
T28 Software Manual

Release 7.8/1.0

Embention Sistemas Inteligentes, S.A.

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Scope of Changes

- Version 1.0
 - Added:
 - First version issued

Software applications

T28 is a tracking antenna which operates with a **Veronte PCS**. **PCS** in turn is controlled by an **Autopilot 1x**. Hence, the software configuration and operation are performed to the **Autopilot 1x** in the **PCS**.

Veronte Link

Veronte Link establishes communication between a computer and any Veronte product by creating a VCP bridge. It allows to use multiple control stations and autopilots to be interconnected, operating simultaneously.

Veronte Link also includes a post-flight viewer, to reproduce all recorded data from previous flights and generate plots and reports.

For more information, visit the [Veronte Link user manual](#).

1x PDI Builder

1x PDI Builder is the main configuration tool to adapt a **Veronte Autopilot 1x** to a specific vehicle, including user-defined communication protocols. **1x PDI Builder** includes:

- Telemetry: real-time onboard UAV metrics, such as sensors, actuators and control states.
- Configuration: edit vehicle settings, such as servo trim, interface/port management and modes.
- Automations: actions that are automatically executed when a set of configured conditions are accomplished.
- Block Programs: Veronte Autopilot 1x can be programmed with a friendly-user programming language.

For more information, visit the [1x PDI Builder user manual](#).

Veronte Ops

Veronte Ops is the application employed to operate and monitor the vehicle during missions. Its interface can be easily customized and adapted to each case.

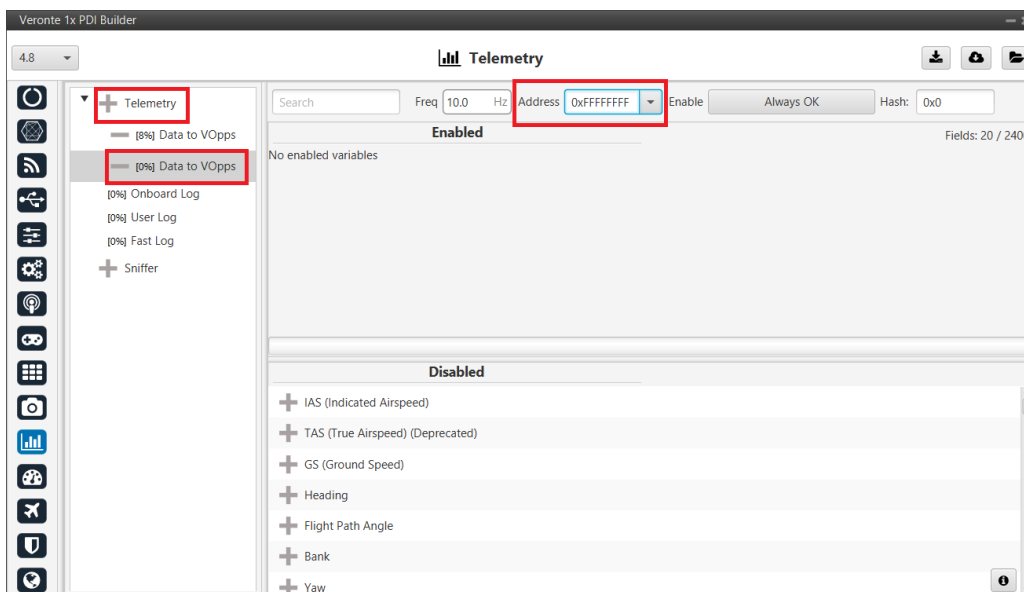
For more information, visit the [Veronte Ops user manual](#).

Configuration

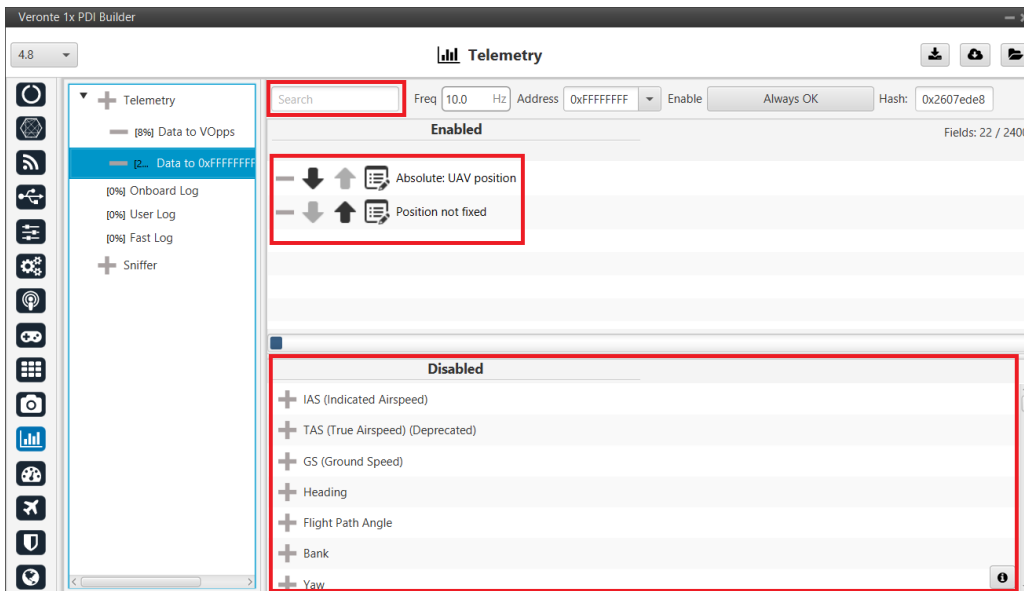
The following steps show the basic configuration to operate with **T28**; the rest of the configuration depends on the application and mission.

Air unit

1. Go to  → **Telemetry** → **Data to VOpps**. Then set the **Address** to "0xFFFFFFFF (Broadcast)".



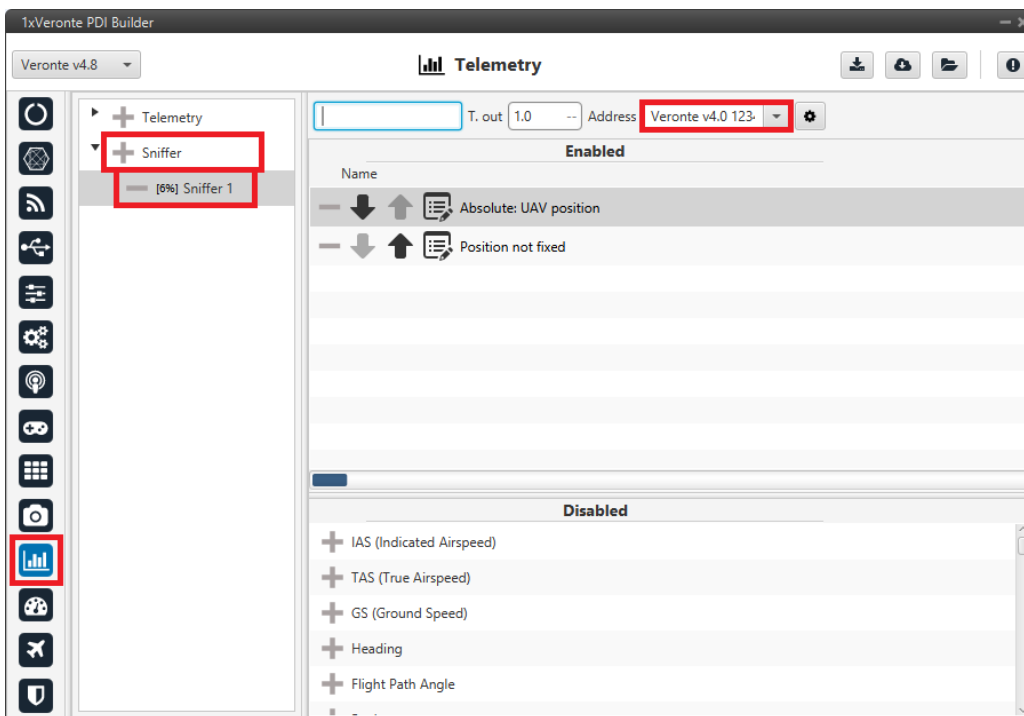
1. Add the variables **UAV position** and **Position not fixed** from the **Disabled** window. It is recommended to use the **Search** bar.



1. Complete the rest of the configuration according to the vehicle and mission requirements, then click on  to write the configuration in **Autopilot 1x**.

Ground unit (T28)

When the ground system is delivered to the customer, it has the necessary configuration to operate. The user only has to verify that the **Address** of the air unit is correctly configured in the **Sniffer**.



 Note

In case of any problem with the configuration, it can be reset as explained in the [T28 configuration reset](#) section.

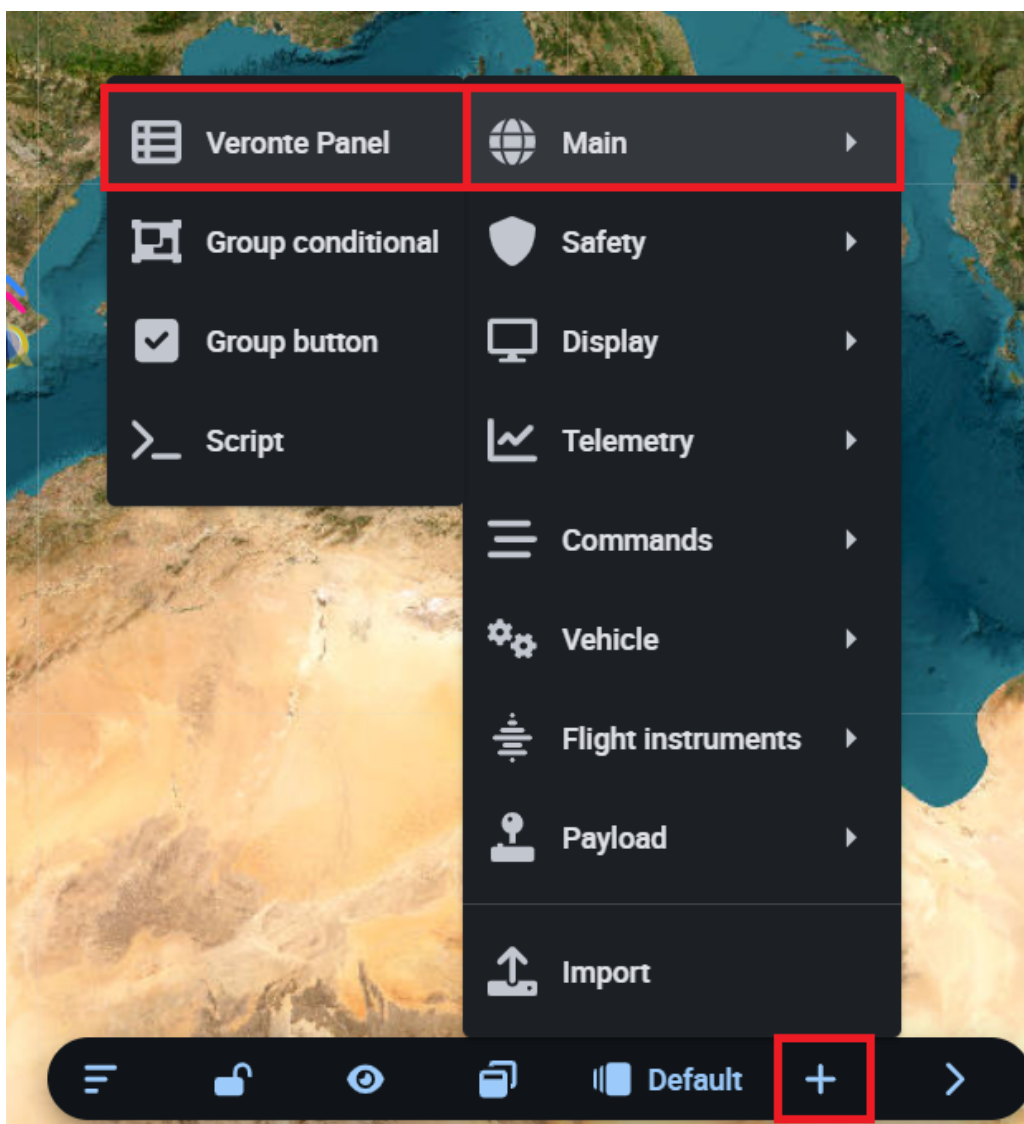
Operation

The **T28** is operated with **Veronte Ops** with its own **Veronte Panel**. This panel can be displayed accessing the widgets menu in the workspace toolbar. To do this, click on the '+' button → **Main** → **Veronte Panel**.

For more information on the Veronte panel widget, please refer to the [Main widgets section](#) of the **Veronte Ops** user manual.

Note

Veronte panels are configured in the autopilot. In consequence, to obtain them it is necessary to connect the computer to the device.

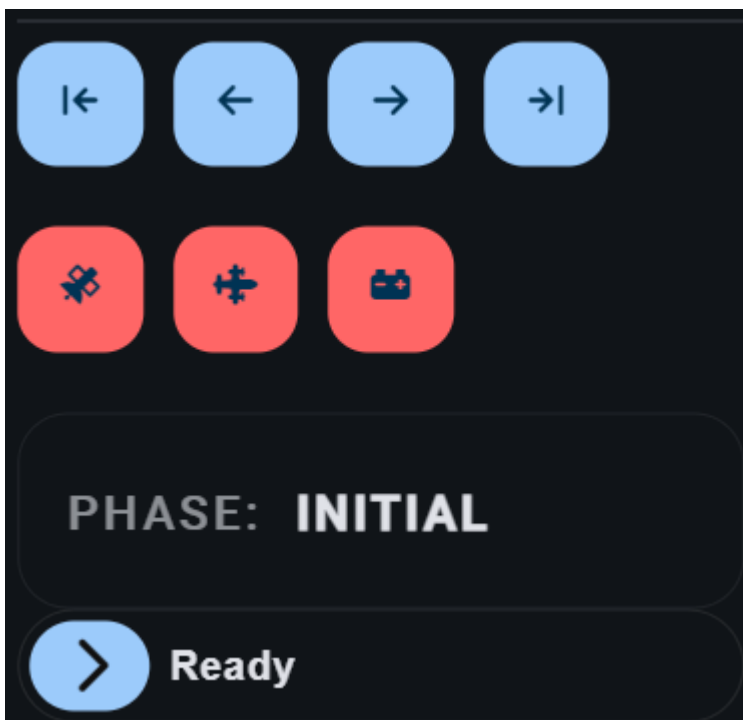


How to open Veronte panels

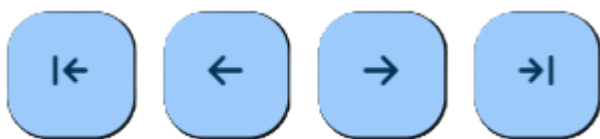
Veronte Tracker buttons

Note

The buttons of **Veronte Tracker panel** exist and perform their respective functions because they were programmed with [1x PDI Builder automations](#).



Veronte panel for T28



⇒ **Trim buttons.** They adjust the **T28**

position.



⇒ **GPS indicator.** It indicates whether the GPS has a valid position or not.

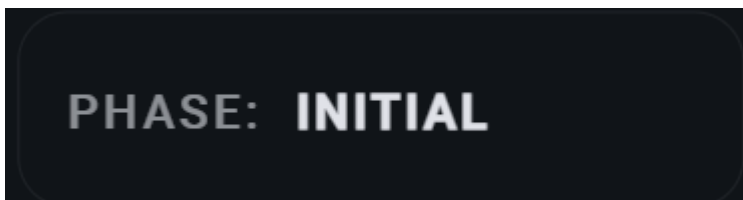


⇒ **Target indicator.** It indicates whether the **T28** is receiving the target position or not.

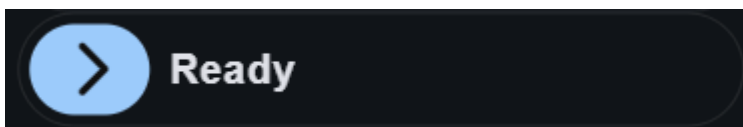


⇒ **Battery indicator.** It shows how much battery power remains:

- Green: > 70 %
- Yellow: 70 % - 40 %
- Orange: 40 % - 15 %
- Red: < 15%



⇒ **Phase indicator.**



⇒ **Phase buttons.**

How to operate the Veronte Tracker panel

1. The **T28** starts with **Initial** phase.
2. Once the GPS indicator turns green, it is possible to switch to the ready phase. To switch to **Ready** phase, simply drag the **Ready** phase button.
3. Once in **Ready** phase (or during the **Initial** phase) the **T28** orientation must be calibrated. To do this, use the trim buttons to point the antenna north. The internal buttons move the antenna by 1 degree and the external buttons by 10 degrees.
4. Once the **T28** is calibrated and the GPS and target indicators are green, drag the **Tracking** phase button to switch to tracking.
5. To stop tracking, drag the **Ready** phase button to return to ready.

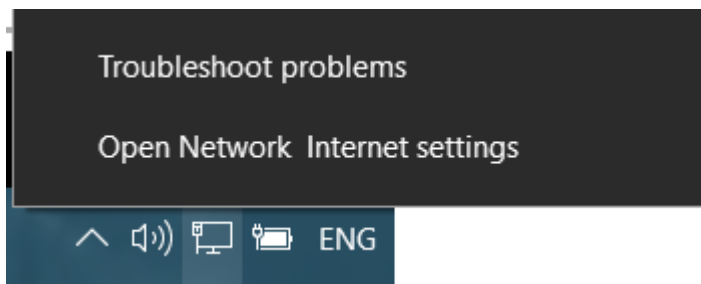
Troubleshooting

TCP Connection cannot be established

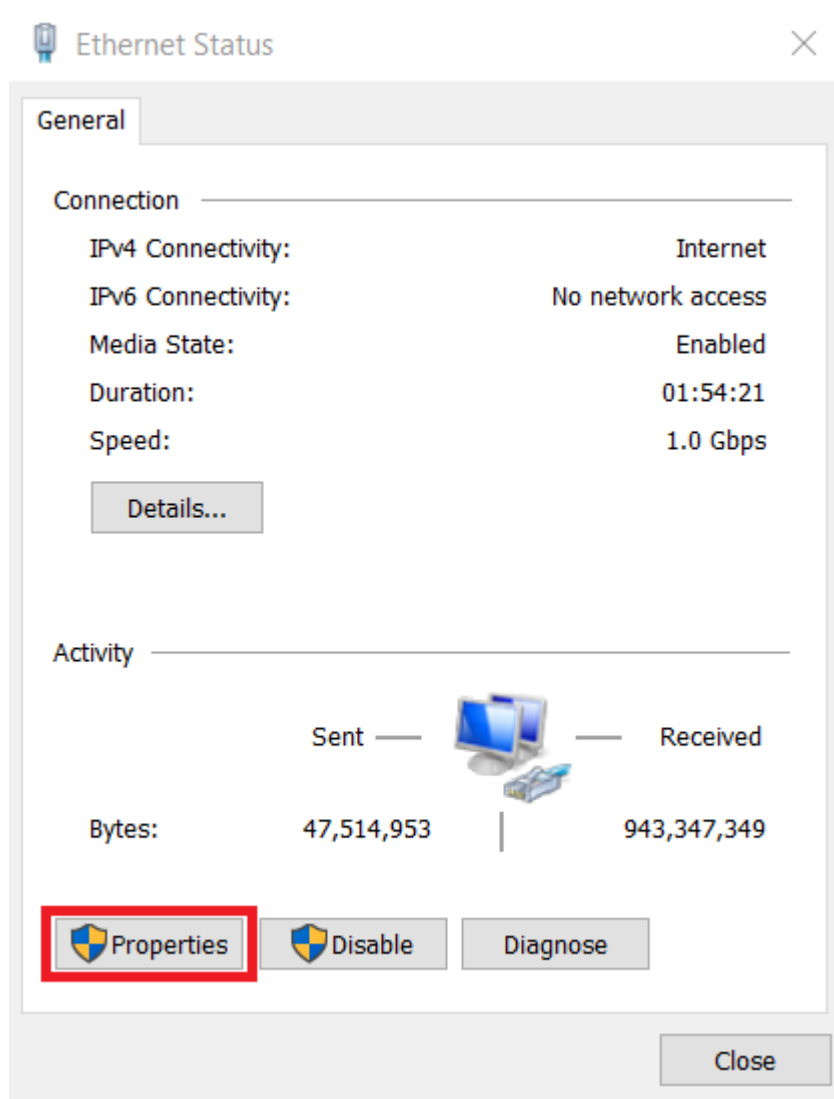
In order to correctly establish the connection with **T28** through TCP, make sure the computer is set to the following static IP address: **192.168.8.3**. This address should be automatically assigned when connecting to **T28** network.

If this is not the case, please follow the example below in order to assign a static IP address to your device:

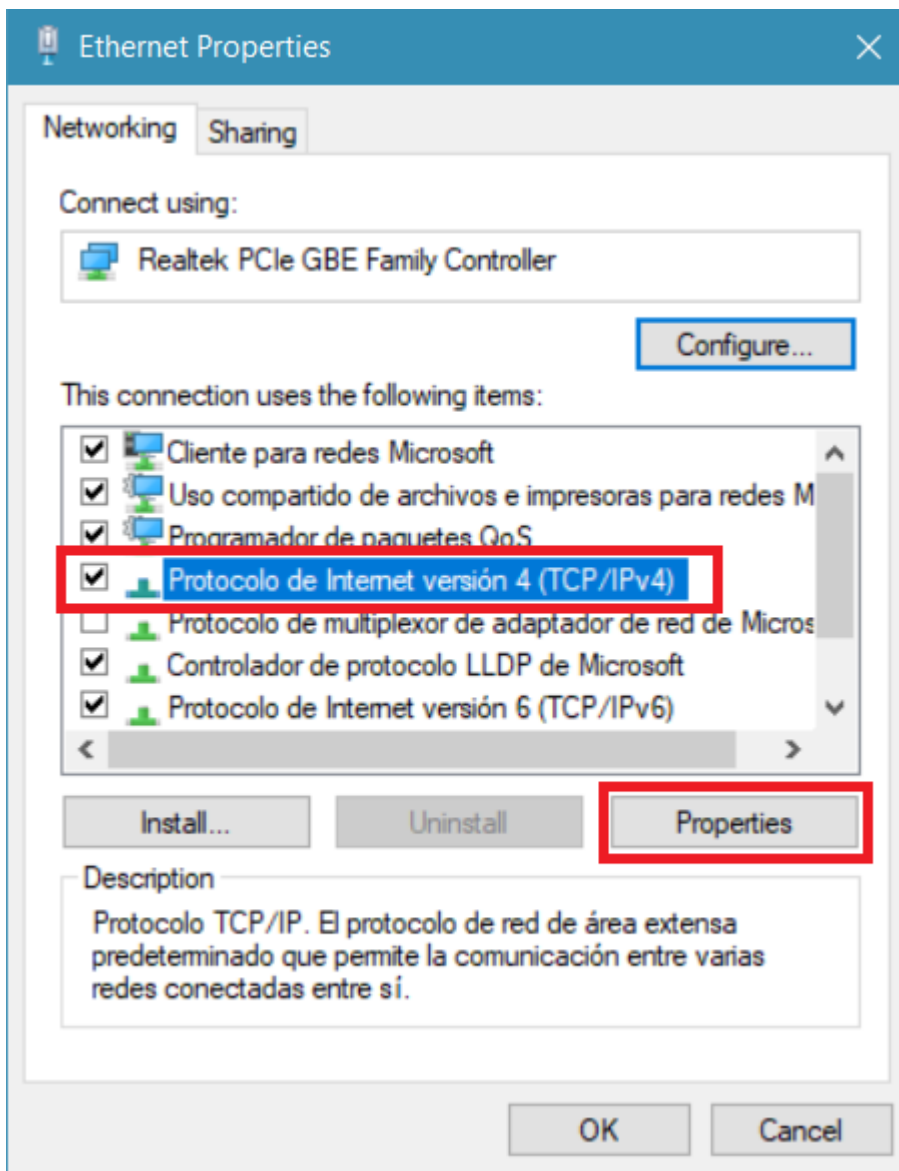
- Click on '**Open Network Internet settings**' in the dropdown menu of the Internet configuration



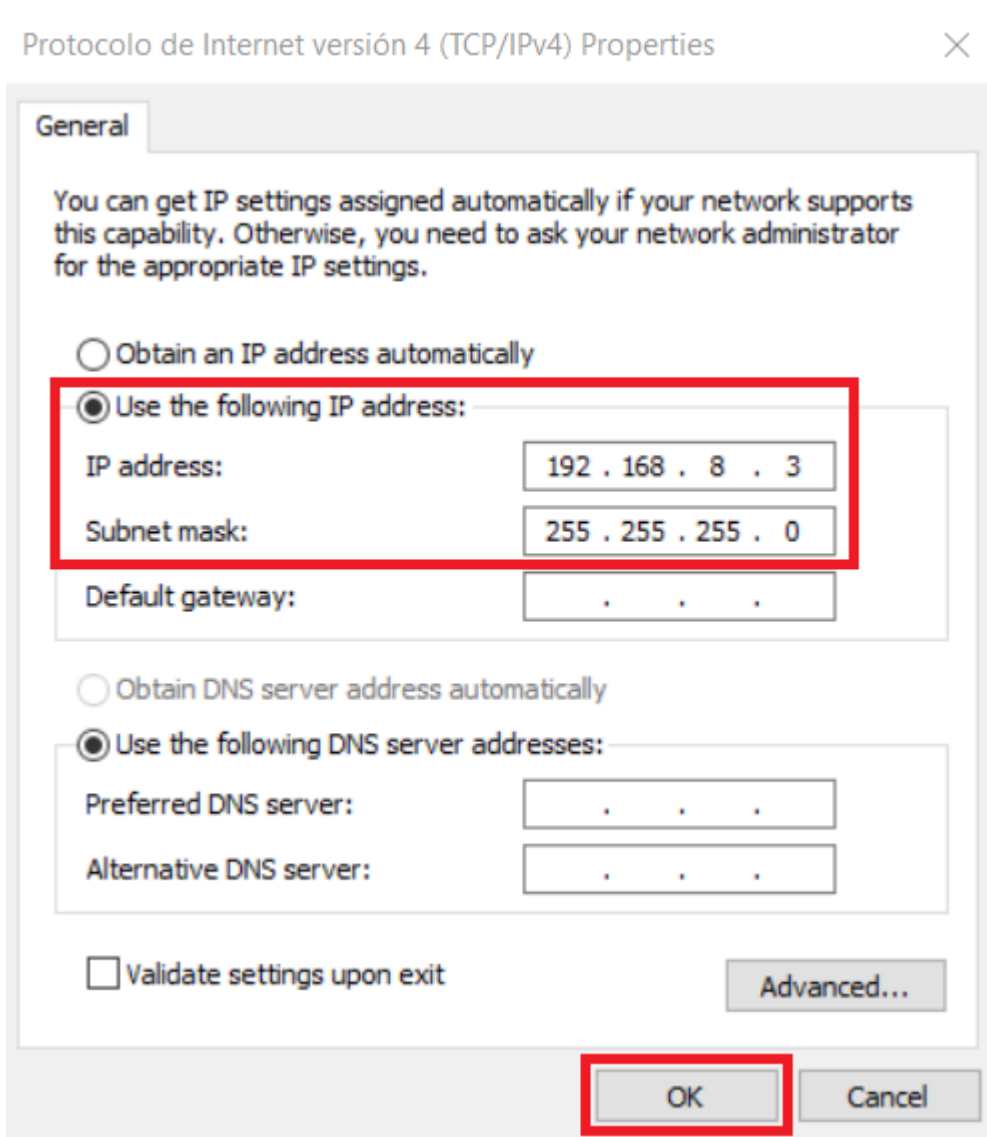
- Click on '**Change adapter options**' and select your Internet connection method by double clicking on it



- Click on 'Properties' and select **IPv4 Internet Protocol**, then click on 'Properties'



- Select 'Use the following IP address:' and type in the 'IP address' tab **192.168.8.3**
- 'Subnet mask' should be automatically fulfilled as observed in the following image, else manually type the same subnet mask

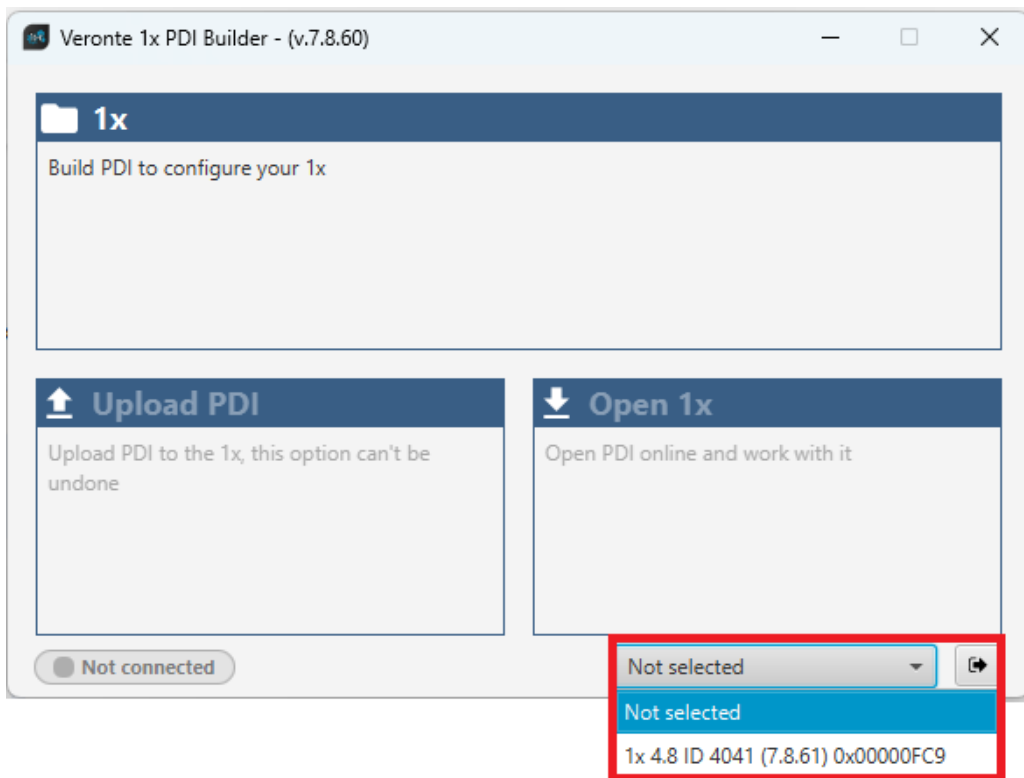


- Click on 'Ok' and close the windows opened

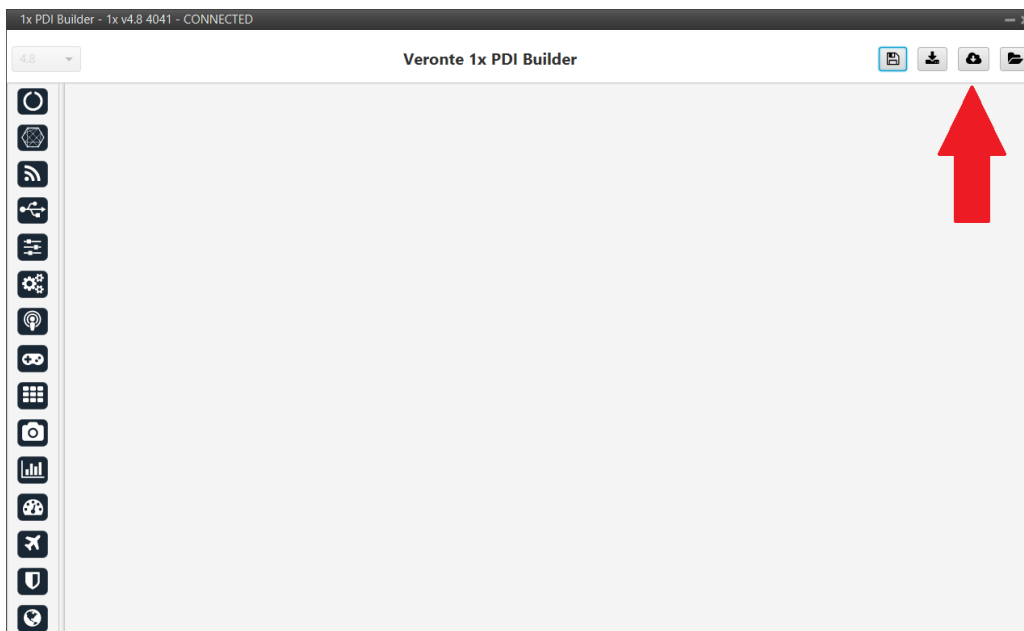
T28 configuration reset

Autopilots 1x with software **version 6.8 or higher** can restore the configuration to the default one. To do it, follow the next steps:

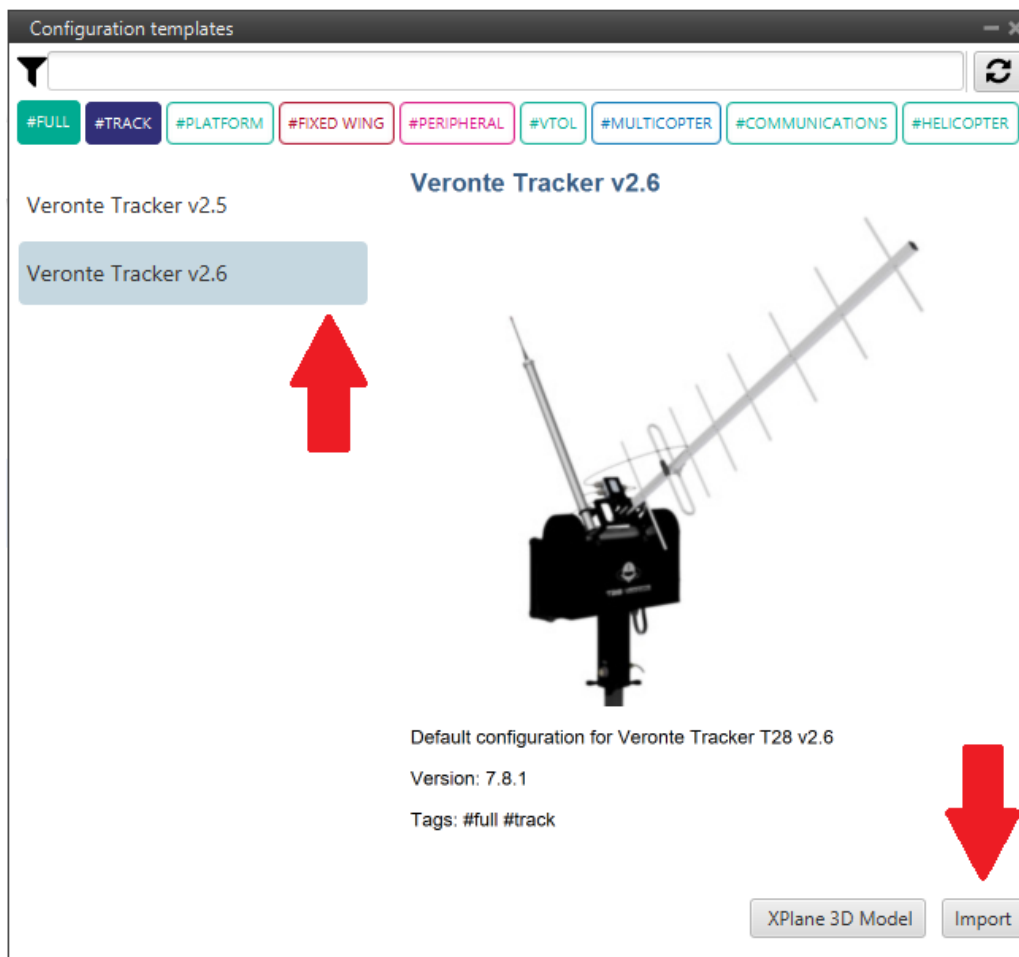
- Connect the Autopilot 1x and check that it is detected in **Veronte Link**.
- Open **1x PDI Builder** and select the **Autopilot 1x**.



- Then click on **Open 1xVeronte** to open the configuration of the connected **1x**.
- Click on .



- Select the last version of **T28** configuration, then click on **Import**.



- Finally click on  to write the configuration in the autopilot.