Wireless Transceiver with Modbus Interface

The OMWT-XREC-MOD Wireless Transceiver uses an embedded 100-milliwatt frequency hopping wireless modem that provides communication between a local RS-485 network and a remote network of RS-485 connected devices. The OMWT-XREC-MOD will automatically sense the direction of data flow and switch the RS-485 and radio devices accordingly. The OMWT-XREC-MOD can be placed in a network of RS-485 devices and appear as a slave repeater of remote RS-485 devices or it can be placed in a network of one or many RS-485 slaves and act as the RS-485 repeater of a remote master. The radio operates within the 900 MHz ISM Band under Part 15 of the FCC Rules and regulations.

The OMWT-XREC-MOD operates at 19200 Baud at either odd parity or no parity. Dip switches select parity and one of 7 radio networks. Radios operating together must have the same radio network address (1-7 set by switches labeled A0-A2). Select a different radio network address to prevent interference from nearby networks that are not sharing information. The default radio network for roof-top applications is 5. The user may choose another network address (1-7) if desired. While all radios in a network must have the same network address they do not have to have the same parity; the parity is local to the RS-485 serial port on the OMWT-XREC-MOD only. Parity information is not transmitted or received.

Radio network selection 0 (A0, A1, A2 all set to 0) selects a special network setup. When network address setting 0 is selected the pre-programmed radio network parameters are used; these parameters are user and application specific and must be set at the factory for specific applications.

The OMWT-XREC-MOD can also be used as a general purpose RS-485 half duplex radio interface operating at 19200 baud at either odd or no parity (dip switch selectable).

The OMWT-XREC-MOD is supplied standard with a 1/2 wave monopole antenna. For longer distance outdoor use, optional Omni-Directional and YAGI directional line-of-site antennas are available.

Specifications
Frequency Range: 902 to 928 MHz, unlicensed ISM Band  
Type: Frequency hopping spread spectrum transceiver  
Frequency Control: Direct FM  
Transport Protocol: Transparent networking  
Network Topology: Multi-drop  
Channel Capacity: Hops through 25 channels, up to 65,000 NetIDs
OMWT Series Wireless Transmitters with Modbus Receiver

High Power 900 MHz System with Modbus Receiver

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Price</th>
<th>Description</th>
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<tbody>
<tr>
<td>OMWT-XREC-MOD</td>
<td>$400</td>
<td>Wireless transceiver with Modbus interface</td>
</tr>
<tr>
<td>OMWT-OMNI-900-20</td>
<td>$330</td>
<td>900 MHz omni-directional antenna with 6 m (20') cable*</td>
</tr>
<tr>
<td>OMWT-YAGI-900-20</td>
<td>$330</td>
<td>900 MHz YAGI antenna with 6.1 m (20') cable*</td>
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Each wireless transceiver includes ½ wave antenna and 110 Vac adaptor.

* Additional antennas are available. Contact the Data Acquisition Engineering Department for ordering.

Ordering Example: OMWT-XREC-MOD wireless transceiver with Modbus interface, $400.

Serial Data Interface:
Asynchronous (RS-232) CMOS (TTL) signals, 5V, 3.3V tolerant
I/O Data Rate: 9600 baud
Channel Data Rate: 10K bps at 9600 baud
Transmit Power Output: 100mW
Rx Sensitivity: -110 or -107 respectively

Transceiver Range Indoor (with Standard 1/2 Wave Monopole Antenna): 180 to 450 m (600 to 1500'), 900 MHz;
Transceiver Range Outdoor (With Optional Omni-Directional Antenna):

- Up to 7 mi (11 km), 900 MHz
- Up to 20 mi (32 km), 900 MHz

Interference Rejection: 70 dB at pager and cellular phone frequencies

Power: 5 Vdc ±0.3V, 170 mA nominal transmitting, 50 mA nominal receiving
Operating Temperature: 0 to 70°C (32 to 158°F)
Storage Temperature: 0 to 70°C (32 to 158°F)

Operating Humidity: 10 to 90% RH non-condensing
Dimensions (Without Antenna):
70 x 127 x 35 mm D (2.75 x 5.00 x 1.375")
Weight: 142 g (5 oz)

Available for Fast Delivery!

As many as 100 transmitters can be used.
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- **Flow and Level**
  Air Velocity Indicators, Doppler Flowmeters, Level Measurement, Magnetic Flowmeters, Mass Flowmeters, Pitot Tubes, Pumps, Rotameters, Turbine and Paddle Wheel Flowmeters, Ultrasonic Flowmeters, Valves, Variable Area Flowmeters, Vortex Shedding Flowmeters

- **pH and Conductivity**
  Conductivity Instrumentation, Dissolved Oxygen Instrumentation, Environmental Instrumentation, pH Electrodes and Instruments, Water and Soil Analysis Instrumentation

- **Data Acquisition**

- **Pressure, Strain and Force**
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- **Heaters**

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