

User Guide

EDGE Locate[™] High Precision GNSS Solution

Taoglas EDGE Locate[™] High Precision GNSS Solution set up instructions



EDGE Locate[™] High Precision GNSS Solution User Guide

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Introduction

EDGE Locate[™] High Precision GNSS Solution

The Taoglas[®] **EDGE Locate™** is an ultra low-power IoT hardware platform providing high precision GNSS for high volume navigation and autonomous applications in an off-the-shelf, compact form factor.





Key Features

- Optional RTK capabilities, providing up to 1 centimeter level accuracy
- Small form factor design and energy efficient platform
- Integrated and validated multi band antenna
- Integrated u-blox ZED-F9P multi-band GNSS receiver
- Concurrent reception of GPS, GLONASS, Galileo and BeiDou
- Advanced anti-spoofing and anti-jamming
- Supplied with 30 days Hexagon Correctional Services Subscription
- PMOD compatible and easy to integrate into third party hardware
- The EDGE Locate is supplied with a PMOD to USB adaptor and USB cable.

Key Benefits

- Ultra low power platform in an off the shelf compact form factor
- Future-proof your IoT deployments and optimize location based performance with high precision GNSS and RTK
- Quickly and effectively build IoT devices without having to invest in costly and lengthy RF design, integration and testing processes

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Guidance



Professional

Sports



Survey and Mapping

What's in the Box?

- 1. Quick Start Guide
- 2. Taoglas EDGE Locate
- 3. USB adapter
- 4. Micro-USB cable
- 5. Error Correction Service Trial Activation Card (Optional)

EDGE Locate[™] Quick Start Guide

1. Download and install the u-center evaluation software from www.u-blox.com/u-center

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- 2. Connect the EDGE Locate and the provided USB interface board as in Figure 1.
- 3. Connect the USB interface board to a Windows PC via the provided USB cable. The driver required to use this interface will install automatically in the background if you have an active internet connection.
- 4. Start u-center and select the menu item "Receiver" > "Connection" and then the COM port the EDGE Locate is connected to. If there are multiple COM ports listed, you will have to determine the correct one using the Device Manager.

https://www.taoglas.com/edge-locate-support/ for detailed installation instructions.

- 5. Under the menu item "Receiver"> "Baudrate" select 38'400. To confirm communication with the EDGE Locate, Select the menu item "View"> "Text Console", a window should appear displaying NMEA sentences as they are sent from the module.
- 6. To setup an Error Correction Service connection in u-center, select the menu item "Receiver" > "NTRIP client..." and enter the mount point settings you have received from your correction service provider. (See included leaflet if trial of corrections service is bundled) 7. Once corrections are received the Fix
- Mode status in the Data View will change to 3D/DGNSS and eventually to 3D/DGNSS/Fixed if a FIXED RTK solution is available.



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HXGN SmartNet Correction Service UNLOCK THE POWER OF PRECISE POSITION CAPABILITIES FOR THE TAOGLAS EDGE LOCATE

WHAT IS HXGN SMARTNET?

Hexagon is a global leader in digital solutions that create Autonomous Connected Ecosystems (ACE), a state where data is connected seamlessly through the convergence of the physical world with the digital, and intelligence is built-in to all processes.

HxGN SmartNet is a correction service that delivers centimetre GNSS accuracy within seconds. It is built on the largest reference station network in the world.



For further information on the antenna used, the AGPSF.36, please refer to the Datasheet

Hexagon SmartNet Set Up

A one-month free trial of Hexagon SmartNet is included with your **EDGE Locate**. Please find an **activation card** like the one below amongst the contents of the packing.



Follow the instructions on this card to activate your trial. After submitting your details, you will receive an email with the following information included:

- Host
- Port
- Mount Point
- Username
- Password

The above details can now be used to connect to the Hexagon SmartNet RTK Correction Service

- 1. US customers who received a Hexagon Smartnet promo card will have to determine their URL, mountpoint and port number using this form.
- 2. Please select the following from the dropdown fields:
 - a. Rover Manufacturer: u-blox
 - b. Rover Model: M8 / F9 (Other)
 - c. Correction Area: Please select the state which you will be using the device in.



- d. Does this device support domain names?: Yes
- **3.** Once the above information has been selected using the dropdowns, please click **'Get Connection Info'**. This will provide you with the following details:
 - a. Server Address, this is entered into the URL field on the EDGE Insights Device Edit page.
 - b. Port, this is entered into the Port field on the EDGE Insights Device Edit page.
 - c. MountPoint, this is entered into the Mountpoint field on the EDGE Insights Device Edit page.
 - i. Taoglas recommends selecting the MSM_NEAR mountpoint if available.

U-Center Install

 Download and install u-center from https://www.u-blox.com/en/product/u-center.

Once downloaded, extract the installer from the zip file by right-clicking on it and selecting **'Extract All'**.



u-center v19.10 Setu

2. Navigate into the newly extracted folder and double click the installer. You will be presented with a screen asking you to allow the installer to make changes, click 'Yes'.

Installer Language X
Please select a language.
English
OK Cancel

Once the installer opens, you will be presented

with the screen below, asking you to select a language. Select the language you wish to use and click '**OK**'.

Click **'Next'** on the welcome screen to start the installation process.

3. Please read through the license agreement and click **'I Agree'** if you agree to the terms.



	License Agreement	
vold	Please review the license terms before installing u-center_v 19.10.	
ress Page Down to see t	he rest of the agreement.	
µ-blox ag ELECTRONIC END USER I for u-blox software prodi	ICENSE AGREEMENT	î
NOTICE TO USER: THIS IS A CONTRACT. B AND CONDITIONS OF TH	Y INSTALLING THIS SOFTWARE YOU ACCEPT ALL THE TERMS IS AGREEMENT.	
This u-blox ag ("u-blox") i and related explanatory i any upgrades, modified v	End User License Agreement accompanies the u-blox products materials ("Software"). The term "Software" also shall include ersions or updates of the Software licensed to you by u-blox.	~
f you accept the terms o	f the agreement, dick I Agree to continue. You must accept the	

u-center_v19.10 Setup Choose Components Choose which features Check the components you want to install and unchec

e u-center_v19.10 Setup

4.	Click 'Next'	on the install	components screen.
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5. Then keep the default installation location and click 'Install'.

6. Once the installation is completed, click 'Finish'. u-center is now installed.



Gack Next >



U-Center Device Setup

1. Connect the EDGE Locate module to the USB Adapter interface board as below.



2. Connect the micro-USB included in the package to both the interface board and your PC.



If you have an active internet connection, the driver required for this USB interface will install automatically in the background.

 Open u-center, to do this, press the Windows key and scroll down in the applications window to the u-blox folder. Click the folder to expand it and click 'u-center' to start it.



This will open a window similar to the one below.



4. To Connect the **EDGE Locate** module:

a. Select receiver > 'baudrate' > '38'400'



b. Select receiver > Connection > 'COMXX', where XX is the COM port which the EDGE Locate is connected to.
 See the 'Additional Note' on page 10 for help in determining the COM Port.



Once the correct port is selected, the communication setup is complete.

To confirm communication with the **EDGE Locate**, select **'View'** and then **'Text Console'**. A window should appear displaying NMEA sentences as they are sent from the module.

Using Hexagon Smart Net with u-center

- 1. To use the Hexagon correction service, perform the steps outlined above to connect to the EDGE Locate module. In addition to this please perform the following steps:
 - a. Select receiver > 'NTRIP Client'



b. This will present you with a client settings screen.

Please fill in the details provided in the **registration email** from **Hexagon**.

NTRIP client settings	×
NTRIP caster settings Address: Port: Username: Password: ********	
NTRIP stream Update source table Request Interval (sec) NTRIP mount point: MSM_VRS Mount point details	
Use manual position	
Longitude (deg): 0	
Latitude (deg):	
Altitude (m):	
Geoid sep. (m):	
OK Cancel	

- c. When you have the details entered, click 'Update source table'. This will display a selection of mount points in the 'NTRIP mount point:' drop-down. From here you can select the correct mount point sent in the email from Hexagon.
- **d.** Click **'OK'** to open a connection with the error correction service. This will cause NTRIP Client symbol at the bottom of the application to start **flashing green** as corrections are received.

2. After a few moments of receiving corrections, the 'Fix Mode' status at the top right of the screen will include either 'FLOAT' or 'FIXED' indicating whether the EDGE Locate has a Fixed or Floating RTK solution.

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					Longitude Latitude Abitude Abitude (msl) TTFF Fix Mode 3U Acc. (m) U 2D Acc. (m) U PDDP 0	-6. 53. 13.81 13.5	27008500 * 37655417 * 88.900 m 36.000 m 30./FLOAT 16.80 10 10
Longitude Latitude	-1 51	6.27008500 ° 3.37655417 ° 98 900 m			HDOP 0 2. Satelites		10
Altitude (msl) TTFF		36.000 m		50 40 434235 10 10 11 13 13 13 13 10 10 10 10 10 10 10 10 10 10	0.00 deg 9	,150 , 2911	×
Fix Mode 3D Acc. [m] 2D Acc. [m]	U O 1 3.81	3D/FLOAT 6.80 10 10			0.03 m/s	01 km/h	×
PDOP HDOP Satellites	0 3.5 0 2.3	10 10		Latitude 62,2100,000 S3,3765547	38.900 m 6 2 11:07:11 Thursday	ð	×100 ; × UTC 01/09/2020
			- MTRIP client: ie.nrtk.eu:9301 • u-blox Gener	ation 9 🖝 COM43 38400 No file ope	n NMEA	00:02:40	11:07:11

Additional Note:

In situations where more than one COM port can be selected in u-center, please determine which Port is the correct one, by following the three steps below:

- 1. If the USB cable is plugged into your PC, please unplug it.
- 2. Right Click on the Windows Icon at the bottom left corner of the screen and select 'Device Manager'.

The below window should appear:

🛃 Device Manager	×
File Action View Help	
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V 🛃 DESKTOP-CLR00CD	-
> Audio inputs and outputs	
> 🦢 Batteries	
> Biometric devices	
> 3 Bluetooth	
> Cameras	
> Computer	
> Disk drives	
> The Display adapters	
> Eirmware	
> Be Human Interface Devices	
> The ATA/ATAPI controllers	
> Keyboards	
> Mice and other pointing devices	
> Monitors	
> 🥏 Network adapters	
V 🛱 Ports (COM & LPT)	
USB Serial Port (COM15)	
> Print queues	
> 🛱 Printers	
> D Processors	
> P Security devices	
> E Sensors	
> P Software components	
> Software devices	
 E Sound video and pame controllers 	

	Apps and Features
	Mobility Center
	Power Options
	Event Viewer
	System
	Device Manager
	Network Connections
	Disk Management
	Computer Management
	Windows PowerShell
	Windows PowerShell (Admin)
	Task Manager
	Settings
	File Explorer
	Search
	Run
	Shut down or sign out
Start	Desktop
	ス 単 二 0 よ

Under Ports you may see multiple USB Serial Ports if other devices are connected to your computer. Please take note of the COM port numbers for these devices.

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Processors

3. Plug the USB cable into both the EDGE Locate USB interface and the PC . The device manager should refresh and	δ Device Manager - - × File Action View Help
an additional USB Serial Port should appear in the list.	
The COM port associated with this device will be the one you	> @ Cameras > Computer
should use in u-center.	3
 Retwork adapters Ports (COM & LPT) USB Serial Port (COM15) USB Serial Port (COM37) Print queues 	3 ■ Monton 3 ■ Monton 4 ■ Monton 5 ■ Monton 5 ■ Monton 5 ■ Monton 5 ■ Sonare 6 ■ Sonare 6 ■ Sonare 5 ■ Sonare 5 ■ Sonare 6 ■ Sonare 5 ■ Sonare 6 ■ Monton 7 ■ Monton





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