Everex Communications, Inc

WC-21 User's Manual:

WC-21 is a 2.4Ghz wireless digital I/O transceiver which is used in energy management, building control, HVAC applications. It communicates with the host and/or other WC-21 units in the unlicensed 2.4Ghz ISM band. It is powered by a 24VAC power source. The unit consists of the following I/O functions:

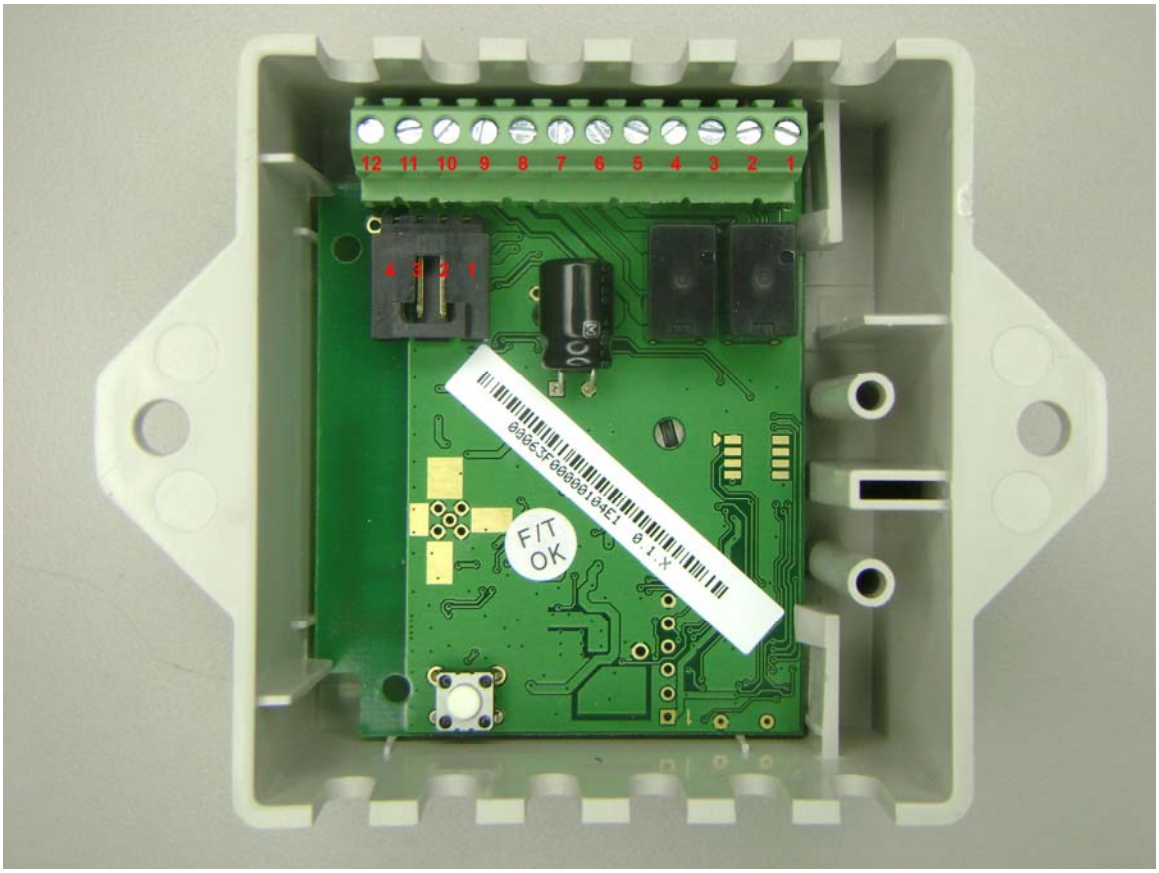
1. Two 1A/30V relays: Relay connection can be normally open or normally close.
2. Two thermistor inputs: Connected to 30K thermistor, the unit can provide remote temperature reading.
3. Humidity sensor: The humidity sensor can provide accurate local relative humidity reading.
4. Serial communication bus: Other serial peripheral devices can be connected to the unit for providing expansion of the additional digital inputs/outputs or other control function, for example, thermostat.

One of the important features of WC-21 is its mesh network, self-forming and self-healing capability. Each WC-21 unit is a router which can relay information and command to other WC-21s. If one of WC-21 in the network path becomes non-functional, WC-21 can automatically seek other WC-21 to reform the network connection.

Installation:

There are a 12 pin screw terminal and a 4 pin serial communication connector. The 12 pin screw terminal provides connections to themistors for temperature measurement and to other HVAC devices. The 4 pin connector provides serial communication and 24VAC power to other serial device, such as thermostat or modbus I/O expander. Please refer to the picture below for pin assignment of each connector. WC-21 should be mounted high up on the wall to provide maximum RF communication range.

WC-21



12 pin screw terminal pin assignment:
Pin 1 : Thermistor 1 input
Pin 2 : Thermistor 1 input
Pin 3 : Thermistor 2 input
Pin 4 : Thermistor 2 input
Pin 5 : Relay 1 NO (normally open)
Pin 6 : Relay 1 Center
Pin 7 : Relay 1 NC (normally close)
Pin 8 : Relay 2 NO (normally open)
Pin 9 : Relay 2 Center
Pin 10: Relay 2 NC (normally close)
Pin 11: 24VAC input
Pin 12: 24VAC input (GND)

4 pin serial communication connector pin assignment:
Pin 1 : 24VAC
Pin 2 : Serial communication signal 1
Pin 3 : Serial communication signal 2
Pin 4 : 24VAC (GND)

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by on or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: This equipment is authorized for use under the United States Federal Communication Commission Rules and Regulations, Code of Federal Regulations Chapter 47 part 15 and must be installed in accordance with the instructions provided in this document. Failure to install or operate this equipment as instructed in this document could void the user's authority to operate the equipment. This equipment contains no user serviceable parts. Any modification or repairs to the internal components or to the antenna configuration of the equipment without the express written consent of Everex Communications, Inc. could void the user's authority to operate the equipment.

Note: To comply with FCC RF exposure requirements in section 1.1307, a minimum separation distance of 20cm (8 inches) is required between the equipment and all persons.