

# EV Charging Station



## Description:

**High Power AC Charger -22 kW** The maximum power the EV Charging Station can deliver is 22 kW in 3phase mode or 7.3 kW per phase. It also can be used in single phase installations.

**Wi-Fi:** 802.11 b/g/n for configuration and monitoring For the initial setup but also for monitoring, the internal Wi-Fi module can be configured in Access Point mode or Station mode.

**Touch Screen** 4.3-inch touch screen for monitoring and control.

**Light Ring** Fully programmable Light Ring around charging port, to fast determine the state of the device. It can be programmed on the web interface to display different light effects base on the current state (disconnected, charging, charged etc)

**Automatic mode** To ensure maximum PV system efficiency, the EV Charging station has an Automatic mode that detects when excess power is available, and use only that power to charge the vehicle

## Manual mode Configurable output current 6-32A

Real-time data display options - Color Control GX or other GX devices: see the Venus documents on our website. - On the webpage of the device - On the VRM portal

## Installation:

The device must be installed on a flat surface, recommended not in the in direct sunlight, so the screen can be read.

To ensure maximum power will be delivered to the vehicle, cable cross-section must be 5x6mm<sup>2</sup>. There is no internal RCD, so an external one, closer to the Charging Station, must be installed. For this kind of applications, RCD type B having a residual operating current of not greater than 30mA is recommended.

Start by opening the back cover. In the bottom left corner, there is a connector for powering the device. If it will be used on a single phase configuration, please connect that phase to connector L1. Reversing the Neutral or the Ground wire with a Line wire, will damage the device.

When the Ev Charging Station is powered up, it will start in access point mode. On the screen, the SSID name and password are visible, also the IP address of the device. You can either use that information to connect to it, or by scanning the QR Code displayed on the screen, it should ask if you want to automatically connect.

After a successful connection, in your browser, put the IP address of the device - default one is **192.168.0.1**, if it was changed, it is visible on the screen. A user and password must be introduced, defaults are username "**admin**", password "**admin**".

Go to Setting/Wi-Fi to pair it to your Wi-Fi access point. On the WiFi mode, switch it to station, scan for available wireless networks, select your network, fill the password, select IP mode type (Automatic or Manual), then press "Save". The device will restart, then it will connect to the selected Wi-Fi network. The new IP address will be displayed on the screen. Use that IP address to connect to it and monitor or configure other parameters.

If used in a configuration with a GX device, to be able to charge using the excess power, the EV Charging Station must be configured to communicate with that GX device. In the ModbusTcp menu, enable "Use Modbus TCP Integration". If you know the IP address of your GX device, fill it in the "Modbus TCP IP Address" field. If you don't, press "Discover". The list of the GX devices found in the same Ethernet network will be displayed. Select the preferred one. To have the information correctly displayed, please configure the rest of the parameters - NUmber of Phases and Pv Type. If you plan to use it in an Off-Grid system, the minimum SOC of the backup battery to allow charging the vehicle can be configured on the bottom of the page. Then press "Save" to have all the above applied.

Now on the main web page you should see the system information and the current flowing in this system

There are 2 working modes - Manual and Automatic.

## Manual Mode

In this mode, we can control the charging power by using the slider on the LCD screen or the web page. We can start or stop the charging process by pressing the "Start" or "Stop" button when a vehicle is connected to the charger. The state of the device will be displayed all the time, inside the car symbol.

## Auto Mode

This mode is used to charge the EV, only using the excess power. In the "Auto ON Grid" menu, the parameters for this mode can be configured. 2 values are important for controlling this mode - the power exported to the grid and the power discharged from the battery. When those 2 are configured, the device will use all the excess power, so the exported power is as close to 0 as possible.

## Specifications:

- Unordered List ItemEv Charging Station 22kW
- Input voltage range (V AC) 170-265
- Rated charge current 32A/phase
- Nominal power 22kW
- Max. PV short circuit current 2) 40A
- Wi-Fi standards 802.11 b/g/n
- Self-consumption 15mA@230V
- Configurable Max. Current 10-32A
- Configurable price/kWh (Eur) Default setting: 0.13 (adjustable)
- Control type Touch Screen, Web page, GX Device over ModbusTCP
- Light Ring 55 light configurable light effects available
- Protection External RCD is required
- Operating temperature -30 to +50°C
- Humidity 95%, non-condensing
- Data communication ModbusTCP over WIFI
- ENCLOSURE Colour Blue (RAL 5012)
- Power terminals 10 mm<sup>2</sup> / AWG7
- Protection category IP43 (electronic components)???
- Weight 3 kg
- Dimensions (h x w x d) 390 x 300 x 150 mm
- STANDARDS Safety IEC 61851-1, IEC 61851-22 ???
- Equipped with detection for Relay Contact welded and missing protective conductor

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