

Wireless Gateway and E2

For a copy of the full Wireless User Manual (P/N 026-1734), click [here](#) to download or contact Copeland Technical Support at 833-409-7505.

The Wireless Module System allows for quickly and easily monitoring a variety of Refrigeration and HVAC applications by connecting temperature probes, product simulators, humidity probes or switches to the Wireless Module that transmits these signals to the Wireless Gateway. The Gateway translates the signal into usable information to send to the building controller, E2 (version 4.08 or higher) or Site Supervisor, where the data can be logged into reports or used by algorithms to make control decisions. The Wireless Gateway can receive signals from up to 99 Modules. The Wireless Module is flexible and configurable with up to three (3) analog or digital inputs that can be used for a variety of applications in Refrigeration and HVAC, eliminating installation materials and costly labor-intensive wiring.

Installing the Wireless Gateway

Installing the Wireless Gateway for E2 involves mounting and powering the device, and connecting to E2's RS485 network.

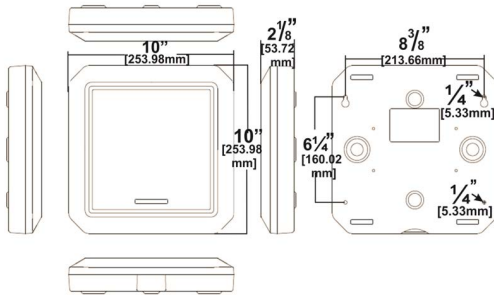


Figure 1 - Wireless Gateway Enclosure Dimensions

The Wireless Gateway requires 24VAC power from a Class 2 Transformer.

Table 1 - Wireless Gateway Power Requirements

Input Voltage	24VAC, Class 2, 50/60Hz
Power	10VA

Because the Gateway is usually mounted away from the transformer, 18 AWG wire should be used. The AC voltage at the Gateway needs to be at least 19 Volts.

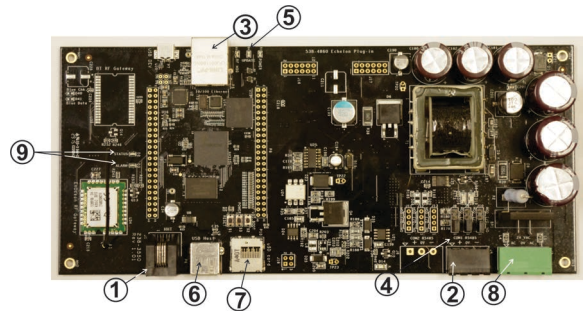


Figure 2 - Wireless Gateway Board

LEGEND

1	Hand-Held Terminal Jack	6	USB Host
2	RS485 Net COM1	7	Micro SD Card
3	Ethernet	8	24VAC Power Connector
4	I/O Net/MODBUS Term Jumpers	9	Status LED & Alarm LED
5	RF LED (Yellow), CHECK LED (Blue) & POWER LED (Blue)		

Installing Network Cable

Each E2 that will receive a value from the Wireless Module must have the Wireless Gateway installed on its RS485 Network. For E2 controllers, the Gateway will be installed on an RS485 network running MODBUS protocol.

Using a shielded three-conductor network cable (Belden #8641 or equivalent), connect the RS485 Network wire from E2 to the three-terminal connector on the Wireless Gateway board as shown below. For further information about how RS485 networks are configured, refer to the E2 User Manual (P/N 026-1614).

Set Up and Commissioning in E2

For complete instructions on set up and commissioning, refer to the Wireless User Manual (P/N 026-1734).

NOTE: E2 Firmware version 3.08/4.08 is required.

1. Set the desired COM port for MODBUS.

(Menu, 7, 4, 1, C:3 Serial tab)

- Baud: 19.2 Kbaud
- Data Size: 8
- Parity: Even
- Stop Bits: 1

2. Add a Wireless Gateway in the Network Setup screen (Menu, 7, 7, 2, C:3 ECT tab) by changing the quantity of **Wireless GW** to 1.
3. After adding the Gateway, go to the **Network Summary** screen and select Wireless Gateway and then Commission (Menu, 7, 7, 1, F4: Commission).
4. Set the MODBUS address to **247** to match the default address in the Gateway (this address is fixed in the Gateway). Enter **247** or scroll down to **247** and press **Enter**.
5. Press **Enter** to complete Commissioning.

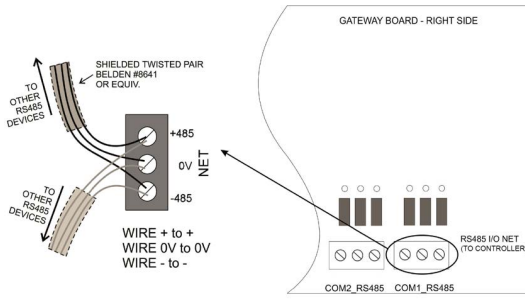


Figure 3 - Connecting the Gateway to the RS485 Network

Termination should only be done at the two end points of the network. Set termination as appropriate as shown in Figure 4 - Gateway MODBUS Jumper Configuration.

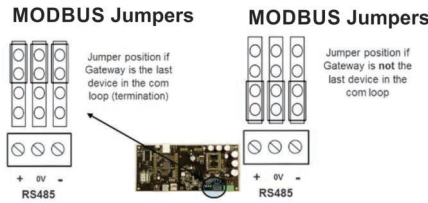


Figure 4 - Gateway MODBUS Jumper Configuration

Mounting and Installation Tips

- Gateway Signal Range: 100-ft. radius.
- Mount the Gateway on the ceiling, parallel to the floor.
- Up to 99 Wireless Modules per Gateway.
- Position the Module with the Copeland logo pointing towards the Gateway for maximum performance.
- Try to avoid metal obstructions in the line of sight.
- Mount the Module in a location where 200 lux of light is visible to the solar cell for five (5) or more hours per day.
- If possible, commission a Module from its mounting location to verify good positioning.
- Check the signal strength on the E2 prior to permanently mounting the Modules.
- Low cost Repeaters are available for applications not requiring additional Gateways.

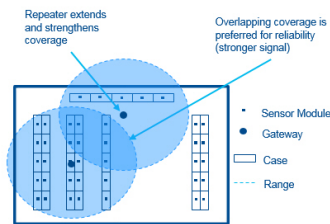


Figure 5 - Overlapping Coverage Area

Table 2- Ordering Information

Part Number	RF Description
814-3550	Wireless Gateway/Repeater 902MHz
814-3560	Wireless Repeater 902MHz, 24VAC
814-3570	Wireless Repeater 902MHz, 120VAC
814-3600	Wireless Module 902MHz with User Selected Inputs; Clean Mode
814-3653	Wireless Module 902MHz, 3 Temp; Clean Mode with Molex Connector
140-6802	Wall Mount 24VAC, 20VA Class 2 Transformer

For a full copy of the Wireless Module System Installation and Operation Manual, scan the QR Code.



Visit our website at copeland.com/en-us/products/controls-monitoring-systems for the latest technical documentation and updates.

For Technical Support call 833-409-7505 or email ColdChain.TechnicalServices@Copeland.com