

## Installation Guide

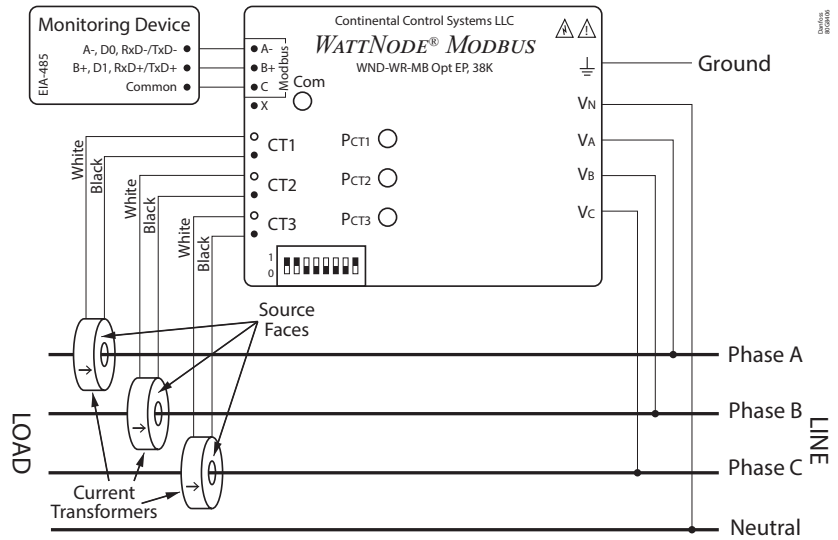
# WattNode Modbus Type **WND-WR-MB Opt 38K, EP**

–40 – +80 °C (–40 – 176 °F)  
Operating Humidity:  
non-condensing, 5 – 90% relative  
humidity (RH) up to 40 °C,  
decreasing linearly to 50% RH at 55 °C.

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

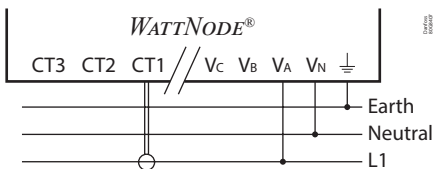
Mounting holes:  
center-to center 136.6 mm (5.375 in)

CT:  
0,333 V AC at rated current

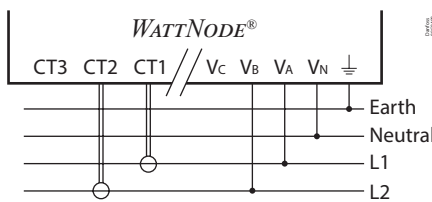


Code	Electrical Service Type (Load type)	Line-to-Neutral (V AC)	Line-to-Line (V AC)	Meter Powered by
080Z2129	Single Phase 2-wire with neutral	96 – 347	120 – 600	Line to Neutral or Line to Line
	Single Phase 3-wire with neutral	96 – 347	120 – 600	Line to Neutral or Line to Line
	Three Phase 4-wire wye (star) with neutral	96 – 347	120 – 600	Line to Neutral or Line to Line

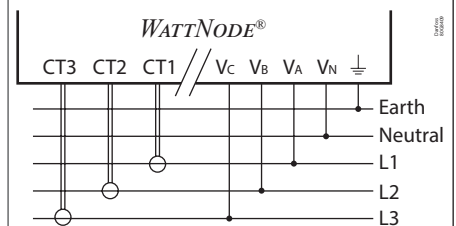
### Single Phase 2-wire with neutral



### Single Phase 3-wire with neutral



### Three Phase 4-wire Wye (star) with neutral



### Modbus address

DIP Switch	1	2	3	4	5	6
Up (1) Value	1	2	4	8	16	32
Address	Examples					
1	Up	Down	Down	Down	Down	Down
1+2+4 = 7	Up	Up	Up	Down	Down	Down
4+16 = 20	Down	Down	Up	Down	Up	Down
1+2+16+32 = 51	Up	Up	Down	Down	Up	Up

## Modbus integration with the AK-SM 800A

Step 1: Set the Modbus address

Step 2: Perform a network scan from the AK-SM 800A\*

\*For more information about data communication see document RC8AC and the AK-SM 800A manual. Pay special attention to the AK-SM 800A manual if devices with a different baud rate than 38.400 baud are connected to the AK-SM 800A, 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	<b>Power up</b> sequence
All	Red / Green continuous flashing	<b>Overvoltage warning.</b> Line voltage too high. DISCONNECT power immediately!
All	OFF	<b>WattNode not operating.</b> Check that the wiring and voltages are correct
All	Red for 3 seconds or more	<b>WattNode Error.</b> If you see this happen repeatedly, replace the meter
Single	Green	<b>No power</b> but line voltage is present on this phase
Single	OFF	<b>No voltage</b> on this phase
Single	Red continuous flashing	<b>Negative power</b> on this phase (Re- versed CT's, swapped CT wires or CT not matching line voltage phase)
Single	Flashing Green	Positive power on this 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 phase conductors, typically #14 or #12 AWG with 3 pole 15 A or 20 A breaker. Depending on location, breaker may provide disconnect means.
- 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.