DECLARATION OF CONFORMITY

CE

COMPANY : Victron Energy B.V.

ADDRESS : De Paal 35
1351 JG Almere
The Netherlands

Declares that the following products:

PRODUCT TYPE : Auxiliary components
BRAND : Victron Energy

BPP900100200 CCGX WiFi module simple	ASS030570018 RS485 to USB interface cable 1,8 m
BPP900200100 CCGX WiFi module long range	ASS030570050 RS485 to USB interface cable 5 m
VCS000100010 VE.Net Tank Monitor (Current)	ASS300420100 Zigbee to RS485 converter
VRS000100010 VE.Net Tank Monitor (Resistive)	ASS300420200 Zigbee to USB converter
VVS000100010 VE.Net Tank Monitor (Voltage)	SHU500050100 Shunt 500A/50mV
BPP900600100 VE.Can resistive tank sender adapter	SHU102050200 Shunt 1000A/50mV
ASS030536010 VE.Direct Bluetooth Smart dongle	SHU202050200 Shunt 2000A/50mV
REL100100000 Anti-islanding relay UFR1001E	SHU602050200 Shunt 6000A/50mV
REL100200000 Anti-islanding relay SPI1021	SHU050130050 SmartShunt 300A/50mV
ASS000001000 Temperature sensor QUA/PMP/GX Device	SHU050150050 SmartShunt 500A/50mV
REL200100000 Wired AC sensor HUB-4 1/3-phase Imax=65A	SHU050210050 SmartShunt 1000A/50mV
REL200300100 Energy Meter VM-3P75CT	SHU050220050 SmartShunt 2000A/50mV

Are in conformity with the requirements of the following Directives of the European Union:

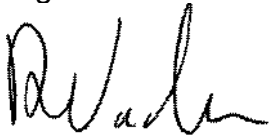
EMC Directive 2014/30/EU with the following harmonized standards:
EN 55014-1:2017/A11:2020
EN 55014-2:1997/A1:2001/A2:2008
ISO 7637-2:2016

Low Voltage Directive 2014/35/EU with the following harmonized standards:
EN-IEC 60335-1:2012 /AC:2014 /A11:2014 /A13:2017 A1:2019 /A14:2019 /A2:2019
EN-IEC 62109-1:2010

Restriction of the use of certain hazardous substances RoHS (2011/65/EU and 2015/863/EU) with the following harmonized standards:
EN-IEC 63000:2018

CE MARK DATE: January 22nd, 2016

Signed : Reinout Vader



Authority : Managing Director
Date : 27 August 2024

DECLARATION OF CONFORMITY

CE

COMPANY : Victron Energy B.V.

ADDRESS : De Paal 35
1351 JG Almere
The Netherlands

Declares that the following products:

PRODUCT TYPE : Interfaces

BRAND : Victron Energy

ASS030530000 VE.Direct to USB	ASS030520400 VE.Direct to VE.Can
ASS030130000 MK2-USB	ASS030534000 VE.Direct to Global Remote
ASS030140000 MK3-USB	ASS030700000 VE.Can RJ45 terminator
ASS030532000 CANUSB	ASS030520105 VE.Bus to VE.Can
ASS030520100 VE.Bus to NMEA2000	ASS030550120 Inverting remote on-off cable
ASS030520300 VE.Direct to NMEA2000	ASS030550200 Non inverting remote on-off cable
ASS030520200 VE.Can to NMEA2000 Micro-C	ASS030550300 VE.Direct non inverting remote on-off cable
ASS030120200 MK2.2b (VE.Bus to RS232)	ASS030550400 Skylla-i remote on-off cable
ASS030200000 RS232 to USB converter	CSE000100000 AC Current sensor
ASS030520500 VE.Direct to RS232	ASS030572050 RS485 to USB interface

Are in conformity with the requirements of the following Directives of the European Union:

EMC Directive 2014/30/EU with the following harmonized standards:

EN 55014-1:2017/A11:2020
EN 55014-2:1997/A1:2001/A2:2008
ISO 7637-2:2016

Low Voltage Directive 2014/35/EU with the following harmonized standards:

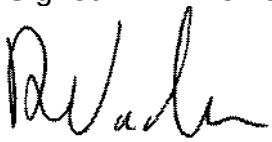
EN-IEC 60335-1:2012/AC:2014/A11:2014/A13:2017/A1:2019/A14:2019/A2:2019
EN-IEC 62109-1:2010

Restriction of the use of certain hazardous substances RoHS (2011/65/EU and 2015/863/EU) with the following harmonized standards:

EN-IEC 63000:2018

CE MARK DATE: July 3rd, 2014

Signed : Reinout Vader



Authority : Managing Director
Date : 29 December 2021

1. Introduction

The Victron ET112 is a standard device to measure the power and energy of a single-phase application.

Its data will be displayed on a GX device and our VRM portal.

1.1. Features

The ET112 can be configured for four different roles in a GX device such as the Cerbo GX:

1. As a Grid meter and used as control input for an ESS System.
2. To measure the output of a PV Inverter.
3. To measure the output of a AC Genset.
4. As an AC meter to measure a dedicated AC load circuit.

It offers two options for connection to a GX device:

1. A wired connection, either by using the RS485 to USB interface with 1.8m or 5m cable length.
2. A wireless connection via our Zigbee to USB and Zigbee to RS485 converter.

2.2. Connection to a GX device

2.2.1. Wired connection to a GX device

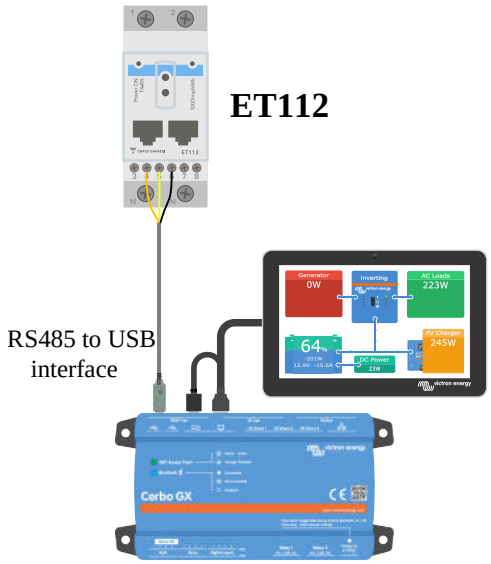
Connect the ET112 to the GX device using the RS485 to USB interface.

The RS485 to USB interface cable between the GX device and the Energy Meter can be extended up to 100 meters; make sure that the extensions of the Data+ (orange) and Data- (yellow) wires form a twisted pair.

The table below shows the colors of the wires and their connection to the terminals of the ET112, as well as the colors to be used for a CAT5 extension cable.

RS485 to USB	RS485 Signal	ET112 terminal number	Suggested wire color CAT5 extension cable
Orange	Data +	4	Orange
Yellow	Data -	5	Orange/White
Black	GND	6	Brown

The red, green and brown wire coming out of the RS485 to USB cable are not used. Cut them off or bend them back and isolate them.



ET112 wired connection to a Cerbo GX using the RS485 to USB interface

You can attach an RJ45 plug that can be plugged into the front of one of the two RJ45 sockets of the energy meter and has the same pin assignment.

To ensure signal integrity and robust operation, particularly ensure that:

- The extension cabling complies with the minimum cross-sectional area specifications in the RS485 to USB interface data sheet.
- The extension cabling has appropriate shielding and twisted pair cores.
- The original cable attached to the Victron RS485 USB interface is reduced to a maximum length of 20cm for installations where the total cable length exceeds 10m or where installation/site specific interference occurs - in this case, a suitable/quality cable should be used for the entire cable length and not only for the extension length.
- Cabling is installed separated/away from the main DC or AC power cabling.
- All wiring is properly terminated (including unused wires) and properly isolated from weather/water ingress.
- RS485 networks are traditionally terminated at both ends with 120Ω terminators. This is not required if the cable length is short and you are using the Victron supplied RS485 to USB lengths, but may be required if the cable length is modified.
- For detailed wiring/installation notes and specifications refer to the Victron RS485 to USB interface cable 'Datasheet'.

2.4. Multiple Energy Meters in one system

To connect multiple Energy Meters, wire each meter to a separate RS485 to USB interface, which are then each plugged into a separate USB socket on the GX device.

Connecting multiple meters to the same RS485 to USB interface cable is not possible.

Please note that you can connect the ET112 in parallel, but need to change the modbus address to another number using the UCS Desktop configuration software from the supplier, which is free to download from the Carlo Gavazzi Web site.