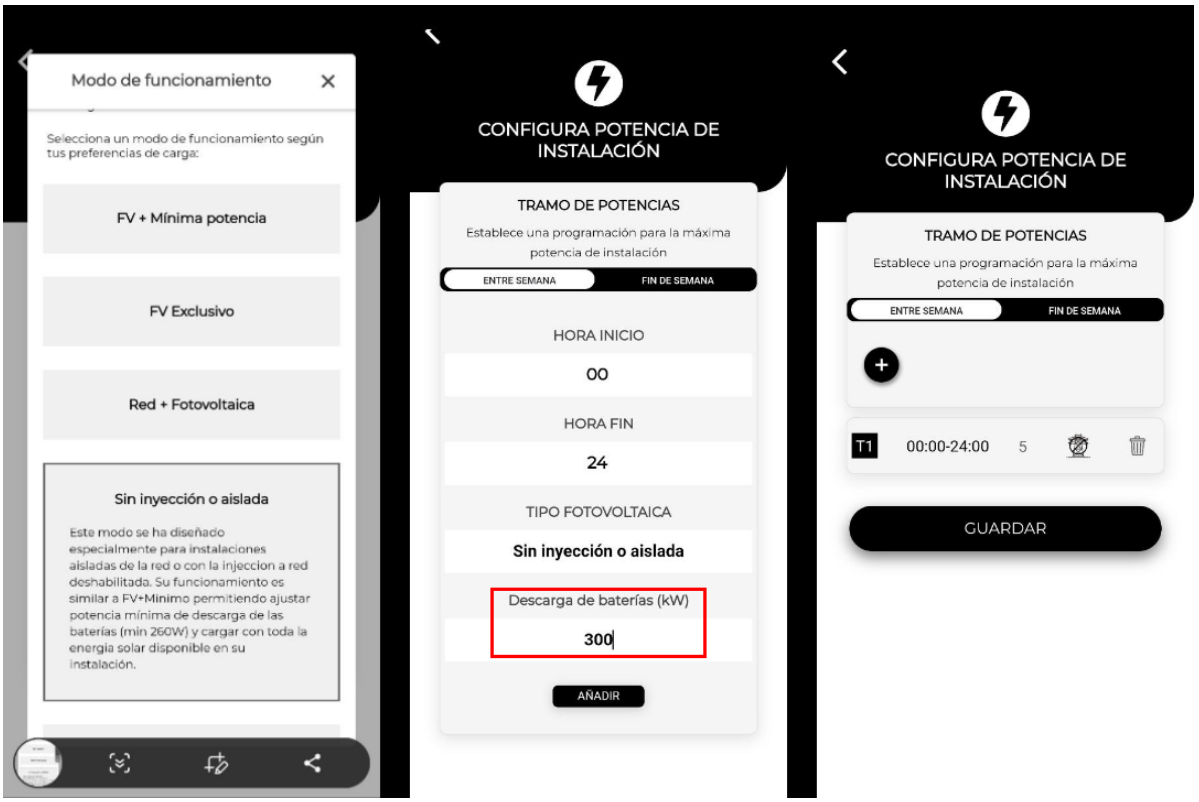
Release Notes 1.6.17

Isolated and 0 Injection Photovoltaic Mode

Due to the demand of the users with installations that are either isolated or have the injection to the grid disabled. We have developed a different photovoltaic mode that allows you to allocate all the available solar power to charge your electric vehicle.

This mode requires a reading of the consumption of the battery of the system, since this measurement is used to calculate the instantaneous solar power of the installation. This mode can be activated from the mode selection in the programming in the configuration of the power sections from the **APP 2.2.0.** version as shown in the following image:



The **parameter** destined to the contracted power or solar deviation in other modes, will be dedicated in this mode to establish the **maximum consumption of the house battery**.

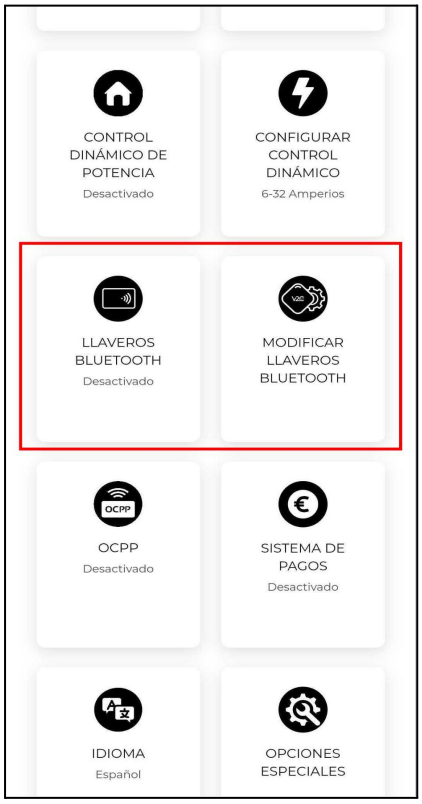
In these systems, the output power of the inverter is adjusted to the consumption of the house. Therefore, to get the maximum benefit of the solar production, a consumption must be forced so that the inverter can start to consume the energy of the battery to provide enough power to the installation.

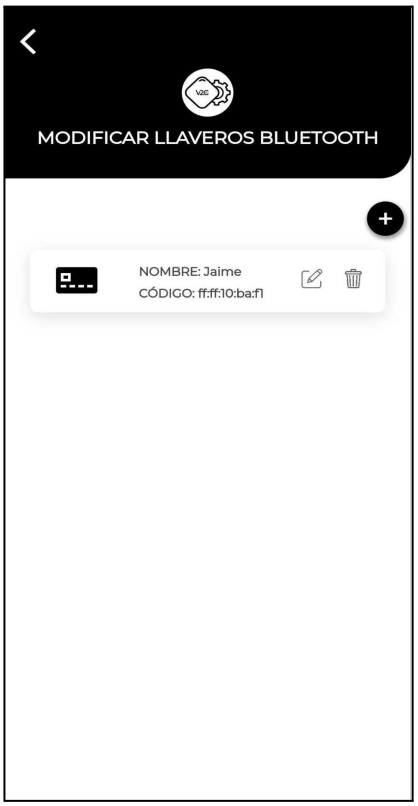
This consumption must be at least **260 W** and can be configured through the **parameter** mentioned above.
Thus, at the beginning of the charge, the Trydan will send the minimum intensity to the vehicle and will gradually increase this intensity until the home battery is discharged at the minimum configured power (**260 W minimum**) exploiting all the solar production. If the production increases, the consumption of the house battery will decrease, raising the intensity of the Trydan, which will balance the system. If not, decreasing the production will increase the consumption of the battery. lowering the Trydan intensity and balancing the system again.

BLE Tags Unlocking and app interface

The assignment and unlocking of BLE Tags or Bluetooth keychains has been improved. This unlocking system is based on a scan of the nearby BLE devices, being able to assign up to 5 of them to unlock the Trydan when they are near it.

Through **APP 2.2.0** we can access the interface that allows assigning, deleting and editing the registered Bluetooth key rings to unlock the equipment. The first menu allows you to activate and deactivate this feature and the second menu allows you to assign, modify or delete the registered keychains:





The assignment process is simple. First, a **Tag**, or **Keychain**, must be added, assigning it a name. Afterwards, it will be enabled for scanning in the Trydan for 15s. This scanning will end when a device approaches within **10 cm of the** Tryand **LCD screen** or when the 15 seconds are over and no BLE device was detected.
Once assigned, the Tag's name can be changed or deleted. These devices are very common but we recommend buying one from the V2C brand to ensure compatibility.

Customizable MQTT credentials

Many users of the Trydan MQTT protocol have requested the possibility of assigning **your own topics** to the values of this protocol and the possibility of being compatible with **protected brokers**.

This implementation is in beta state and is not yet available in the APP but you can talk to the developers to activate it in the beta. To do this, you must send a message to **Telegram** (End of the document) with this structure:

Non protected broker example

Id Trydan: GFRX26

Feature: MQTT


```
{
"username":"",
"password":"",
"GRID_POWER_TOPIC":"grid_measure",
"SUN_POWER_TOPIC":"sun_measure",
"BATTERY_POWER_TOPIC":"batt_measure"
}
```


Protected broker example

Id Trydan: GFRX26

Feature: MQTT


```
{
"username":"admin",
"password":"1234",
"GRID_POWER_TOPIC":"grid_measure",
"SUN_POWER_TOPIC":"sun_measure",
"BATTERY_POWER_TOPIC":"batt_measure"
}
```


Therefore, through the **username** and **password**, authentication can be guaranteed with a private broker that requires the authentication to connect. On another hand, the option to customize the topics is available. The topics to which we subscribe (By default: **grid_power**, **sun_power** and **battery_power**) and to which we will publish (**car_power**) are needed.

Enphase Envoy Microinvertes

Enphase Envoy allows the monitoring of micro inverters of the same brand without having other intermediary devices. For now this integration is only available with Enphase Envoy whose version is **5.x.x**, because in the most current versions (7.x.x) Enphase added one more layer of authentication.

In order to connect to the Enphase Envoy, a password needs to be generated from the Enphase Envoy's own serial number. The Enphase Envoy serial number can be obtained by entering the url "http://envoy.local" in the browser.

The password can be generated in several ways. One of them is through online generators such as: "https://blahnana.com/passwordcalc.html". Another available way to get the password is through programs like the one you can get at "https://github.com/vk2him/Enphase-Envoy-mqtt-json".

Once the password has been obtained and through the generic user ("**installer**") it will be possible to communicate with the device correctly and obtain information from the Enphase microinverters.

This implementation is in beta state and is not yet available in the APP but you can talk to the developers to activate it in the beta. To do this, you must send a message to **Telegram** (End of the document) with this structure:

Id Trydan: GFRX26

Feature: Enphase Envoy

{

"password":""

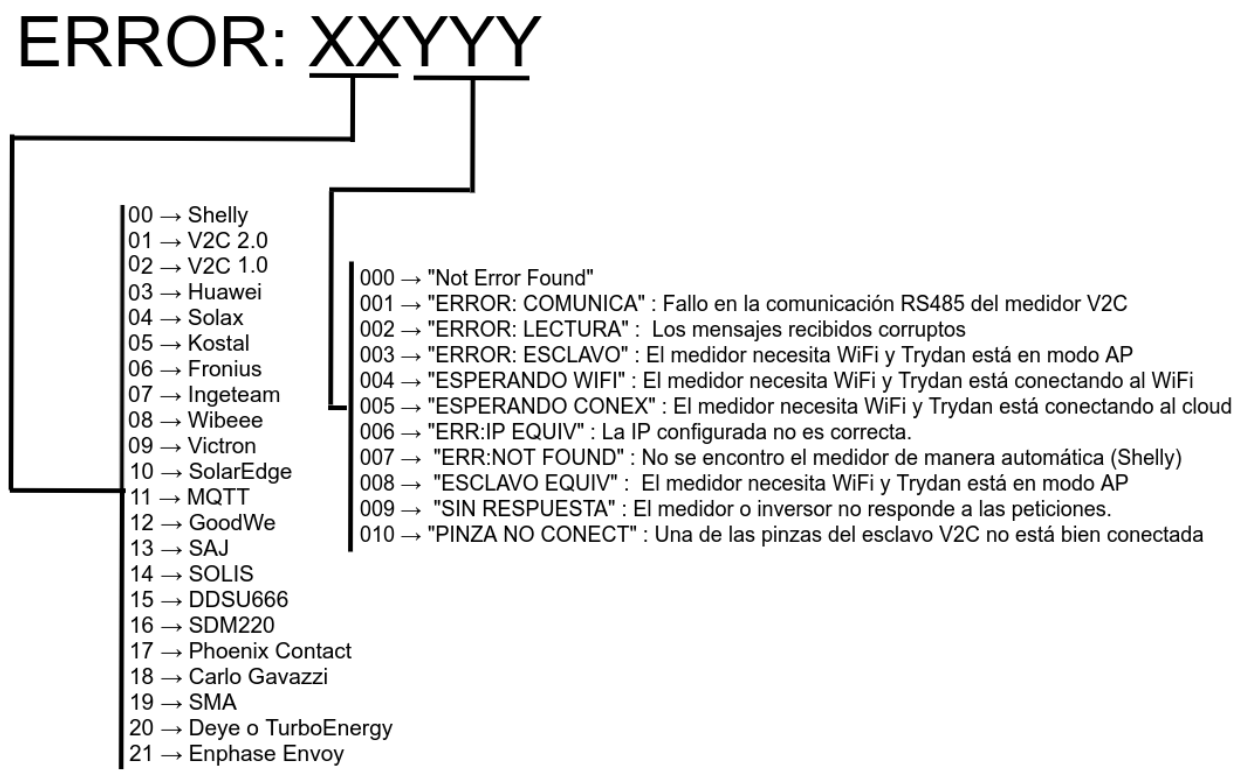
}

Error code and LED Logo interface

At the request of several installers, the Trydan error code has been improved, making it more descriptive and specific. In addition, the behavior of the LEDs has been modified to improve it visually.

When Trydan detects an error with the selected meter or inverter, a red pulse will appear in the LED logo pattern and the error code and a short description of the error will be displayed on the screen.

In addition to this, when the car is unplugged, a white heartbeat will be displayed when the Wi-Fi connection or reconnection routine is active and ending with three green pulses when the connection has been established. The error code has the following structure:

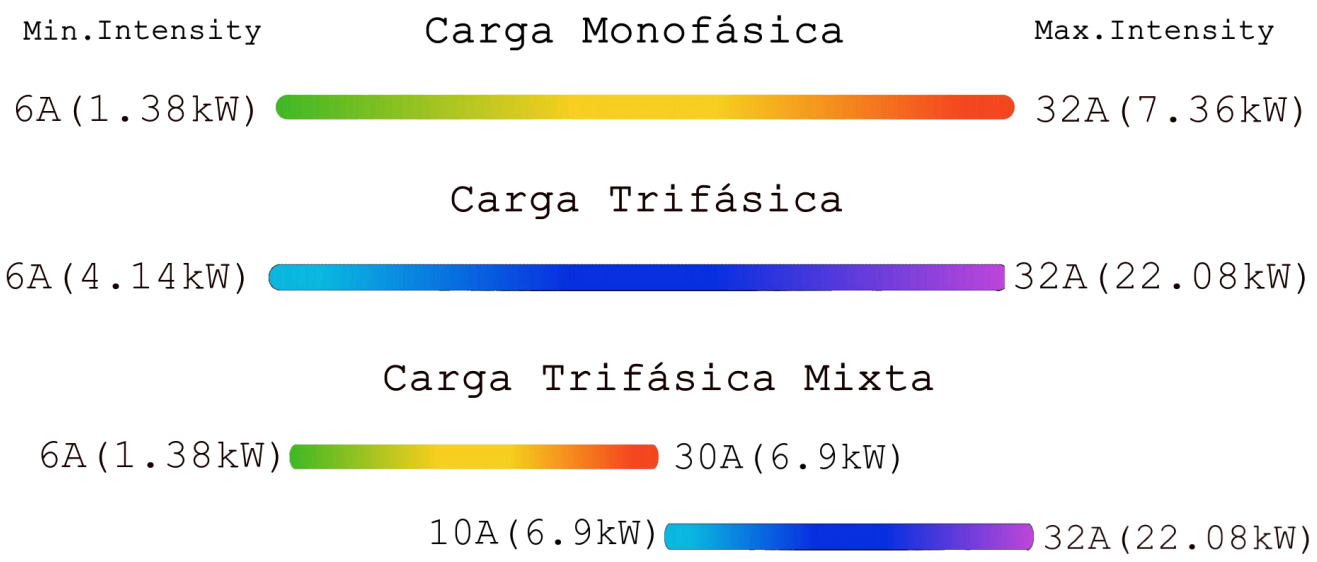


Mixed Three-Phase Charge

Due to the need of users with 3-phase Trydan to make the most of the surplus, an adaptive charging mode has been designed. This charging mode called Mixed Triphasic charge, consists of a dynamic change of activation of the charging phases.

Initially, the charge will start with the minimum intensity (by default 6A) in single-phase mode, allowing charging at less power but taking advantage of each kW available. Once the single-phase load exceeds 30A intensity, the three-phase load will be activated, the intensity will drop to 10A and it will allow the power to increase until charging to 22 kW. On the contrary, when the three-phase load is active, if the intensity drops below 10A, it will enter single-phase mode and change the intensity to 30A, allowing adjustment up to a minimum of 1.38KW.

This mode will be enabled from the physical menu in the Additional section.



The Min.Intensity and Max.Intensity limits refer to the current limits set in the charger menu via the app.

HTTP Commands for HA integration

New HTTP commands have been added:

- **ReadyState** -> Know if the charge has ended
- **Battery Power** -> Know how much power the battery has.
- **Firmware Version** -> To know which version the Trydan has.

Improvement of the nearby WiFi scan

The scanning of WiFi networks has been improved so that it prioritizes the connection with networks that have better signals. Now the scanning of WiFi networks is more complete and allows you to search for several networks with the same SSID.

This measure is designed to improve the connection of those people who have the Trydan connected to a **WiFi Mesh** or several access points with the same name. In case of finding several networks with the same SSID, the Trydan will always connect to the closest network (or the one with the best signal).

To differentiate between networks that share the same SSID (network name) a unique attribute called **BSSID** (MAC address of each access point) is used. Once the scan is done, through the SSID and BSSID the Trydan will connect to the SSID with the best signal.

Links of Interest of the Document

1.6.17 version of Trydan
Link to the Telegram Community