ENGINEERING
TOMORROW

080R9319

RI8RX102

Installation Guide

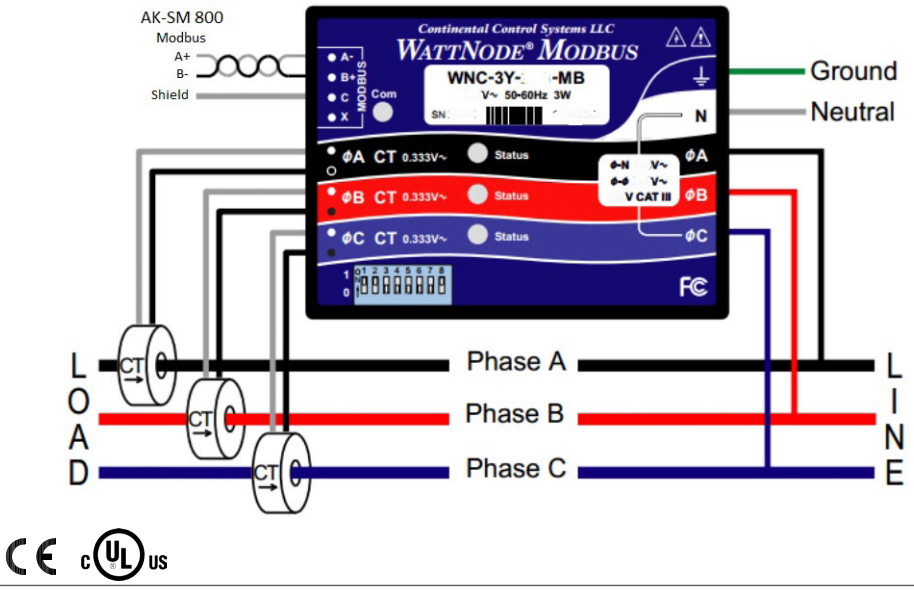
WattNode

50/60 Hz
-30 – 50°C
(-22°F to 131°F)

L × W × H:
155 mm × 85 mm × 38 mm
(6.1″ × 3.35″ × 1.5″)

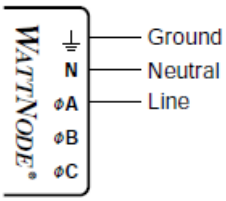
Mounting holes:
Ø5.1mm (0.200″)

CT:
0,333 V A.C. at
rated current

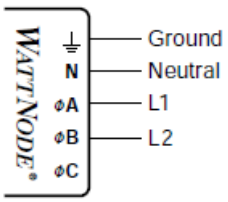


Code	Electrical Service Type (Load type)	Line-to-Neutral (V A.C.)	Line-to-Line (V A.C.)	Meter Powered by
080Z2144	Single Phase 2-wire with neutral	96 - 138	n.a.	N and ϕA
	Single Phase 3-wire with neutral	96 - 138	166 - 276	N and ϕA
	Three Phase 4-wire wye (star) with neutral	96 - 138	166 - 276	N and ϕA
080Z2146	Single Phase 2-wire with neutral	184 - 264	n.a.	N and ϕA
	Three Phase 4-wire wye (star) with neutral	184 - 264	320 - 460	N and ϕA

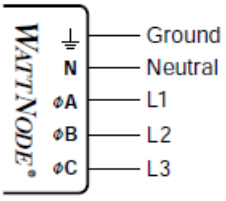
Single Phase 2-wire with neutral



Single Phase 3-wire with neutral



Three Phase 4-wire Wye (star) with neutral



Modbus address

DIP Switch	1	2	3	4	5	6	7
Up (1) Value	1	2	4	8	16	32	64
Address	Examples						
1	1, Up	0, Down	0, Down	0, Down	0, Down	0, Down	0, Down
1+2+4 = 7	1, Up	1, Up	1, Up	0, Down	0, Down	0, Down	0, Down
4+16 = 20	0, Down	0, Down	1, Up	0, Down	1, Up	0, Down	0, Down
1+2+16+32+64 =115	1, Up	1, Up	0, Down	0, Down	1, Up	1, Up	1, Up

Power on and off the WattNode after setting the Modbus address

Modbus integration with the AK-SM 800

Step 1: Set the Modbus address (see above, remember to power-cycle the WattNode)
Step 2: Perform a network scan from the AK-SM 800*
*For more information about data communication see document RC8AC and the AK-SM 800 manual. Pay special attention to the AK-SM 800 manual if devices with a different baud rate than 38.400 baud are connected to the AK-SM 800, e.g. the variable speed compressor type SLV.

Phase Status LED

All/ Single phase	LED Indication	Description
All	Red, Yellow, Green for 3 x 1 second	**Power up** sequence
All	Red / Green continuous flashing	**Overvoltage warning**. Line voltage too high. DISCONNECT power immediately!
All	OFF	**WattNode not operating.** Check that the wiring and voltages are correct
All	Red for 3 seconds or more	**WattNode Error.** If you see this happen repeatedly, replace the meter
Single	Green	**No power** but line voltage is present on this phase
Single	OFF	**No voltage** on this phase
Single	Red continuous flashing	**Negative power** on this phase (Reversed CT's, swapped CT wires or CT not matching line voltage phase)

Modbus Com LED

LED Indication	Description
Green flash	Valid packet for this device
Yellow flash	Valid packets for different device
Red for 1 second	Invalid packet (bad baud rate, noise, ...)
Red / Yellow continuous flashing	Possible address conflict (two devices with same address)
Red	Address set to 0 (zero)

Precautions

1.1 Only qualified personnel or **licensed electricians** should install the WattNode meter. The mains voltages can be lethal!
1.2 Follow all applicable local and national electrical and safety codes.
1.3 The terminal block screws are **not** insulated. Do not contact metal tools to the screw terminals if the circuit is live!
1.4 Verify that circuit voltages and currents are within the proper range for the meter model.
1.5 Use only UL listed or UL recognized current transformers (CTs) with built-in burden resistors, that generate 0.333 Vac (333 millivolts AC) at rated current. **Do not use current output (ratio) CTs such as 1 amp or 5 amp output CTs: they will destroy the meter and may create a shock hazard.**
1.6 Protect the line voltage conductors to the meter with fuses or circuit breakers (not needed for the neutral or ground wires).
1.7 Equipment must be disconnected from the HAZARDOUS LIVE voltages before access.
1.8 If the meter is not installed correctly, the safety protections may be impaired.