

WATTNODE® PULSE

Standard and Revenue-Grade



Measures kWh, Many Pulse Output Options

The WattNode Pulse meter is an accurate, low cost, watt-hour transducer that measures both energy consumed and energy produced (bi-directional). The basic model has two pulse outputs, one for energy consumed and the other for energy produced. Each pulse represents a certain quantity of energy (watt-hours). Many other pulse output configuration are available as options.

For a simple kWh metering system, a WattNode Pulse meter can be configured to output exactly one pulse per kilowatt-hour (kWh) of energy used. The pulse output from the meter is connected to our Pulse Totalizer Display model LCDB-E. This display register counts up the pulses and shows the total number of kWh used.

The output pulses from the WattNode meter can also be recorded using a data logger or other data acquisition device such as a building automation system. These systems can calculate the average kW demand during a sample interval and can also provide TOU (time of use) data.

The pulse outputs of WattNode meters are optically isolated to provide 5000 volts protection from the AC power lines. An optocoupler functions like mechanical on/off switch. The pulse recording device connected to the meter applies a small DC voltage to the optocoupler switch to determine if it is open or closed. Each opening and closing of the switch represents one pulse.

WattNode Pulse meters are available with a variety of pulse output options. The basic meter is suitable for conventional energy measurement applications as well as for PV net metering, and other renewable energy applications. Pulse meters are used for tenant sub-metering, branch circuit lighting, HVAC and equipment monitoring, and demand response applications.

The WattNode Pulse is available in standard and revenue-grade accuracy versions and can be used with any low voltage CT (0.333 Vac output). Revenue-grade system accuracy requires current transformers with Class 0.6 or better accuracy. The ACTL series of current transformers is available with Class 0.6 or Class 0.3 accuracy; these CTs are ideal for revenue-grade billing purposes, SREC and state revenue-grade requirements. Certificates of calibration are available for WattNode Revenue meters and the ACTL revenue-grade current transformers.

The complete line of WattNode energy meters measure 1, 2, or 3 phases in 2, 3, or 4 wire configurations, with nominal voltages from 120 to 600 Vac 50/60 Hz. CCS offers a complete line of low-voltage, split-core and solid core current transformers with rated currents from for 5 to 6000 amps.

Features

- Low cost, bidirectional watt-hour transducer
- Safe, low voltage (0.333 Vac) current transformers
- Line powered
- Single or three phase, wye or delta configurations
- UL, cUL, CE, RoHS compliant
- 5 year warranty

Models

Model Number	Model Number	VAC Line to Neutral	VAC Line to Line	Phases	Wires
WNB-3Y-208-P	RWNB-3Y-208-P	120	208-240	3	4
WNB-3Y-400-P	RWNB-3Y-400-P	230	400	3	4
WNB-3Y-480-P	RWNB-3Y-480-P	277	480	3	4
WNB-3Y-600-P	RWNB-3Y-600-P	347	600	3	4
WNB-3D-240-P	RWNB-3D-240-P	120	208-240	3	3-4
WNB-3D-400-P	RWNB-3D-400-P	230	400	3	3-4
WNB-3D-480-P	RWNB-3D-480-P	277	480	3	3-4

"R" Designates revenue-grade



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WATTNODE® PULSE

Quantities Measured

- Energy (kilowatt-hours), sum and per phase (optional)

Accuracy

- 0.5% nominal (see manual for details)

Electrical

- Line powered, 50 or 60 Hz
- Operating Voltage Range: +15% to -20% of nominal

Environmental

- Oper. Temperature: -30°C to +55°C (-22°F to 131°F)
- Oper. Humidity: 5 to 90% RH up to 40°C, decreasing linearly to 50% RH at 55°C

Mechanical

- Enclosure: high impact, UL rated, ABS plastic
- Size: 6.1 x 3.35 x 1.5 in. (155 x 85 x 38 mm)
- Connectors: UL, CSA recognized, detachable screw terminals

Pulse Output

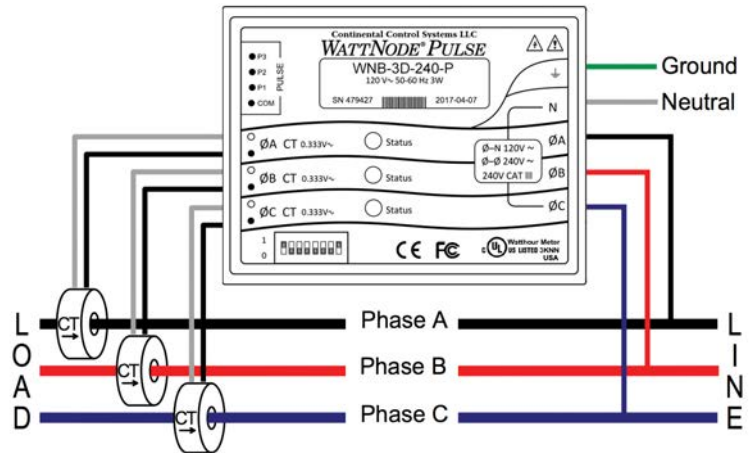
Opto-isolated, solid state relay closure up to 60 Vdc @ 5mA scaling:

- Full-scale frequency - 4 Hz (standard), or 0.01 Hz to 600 Hz (factory option)
- Specified watt-hours per pulse (factory option)

Regulatory

- FCC Class B, EN 55022 Class B
- UL and cUL Listed (UL 61010-1)
- CE Mark and RoHS compliant
- Immunity: EN 61326, (industrial locations)

WattNode Wiring Diagram, Three Phase Example



LCDB-E, Pulse Totalizer Display

- LCD 8 digits high contrast display
- Works out of the box, – no configuration required
- Screw terminals for fast installation
- Installs up to 100 feet from the meter
- Long 15+ year battery life
- UL and cUL/CSA, CE Recognized



Accu-CT® Split-Core CTs

- Safe, low voltage output, 0.333 Vac
- Primary Ratings: 5 to 600 amps, 600 Vac, 50 or 60 Hz
- UL & cUL, CE, RoHS compliant
- 0.75" and 1.25" openings
- High accuracy options C0.6, C0.3



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