

Wireless Six-Channel Energy Meter

IoTeMtr Models #3017, 3017W and 3017L

About this Product

Use the IoTeMtr to measure the characteristics of two 3-phase circuits or six single or split phase circuits, including voltage, frequency, current, power and active/reactive energy imported or exported. The device interfaces wirelessly within IoT/Home Automation networks where it can be controlled and monitored by automation hubs or cloud services.

In order to measure energy, the device requires voltage and current inputs plus the supply voltage to power the unit itself. This guide shows how to connect the input voltage and current measurement transformers (CTs).

Install with the tips and suggestions below to get the benefits of the Internet of Things through your automation controller.



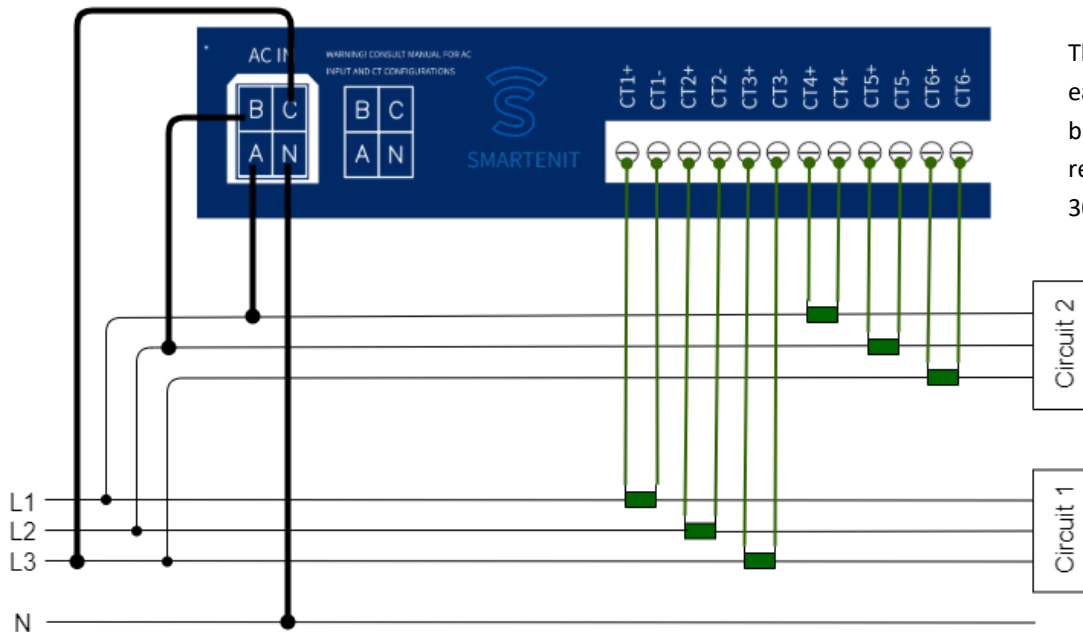
Electrical Installation



For indoor installation only as supplied. When installing outdoors, it is imperative to use a suitable enclosure, and to observe all water-tight precautions to ensure the life and safety of the device.
When wiring the AC voltage input connector, use a suitable breaker and beware of the dangerous voltages present. Installation recommended to be done by trained personnel only.

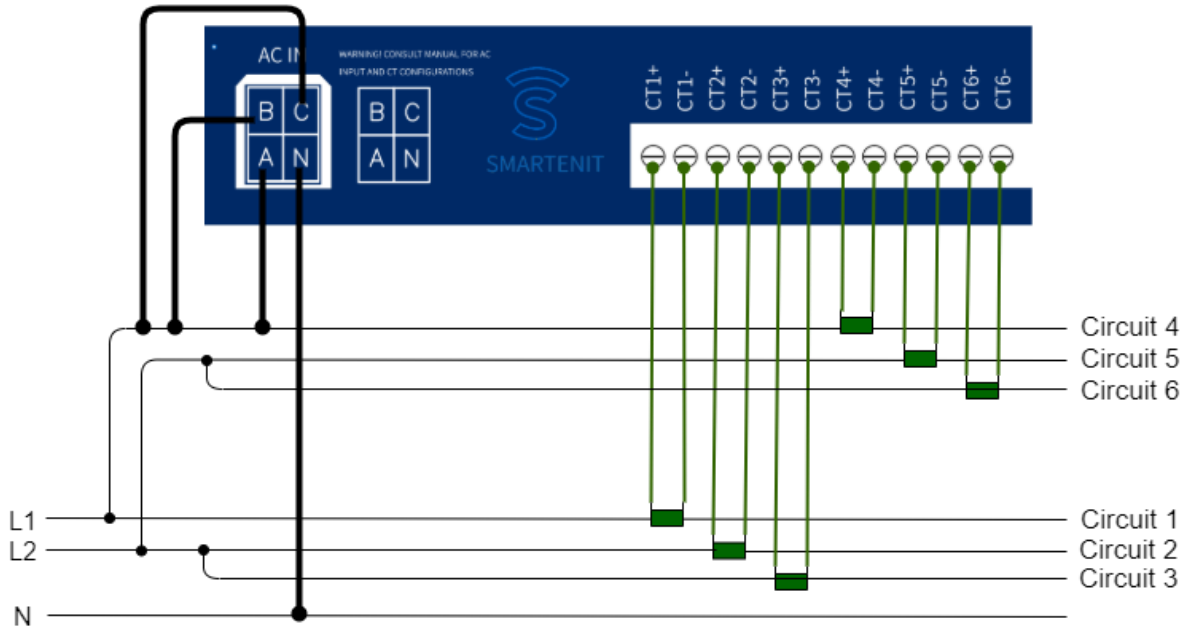
Follow the diagrams below to connect the device to the electrical panel based on the type of circuits to be monitored.

Monitoring Two 3-Phase Circuits

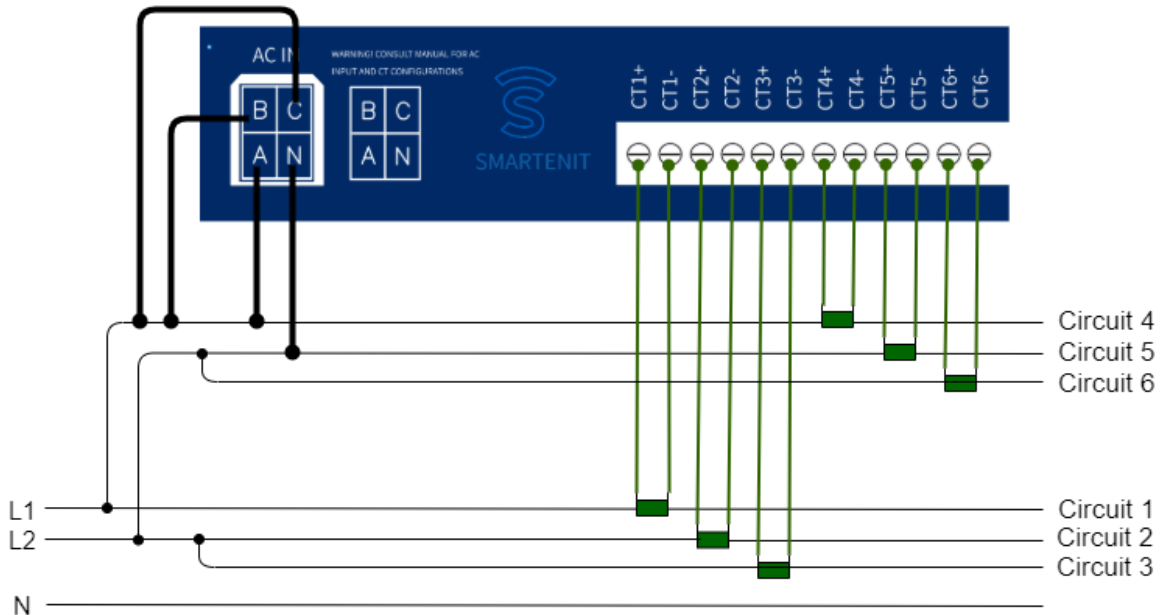


The 3 CTs for each circuit **MUST** be the same current rating (e.g. 30A, 50A, 100A)

Monitoring up to Six Single-Phase Circuits



Monitoring up to Six Split-Phase Circuits



Status LED Indications	
Pattern	Indication
Fast Flashing	Searching for network
Solid	Joined to network
Flash once per second	Open permit join
Short blip, pause-0.5 secs	Binding to Endpoint 1 (On/Off)
2 blips per second	Disconnected from network

SET Pushbutton Functionality		
Operation	Pushbutton	Device Behavior
Leave Network	Tap 13 times	Status LED will begin fast blinking
Close Permit Join	Press and hold for 3 seconds when device is in open permit join	Status LED will stop flashing
Soft Reset (Reboot Device)	Tap 10 times	
Request Firmware Update (OTA)	Tap 6 times	
Restore Factory Settings	Tap 9 times	
Setup Operation Mode and CT gain	See below	See below

Setup

1) Setup Operation Mode

- Tap pushbutton two times then hold it for 3 seconds. LED will go off indicating device is now in Mode configuration
- Now tap the number of times to select the desired mode using the table on the right. The LED will then blink the number of times tapped to confirm the selection.

Taps	Mode
1	Single-Phase—6 Channels (default)
2	Split Phase—6 Channels
3	3 Phase—2 Channels

2) Setup CT connected to each channel

- Tap four times then hold pushbutton for 3 seconds. LED will turn off indicating device is in CT configuration
- Use the table on the right to select the channel(s) to be configured. The LED will then blink the number of times tapped to confirm the selection
- Use the table below to select the type of CT connected to the selected channel. LED will then blink the number of tapped times to confirm selection.

Taps	Channel Selected
1-6	Select channel 1-6*
7	Select all channels

* If device is in 3-Phase mode, select channel 1 or 2, or 7 for both channels

Taps	CT Selected	Taps	CT Selected	Taps	CT Selected
1	10A	4	40A	7	100A
2	20A	5	50A	8	200A
3	30A (Default)	6	60A	9	400A



Setup (Cont.)

1) Factory Reset (Restore Factory Settings)

While powering the device, press the SET button and release it once the device powers up. Alternatively, if the device is already joined to a Zigbee network, quickly tap the SET button 13 times. The Status LED will go out for 1 second and then begin flashing rapidly. The IoTemtr will then search for an open Zigbee network to join.

2) Joining device to a Zigbee network

1. Set network controller to discover devices (Open Permit Join)
2. As the IoTemtr joins, the Status LED blinking rate will slow until it stays solid, indicating it has fully joined the Zigbee network.

3) Binding to be controlled by other devices

To allow On/Off control by another device, tap the SET button once quickly and within 1/2 second press and hold it for 3 seconds. The Status LED will blink per the pattern described in the Status LED Indications table above.

4) Allowing other devices to join Zigbee network (Open Permit Join)

As a Zigbee "Router", the IoTemtr can also be put in discovery mode to permit other devices to join the Zigbee network. Do note that ultimately the network manager device will decide whether to allow the new device to fully join. Assuming the IoTemtr is already in a Zigbee network, it can open the network for other devices to join as follows:

1. Press and hold the SET button for 6 seconds. The STATUS LED will blink once per second and the network will be open for joining for up to 4 minutes
2. Permit-join can be stopped by pressing and holding the SET button for 3 seconds. The LED will stop blinking.