



KESTRELTM
u5

KestrelTM u5 Terminal Preparation and Setup Guide

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1 Introduction

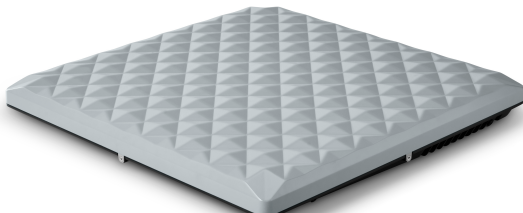
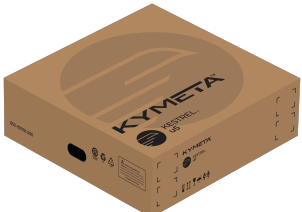
This guide is designed to help you understand the Kymeta™ Kestrel™ u5 user terminal (UT) capabilities, requirements, and setup and installation process so that you can prepare for deployment and quickly begin using your UT when it arrives.

The Kestrel u5 is a software-defined, full-duplex electronically steered antenna (ESA) platform that provides broadband satellite communications over Eutelsat OneWeb LEO networks and compatible Ku-band GEO satellite networks.

The UT features a 17 W multi-band RF chain, an embedded OneWeb LEO modem, and support for compatible external GEO modem platforms, enabling deployment across a wide range of fixed and mobile applications.

For in-depth operational, maintenance, and technical details, refer to the *Kymeta Kestrel u5 user manual* (700-00354-000).

1.1 UT weight and dimensions

Image	Size	Weight
	L 60 cm × W 60 cm × H 8 cm L 23.6 in. × W 23.6 in. × H 3.1 in.	10.75 kg 23.7 lb.
	L 68.58 cm × W 71.12 cm × H 41.91 cm L 27.0 in. × W 28.0 in. × H 16.5 in.	35 kg 77 lb.
	L 78.74 cm × W 76.20 cm × H 28.58 cm L 31.0 in. × W 30.0 in. × H 11.25 in.	23.04 kg 50.8 lb.

2 Installation requirements and considerations

Before installing your Kestrel u5 UT, review these requirements to ensure a successful deployment.

2.1 Safety and handling considerations

- a. **RF exposure safety:** When operating the u5 UT:
 - Do not place your head or body near the top or sides of the UT while it is operating.
 - Maintain a distance of **3 m (118 in.) from the face of the UT** and **170 cm (66.9 in.) from any edge of the UT**.
 - In public or unsecured areas, install a visual barrier to prevent accidental entry into the RF exposure zone (gray cone).
- b. **Radar and RF interference:** Install the UT away from radar systems or other high-power RF emitters, and outside their beam paths. Where applicable, maintain separation from radar emissions, typically $\pm 15^\circ$ elevation from the emitter. Verify UT performance in the intended operating environment before finalizing the installation.
- c. **Field of view and energy exposure:** Avoid obstructing the UT field of view. Install the UT in a location that minimizes personnel exposure to RF energy. For environments where people, structures, or equipment may be located within the UT field of view, refer to the *Kestrel u5 user manual (700-00354-000)* for hazard zone configuration guidance.

2.2 Hardware requirements

- a. **Installation hardware and tools:** The Kestrel u5 is available in multiple configurations. Depending on the selected bundle, the shipment may include the UT, router, power supply and power conversion equipment, mounting accessories, cable kits, and installation hardware. Verify that all required components have been received before beginning installation. Refer to the *Kestrel u5 user manual (700-00354-000)* for bundle contents and configuration details.
- b. **Accessory kits:** If accessory kits were ordered, follow the installation instructions included with each kit.
- c. **Power accessories:** Additional power accessories are available. Refer to the *Kestrel u5 user manual (700-00354-000)* for supported power options or contact your sales representative for assistance selecting the appropriate power solution. For installation guidance, see [Section 2.4 Electrical requirements](#).
- d. **Mounting solutions:** Multiple mounting options are available for the Kestrel u5. Refer to the *Kestrel u5 user manual (700-00354-000)* for information about supported mounting accessories and mounting options or contact your sales representative for assistance selecting the appropriate mounting solution. For mounting guidance, see [Section 2.5 Mounting considerations](#).
- e. **Computer or mobile device:** Initial setup and system management require a computer or mobile device equipped with either an Ethernet interface or Wi-Fi connectivity. This device is used to access the Kymeta u5 Access GUI for configuration, monitoring, and management of the UT.

2.3 Software requirements

Access to the Kymeta u5 Access GUI requires one of the following supported web browsers: Google Chrome, Microsoft Edge, Apple Safari, Mozilla Firefox. Kymeta recommends using the latest available version of the selected browser.

2.4 Electrical requirements

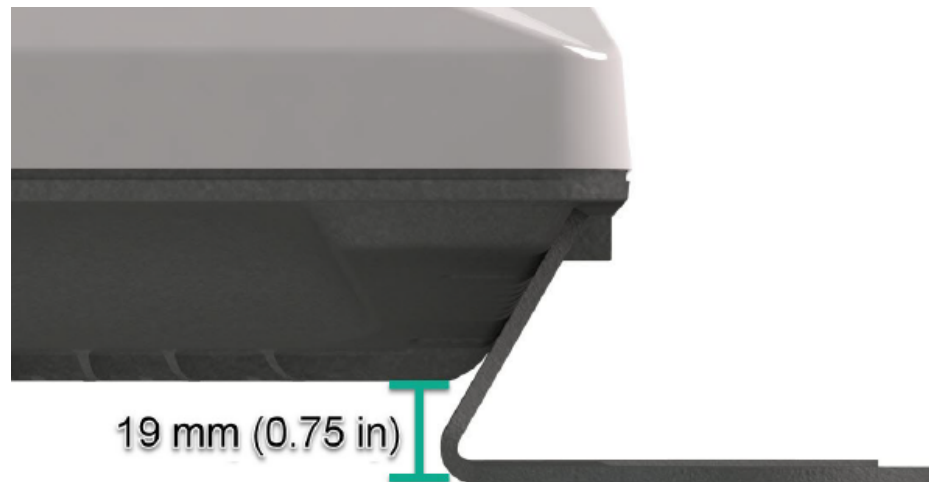
- a. **Compliance:** All electrical installations must comply with applicable local, national, and site-specific electrical regulations. If a non-Kymeta power supply is used, the installer is responsible for verifying electrical compatibility and ensuring proper operation and maintenance.
- b. **Power solutions:**
 - Rail-certified DC-DC converter: 14 VDC to 160 VDC input
 - AC-to-DC power supply: available for installations requiring AC input power
- c. **Power consumption:**
 - Maximum: 200 W
 - Typical LEO operation: 100 W
 - Typical GEO operation (low network traffic): 120 W
 - Typical GEO operation (high network traffic): 170 W

2.5 Mounting considerations

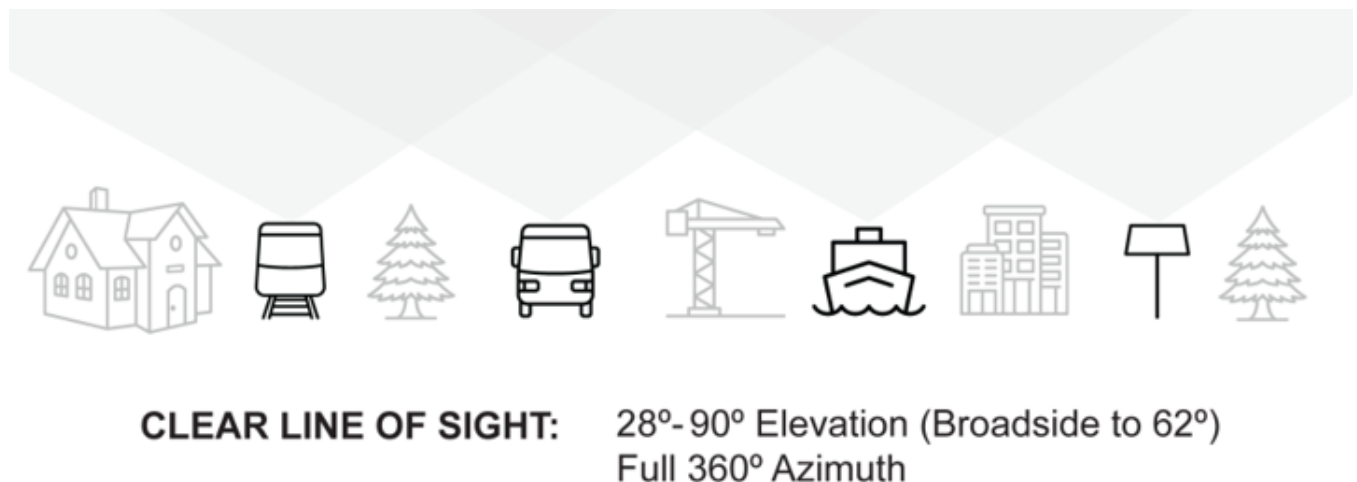
Consider the recommendations listed below when selecting an installation location and mounting configuration for the UT.

- a. **Power safety:** Before mounting or installing UT, ensure all power sources are disconnected.
- b. **Grounding:** Chassis grounding for the u5 UT is accomplished through the six M6 mounting bolt locations. The installer is responsible for ensuring proper grounding in accordance with applicable electrical codes and installation requirements.
- c. **Router access and system status visibility:** Install the router in a location that allows **access to the front panel** for administration, monitoring, and maintenance. The main system status LED is visible from the front of the router.
 - A blinking blue LED indicates the system is operational and awaiting a WAN connection.
 - A solid blue LED indicates the system is operational and has an active WAN connection.Refer to [Appendix B. LED indicators](#) for additional status LED definitions.
- d. **Reset interfaces:** Physical reset interfaces are located on the UT **interface panel** and on the **rear panel** of the router. Refer to the *Kestrel u5 user manual (700-00354-000)* for reset procedures. Refer to [Appendix C. I/O panel interfaces and functions](#) and [Appendix D. Router interfaces and functions](#) for interface locations.

- e. **Thermal and cooling considerations:** The UT uses a fully passive thermal design with no fans or moving parts. Maintain unobstructed airflow beneath and around the terminal during operation. The figure below shows the minimum air gap for passive cooling. Refer to the *Kestrel u5 user manual (700-00354-000)* for additional thermal installation requirements.



- f. **Line of sight:** A clear line of sight is critical for proper UT operation. Install the UT in a location that provides an unobstructed view of the sky, with no obstructions from broadside to 28° above the horizon across a full 360° field of view. If a clear line of sight cannot be achieved, relocate the UT to an area with fewer obstructions. The following graphics illustrate representative installation examples.



2.5.1 Mounting options

The Kestrel u5 supports multiple mounting options depending on the selected bundle and installation environment. Kestrel u5 mounting solutions use M6 mounting hardware. Available mounting and transport options include:

- a. **Outboard mount (U5ACC-00008-0):** Low-profile, 4-point through-bolt mounting solution for flat-surface installations. Total installed height is approximately 10 cm. See *Kestrel u5 outboard mount installation instructions (700-00371-000)* for installation instructions.
- b. **Inboard mount (U5ACC-00010-0):** Designed for protected or recessed installations. Compatible with Seaview mounting solutions and the Kymeta u8 bolt pattern. Can be directly mounted to narrow-base mounting platforms. See *Kestrel u5 inboard mount installation instructions (700-00370-000)* for installation instructions.
- c. **Vehicle rack mount (U5ACC-00011-0):** Adjustable mounting solution for vehicle applications. Supports rack bar spans from 45 cm to 90 cm (17.72 in. to 34.45 in.). See *Kestrel u5 vehicle rack mount installation instructions (700-00376-000)* for installation instructions.
- d. **Flyaway transport kit (U5ACC-00012-0):** Portable transport solution for mobile deployments. The airline-checkable case accommodates the UT, router, power supply, cables, and mounting hardware, and complies with most commercial airline oversize and overweight check-in requirements.

Refer to the *Kestrel u5 user manual (700-00354-000)* for more details on the supported mounting accessories and instructions on mounting orientation and setup.

If you need help with your mounting configuration, contact Kymeta customer support at support@kymetacorp.com.

2.6 Modem considerations

- a. **LEO modem:** The Kestrel u5 includes an embedded OneWeb modem for LEO connectivity. No additional modem hardware is required for OneWeb operation.
- b. **GEO modem:** GEO connectivity is supported through a compatible customer-supplied external GEO modem. The Kestrel u5 provides dedicated GEO transmit (GEO TX) and GEO receive (GEO RX) interfaces to support external GEO modem integration. Refer to *Appendix C. I/O panel interfaces and functions* and *Appendix D. Router interfaces and functions* for interface descriptions and locations.
- c. **Cabling:** Ensure the appropriate power, Ethernet, RX (receive), and TX (transmit) cables or adapters are available for the selected GEO modem. Kymeta offers the **Coax Cable Kit (U5ACC-00006-0)** to support external GEO modem integration.
- d. **Integration:** The Kymeta router provides RF and data interfaces to support integration with compatible external GEO modem platforms. OpenAMIP interoperability is supported through the DATA/AMIP and WAN-GEO interfaces.
- e. **Compatibility:** The Kestrel u5 currently supports integration with the following GEO modem platforms:
 - iDirect iQ 200 (Evolution and Velocity networks)Refer to the *Kestrel u5 user manual (700-00354-000)* for the latest compatibility information and supported configurations.
- f. **Service activation:** Coordinate with your satellite service provider or Network Operations Center (NOC) for modem provisioning, service activation, and commissioning.

3 Set up the UT

Complete the following steps to power on the Kestrel u5 UT, connect a device, and verify connectivity before installing the UT.

3.1 Open the box

1. Open the shipping container.
2. Remove the top foam insert and place it on a clean, level surface to use as a temporary work surface.
3. Carefully lift the UT from the shipping container.
4. Place the UT on the foam insert.

3.2 Power on the UT

1. Verify that all required cables are connected between the UT and the router. Refer to [Appendix A. UT configuration setup](#), [Appendix C. I/O panel interfaces and functions](#), and [Appendix D. Router interfaces and functions](#).
2. Connect the router to the appropriate power source.
3. Apply power to the router.

The router supplies power and data connectivity to the UT through the TERMINAL interface.

Allow approximately 2 to 3 minutes for the UT to complete its startup sequence.

3.3 Verify startup

Verify that the UT has completed startup by observing the status indicators or accessing the Kymeta u5 Access GUI.

The status indicator should display a pulsing green state, indicating that power has been applied and the UT is booting.

For additional information about status indicators, refer to [Appendix B. LED indicators](#).

3.4 Connect your data device to the router

You can connect your computer or mobile device to the UT using either a wired Ethernet connection or Wi-Fi.

3.4.1 Wired connection

1. Ensure your data device is configured to obtain an IP address automatically using DHCP.
2. Connect your data device to the **Data** port on the router. Refer to Appendix D, Router interfaces and functions, for interface locations and descriptions.
3. Open a web browser and navigate to the Kymeta u5 Access GUI - <https://kymeta.lan>.

Administrative access to the Kymeta u5 Access GUI is also available through the ADMIN port at the static address <https://192.168.45.3>. See *Appendix D. Router interfaces and functions* for ADMIN port location information.

3.4.2 Wi-Fi connection

1. Wait approximately 1 to 3 minutes for the Wi-Fi network to become available.
2. Locate the Wi-Fi network name (SSID) printed on the router label.
3. Connect to the Wi-Fi network: U5-DATA-#####, where ##### is the unique identifier assigned to the router.
4. Enter the default Wi-Fi password printed on the router label.
5. Alternatively, scan the QR code printed on the router label to automatically connect to the router's Wi-Fi network.
6. Open a web browser and navigate to the Kymeta u5 Access GUI - <https://kymeta.lan>.

3.5 Verify LEO connectivity

1. Open a web browser and navigate to the Kymeta u5 Access GUI at <https://kymeta.lan>
2. Navigate to the **Dashboard** page.
3. Verify that the active modem is displayed as LEO (OneWeb).

3.6 Provision and commission the UT for LEO & GEO

Before normal operation can begin, the UT must be activated and commissioned for the applicable satellite network.

For OneWeb LEO service activation, contact your service provider and follow the applicable commissioning procedures.

The information required for activation may include UT identification information and service account details.

Activation and commissioning timeframes vary by service provider.

The Kestrel u5 supports operation with compatible **external GEO modem platforms**. To connect an external GEO modem to the UT, Kymeta recommends using the **Coax Cable Kit (U5ACC-00006-0)**.

- For Kymeta-managed GEO services, contact Kymeta NOC for service activation and commissioning assistance.
- For customer-managed GEO services, coordinate with your NOC to provision and commission the external modem and UT.

Refer to the *Kestrel u5 user manual (700-00354-000)* for additional information regarding GEO modem integration and OpenAMIP operation, as well as the detailed commissioning instructions.

3.7 Monitor and manage the UT

Use the Kymeta u5 Access GUI to monitor and manage the UT.

1. Access the Kymeta u5 Access GUI.
 - User access: <https://kymeta.lan>
 - Administrative access (ADMIN port): <https://192.168.45.3>
2. Review the **Dashboard page** to monitor:
 - Terminal status
 - Network connectivity
 - Active modem
 - Signal quality
 - System health
3. Use the available menus to view system information, configure settings, and perform diagnostic functions as required.



3.8 Power off the UT

To power off the UT:

1. Remove AC or DC input power from the router.
2. Wait for the system to shut down completely before disconnecting cables or moving equipment.

Do not disconnect power directly from the UT at the TERMINAL port.

3.9 Install the UT

After successful setup and verification, install the UT using the approved mounting hardware and installation instructions. Refer to the installation documentation included with the mount kits. The mount kits and installation instructions documents are specifies in *Mounting considerations*.

4 Contact support

Contact your distribution partner for technical support. If you don't have your distribution partner contact information, send your antenna and modem serial number to support@kymetacorp.com, and Kymeta will provide it to you.

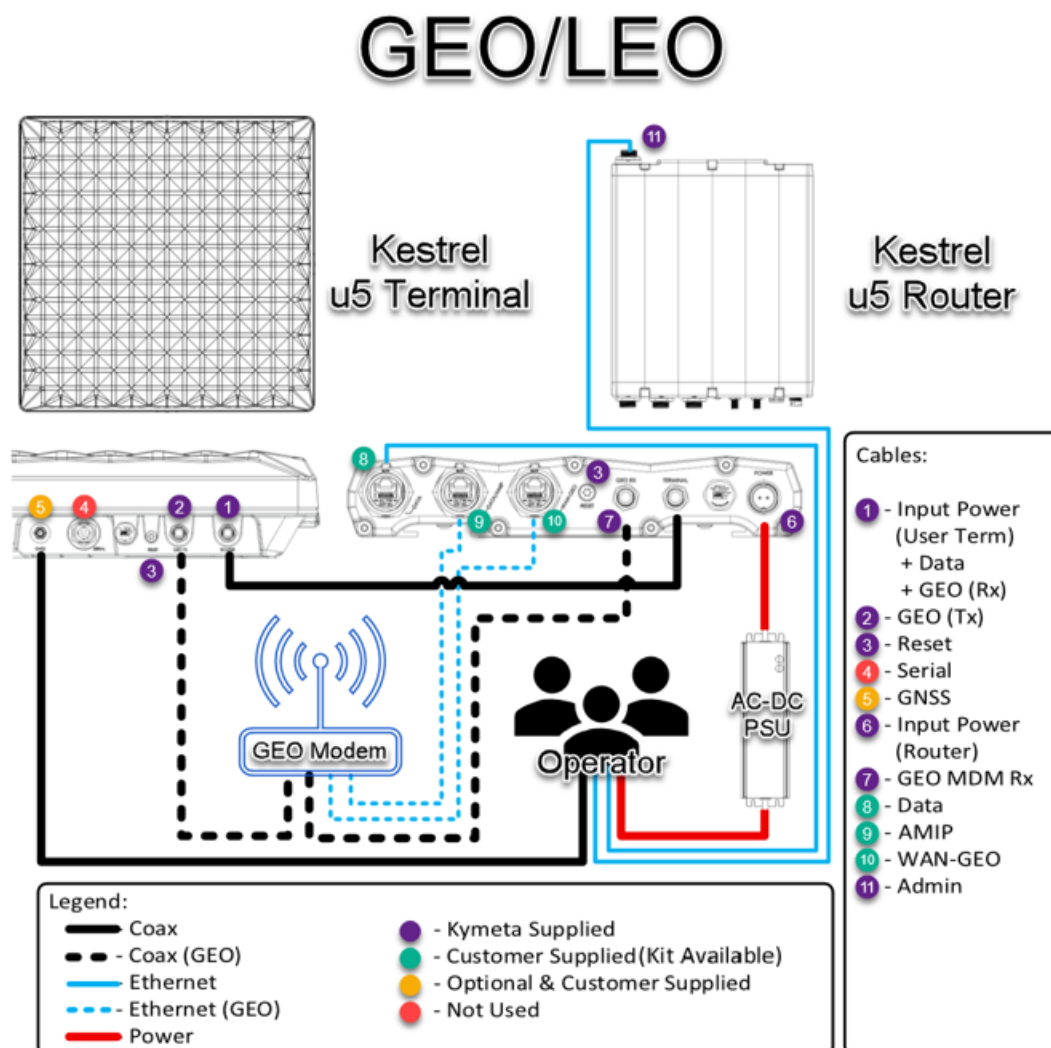
5 Revision history

Revision	Change
01	Initial version.
02	Enhanced the setup instructions, added configuration diagrams, updated the installation requirements and considerations.

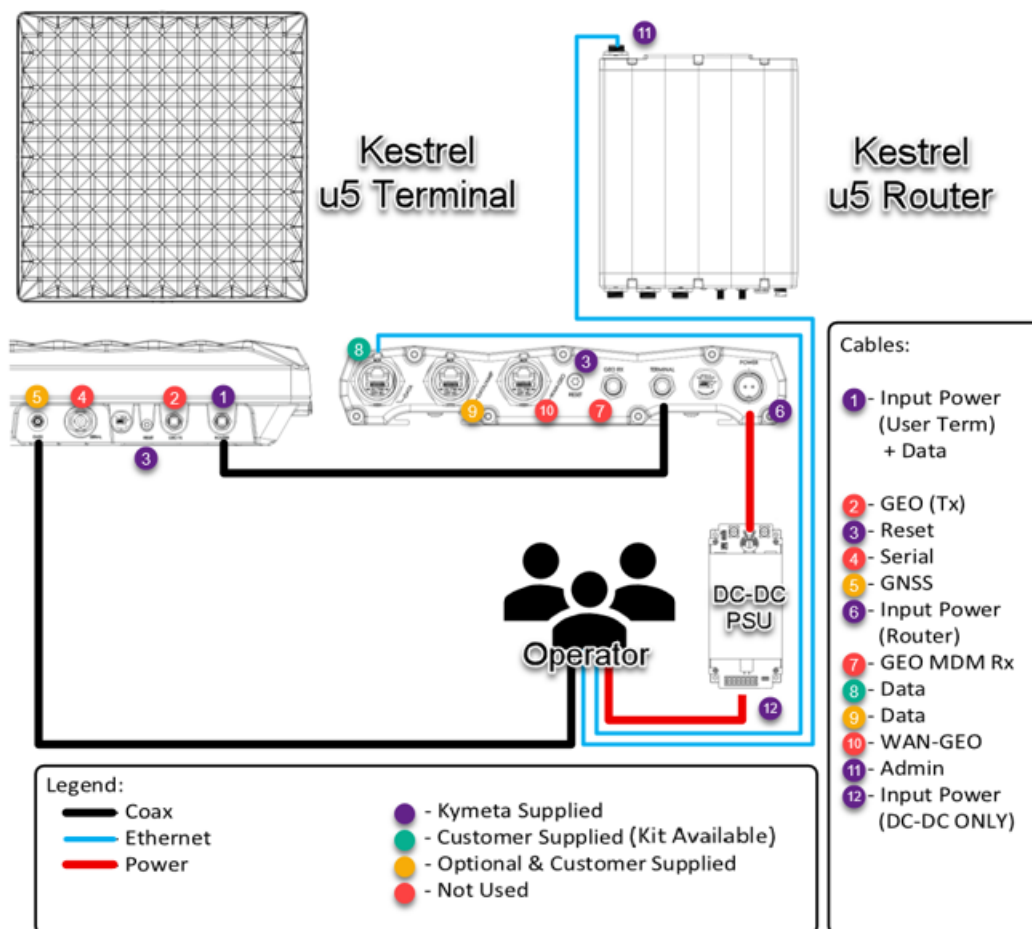
6 Copyright and trademark information

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Appendix A. UT configuration setup



RAIL (LEO ONLY)



Appendix B. LED indicators

1.1 Burst pattern syntax

Pattern	Visual Representation	Description
×1	■	1 pulse, long pause, repeat
×2	■■	2 pulse, long pause, repeat
×3	■■■■ . . .	4 pulse, long pause, repeat

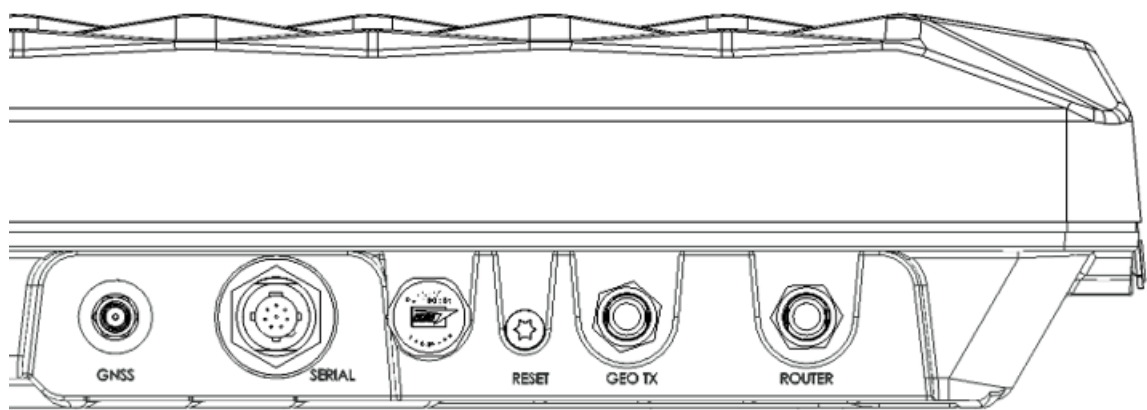
1.2 LED state

Color	Mode	Pattern	Description
Blue	Solid	—	Fully connected
Blue	Pulse	×1	WAN pending
Blue	Pulse	×2	All systems pending (boot)
Red	Solid	—	Critical / unrecoverable error
Red	Pulse	×1	Boot timeout
Red	Pulse	×4	Recovery mode
Yellow	Solid	—	Terminal link degraded
Yellow	Pulse	×1	Terminal link failure
Green	Pulse	×1	Terminal power applied (initial LED state)
Green	Pulse	×2	Firmware update in progress
Green	Pulse	×4	Soft or hard reset in progress

Note: In the case of enabled EMCON entitlement, the LED will be powered off when in ALPHA state.

Appendix C. I/O panel interfaces and functions

The diagram below identifies the external interfaces available on the Kestrel u5 UT.

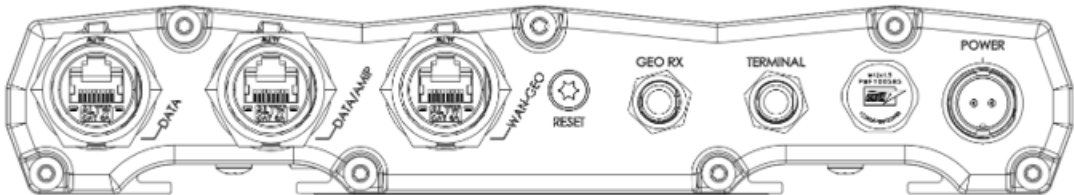


The table below provides descriptions of the UT external interfaces and their functions.

Interface	Function
GNSS	External GNSS antenna input
SERIAL	Reserved for future use
RESET	Reset and recovery for the antenna
GEO TX	GEO transmit IF interface
ROUTER	Power, data, and GEO receive interface

Appendix D. Router interfaces and functions

The figure below shows the router interfaces, including DATA, DATA/AMIP, WAN-GEO, GEO RX, TERMINAL, and POWER.



The figure below shows the ADMIN port and status LED located on the router front panel.



The table below provides descriptions of the router interfaces and their functions.

Interface	Function
DATA	User data interface
DATA/AMIP	OpenAMIP and user data interface
WAN-GEO	External GEO modem WAN interface
RESET	Reset and recovery for the router
GEO RX	GEO receive IF interface
TERMINAL	Power and data interface to the UT
POWER	Primary DC power input
ADMIN	Administrative access interface