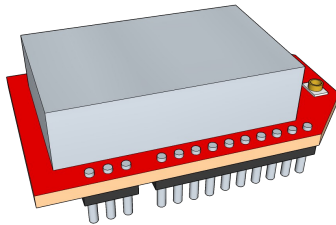


Heat Watch



Wireless Gateway

User's Manual



Revision 3

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Installing the Gateway

Before installing the Gateway, note the serial number listed on the unit. This will be needed later to verify the operation of the unit, and complete system configuration.

Insert the Gateway Module into the socket in the host hardware, making certain to carefully align the pins. Gently press the Gateway into place, until it is fully seated.

Carefully connect the RF cable to the miniature connector located on the beveled end of the circuit board. The connector will snap into place with minimal effort when properly aligned. Do not use force to mate the connector. If it does not seat correctly upon the first attempt, remove it and try again.

I/O Connections

The Gateway Module has 3 interface connectors to provide I/O with host systems. These are:

- Header 1 – Command and Control
- Header 2 – Digital I/O
- Header 3 – Identification

Header 1 – Command and Control

Pin 1: 3.3 VDC Supply

Internal circuitry provides additional regulation and filtering for radio core. Provide 3.3 VDC +/- 0.15V supply for proper operation.

Pin 2: RX

3.3V TTL/CMOS compatible UART interface receive line.

Pin 3: TX

3.3V TTL/CMOS compatible UART interface transmit line.

Pin 4: No Connect.

Pin 5: /RST

Active low reset for module. Pull to < 0.3 VDC for 100 ms to reset the module.

Pins 6-8: No Connect.

Pin 9: Digital Out
Reserved digital output for future expansion.

Pin 10: GND
Signal ground for module.

Header 2 – Digital I/O

Pins 1-5:
Digital I/O [1..5] for application specific digital interfaces.

Pin 6: Digital Input
Reserved digital input for future expansion.

Pins 7-10: No Connect.

Header 3 – Identification

Pin 1: GND
Signal ground for module.

Pin 2: No Connect.

Pin 3: Detect.
Internally connected to ground. Host system may use this pin to determine if module is installed by externally connecting a 10 K Ω resistor to Vcc, and monitoring the pin for a low state.

Operation

The Heat Watch Gateway module acts as a wireless to serial interface. It receives packets transmitted from wireless sensors, and outputs data over the serial port formatted in simple ASCII text. The Gateway module normally operates in a low-power receive state, outputting a time synchronization packet once per minute. The gateway also responds to range request and pairing messages from wireless sensors. When the Gateway module is operated as a wireless collector, only the RX and TX pins are used to transmit data over the serial port.

The Heat Watch Gateway module can also function as a repeater by simply retransmitting each data packet it receives. Time-to-live (TTL) packet management prevents network congestion by limiting the number of times a packet can be passed on the network.

FCC ID: 2AQX2-HWGATE915

This device complies with Part 15 of FCC Rules. Operation is subject to the following conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by Heat Watch could void the user's authority to operate the equipment.

Notice of Modular Approval

All products utilizing this module are required to be furnished with a label on the exterior of the enclosure stating:

“Contains FCC ID: 2AQX2-HWGATE915”

“Contains IC: 24232-HWGATE915”

In addition, such products are also required to provide regulatory compliance statements on products and manuals, as required by FCC, IC, and/or any other regulatory bodies.

RF Exposure WARNING

This equipment is approved only for mobile applications. Antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

IC Notice:

This radio transmitter [IC: 24232-HWGATE915] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Le présent émetteur radio [IC: 24232-HWGATE915] a été approuvé par Innovation, Sciences et Développement économique Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal. Les types d'antenne non inclus dans cette liste, et dont le gain est supérieur au gain maximal indiqué pour tout type figurant sur la liste, sont strictement interdits pour l'exploitation de l'émetteur.

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. L'appareil ne doit pas produire de brouillage;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

List of Approved Antennas:

Type	Gain
Dipole	+2.0 dBi
Whip	+2.2 dB