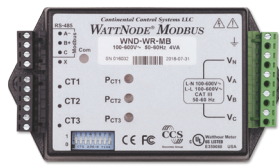


WattNode[®] Modbus & BACnet

Energy & Power Meter

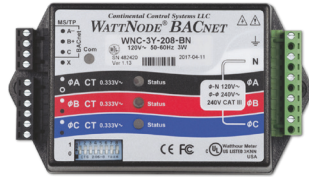
works with 333 mV current sensors



WattNode Wide Range Modbus



WattNode Meter Module



WattNode Wide Range BACnet

The solution for

- > Energy Management
- > Building Automation
- > Renewables

Strong points

- > Revenue Grade Accuracy
- > Expanded Modbus Register Map
- > Low voltage mV sensors
- > Compact Design
- > Universal Voltage
- > Diagnostic LEDs

Function

The **WattNode** delivers over 50 electrical measurements via Modbus RTU (RS485) communication. Designed as a universal, line-powered meter, the WattNode Wide Range supports utility services from 100 to 600 VAC, single-phase or three-phase, wye or delta, with revenue-grade accuracy.

The WattNode meter module is powered by 12-24 VAC or DC. The WattNode with Modbus communication features an expanded Modbus register map, including fast power for export limiting, remote wiring error correction, potential transformer ratios for 4160 VAC and above, and full SunSpec compliance.

Advantages

Revenue Grade Accuracy

- Meets ANSI C12.1-2014 & ANSI C12.20-2015.
- Class 0.5 accuracy (with Socomec ACTL CTs)

Expanded Modbus Register Map

- Fast power for export limiting.
- Registers to correct wiring errors remotely.
- SunSpec compliance for solar and energy management (Modbus only).

Low Voltage mV Sensors

- No shorting blocks are needed.
- Can safely be disconnected under load.

Compact Design

- Small form factor allows for easy installation in tight electrical panels.

Universal Voltage

- Compatible with any utility service from 100-600 VAC, single or three-phase load, wye or delta.

Diagnostic LEDs

- Confirms correct status of voltage and CT connections for reliable power and energy measurements.

Bi-Directional Metering

- The WattNode measures the flow of electricity in both directions (import/export).

Compliance with standards

- > UL 61010-1
CSA-C22.22
No. 61010-1
File E359088



- > SunSpec

- > California Energy Commission

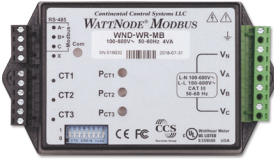




- > BTL Listed



WattNode® Modbus & BACnet

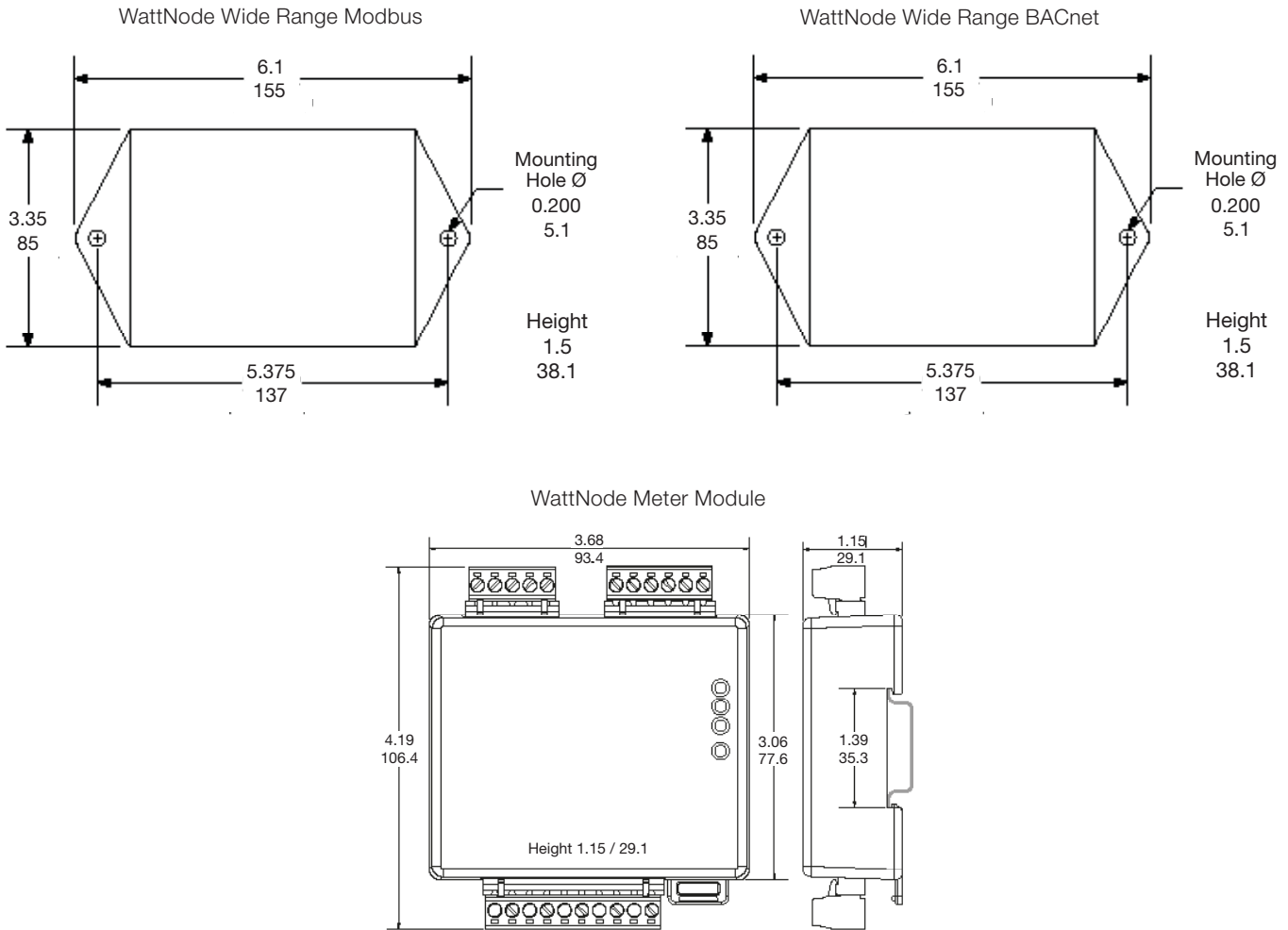
Energy & Power Meter

			
	WattNode Wide Range Modbus	WattNode Wide Range BACnet	WattNode Meter Module
Current Sensor Technology	333 mV		
Communication			
RS485 Modbus	•	-	•
BACnet MS/TP	-	•	-
General			
Format	Backmount	Backmount	DIN rail
Number of current sensor inputs	3	3	3
Available Enclosed	•	•	•
Electrical Characteristics			
Power Supply	Line Powered	Line Powered	6-24 VDC or 12-24 VAC
Voltage Measurement	90-347 VAC L-N 120-600 VAC L-L	90-347 VAC L-N 120-600 VAC L-L	90-347 VAC L-N 120-600 VAC L-L
Energy Metering			
± kWh, ± kvarh, kVAh	•	•	•
ΣP (kW), ΣQ (kvar), ΣS (kVA), PF	•	•	•
P (kW), Q (kvar), S (kVA), PF per phase	•	•	•
Peak demand	•	•	•
Multi-measurements			
U12, U23, U31, V1, V2, V3, f	•	•	•
U system, V system	•	•	•
I1, I2, I3, In, I system	•	•	•

WattNode[®] Modbus & BACnet

Energy & Power Meter

Dimensions (in / mm)



Technical characteristics

Electrical Characteristics		Communication characteristics	
Voltage measurement input	120-600 VAC L-L, 90-347 VAC L-N	RS485 (WattNode Wide-Range Modbus & Meter Module only)	
Electrical Network (Service) type	Single-Phase - Two-Wire, Line-to-Neutral Single-Phase - Two-Wire, Line-to-Line Single-Phase - Three-Wire (Split-Phase) Three-Phase - Three-Wire (Delta) Three-Phase - Four-Wire (Wye)	Link	RS485
Frequency range	45 ... 65 Hz	Protocol	Modbus RTU
Power supply Input	WattNode Wide Range: 100-600 VAC Line powered WattNode Meter Module 6-24 Vdc or 12-24 VAC	Connection Type	Half-duplex two-wire (plus common) communication
Power Consumption	≤ 4 VA	Baud rate	1200 bds - 115200 bds
Measurement Characteristics		BACnet (WattNode Wide-Range BACnet only)	
Voltage measurement		Link	RS485
Voltage measurement accuracy	0.5%	Protocol	BACnet MS/TP
Current measurement		Connection Type	Half-duplex two-wire (plus common) communication
Number of current inputs	3	Baud rate	1200 bds - 115200 bds
CT connection	Removable screw-type terminal block, 6 positions, AWG 12 ... AWG 22 / 0.5 ... 4.0 mm ² cable, 600 VAC, twisted pair	Mechanical Characteristics	
Associated current sensors	333 mV current sensors	Enclosure material	High impact, ABS/PC plastic
Current measurement accuracy	0.5%	Ingress Protection	IP40
Power and Energy measurement		Weight	10.8 oz (307 g) (WattNode Wide-Range) 4.7 oz (134 g) (WattNode Meter Module)
Active Power/Energy accuracy	Class 0.5 with Socomec ACTL C0.3 or C0.2 CTs Class 1 with Socomec ACTL C0.6 CTs	Environmental Characteristics	
Sampling rate	3.0 kHz	Operating temperature	-40°F to 176°F / -40°C to 80°C
		Operating humidity	5% to 90% RH, non-condensing, up to +104°F / +40°C
		Operating altitude	≤ 9842 ft / 3000 m

WattNode[®] Modbus & BACnet

Energy & Power Meter

References

WattNode power meters	Product Model Number	Reference
Power meter with Modbus RTU communication	WND-WR-MB	4871 0000
Power meter with Modbus RTU communication and built in America	WND-WR-MB-BA	4871 0100
Power meter with BACnet MS/TP communication	WND-WR-BN	4871 0200
Power meter module with Modbus RTU communication	WND-M1-MB	4871 0400

Accessories	Product Model Number	Reference
DIN Rail 12 VDC power supply - 100-240 VAC input	HDR-15-12	4870 3000

333 mV split-core current sensors

Model	Primary (A)	Real Range Covered (A)	Output Lead Length (ft/m)	Accuracy	Window Size (in / mm)	Product Model Number	Reference
ACTL-0750	5	0.05 ... 7	8 / 2.4	+/- 0.75%	0.78 x 0.78 / 20 x 20	ACTL-0750-005	4873 0000
	20	0.2 ... 24		+/- 0.50%		ACTL-0750-020 OPT C0.6	4873 0102
				+/- 0.75%		ACTL-0750-020	4873 0002
	50	0.5 ... 60		+/- 0.50%		ACTL-0750-050 OPT C0.6	4873 0104
				+/- 0.75%		ACTL-0750-050	4873 0004
	100	1 ... 120		+/- 0.50%		ACTL-0750-100 OPT C0.6	4873 0107
				+/- 0.75%		ACTL-0750-100	4873 0007
	150	1.5 ... 180		+/- 0.50%		ACTL-0750-150 OPT C0.6	4873 0108
				+/- 0.75%		ACTL-0750-150	4873 0008
	200	2 ... 240		+/- 0.50%		ACTL-0750-200 OPT C0.6	4873 0109
+/- 0.75%			ACTL-0750-200	4873 0009			
250	2.5 ... 300	+/- 0.50%	ACTL-0750-250 OPT C0.6	4873 010A			
		+/- 0.75%	ACTL-0750-250	4873 000A			
ACTL-1250	250	2.5 ... 300	8 / 2.4	+/- 0.20%	1.77 x 1.26 / 45 x 32	ACTL-1250-250 Opt C0.2	4873 130A
				+/- 0.50%		ACTL-1250-250 Opt C0.6	4873 110A
				+/- 0.75%		ACTL-1250-250	4873 100A
	300	3 ... 360		+/- 0.20%		ACTL-1250-300 Opt C0.2	4873 130B
				+/- 0.50%		ACTL-1250-300 Opt C0.6	4873 110B
	400	4 ... 480		+/- 0.75%		ACTL-1250-300	4873 100B
				+/- 0.20%		ACTL-1250-400 Opt C0.2	4873 130C
	600	6 ... 720		+/- 0.50%		ACTL-1250-400 Opt C0.6	4873 110C
				+/- 0.75%		ACTL-1250-400	4873 100C
	600	6 ... 720		+/- 0.20%		ACTL-1250-600 Opt C0.2	4873 130D
+/- 0.50%			ACTL-1250-600 Opt C0.6	4873 110D			
			+/- 0.75%	ACTL-1250-600	4873 100D		

Note: Default lead length for all ACTL CTs are 8 ft / 2.4 m. Custom lead lengths are available on request.

333 mV split-core current sensors

Model	Primary (A)	Output Lead Length (ft / m)	Accuracy	Window Size (in / mm)	Product Model Number	Reference
CTS	400	8 / 2.4	+/- 1.0%	2 x 2 / 50 x 50	CTS-2000-400	4877 220C
	600				CTS-2000-600	4877 220D
	800				CTS-2000-800	4877 220E
	1000				CTS-2000-1000	4877 220F
	1200				CTS-2000-1200	4877 220G

*For more information, please visit the CTS catalog

333 mV Flexible Rogowski current sensors

Model	Primary (A)	Output Lead Length (ft / m)	Accuracy	Window (in / mm)	Product Model Number	Reference
RCSL	200	8 / 2.4	+/- 1.0%	Ø 1.5 / 40	RCSL-1.5-0200	4874 1009
	250			Ø 3.1 / 80	RCSL-3.1-0250	4874 110A
	600			Ø 3.1 / 80	RCSL-3.1-0600	4874 110D
	1000			Ø 3.1 / 80	RCSL-3.1-1000	4874 110F
RCLL	1000			Ø 4.5 / 114	RCLL-4.7-1000	4874 200F
	2000			Ø 7.8 / 200	RCLL-7.8-1000	4874 210F
				Ø 4.5 / 114	RCLL-4.7-2000	4874 200K
				Ø 7.8 / 200	RCLL-7.8-2000	4874 210K
				Ø 12 / 305	RCLL-11.8-5000	4874 220P

*For more information, please visit the RCSL/RCLL catalog

*12 VDC power supply required

Accessories	Product Model Number	Reference
DIN Rail 12 VDC power supply - 100-240 VAC input	HDR-15-12	4870 3000
Wire coil 20 AWG twisted pair, 100 ft	CT-WIRE-100	4870 0000

Expert Services

Our service engineers are an essential part of our team, and they are dedicated to ensuring your power monitoring system provides accurate and reliable measurements to your EPMS software or SCADA system.

Our services include:

- Site audits to verify the proper wiring of your system
- Personnel training on how to configure, operate and maintain power monitoring equipment and associated software
- Remote and on-site commissioning to ensure that your system is up and running quickly, with peace of mind.

For further information, please contact your nearest SOCOMEC branch.