WattNode® Plus

WattNode for LonWorks®

Standard and Revenue-Grade

Power Measurement for LonWorks

The WattNode for LonWorks is a networked energy meter that measures both energy consumed and energy produced (bidirectional). It provides electrical measurements such as energy (kWh), power (kW), voltage, current, kW demand, kVAR, kVARh, power factor, line frequency, etc. These measurement values are communicated using the LonTalk® communication protocol as individual phase measurements and sum or average readings. Measurements are transmitted as Standard Network Variable Types (SNVTs) through a LonWorks gateway.

LonWorks is a networking platform developed by Echelon Corporation that supports interconnection of various devices through a twisted pair connection. The communication protocol (LonTalk) is an accepted standard for control networking (ANSI/CEA-709.1-B).

The WattNode for LonWorks meter is available in standard and revenue-grade accuracy and can be used with any low voltage (0.333 Vac) output CT. Revenue-grade accuracy requires the use of current transformers with class 0.6 or better accuracy. The ACTL series of current transformers are available with class 0.6 or class 0.3 accuracy; these CTs are ideal for revenue-grade applications such as tenant billing, Solar Renewable Energy Credit (SREC), and utility revenue-grade requirements. Calibration certificates are available for the WattNode Revenue meters and the ACTL revenue-grade current transformers.

The WattNode meter's compact size permits installation inside most electrical service panels, junction boxes, and OEM equipment. The WattNode LonWorks meter is line-powered and does not require a separate power source.

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

Features

- **LonWorks, LonTalk**
- **40 Network Variables, SNVTs**
- **Safe, low voltage (0.333 Vac) current transformers**
- **Line powered**
- **Single or three phase, single or three phase, wye or delta configurations**
- **UL, cUL, CE, RoHS compliant**
- **Small profile, easy installation**
- **5 year warranty**

Models

Model Number	Model Number	VAC Line to Neutral	VAC Line to Line	Phases	Wires
WNC-3Y-208-FT10	RWNC-3Y-208-FT10	120	208-240	3	4
WNC-3Y-400-FT10	RWNC-3Y-400-FT10	230	400	3	4
WNC-3Y-480-FT10	RWNC-3Y-480-FT10	277	480	3	4
WNC-3Y-600-FT10	RWNC-3Y-600-FT10	347	600	3	4
WNC-3D-240-FT10	RWNC-3D-240-FT10	120	208-240	3	3-4
WNC-3D-400-FT10	RWNC-3D-400-FT10	230	400	3	3-4
WNC-3D-480-FT10	RWNC-3D-480-FT10	277	480	3	3-4

"R" Designates revenue-grade

CCS Continental Control Systems, LLC

WattNode® Plus

Quantities Measured
- Energy: real and reactive
- Power: real and reactive, per phase and sum
- Voltage: per phase volts
- Current: per phase amps
- Frequency: phase A
- Power Factor: per phase and average
- Demand: block or sliding window
- Peak Demand: value and time

Quantities Retained during Loss of Power
- Accumulated energy
- Peak demand
- Time of peak demand
- Instrument configuration data

User Controlled Inputs
- Set CT size in amps
- Set demand window type and period
- Reset peak demand to zero
- Set time of day

Accuracy
- Power and Energy: 0.45% of reading, plus 0.05% of full-scale

Electrical
- Operating Voltage Range: 80% to 120% of nominal
- Power Line Frequency Range: 45 to 65 Hz

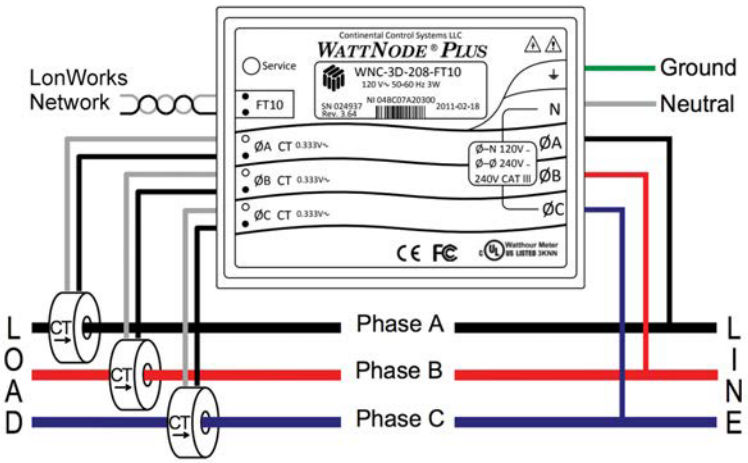
Environmental
- Operating Temperature: -30°C to +60°C (-22°F to 167°F)
- Humidity: 5 to 90% RH (non-condensing)

Mechanical
- Enclosure: high impact, UL rated, ABS plastic
- Size: 3.3" x 5.6" x 1.5" (includes mounting tabs)
- Connectors: detachable screw terminals (22-12 AWG)

LonWorks Communication
- 40 network variables using Standard Network Variable Types (SNVTs)

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



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” opening
- High accuracy options C0.6, C0.3

Standard Split-Core, Solid-Core and Bus Bar Series CTs

- Safe, low voltage output, 0.333 Vac
- Multiple Models: 5 to 6000 amps, 600 Vac, 50/60 Hz nominal
- UL & cUL, CE, RoHS compliant
- Custom sizes available

Rogowski CTs

- Safe, low voltage output, 0.333 Vac
- Multiple Diameters: 3.1", 4.5", 7.5", 12"
- Primary Ratings: 250 to 6000 amps
- UL & cUL, CE, RoHS compliant