


WattmonMINI Overview

 This page provides an introduction to the features of the WattmonMINI.

Wiring and Connections Diagram



Power Requirements

WattmonMINI comes with an inbuilt AC adapter, making it possible to power it from any AC outlet between 80 and 240V AC. It consumes less than 2 watts of power without accessory devices.

Connectivity

WattmonMINI has two ways of connecting to the Internet. The built-in LAN can be connected directly to a laptop or router, and is used for setup and local monitoring (but can also be used for remote monitoring if the site has an Internet connection). The USB Host port works with a selected number of USB Cellular dongles (GPRS and 3G), allowing both outbound and inbound data via the Internet. Although we provide instructions on configuring your local dongle, not all of them work. Need a compatible USB dongle for remote monitoring? Use one of our Huawei dongles, the E303F or E3531.

Hardware Features

Modbus RTU (RS-485)

An industry compliant RS-485 Modbus RTU interface is built in and the Wattmon acts as a Modbus master to collect data from various devices such as inverters, power meters, current sensors, etc. Up to 8 Modbus RTU-compliant slave devices and 1 Modbus TCP device can be daisy-chained to the interface, and the Modbus can be configured for any baud rate up to 115200 with different parity settings as required.

For most applications only the RS-485 A and B lines need to be connected to the device to be monitored and controlled. For example, all the [Wattmons](#) have drivers for these inverters:

- Delta (RPI Series)
- Schneider (Conext TL,RL Series)
- PowerOne (RS-485 Series)
- Emerson (Liebert Series)
- Kaco (RS-485)

Any AC Power Meter with Modbus output can be monitored: for example, the [Eastron SDM630](#).

In addition, if needed, the 5V and GND lines can be connected for device power. Although designed primarily for a two-wire connection to an RS-485 capable device, by modifying a Cat5 cable any of the Modbus devices we have developed (voltage, current, frequency, PWM, relay outputs, etc., see [Modules](#)) can also be connected to the WattmonMINI screw terminals.

Storage

A removable/replaceable 4 or 8 GB MicroSD Card contains the OS, configuration and data log files (enough space for many years of logged values, every minute). The SD Card uses a standard format (FAT32) that is read/write compatible with Windows and other computers and devices. The data files are stored in CSV format.

WattmonMINI has 128 KB RAM (enough space for about 30 KB of added user variables and scripts).

There is also 8 KB of NVRAM for storing configuration and other data that needs to be available after a power loss or reboot.

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Last update: **2021/09/13 05:56**

