
TC30 Hardware Manual

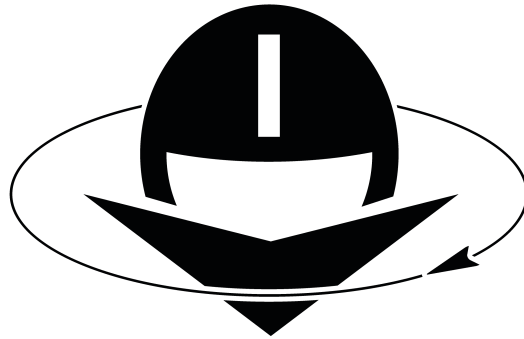
Release 1.0

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TC30 | VERONTE TRACKING ANTENNAS

Veronte TC30 is a control station with a Gimbal camera. It is able to track any movement object.

Warning: Select your version before reading any user manual. The following image shows where to select a version from any Embention user manual.

A screenshot of the Embention website's user manual page. The page title is "1x Hardware Manual". The navigation bar at the top includes "Home", "Version-4.8", "Languages-EN", and "Download". A dropdown menu is open under "Version-4.8", showing options "4.5" and "4.8". A red arrow points from the "4.8" option in the dropdown to the Veronte logo on the page. The page content includes the Veronte logo, the text "Veronte Autopilot 1x is a miniaturized high reliability avionics system for advanced control of unmanned systems.", and the version information: "Version: UM.305.4.8" and "Date: 2023-11-24".

INTRODUCTION



Fig. 1: Veronte TC30

TC30 is the integration of a **PCS** with a **Gimbal camera 30z** (variant **SC** or **DC**). The system can be configured to track a moving object with the camera, which sends a video signal through ethernet.

QUICK START

2.1 First Steps

The first steps of a **PCS** installation can be found in the [Quick Start](#) section of the **PCS Hardware Manual**.

The basics of **Gimbal 30z** are explained in the [Quick Start](#) section of the **Gimbal 30z Hardware Manual**.

2.2 Warnings

Please take into account the [Warnings](#) section of the **PCS Hardware Manual**.

2.3 Requirements

- Power supply of 230 V AC.
- A computer with ethernet, to configure **PCS** and **Gimbal 30z**.

Note: As explained in the [Quick Start](#) section of **Gimbal 30z Hardware Manual**, it requires a **Veronte Autopilot 1x** to control the movement and receive the video signal. Nonetheless, **PCS** includes an **Autopilot 1x** inside, so this requirement is fulfilled by the **TC30** itself.

3.1 Variants

Veronte TC30 can be acquired with both variants of **Gimbal 30z**:

- **30z DC**: with visible light and IR camera.
- **30z SC**: only with visible light camera.

3.2 Part List

- **Veronte PCS** Control Station Unit.
- **Veronte Gimbal 30z** camera.
- Pole with mounting accessories for **PCS** and **Gimbal 30z**.
- Veronte Control station power source (euro plug). This power supply is worldwide compatible if the power cable is changed.
- 5 m ethernet extension cable.
- 5 m USB A extension cable.
- 5 m joystick extension cable.
- Rugged transport case.
- Cable power extension connector - 5m - Amphenol 6P.
- Connection harness for **PCS**.
- Gimbal harness (specific for the **TC30** integration). Embention reference: P007811 B000928.
- Power harness (to supply **30z** and **PCS**). Embention reference: P007821 B000930.
- PCS harness (specific for the **TC30** integration). Embention reference: P008530 B00135.

The **Veronte PCS** Control Station Unit is built with a **Veronte Autopilot 1x** inside to manage communications.

3.3 Specifications

3.3.1 Gimbal 30z

30z specifications are described in detail in the [Technical](#) section of the **Gimbal 30z Hardware Manual**.

3.3.2 PCS

PCS specifications are described in detail in the [Technical](#) section of the **PCS Hardware Manual**.

3.4 Interfaces

3.4.1 Harnesses

Each harness is a cable provided with the system which has different connectors.

The following table shows the equipped connectors and their functionalities.

Harness	Connector	Description
Gimbal Harness	CAN A	CAN bus for CAN A bus of the PCS Harness.
	Ethernet	Ready to connect to a laptop or Veronte LCS .
	Power supply	Power supply (24 V DC). Compatible with the Power Harness.
PCS Harness	CAN A	CAN bus for CAN A bus of the Gimbal Harness.
	CAN B	CAN bus for other purposes.
	Power supply	Power supply (14 - 24 V DC). Compatible with the Power Harness.
Power Harness	2 x Power supply	24 V DC for PCS and Gimbal Harness.

3.4.2 Connection Layout

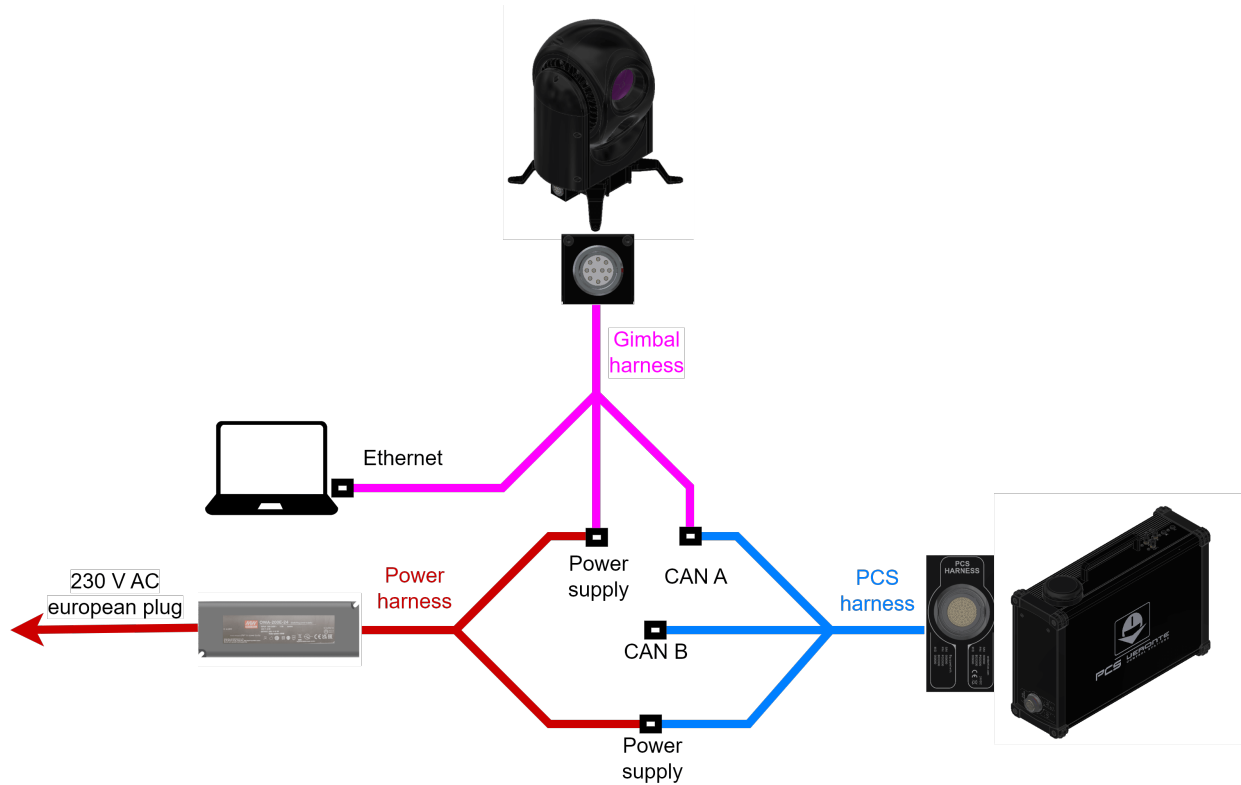


Fig. 1: Connections diagram

Warning: Gimbal 30z must be connected to PCS through CAN A. CAN B can be employed for communications with other devices, but not for Gimbal 30z.

Note: CAN A connection does not require any additional resistor, since it is included in the circuitry.

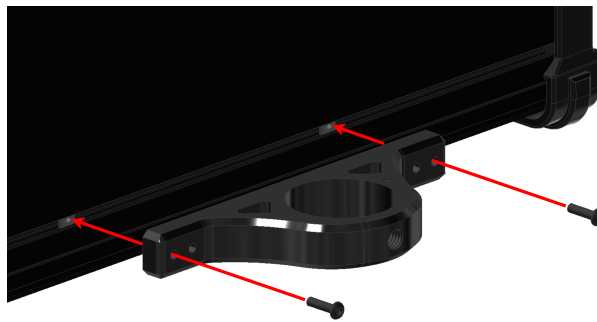
3.4.3 Mating Connectors

The connectors of PCS are explained in detail in [Interfaces - Technical](#) section of **PCS Hardware Manual**.

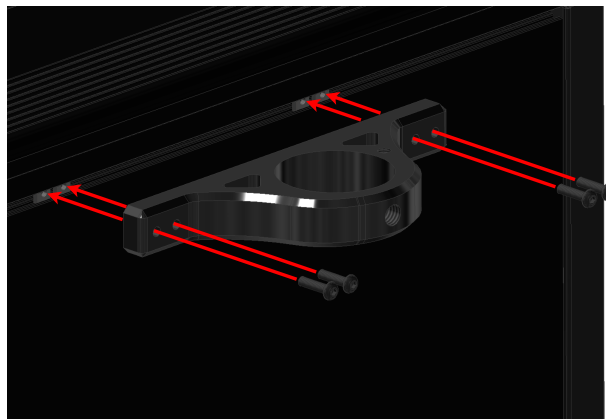
The **Gimbal 30z** connector is the LEMO EGG.2B.310.CLL. Its Mating connector is the **Gimbal harness** (specific for Veronte TC30 integration).

HARDWARE INSTALLATION

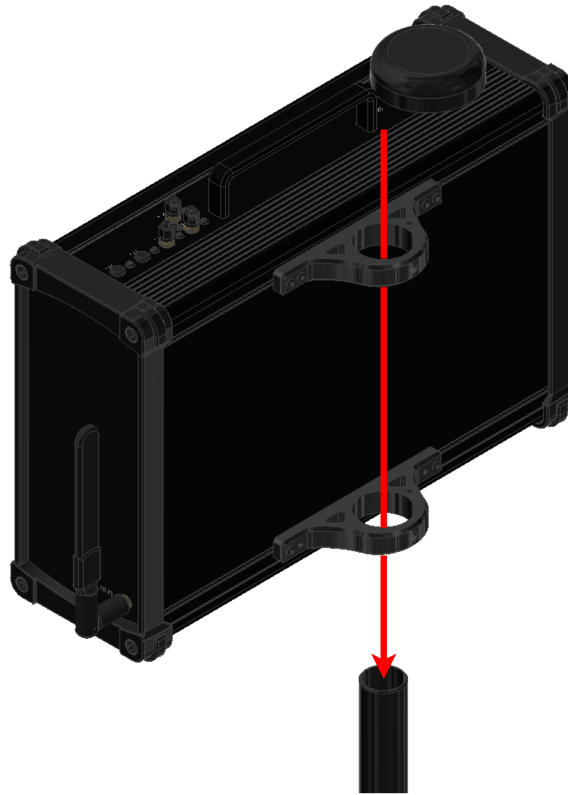
1. Attach a pole mount to the bottom of the **PCS** with two screws M3 x 12 mm.



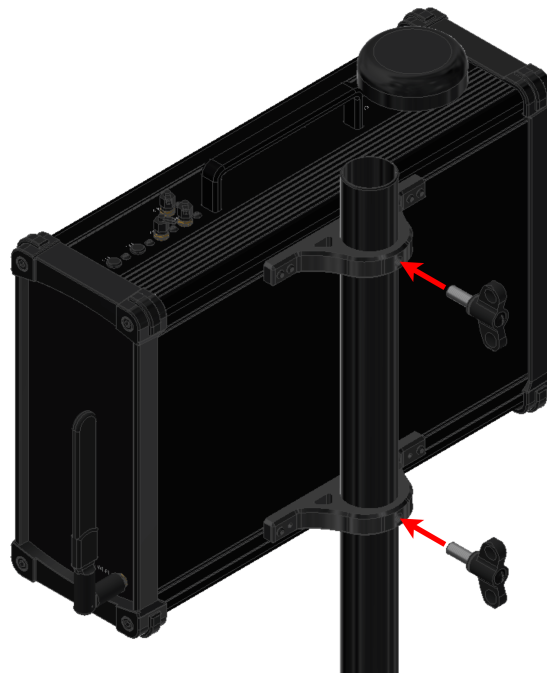
2. Attach a pole mount to the top of the **PCS** with four screws M3 x 12 mm.



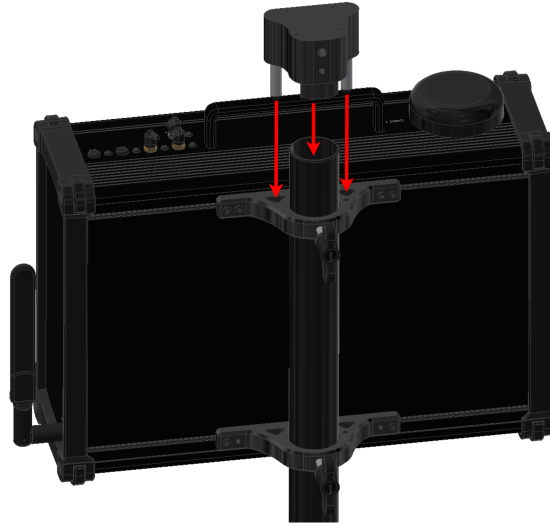
3. Pass the pole through both mounts.



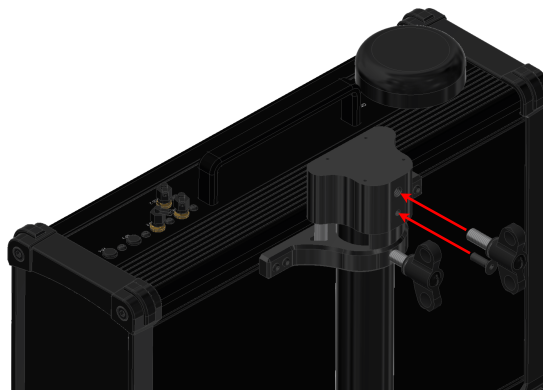
4. Screw two knobs to fix both mounts to the pole.



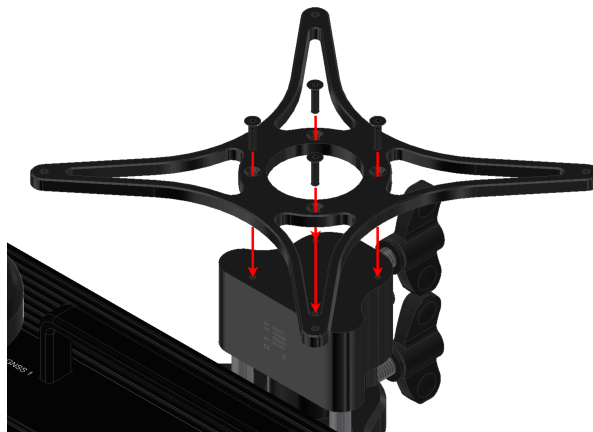
5. Place the adapter on the top of the pole.



6. Screw one knob and one bolt M5 x 16 mm to fix the adapter on the pole.



7. Screw the support on the adapter with four bolts M3 x 12 mm.



8. Attach the legs to the Gimbal with two bolts M3 x 10 mm for each one.



9. Fix the Gimbal to the support with four bolts M4 x 8 mm.



10. Connect the cables following the *Interfaces - Technical* section of the present manual.

Note: To know specific details about the electrical assembly, please consult:

- For **Gimbal 30z**: [Electrical - Hardware Installation](#) section.
 - For **PCS**: [Pinout - Hardware Installation](#) section.
-

SOFTWARE INSTALLATION

5.1 Basics of Gimbal 30z

The basics of software configuration for **Gimbal 30z** are explained in the [Software Installation](#) section of the **Gimbal 30z Hardware Manual**.

Note: The **Autopilot 1x** located inside the **PCS** is the device that will store the configuration of **Gimbal 30z**. **30z** does not receive any software configuration, since it is operated by the **1x**.


The [Software Applications](#) section from the **Gimbal Software Manual** has links for all the necessary configurations.

5.2 Basics of PCS


The basics of software configuration for **PCS** are explained in the [Software Installation](#) section of the **PCS Hardware Manual**.

5.3 Visual Tracking with Gimbal 30z

The visual tracking is configured with Veronte Ops.

First of all, configure the **30z** reading the [Gimbal panel](#) section of **Veronte Ops user manual**. Then, add the tracking action  to the [Gimbal Buttons](#) widget.

Once the button has been added, use the [Iframe widget](#) to visualize the video recording (enter the url generated by the [Web Converter app](#)) and select on the video displayed the object desired to track.

Important: The tracking button  is not a start/stop button, it is only for stopping the tracking action. Therefore, to start tracking back, users will have to select again the object with the [Iframe widget](#).

Finally, the complete setup and configuration of **Gimbal 30z** is explained in the [Gimbal - Integration Examples](#) section of **Veronte Ops user manual**.

MAINTENANCE

6.1 Gimbal 30z

Apart from cleaning, no extra maintenance is required to guarantee the correct operation of **Veronte Gimbal 30z**.

In order to clean **Gimbal 30z** properly follow the next recommendations.

- Turn off the device before cleaning.
- Use a clean, soft, damp cloth to clean the unit.
- Do not immerse the unit in water to clean it.

6.2 PCS

Instructions for maintenance of **PCS** are explained in the [Maintenance](#) section of **PCS Hardware Manual**.

ACRONYMS AND DEFINITIONS

CAN	Controller Area Network
DC	Dual Camera
PCS	Pole Control Station
SC	Single Camera
TC	Tracking Camera

CONTACT DATA

You can contact Embention if you need further help and support.

Embention contact data is as follows:

Email: support@embention.com

Telephone: (+34) 965 421 115

Address: [Polígono Industrial Las Atalayas, C/ Chelín, Nº 16, CP 03114, Alicante \(España\)](#).