CROW
Electronic Engineering Ltd

SH-AQ-8F /9F

WIRELESS DIGITAL GAS, HUMIDITY, PRESSURE AND TEMPERATURE SENSOR

INSTRUCTION MANUAL

P/N 7101427_B

PRODUCT FEATURES

The SH-AQ is a unique detector which combines barometric pressure, relative humidity, ambient temperature and air quality.

It is small and user friendly making it easy to integrate to your Shepherd system.

Data is registered in Crow Cloud and user can monitor his ambient indoor air quality for his personal health and quality of life.

- Freewave2™ Two Way ISM
- GFSK with 5 frequencies & LBT
- Frequency Band: 868MHz, 916MHz
- Low current Technology
- Powered by 2 Energizer Lithium Batteries 1.5V, Type: AA L91
- Battery life : up to 5 years
- Back Tamper (removal protection)
- Supervision transmission
- Battery status signal transmission
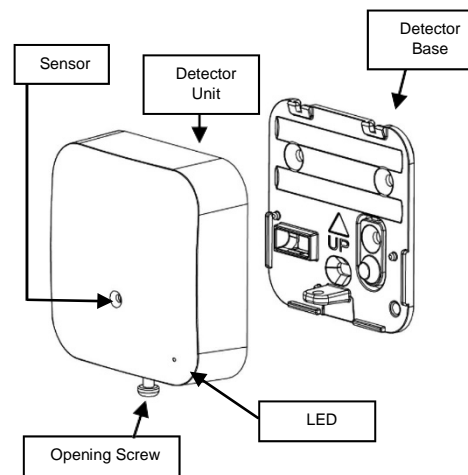- Unique ID number (24 bits)
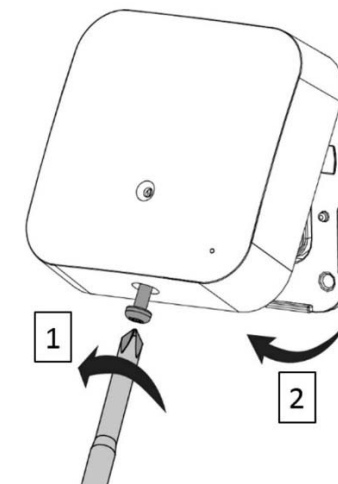
PRODUCT OVERVIEW

Figure 1

DETECTOR OPENING

Figure 2

1. Unscrew the bottom screw
2. Tilt out the detector unit and separate it from its base.

MOUNTING LOCATION

Mounting the detector at the appropriate height is critical to gathering the most accurate data.

The SH-AQ can be located between 120 cm to 140 cm height and on the same wall as you would mount a thermostat.

It should not be near outside doors or windows that can make the space appear to have more fresh air than it actually does.

Locating the sensor close to the potential source of gas should also be considered when determining the location of the sensor.

Areas to avoid:

The SH-AQ should not be located near ventilation fans or openings that could interfere with the airflow you want to detect.

Be sure to identify areas of "dead air" with little air movement. Mounting the detector in a dead zone will result in poor alerts and potential over exposure to the gas you are trying to detect.

Also remember not to install carbon monoxide detectors directly above or beside fuel-burning appliances, as appliances may emit a small amount of carbon monoxide when starting up which could lead to "false" alerts.

BATTERY INSERTION AND REPLACEMENT

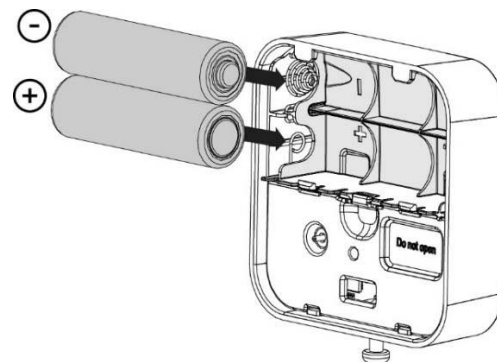The SH-AQ is supplied with batteries inside. Just pull out the rubber to activate the detector.

Figure 3

The battery can be replaced by the user
Battery type: 2 Energizer Lithium Batteries 1.5V, Type: AA L91

CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED BY DIFFERENT TYPE / MODEL. DISPOSE USED BATTERIES ACCORDING TO THEIR INSTRUCTIONS
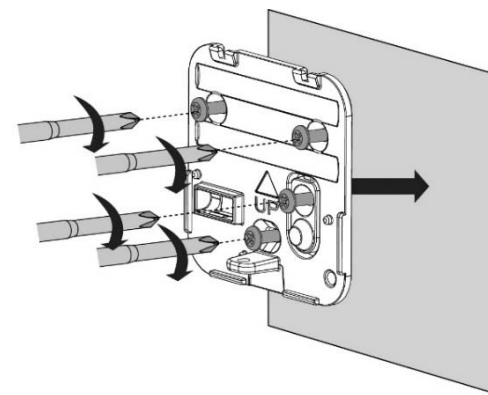
DETECTOR MOUNTING

Figure 4

We recommend using the hole in front of the tamper switch to enable the protection against removal.

LEARNING PROCESS

For pairing process, please refer to your control panel instructions.

To pair your device with Shepherd™ panel, please proceed as follows:

1. Enter in installing mode via the "Installer Webpage"
2. Go to "Zones" and select the zone # you want to learn
3. Add Zone - (Reminder: insert Link Type "ISM", device's ID, Device Type "Air quality detector".)
4. Set the detector configuration: supervision time and save configuration.
5. Remove the plastic film that protect the batteries(the detector is packed with 2 batteries inside) Verify Green & Red are blinking alternately, then the LED will turn Green on for 3 sec. to indicate device learned successfully.
6. The device should register to the Control Panel.
7. When registration process is successfully completed, the Green LED will constantly light ON for 3 seconds and then turn OFF.

If Green LED continues flashing more than 5 minutes and stopped. Please check SH-AQ settings details, remove batteries and repeat step 5,6,7

AIR QUALITY LEVELS

IAQ Standard	Description	TVOC Level (mg/m³)	CO2 equivalent (ppm)	Ethanol equiv. @ 1000hPa, 25ºC (ppm)
0 to 50	Good	< 0.33	< (800 – 1000)	< 0.18
51 to 100	Average	< 1.0	< (1000 – 1200)	< 0.54
101 to 150	Little Bad	< 3.0	< (1200 – 1800)	< 1.6
151 to 200	Bad	< 9.0	< (1800 – 2000)	< 4.8
201 to 300	Worse	< 81.0	< 3000	< 44.0
301 to 500	Very Bad	> 81.0	> 3000	> 44.0

SPECIFICATION

Detection Method	Air Quality Sensor
Communication Protocol	Freewave2™ Two Way ISM GFSK with 5 frequencies & LBT
Modulation Type	GFSK (5 frequencies)
Frequency	868-869MHz / 916-917MHz
Identification	Unique ID serial number – 24 bit
Events Transmission	Alarm, Tamper, Supervision, Low Bat.
Supervision Time	7 min by default *(configurable)*
Range	Up to 500m in open space
Batteries	2 Energizer Lithium Batteries 1.5V, Type: AA L91
Battery life	Up to 5 years
Power supply	Type C
Current Consumptions	Standby ~110 μA
Tamper Switch	Back Tamper (Removal)
Operating temperature	-10°C to +55°C
Dimensions	62.8mm x 62.8mm x 19.60mm
Weight (inc. battery)	40 gr.

STANDARDS APPROVALS

The SH-AQ conforms to the essential requirements set out by:

EN 300220-1

EN 300 220-2

EN 61000-6-3

EN 301489-1

EN 301489-3

EN 62368-1

EN 50130-5

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EVENT TRANSMISSION

SUPERVISION– A periodical transmission (configurable) indicating detector's presence.

AIR QUALITY ALERT – Alarm transmission triggered by pre-defined Gas, Humidity, Pressure or Temperature levels.

LOW BAT – Whenever the battery reaches the low level (2.9V), a "Battery Low" signal will be sent. When Battery level drops below Cut Off level (2.5V) the device will stop functioning and the Red LED will blink for 10 seconds and then turned Off.

TAMPER – Whenever the detector unit is removed from its base or the device is tear off from the wall, a "Tamper" signal will be transmitted to the control panel.

RSSI – RF SIGNAL INDICATION

After learning and before installing the detector we recommend to perform transmission tests.

Tamper Transmission Test

Changing the tamper switch state (by attaching / removing the device to / from the Base) will cause tamper transmissions.

You can view the Tamper open and close transmissions test events from the installer programming mode:

1. overview level

2. log level

Or / And

1. user personal page

2. Mobila App.

WARRANTY POLICY CERTIFICATE

CROW
Electronic Engineering Ltd

sales@crow.co.il
support@crow.co.il

www.thecrowgroup.com

These instructions supersede all previous issues in circulation prior to August 2018