

TENGRİ

GROUND CONTROL

SETUP GUIDE

www.tengriuav.com

Pin Configurations:

a	CAN Low
b	GND
c	CAN High



d	GND
e	TX
f	RX

Package Contents:

- 1x - TENGRI Ground Control unit
- 1x - Setup guide

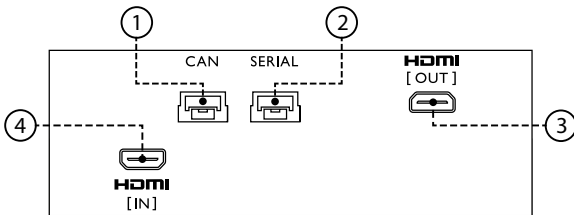
Installation steps:

The Tengri Ground Control unit is a base unit which can be configured with a variety of different inputs and outputs depending on your requirements. It can be used in a highly mobile configuration or be used to build a fixed Ground Control Station with a large HDMI monitor and custom controls. The following are basic steps that are required for any installation.

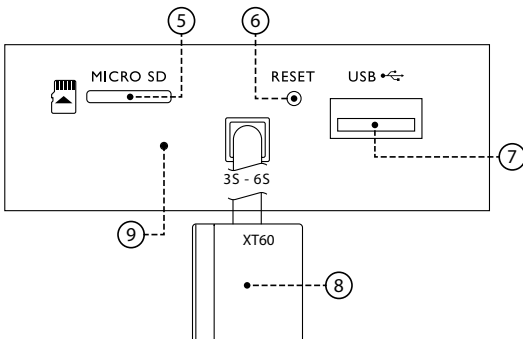
TGC refers to TENGRI Ground Control

TGC USB refers to either TGC USB port ⑦ or an USB hub connected to TGC USB port ⑦.

QGC refers to customized QGroundControl in TGC.



1. Connect an HDMI monitor or HDMI goggles to the TGC Micro HDMI out ③.
2. Connect an USB hub to TGC USB port ⑦. For setups requiring connection of multiple USB switches and devices, a permanent USB hub will be required. If multiple devices consume a significant power are connected, an externally powered USB hub is recommended.
3. Connect an USB mouse, trackpad or trackball and a keyboard to the TGC USB for configuration.
4. Connect one USB telemetry radio to the TGC USB. The other telemetry radio should be connected to the vehicle.



5. (Optional) Connect an USB Wi-Fi receiver to the TGC USB for internet connectivity. TGC can connect to a Wi-Fi network available in your location or your mobile phone hotspot. Internet connectivity is required for QGC live maps. Refer Table 1 for supported Wi-Fi chipsets by TGC.
6. (Optional) Connect an USB joystick to the TGC USB. A joystick can be used to control the vehicle via QGC.
7. (Optional) Connect an HDMI output to the TGC Micro HDMI video input ④. HDMI video input can be selected as a Video Source in QGC.
8. Connect an 11.1 V to 25.2 V (3S to 6S) power supply to the TGC power in ⑧ and power up. Power indicator ⑨ lights up in red.
9. Wait for TGC desktop to start.
10. Double click on QGC icon to launch QGC.

11. QGC should connect to the vehicle via the USB telemetry radio connected.

12. (Optional) Configure Wi-Fi.
 - a. Go to QGC → Network → Wi-Fi
 - b. Click on Scan button to list the available SSIDs. Select the SSID from the list or enter manually.
 - c. Enter password.
 - d. Click on Connect button to connect
13. (Optional) Select HDMI video input as QGC video source.
 - a. Go to Video section under General settings
 - b. Select HDMI Video Input from the Video Source list.

Exit QGC: Go to File → Exit or press Ctrl+Q on keyboard

For further support please visit www.tengriuav.com/support

1	CAN bus port
2	Serial port
3	Micro HDMI out
4	Micro HDMI video input
5	Micro SD card slot
6	Factory reset button
7	USB port
8	Power in (3S – 6S)
9	Power indicator

Table 1: Wi-Fi chipsets supported by TENGRI Ground Control v1.024 and above.

Realtek	RTL8187, RTL8187B, RTL8192CU, RTL8188CU, RTL8192EU
Ralink	RT2571, RT2572, RT2571W, RT2573, RT2671, RT2770, RT2870, RT3070, RT3071, RT3072, RT3370, RT3572, RT3573, RT5370, RT5572
MediaTek	MT7601U
Atheros	AR5008, AR9001, AR9002, AR9271

Specifications:

Dimensions	: 84.2 mm x 69.8 mm x 23.5 mm (without XT60 power cable)
Weight	: 160 g (with XT60 power cable)
Operating Temperature	: -40 °C to 60 °C
Input Voltage	: 11.1 V - 25.2 V (3S - 6S)
USB Output Current	: 1.5 A at 5 V
Supported Flight Controllers	: All APM/PX4 based Flight Controllers

CAUTION: The surface temperature of the casing can become hot when switched on and not exposed to airflow. Handle with care.

TENGRI GROUND CONTROL UNIT

Terms of Use and Product Information

IMPORTANT: The user of this product is strongly advised to read the entirety of this document as the information contained therein shall affect his/her safety as well as legal rights and responsibilities.

By using this product, you, the user, hereby confirm that you have read the following disclaimer, warranty and warning carefully and understand and agree to abide by the terms and conditions set out therein.

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Warranty

The period of warranty shall start from the date of delivery of the product to the user and shall remain in force for a period of 90 days therefrom. The warranty shall cover all parts of the product solely against any defect or fault that may have occurred during production, assembly and/or due to the utilization of defective parts therein. In such an event, TENGRI shall, at its discretion, provide the user with one of the following:

Product repair services,
Product replacement, or
Exchange the product for a refund of the purchase price.

Note that under no circumstances will a refund of the purchase price be made unless and until reasonable attempts have been made at repairing or replacing the product complained about. Such obligations on the part of TENGRI shall be annulled under the following conditions or circumstances, including but not limited to:

- If the product becomes faulty or damaged due to use that is contrary to its ordinary and intended usage or contrary to the terms, conditions and operating instructions set out in this document as well as those made available elsewhere by TENGRI (including at www.tengriuv.com)
- If the product has been previously modified, repaired or tampered with (in any manner or form) by any unauthorized party, including the user.
- If the fault or damage is caused by accident, misuse or abuse of the product, fire, earthquake, liquid contact, or other such external causes.
- If the fault or damage is caused as a result of the product being plugged into an inappropriate voltage or where installation is carried out in an incorrect manner.
- If the product is damaged due to use with third party accessories, devices or products.

If, following the submission of an application for warranty services via www.tengriuv.com, it is verified that your product is eligible for mail-in service, TENGRI will send you instructions via email on how to properly pack and address your product, so that it may be shipped to our service location. Note however that TENGRI reserves the right to reassess the eligibility of your product for warranty services in accordance with the above disqualifications, following a first-hand examination of the product and/or in light of an initial misdiagnosis or misinformation provided by the user. Once service is complete, the service location will return either the product or its replacement to you. The cost of shipping for the purposes of warranty services shall be **borne by the user**.