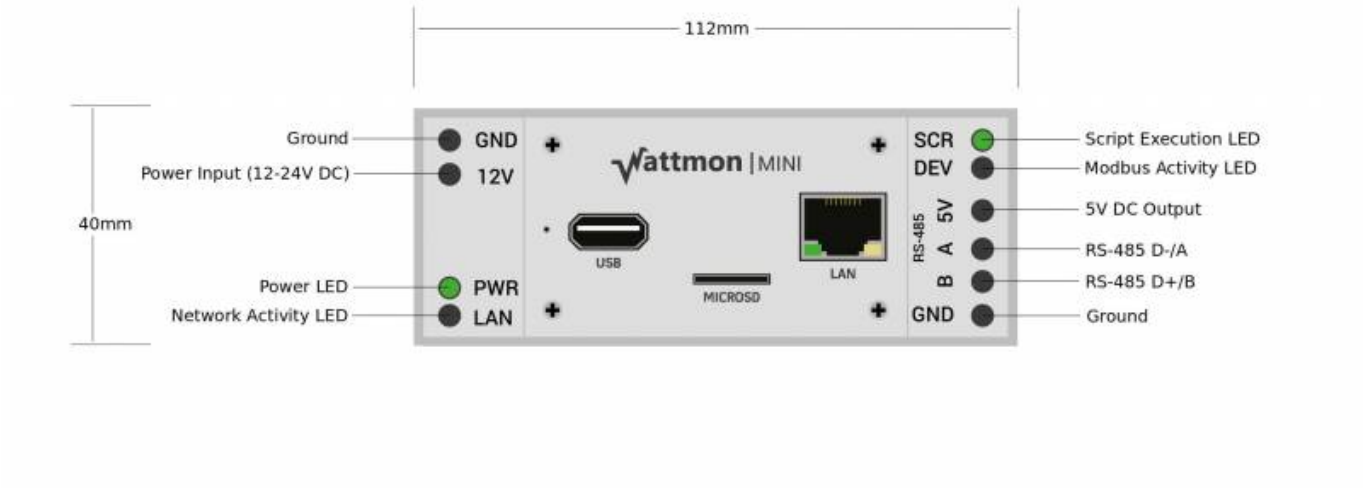
WattmonMINI Overview

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

Wiring and Connections Diagram



Power Requirements

The input voltage range is 12-24V DC. It consumes less than 2 watts of power without accessory devices.

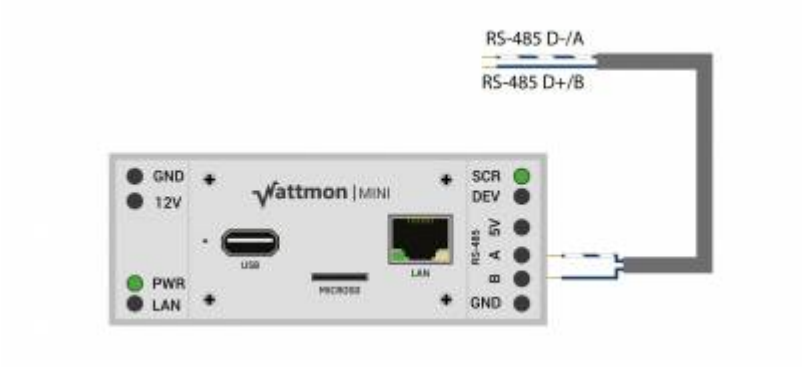
Connectivity

WattmonMINI has two ways of connecting to the Internet. The built-in 10 Mbps 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, 3G and 4G LTE), 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 listed in Accessories.

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, and many more:

- ABB (Trio 20.0/27.0TL, 50.0/60.0TL-TM, PVS-100/120TL, PVS-800)
- Consul Neowatt
- Delta (RPI Series)
- Emerson (Liebert EEU+ Series)
- Fronius
- Huawei (SUN2000 Series)
- Ingeteam (PLAY3 & PLAY3 100TL Series)
- Polycab
- Refusol
- Schneider (Conext TL,CL Series)
- SMA (Solid-Q 50, Sunny Boy, Sunny Tripower, Sunny Highpower Peak1 series)
- SolarEdge
- Solis Ginlong
- Sungrow PV
- Zeversolar

Any AC Power Meter with Modbus output can be monitored as well, such as those from, but not limited to:

- Archmeter PA330
- Eastron SDM630
- Klemsan KLEA 320P
- Legrand EMDX3
- L&T ER300P
- Schneider (Conzerv Series, PowerLogic Series)

- Secure (Elite 440 Series)

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 16 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.