



Data Sheet

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WattNode Modbus Specifications:

These specifications apply to the following two families of WattNode meters for the Modbus protocol: WattNode Modbus and WattNode Revenue for Modbus.



Modbus Communication

- Protocol: Modbus RTU (binary)
- Baud Rates: 2,400, 4,800, 9,600, 19,200, and 38,400 baud
- Duplex: Half (two-wire plus common)
- Parity (default): N81 (no parity, eight data bits, one stop bit)
- Modbus Buffer: 256 bytes
- Response Time (typical): 5 to 25 milliseconds

EIA RS-485 Interface

- Driver Output Voltage (Open Circuit): $\pm V$ maximum
- Driver Output Voltage (54Ω load): $\pm 1.5 V$ minimum
- Driver Output Current (54Ω load): ± 60 mA typical
- Driver Output Rise Time (54Ω || 50 pF load): 900 nS typical
- Receiver Common-Mode Voltage Range: -7 to $+12$ Vdc maximum
- Receiver Sensitivity: ± 200 mV
- Receiver Bus Load: 1/8 unit load

Electrical

- Line powered
- Operating Voltage Range: -20% to $+15\%$ of nominal
- Power Line Frequency: 50 or 60 Hz
- CT Input: 0.333 Vac nominal, 0 to 0.5 Vac operating, 3 Vac maximum

Measurement Configurations

Models available for:

- Single phase: two or three wire
- Three phase: four wire wye
- Three phase: three wire delta
- Three phase: four wire delta



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Accuracy

WattNode Modbus

- 0.5% nominal

WattNode Revenue Modbus

- 0.5% nominal
- Meets the accuracy requirements of the ANSI C12.1 standard when used with CCS CTs rated for IEEE C57.13 class 0.6 accuracy
- Models RWNC-3Y-208-MB, RWNC-3D-240-MB and RWNC-3Y-480-MB are certified by MET Laboratories to meet ANSI C12.1. MET Labs is a nationally recognized testing laboratory (NRTL).

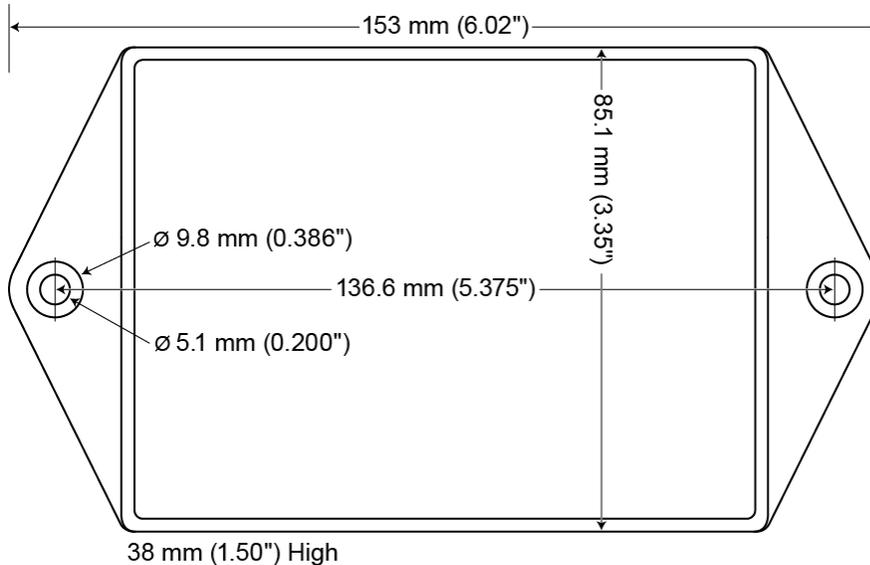
Regulatory

- FCC Class B, EN 55022 Class B
- UL and cUL Listed (UL 61010-1), file number E312220
- CE Mark and RoHS
- Immunity: EN 61326: 2002 (Industrial Locations)

Environmental

- Operating Temperature: -30°C to $+55^{\circ}\text{C}$ (-22°F to $+131^{\circ}\text{F}$)
- Altitude: Up to 2000 m (6560 ft)
- Operating Humidity: 5 to 90% relative humidity (RH) up to 40°C , decreasing linearly to 50% RH at 55°C .
- Pollution: POLLUTION DEGREE 2 - Normally only non-conductive pollution; occasionally, a temporary conductivity caused by condensation must be expected.
- Indoor Use: Suitable for indoor use.
- Outdoor Use: Suitable for outdoor use when mounted inside an electrical enclosure (Hammond Mfg., Type EJ Series) that is rated NEMA 3R or 4.

Mechanical



Case Dimensions

- Enclosure:
 - High impact, ABS plastic
 - Flame Resistance Rating: 94V-0, IEC FV-0
 - Size: 5.63 x 3.34 x 1.5 in. (143 x 85 x 38 mm)
 - Weight: 10.8 oz (305 g)
- Connectors: Euroblock style pluggable screw terminal blocks
 - Green: 22 to 12 AWG (1.0 to 3.2 mm), 600 V
 - Black: 22 to 12 AWG (1.0 to 3.2 mm), 300 V