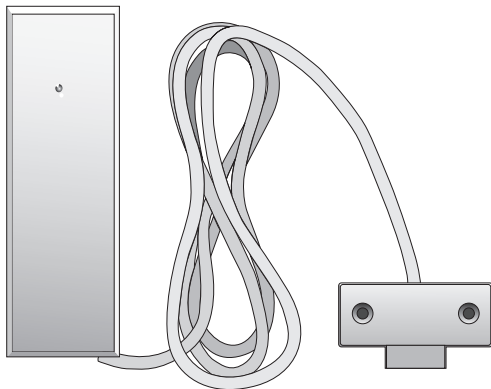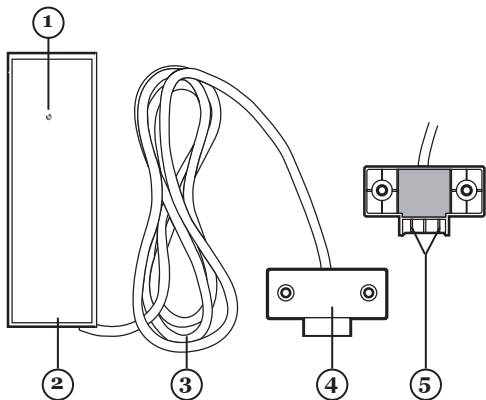# DET-RWATER
Flood Detector
Installation Guide
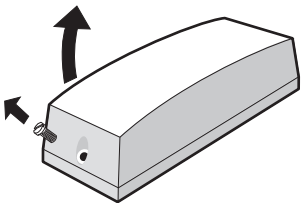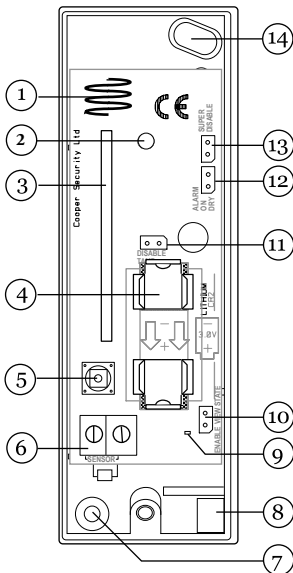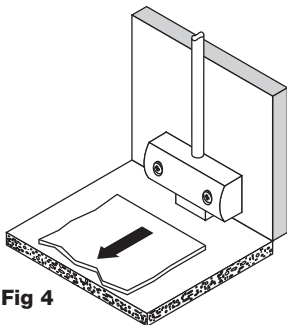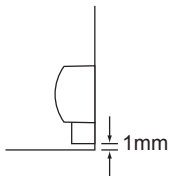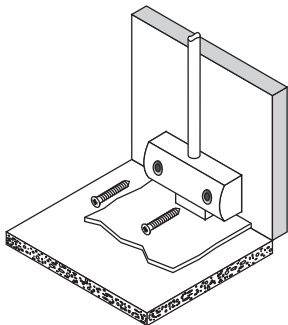

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Fig 1

Fig 2

Fig 3

1mm

Fig 4

1. Introduction

The DET-RWATER flood detector is an optional accessory to the i-on and Menvier40/100/300 control units. The body of the detector is the same general size and shape as a Scantronic door contact. The unit's sensor is designed to detect liquid water and trigger an alarm. You can program the sensor to give an alarm on detecting water, or an alarm on becoming dry.

2. Before You Begin

WARNING:

The device is supplied with direct current from a 3V lithium battery.
Do not:

Dispose of the battery in domestic waste.

Expose the battery to direct sunlight or heat.

Store the battery in a place with a very high temperature.

Burn the battery.

Place the battery in contact with water.

Dismantle, pierce or otherwise damage the battery.

Short circuit the battery contacts.

Attempt to recharge the battery.

Keep the battery away from small children.

Siting the device

If you wish to detect the presence or absence of free water then the sensor should be placed at the lowest point of the volume being monitored, where water is most likely to collect. The pins of the sensor ("5" in Figure 2) should be placed pointing down, approximately one millimeter from the floor surface, to allow water reach the sensor pins easily.

Since the detector is a radio transmitter you must also pay attention to the radio environment in which the device will operate. Before choosing a final position for the detector you should carry out a radio site survey, as described on the following pages.

The sensor comes with one metre of lead. You can add up to 1 m of standard 7/0.2 un-screened four core alarm cable to extend the distance between detector and sensor.

Radio Site Survey

After selecting possible positions for the transmitter you should conduct signal strength tests. Eaton's Security Business produces the Scantronic 790r hand held signal strength meter and 734r-01 test transmitter for this purpose. Please read the 790r manual for details.

Please be aware of the following:

- The 790r signal strength meter readings should be used only as an guide when initially checking the site.
- A reading of four green LEDs or higher indicates an acceptable signal strength.
- Once you have installed the detector you should put the control unit in the Installer test menu and test the received signal strength from the transmitter.
- A signal strength reading of two or more units by the control unit from the transmitter should provide reliable operation. (*Note:* if you take the signal strength using Downloader or the web browser interface while the panel is in user mode then the minimum acceptable signal strength is four units. Ensure that the control unit is in Installer mode when reading signal strengths remotely.)
- When you record the signal strength readings for later inspection, you should record the readings taken from the control unit of the installed system while it is in the Installer Menu.

Please be aware that the signal strength received from a transmitter can change after installation because of local environmental changes. For example, users switching on laptops nearby, or moving metal cabinets from their original position can all affect the signal from a transmitter. Please read Eaton's Security Business publication "Guidance Notes for Wireless Alarm System Installations" obtainable from www.coopersecurity.co.uk for more information about the factors affecting radio signal strength.

Do site the transmitter:

Upright.

As high as possible. However, do make sure that the unit is on a similar level to the receivers.

Do NOT site the transmitter:

> Close to or on large metal structures.
>
> Closer than one metre to mains wiring, metal water or gas pipes, or other metal surfaces.
>
> Lower than one metres from the floor (ideally).
>
> Inside metal enclosures.
>
> Next to electronic equipment, particularly computers, photocopiers or other radio equipment, CAT 5 data lines or industrial mains equipment.

Note: Some window glasses, especially those sold as "insulating" or "energy conserving" may be coated with thin metal or conducting films. These glasses are particularly poor at transmitting radio waves.

3. Installation

To open the detector remove the fixing screw (see Figure 2) and swing the bottom of the detector lid away from the base before lifting the lid off.

Figure 3 shows the main features of the detector:

1. Aerial.	8. Sensor cable entry.
2. Activity LED.	9. Test LED.
3. Transmitter board.	10. Enable View State jumper.
4. Battery holder.	11. Disable Tamper jumper.
5. Tamper switch body.	12. Alarm on Dry jumper.
6. Sensor terminals.	13. Supervision Disable jumper.
7. Fixing hole.	14. Fixing hole.

Fitting Detector and Sensor

1. Fit the base upright (aerial towards the top) in the chosen position. The base has two fixing holes (see Figure 3).

2. Fit the sensor at the point you wish to monitor for flooding. Use a thin card or similar between the floor and the sensor pins to ensure that there is a gap through which water can enter (see Figure 4).

3. Connect the sensor cable to the terminals on the detector (6 on Figure 3). If the supplied cable is not long enough you can extend

the length by fitting another 1m of standard 7/0.2 un-screened four core alarm cable.

4. Insert the supplied 3V Lithium battery (size CR2), see Figure 3. Make sure that the positive side of the battery is the correct way up – see the markings on the battery holder. You should see the red activity LED flash briefly as you insert the battery.

Learning

1. Enter Installer Menu at the control unit.

2. Navigate to *Detectors/Devices – Detectors – Add/Del Detectors* and press Tick.

3. For i-onEX and Menvier30/40/100/300 Select the wireless expander that you wish to use and press Tick.

4. Select an unused zone and press Tick. The keypad display should show "Activate detector tamper".

5. Operate the tamper. (Press and release the spring on the tamper switch (5 in Figure 3). The transmitter sends a tamper message to the control unit.

   The control unit learns the transmitter's identity.
   For control unit software version 4.03 and lower the control unit allocates the zone type "Normal Alarm". Use the Installer Menu to give the zone the "Technical Alarm" type.
   For software version 4.04 and higher the control unit allocates the "Technical Alarm" zone type.
   The keypad display shows the signal strength of the transmitter.

6. Press Tick.

   The display shows the Name option.

7. If required, press Tick and give the detector a meaningful name. Press Tick when finished.

8. Leave Installer Menu.

Programming the Detector

Four jumpers on the detector PCB (see Figure 3) allow you alter the way the detector behaves:

Disable Tamper With the jumper fitted across both pins the tamper switch is disabled. The detector will not send a tamper signal if the lid is removed.

Enable View State With the jumper fitted over these two pins the Test LED glows when there is water (or a conductive path) between the pins on the sensor. You can use the Test LED for a visual check that the sensor is working during installation.

Note: Do not leave the Enable View State jumper fitted. If you do then the battery will be depleted sooner than expected if the Test LED continues to glow.

Alarm on Dry With the jumper on one pin the detector transmits an alarm signal to the control unit when the sensor is wet. With the jumper fitted to both pins the detector transmits an alarm signal when the sensor is dry.

Super Disable With the jumper on one pin the detector transmits supervision signals every four minutes. With the jumper on both pins the detector does not transmit any supervision signals.

Finishing Installation

Refit the detector case lid and secure it with the screw. Remove any packing card or packing material from between sensor and floor (see Figure 4).

You may wish to program your alarm system to communicate the alarm raised by the detector. Please see the relevant programming guide for the alarm system (for example the "i-on Engineering Guide" for all i-on control units).

Testing

Make sure the alarm system is in Installer Mode. Then use the *Test - Walk Test - Zones* option and select the zone number used by the detector. Set the zone to Yes and press Tick.

EITHER: If the Alarm On Dry jumper is NOT fitted, wet the sensor pins.

OR: If the Alarm On Dry jumper IS fitted, remove the water from the sensor.

You should see "A" appear on the bottom line of the keypad display and hear the confirmation tone.

4. Maintenance

The detector should be inspected once per year. At each inspection:

Check the unit for obvious signs of damage to the case or its lid.

Test the action of the sensor.

Clean the detector surface and casing. To clean the unit wipe the surface with a clean soft dry cloth. Do not use water, solvents or any proprietary cleaning materials.

Monitor the signal strength and battery condition of the detector's transmitter. Test the device. Replace the batteries as recommended.

5. Technical Specification

Product name	DET-RWATER
Transmitter Dimensions	102x34x28 (HxWxD mm)
Sensor Dimensions	44x25x13 (HxWxD mm)
Cable Length	1m
Weight	Approx 90g (including cable)
Housing material	Thermoplastic resin
Environmental Class	II
Battery	3V Li CR2
Battery Life	Approximately 24 months
Radio	Operating frequency 868.6625MHz Narrowband.
Transmitter range	The range of the transmitter in this unit depends on the environment in which it are installed. As a guideline, the transmitter will work up 50m range in free space conditions.

Compliance Statements

This product complies with the requirements of the EU directive: 1995/5/EC "Directive on radio and telecommunications terminal equipment and the mutual recognition of their conformity".

Compatible Equipment

762rEUR-00	Two Channel Receiver
768rEUR-50	Eight Channel Receiver
770rEUR-00	Wireless Accessory Module
EXP-R10/R30	Wireless expanders for i-onEX and Menvier30/40/100/300
i-on16	Radio alarm system control unit
i-on40	Radio and wired alarm system control unit

Every effort has been made to ensure that the contents of this book are correct. The contents of this book are subject to change without notice.