Energy Meters ET112, ET340 & EM24

The ET112 (for single phase max. 100A) and the ET340 (for three phase max. 65A) Energy Meters are typically used in an Energy Storage System.

The EM24 is for 3 phase monitoring only.

To measure the power and energy of the whole application at the distribution box. Or to measure the output of a PV Inverter, to display the data on the Color Control GX and the VRM Portal.

Energy Meters start page

At Victron Energy, we stock several types of Energy Meters.

The Energy Meters are used in systems with a GX device. To measure the output of a PV inverter (more info in the Venus-OS manual here. Or as a Grid Meter in an ESS installation, more information in the ESS manual.

1. Selection guide

Energy Meter	ET112	ET340	EM24
Appearance			
Display	no display	no display	LCD Display
Manual and Wiring Diagrams	ET112 Manual	ET340 Manual	EM24 Manual
Part Number	REL300100000	REL300300000	REL200100000
Supported Phases	1 phase	3 phase	3 phase
Maximum Current Rating	100A	65A per phase	65A per phase
Measurement Type	Shunt	Shunt	Shunt

Energy Meter ET112 manual

1. Introduction and usage

This document is the manual for the single phase max 100 A Energy Meter.

The Energy Meter can be used for four things:

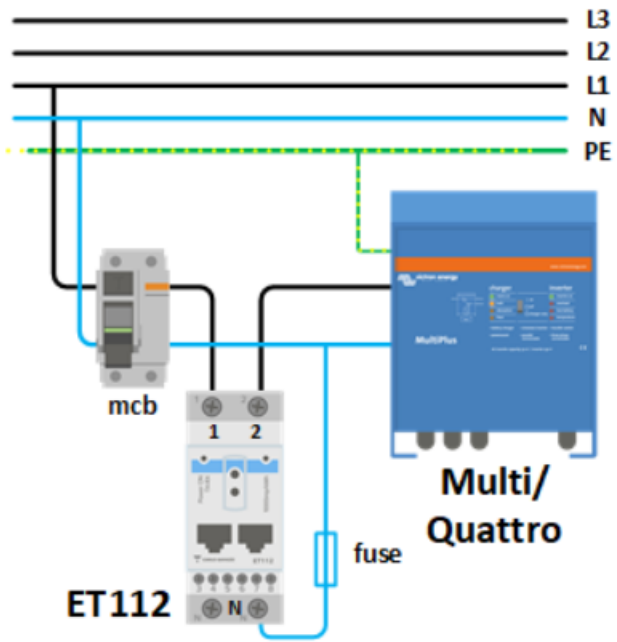
1. Grid meter, and used as control input for an ESS System (1).
2. Measure the output of a PV Inverter
3. Measure the output of a AC Genset

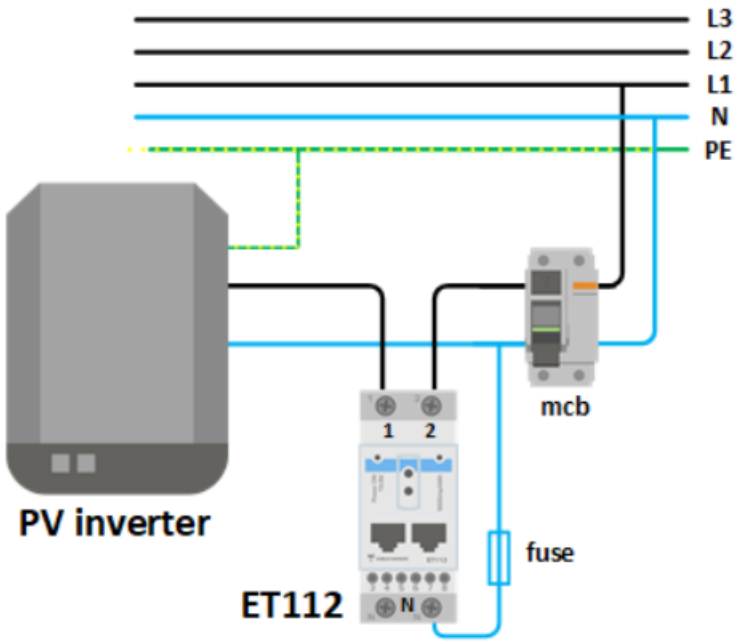
The meter is connected to the Color Control GX. There are two options in its wiring:

1. Direct connection, either using the RS485 to USB interface with 1.8m cable length, or the 5.0m cable.
2. Wireless connection via Zigbee

2. AC Wiring

Configuration Options





Energy Meter EM24 manual

1. Introduction and usage

This document is the manual for the EM24 three phase max 65 A per phase Energy Meter. As shown in the picture above.

The Energy Meter can be used as a:

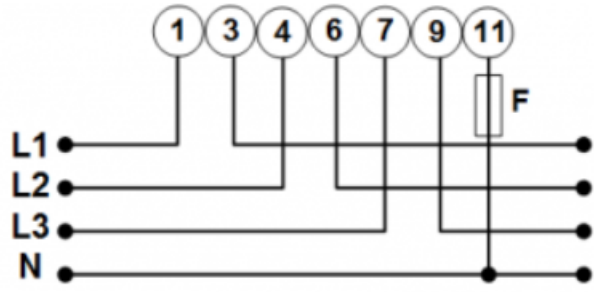
1. Grid meter, and used as control input for an ESS System.
2. Measure the output of a PV Inverter
3. Measure the output of a AC Genset
4. (deprecated) ~~Grid meter, used as control input for a Hub-4 system~~

The meter is connected to the Color Control GX. There are two options in its wiring:

1. Direct connection, either using the RS485 to USB interface with 1.8m cable length, or the 5.0m cable.
2. Wireless connection via Zigbee

2. AC Wiring and front selector

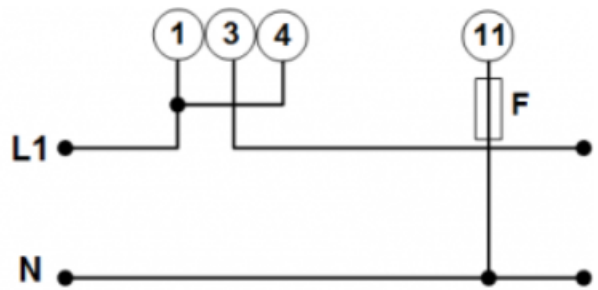
3-phase diagram:



When used to measure a PV Inverter, terminals 1, 4 and 7 should face the PV inverter to ensure correct direction of current and power.

Single phase single function diagram:

Note the jumper between terminals 1 and 4. You do not need this connection if you have the version AV2 of the sensor:



The diagram shows the wiring when used as a grid meter.

To measure a single phase PV inverter in a 3-phase system, connect all 3 phases to the grid phasing terminals (3, 6 and 9). Now you can chose on which phase you want the PV inverter by connecting the L1 line of the PV inverter to terminal 1, 4 or 7.

Energy Meter ET340 manual

1. Introduction and usage

This document is the manual for the 3 phase max 65A per phase Energy Meter.

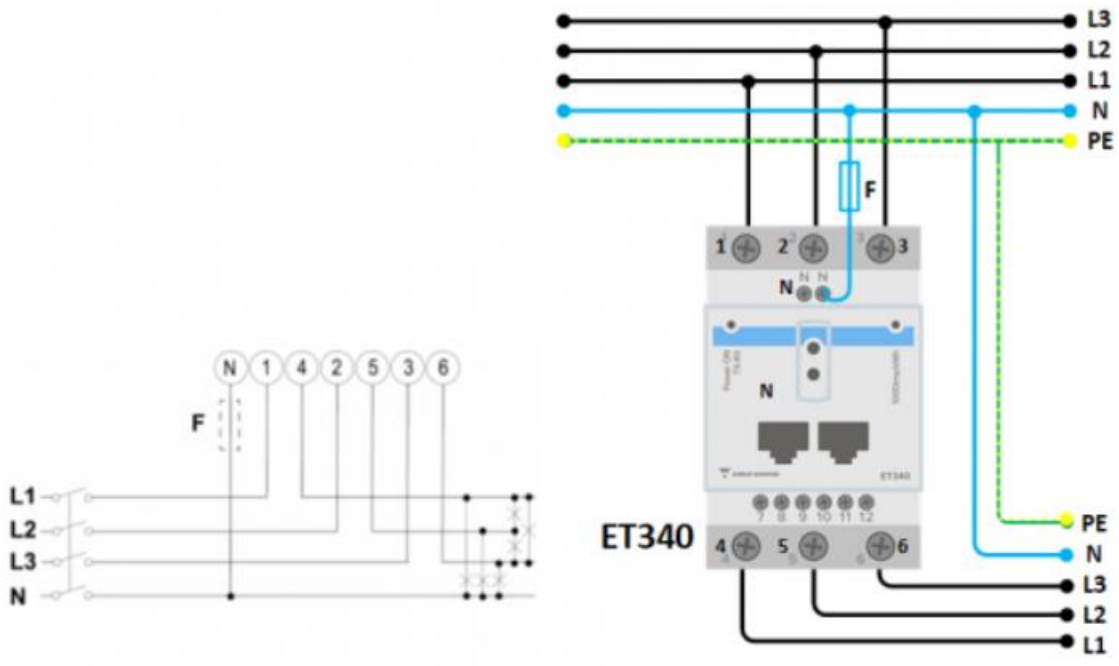
The Energy Meter can be used to:

1. Grid meter, and used as control input for an ESS System (1).
2. Measure the output of a PV Inverter
3. Measure the output of a AC Genset

The meter is connected to the Color Control GX. There are two options in its wiring:

1. Direct connection, either using the RS485 to USB interface with 1.8m cable length, or the 5.0m cable.
2. Wireless connection via Zigbee

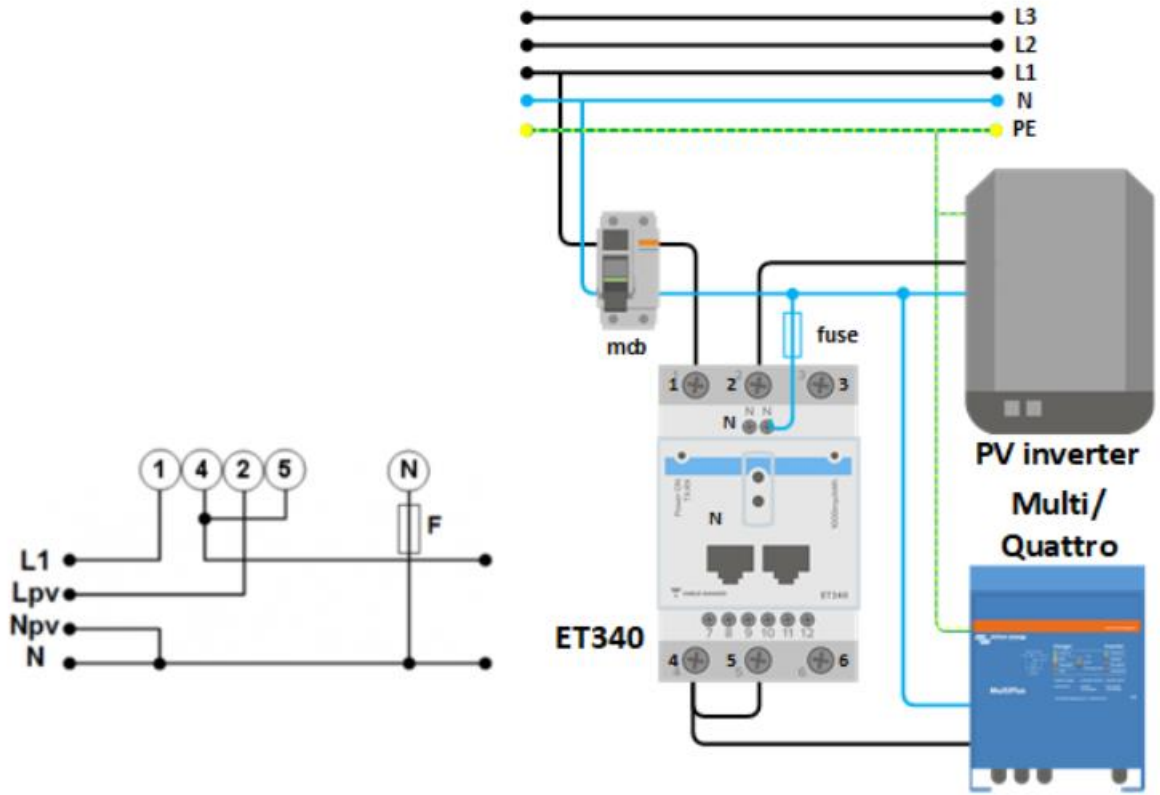
3-phase diagram:



When used to measure a PV Inverter, terminals 1, 2 and 3 should face the PV inverter to ensure correct direction of current and power.

Single phase dual function diagram:

In this diagram, a single meter is used to both measure the grid and a single phase PV Inverter.



On the CCGX go to the grid meter in the Wired AC sensor settings. Make sure 'Phase type' is set to 'Single phase' and 'PV inverter on phase 2' is enabled.