

# EV Charging Station

**NOTE: DRAFT MANUAL. PRODUCT NOT AVAILABLE AND ALSO THERE IS NO ETA**



## 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 at least 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. Ground connection is mandatory, without a proper one, the EV Charging station will fail. Based on your local electrical code, the ground (PE) should be correctly selected. For detecting the Ground presence, a small current (1mA) is injected on the Ground line. If a ground fault occurred, the EV Charging Station will periodically re-test it

Start by opening the back cover. In the bottom left corner, there is a connector for powering the device.(picture) If the device will be used in 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. Torque for tightening the screws for these connectors is ...Nm Before closing the back cover, make sure the rubber gasket is correctly attached. Recommended torque for back cover screws:1Nm

When the Ev Charging Station is powered up, it will start in access point mode. Start by scanning with your phone, 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 can be found on the label.

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 Settings/General 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 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. Also, please

enable Modbus on the GX device (Settings/Services/Modbus TCP/Enable)

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:

- Ev Charging Station 22kW
- Input voltage range (V AC): 170-265
- Rated charge current: 32A/phase
- Nominal power: 22kW
- Current output range: 6-32A
- Wi-Fi standards: 802.11 b/g/n (2.4Ghz only)
- Self-consumption: 15mA@230V
- Configurable Max. Current: 10-32A
- Means to Disconnect: External circuit breaker (40A recommended)
- Configurable price/kWh calculator(Eur): Default setting: 0.13 (adjustable)
- Control type: Touch Screen, Web page, GX Device over Modbus TCP
- Light Ring: 55 light configurable light effects available
- Protection: External RCD is required
- Operating temperature: -25°C to +50°C
- Storage temperature: -40 °C to +80 °C
- Humidity: 95%, non-condensing
- Data communication: Modbus TCP over WIFI
- ENCLOSURE Colour: Blue (RAL 5012)
- Power terminals: 6-10 mm<sup>2</sup> / AWG 10-8
- Protection category: IP44
- Ventilation: not required
- Weight: 3 kg
- Dimensions (h x w x d): 390 x 300 x 150 mm
- STANDARDS Safety: IEC 61851-1, IEC 61851-22 ???

- Detection for Relay Contact welded
- Detection for missing protective conductor
- Detection for missing Ground
- Detection for shorted CP

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