SINGLE PHASE BAT-METER
DATASHEET

GENERAL INFORMATION

Single phase measuring device for connection to the electrical panel, to measure separate consumption of up to 6 individual lines (kWh and power).

The BatMeter is an electricity monitor (current, voltage and power measurement) that allows obtaining real-time consumption information from any circuit of your electrical panel.

Up to six current proves (SCT) can be connected simultaneously.

HOW IT WORKS?

You can install the BatMeter on the DIN rail (2 units) of your electric panel and connect the SCT proves around the wires you want to monitor (general services, kitchen, oven, lighting…). You will now be able to read real time consumption information.

We recommended you fill up completely the "install planning" form and write dawn where have you connected the SCT proves.

Some technical specifications:

- Up to 64 samples/cycle
- Programmable data submission
- Minimum consumption
- No batteries or maintenance
- Up to 6 single phase lines
- Wireless range up to 20 meters inside
- BatMeter takes two DIN rail units.

For more information refer to the installation below.

INSTALLATION PLAN BAT-METER	
SCT Prove/circuit number	**Name**
1	Eg. General
2	Eg. lighting
3	
4	
5	
6	

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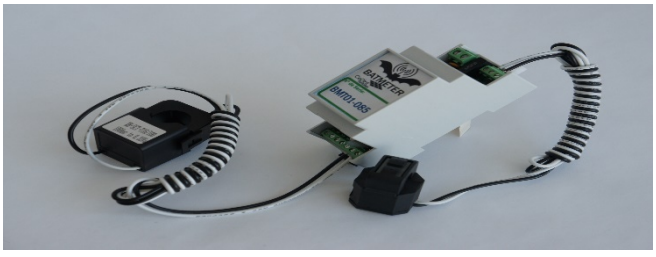
TECHNICAL INFORMATION

General data	Technical name	BMT
	Version	01
	Revision	March 2013
Funcionality	Palameters monitored (6 lines)	Current (mA)
		Voltage (V)
		Power (W)
		Aparent power (VA)
		Energy (Wh)
		Aparent energy (VAh)
		Working time (sec.)
Current (Irms)	Sensor	Jiangyn Spark XH-SCT-T10/X(A)
	Resolution	1‰
	Range	5A, 10A, 15A, 20A, 25A, 30A, 40A, 50A, 100A
	Measuring range	250 ms
Voltage (vrms)	Sensor	YHDC TV16 / Tension divisor
	Resolution	1 V
	Range	100-250V
	Measuring frecuency	250 ms
Precision	Voltage	±1%
	Current	±2%
	Power	±3%
Power suply	Voltage	100-250 VAC
	Power consumption	<2W
Comunications	Fhisical media	Radio (IEEE 802.25.4)
	Frecuency	2.4 GHz
	Protocol	6LoWPAN
	Antena	U.FL
Other data	Microcontroler	Atmega128RFA1
	Memory	SRAM 16k
		EEPROM 4k
		FLASH 128k
	Programming interface	ISP/Serial
Dimensions	Width	32mm
	Height	86mm
	Length	18mm



INSTALATION

Prior to test the BatMeter make sure you have properly installed and tested BatLink, only then you will be able to add a network measuring device, BatMeter. The BatMeter is electrically powered, so, for the installation you must comply with the Low Power Electro technical Regulations and requirements in place in your country.

Before installation of BatMeter we recommend you switch off the mains power completely. Each breaker will look like illustration 1. Once you are sure there is no power, you can install the BatMeter as follows:

In the Box you will find the following devices or cables:

- Two power wires, one blue (Neutral) and one brown or black (phase or current).
- Up to six SCT proves (Current Transformers), with different current capacity. One 30A and rest15A
- A single phase BatMeter

For the BatMeter installation you must carefully follow the following steps:

1. Locate the kit components and went up to the main electrical panel.
2. Unscrew the cover or shield to leave the cables and connections exposed.
3. Now, look inside the panel and locate a free space on the DIN rail and put on the BatMeter (2 units).
4. Once you have installed the BatMeter on the rail, take blue and brown wires, cut and peel as necessary, and connect them to the connector on the top left angle of BatMeter (green large)respecting the color codes, blue for (N)Neutral and brown for (L)Live or phase as stated on the labels.
5. Connect the other end of the wires to the exit of an auxiliary breaker of your choice respecting the coloring of Neutral and Live. It is not recommended to connect it to the main breaker.
6. Please write down the breaker you connect the BatBeter to, as is the one you will have to switch off in case a unit reboot is needed in the future.
7. Now look into your main panel and locate which lines you want to monitor (Lighting, Oven, Heating, Cooling, Etc.), as each breaker may control one or more home devices. If your panel is not properly labeled, you must turn off each breaker in turn and by trial and error list which breaker controls what.
8. Each prove SCT has two wires (black and White) in a small roll, each one corresponds to one pole: white positive and black negative.
9. You will see in the upper right corner and in the bottom from the BatMeter some smaller green connectors. Each pair (two little holes) is labeled to connect one SCT prove respecting white to (+) and black to (-).
10. In order to make the connection, loose with a small flat screwdriver every screw from green connector and get in each cable en her appropriate hole.
11. In the one of the SCT prove, there is a black piece that is opened like a padlock. This black piece must be opened, placed around the brown wire and closed again.
12. Repeat steps 10 and 11 for each SCT prove to use.

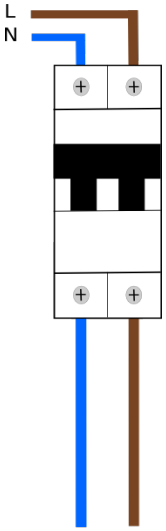


Illustration 1: PIA connection before BatMeter installation.

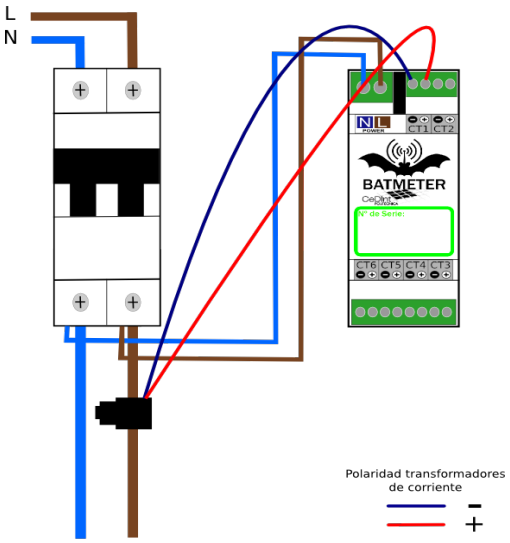


Illustration 2: PIA connected after BatMeter connection.