base.
4. Pass the cable through the prepared opening.
5. Use wall plugs (anchors) and screws to secure the enclosure base to the ceiling. The wall plugs (anchors) delivered with the device are intended for concrete, brick, etc. For other types of surface (drywall, styrofoam), use the appropriately selected wall plugs.
6. Fasten the electronics board.



7. Connect the wires to the corresponding terminals.
8. Configure the detector settings.
9. Replace the cover. The marks on the cover and base will help you close the enclosure (Fig. 9).



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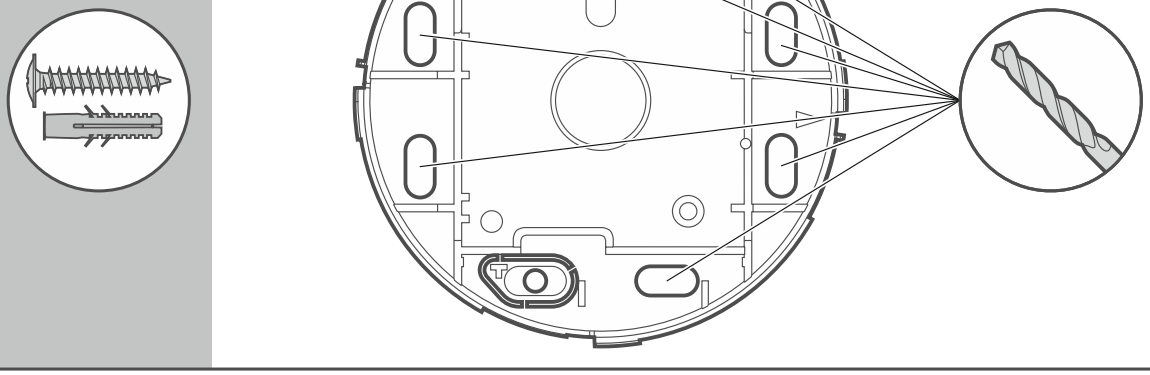

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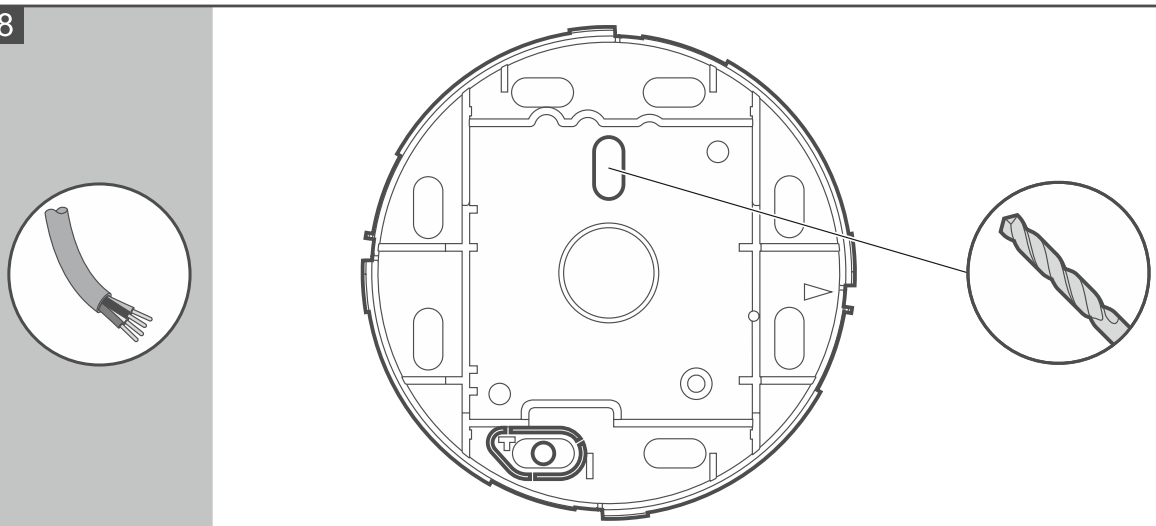

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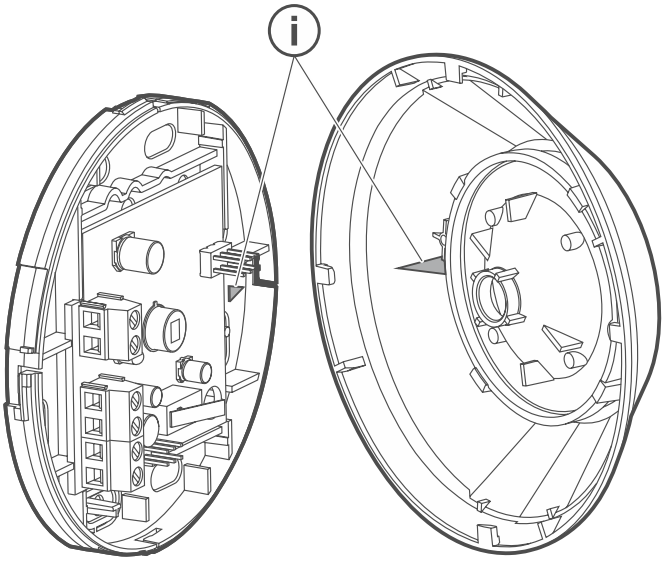

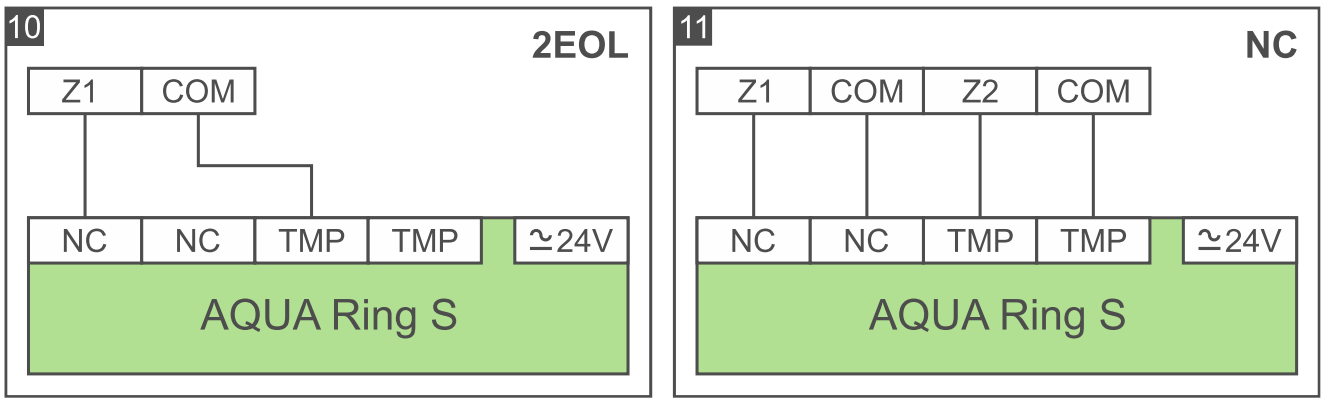

7. Start-up and walk test

The LED indicator should be enabled during the walk test.

1. Power on the detector. The LED will be flashing for 30 seconds to indicate warm-up of the detector.
2. When the LED stops flashing, check if moving within the detector coverage area will make the LED to light up.
3. If needed, readjust the sensitivity (Fig. 4) and check the detector operation.