

# E-Mon D-Mon<sup>®</sup> Installation Manual

## GW1 External Gas & Water Meter Wireless Module



Dear Valued Customer,

We are pleased that you chose to buy one of our products, and want you to be just as pleased with owning it. Before installing your new E-Mon product, please read the information on the following pages carefully.

We believe that you will find the E-Mon D-Mon meters easy to install and to use for monitoring and evaluating your electrical usage.

To be sure that you are 100% satisfied with your products, we provide toll-free technical and sales support Monday through Friday, 8:00 am to 7:30 pm, EST: (800) 334-3666. You may also reach us via email at info@emon.com.

If you have questions, we can handle them quickly and effectively with a telephone call. Please let us try to help you BEFORE you remove your meter. And to help us help you, we ask that you have all relevant information on hand when you call (model or part numbers, nature of difficulty, etc.)

Be sure to forward this manual to the owner after installation is complete, so that they may use it as a reference guide when reading the E-Mon D-Mon meter.

Thank you.

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## 1.0 Introduction

The E-Mon D-Mon® GW1 wireless gas & water module is a mesh network RF transceiver that is designed to interface with gas and water meters equipped with a pulse (contact) output capability. As such, it can be used on systems which include the E-Mon wireless submeters or it can be used independently on systems reading only gas and/or water. It reports its data to a gateway unit that reads all modules in the system and provides an interface to the AMR (Automatic Meter Reading) system's computer and E-Mon Energy™ software.

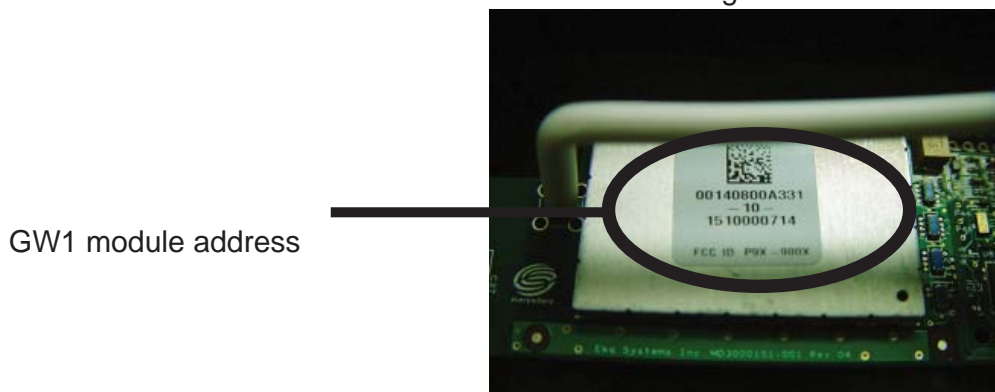
The GW1 requires a source of 120 VAC power to operate. Data input is from gas and water meters having a contact pulse output. The pulses are stored in the unit as interval data in 15-minute time-stamped segments. This allows the software to provide detailed graphs and charts that show usage patterns in addition to total consumption.

As the unit has full mesh capability, it will begin to establish communication to the gateway as soon as it is powered up. The mesh network is self-configuring and self-healing (if a unit is removed.) Each unit has a specific and unique address. This must be noted in order to be associated with the meter that it is connected to.

### 1.1 Module Address

The address of each GW1 module is located on the metal shield under the unit's antenna. See fig. 1 below for assistance in locating this information. Notation of this unique address is important, as it must be associated with the gas or water meter connected to the module for proper data acquisition.

Figure 1



## 2.0 Installation Instructions

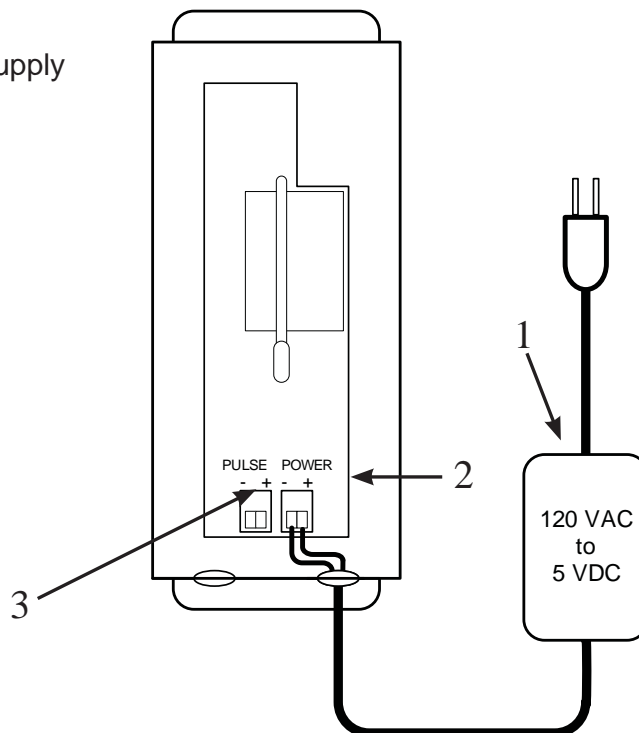
The E-Mon D-Mon GW1 wireless gas & water module requires a source of 120 VAC to power it. The 120 VAC to 5 VDC power supply is included with the module. **The power supply is plugged into an available convenience type outlet. It is important that the 120 VAC outlet remains on all the time and that the power supply is plugged in at all times. Loss of power will result in loss of data for that time period.** The 5 VDC power cable may be extended as long as proper polarity is maintained when it is connected to the GW1 module.

Mount the GW1 module using the four mounting holes on the enclosure. Remove the four screws that hold the cover on the module and remove the cover to access the circuit board.

The gas or water meter is connected to the GW1 module through the removable terminal on the circuit board labeled “pulse”. If a solid-state switch is used on the gas or water meter, the proper polarity must be observed. See the meter manufacturer’s instructions for details.

Plug the power supply into the 120 VAC receptacle. An LED indicator to the left of the pulse input terminal will indicate power to the unit.

1. 120 VAC to 5 VDC power supply
2. Module power input
3. Pulse input



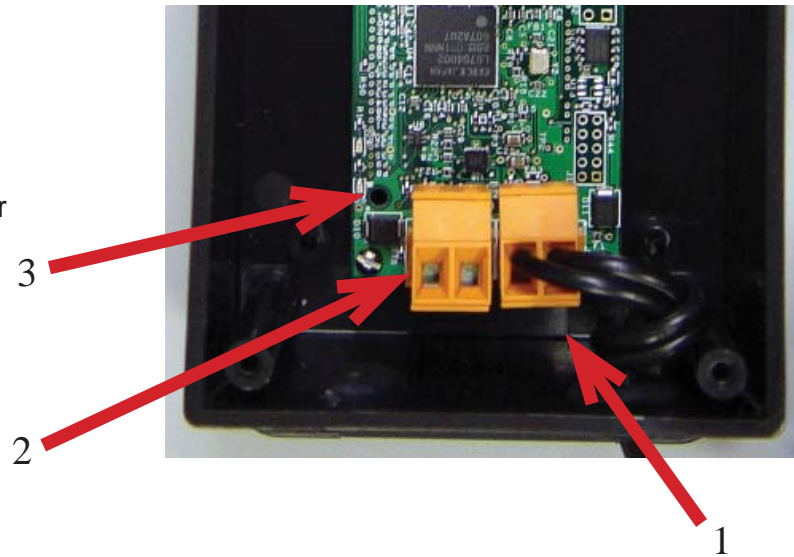
Note and write down the module address as previously shown in fig. 1. This information must be listed with the gas or water meter that is connected to this GW1 module when entering information into E-Mon Energy software to properly identify the tenant or entity being metered. The pulse value of the gas or water meter must also be listed with this information.

Place the cover back on the enclosure and attach it with the four screws.

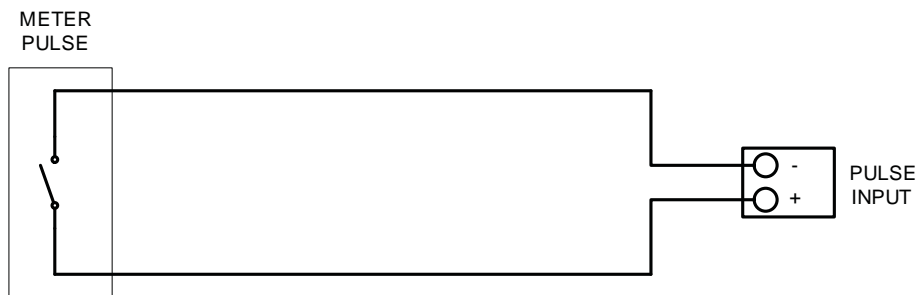
## 2.0 Installation Instructions (Continued)

The GW1 will now search for the gateway and establish itself into the wireless mesh network. The proper time and date will be sent to the GW1 module from the gateway for load profile recording.

1. 5 VDC input
2. Pulse input
3. LED indicator



Typical Wiring Diagram



## 3.0 Additional Information

The GW1 gas and water module works in conjunction with the wireless gateway. This device is used as the data gathering and communication point for all of the E-Mon wireless devices. Whether the modules are used for water and gas, or are an internal component of the electric meters, the gateway is necessary to provide the gathering point for the data from the modules and the communication means to the computer and E-Mon Energy software.



Wireless Gateway

The gateway can be used to directly interface with the computer over Ethernet or can be accessed over the internet when it is set up with a public IP address. A software program provides for the communication with the gateway and for conversion to the proper data format used by E-Mon Energy software for billing and analysis.

#### 4.0 Technical Specifications

Size	7" L x 3" W x 2.1" H
Operating Frequency	903-928 MHz
Mode	Frequency Hopping Spread Spectrum
Data Rate	76.8 Kbps
RF Outlet	20 dBm
Sensitivity	-93 dBm
Range	Indoor: > 1000 feet Outdoor: 200-400 feet
Input	Dry contact
Power Supply	120 VAC (5 VDC to module)
Environmental	-40 degrees Celsius to +85 degrees Celsius
Internal Data Storage	> 1 month