

GPS Receiver BU-353W11

User's Guide V1.0 (Windows)



BU-353W11 (USB Type, u-blox 8 GNSS)

DOCUMENT REVISIONS

REV	DATE	DESCRIPTION	APPROVED
V1.0	2023/3/22	Initial Version	Jeff



Contents

SYSTEM REQUIREMENTS	4
WELCOME	5
1. Introduction.....	5
1.1 About Location Sensor Devices.....	5
1.2 Sensor and Location Platform Architecture.....	5
1.3 Sensor API.....	6
1.4 Location API.....	6
1.5 Location Settings.....	6
2. u-blox Components and Software.....	7
2.1 Supported u-blox GNSS Receivers.....	7
2.2 Supported Microsoft Windows Versions.....	7
2.3 u-blox GNSS Sensor Device Driver.....	7
2.4 u-blox Virtual COM Port (VCP) Device Driver.....	7
2.5 u-center for Windows.....	7
2.6 Required Messages.....	7
3. Selection Guide for GNSS USB Driver.....	9
4. Driver Installation.....	10
4.1 Sensor Device Driver Installation with the Installer.....	10
4.2 VCP Device Driver Installation with the Installer.....	13
4.3 Connecting the u-blox GNSS receiver.....	16
4.4 Silent Installation.....	21
4.5 Uninstalling the Driver.....	22
5. Supported Sensor Data Properties.....	23
5.1 Read Only Properties.....	23
5.2 Read/Write Properties.....	23
6 u-center for Windows.....	24
7 INITIALIZING YOUR GPS RECEIVER.....	24
8 Safety and legal notices.....	25
9 Specifications.....	26
10 Product Pin Description	27
11 Related Documents.....	27

SYSTEM REQUIREMENTS

The GlobalSat BU-353W11 GPS receiver require a Windows system with USB port, and Windows Location/GPS Sensor compatible Apps only.

The 3rd party mapping/navigation App software may have its own system requirements, please check with software vendor for details.

*USB driver installation and access to the User's Guide. Can be downloaded from the Internet at :
<https://www.globalsat.com.tw>*



WELCOME

Thank you for purchasing a GlobalSat BU-353W11 GPS receiver! The GPS receivers allow for real-time street navigation by using your device for graphical plotting and positioning of your route. Simply load the ublox Gns Sensor Device Driver, plug the GPS receiver into your equipment's USB port and install your own personal mapping Windows App to begin to view your position in real-time in relation to the surrounding streets in your travel area. You'll find that almost any Windows navigation/charting App will be compatible with your BU-353W11 GPS receiver.

1. Introduction

Starting with Windows 7 Microsoft introduced a built-in platform for the support of sensor devices, including location sensors, such as GNSS positioning chips and modules. As part of this support, the Windows Sensor and Location Platform provides a standard way for u-blox to connect GNSS devices. At the same time, the platform gives developers a standardized API and device driver interface (DDI) to work with sensors and sensor data.

The u-blox Sensor Device Driver connects [BU-353W11](#) GNSS receivers to the sensor and location API structure for Windows 7 onwards. It parses and converts u-blox GNSS messages into the standard sensor properties which can be accessed by the location and sensor APIs (see [Figure 1](#)).

1.1 About Location Sensor Devices

The Windows Sensor and Location platform organizes sensors into categories, which represent broad classes of sensor devices, and types, which represent specific kinds of sensors. In Windows 7 onwards, a GNSS sensor is part of the Location category.

1.2 Sensor and Location Platform Architecture

The following diagram shows the architectural layers of the various components of the Sensor and Location platform, and the relationship between the u-blox components (hardware and software) and the applications:

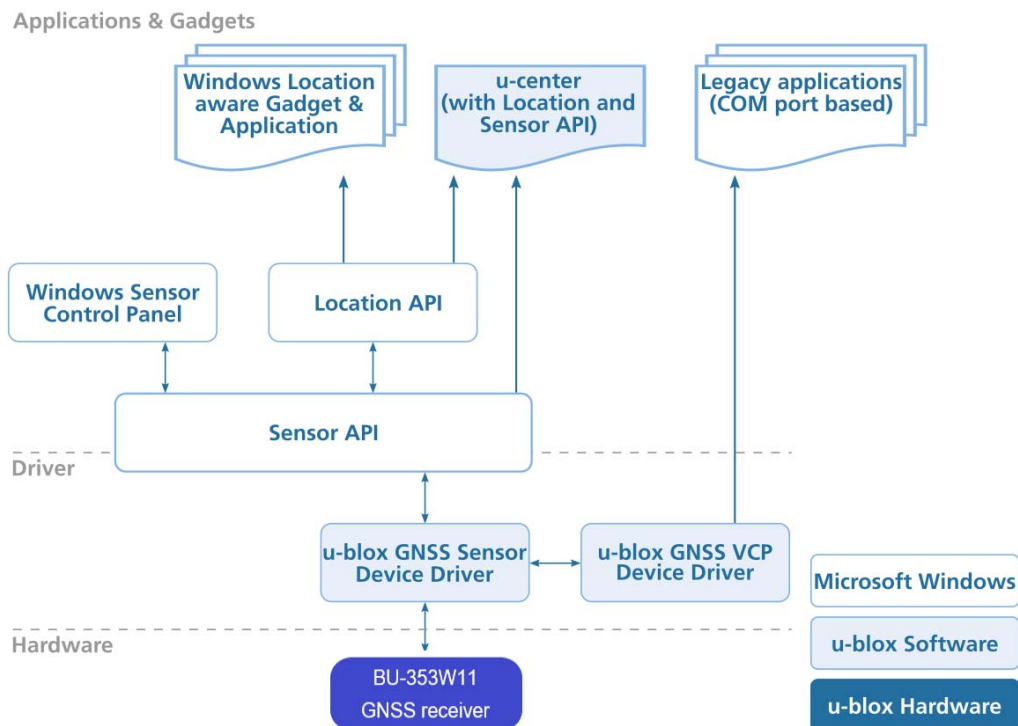


Figure 1: Sensor and Location Platform Architecture

The following chapters will provide a description of the different blocks.



GlobalSat WorldCom Corporation

16F., No.186, Jian 1st Rd., Zhonghe Dist., New Taipei City, Taiwan (FAR EAST CENTURY PARK)

1.3 Sensor API

The Sensor API enables developers to create sensor-based programs by using a set of COM interfaces. The API defines interfaces to perform common sensor programming tasks, like managing sensors by category, type or ID, managing sensor events, working with individual sensors and sensor collections, and working with sensor data. The Windows SDK includes header files, documentation, samples, and tools to help guide software developers to use sensors in Windows programs. More information can be found on the [Microsoft MSDN homepage](#).

1.4 Location API

Built on the Sensor API, the Location API provides an easy way to retrieve data about geographic location while protecting user privacy. The Location API provides its functionality through a set of COM interfaces that represent objects. These objects can be used by programmers who understand how to use COM through programming or scripting languages. Scripting support gives easy access to location data for projects that run in the Local Computer zone, such as gadgets. The Windows SDK includes header files, documentation (including scripting reference documentation), samples, and tools to help guide Web and software developers on how to use location information in their programs.

- For more information see the Introduction to Microsoft's Sensor and Location Platform in Windows [1].

1.5 Location Settings

Windows 7 includes a control panel that lets computer administrators enable or disable sensors system-wide or for each user. Because some sensors can expose sensitive data, this user interface gives administrators control over whether all programs have access to each sensor for each user. Users can also view location sensor properties and change the sensor description that is displayed in the user interface.

The Control Panel also provides a Default Location page to enable users to provide their location. When no sensor is available, the platform will use the user-provided location. Users can provide civic address fields, which include the street address, city, state or province, and country or region.

- For more information see the Introduction to Microsoft's Sensor and Location Platform in Windows [1].

In Windows 8 and 8.1, the control panel for system-wide enabling/disabling of sensors is now called "Location Settings". Also, individual control of application access to location can be found in PC Settings->Privacy->Location.

In Windows 10, the "Location Settings" control panel has been removed, and all access control to location has been placed in Settings->Privacy->Location.

In Windows 11, the "Location Settings" control panel has been removed, and all access control to location has been placed in Settings->Privacy & security ->Location.

2. Components and Software

2.1 Supported GNSS Receivers

The u-blox GNSS Sensor Device Driver supports the Globalsat GNSS receivers:
BU-353W11 (Product ID = 0x01A8, Vendor ID = 0x1546)

2.2 Supported Microsoft Windows Versions

The Sensor Device Driver is signed for the following version of Microsoft Windows:

- Windows 7 32 and 64-bit
- Windows 8.1 32 and 64-bit
- Windows 10 Anniversary update (version 1607, build 14393) 32 and 64-bit

The VCP Device Driver is signed for the following version of Microsoft Windows:

- Windows 7 32 and 64-bit
- Windows 8.1 32 and 64-bit
- Windows 10 32 and 64-bit



Attention Please note that the N versions of Microsoft Windows (like Windows 10 N) do not support the Sensor and Location platform. More information can be found here:

- [Description of the Windows Media Feature Pack for Windows 7 N and for Windows 7 KN \(KB968211\)](#)
- [Description of the Windows Media Feature Pack for N and KN versions of all Windows 8 editions \(KB2703761\)](#)
- [Media Feature Pack for Windows 8.1 N and Windows 8.1 KN Editions: April 2014 \(KB2929699\)](#)
- [Media feature pack for Windows 10 N and Windows 10 KN editions \(KB3010081\)](#)

2.3 u-blox GNSS Sensor Device Driver

The u-blox USB Sensor Device Driver connects any u-blox GNSS positioning chips and modules to the Windows Sensor and Location Platform. The u-blox GNSS Sensor Device Driver conforms to Microsoft's Windows Driver Model. It is based on the Windows User Mode Driver Framework (UMDF) and supports the USB suspend mode and integrates with the radio manager present in Windows 8 and beyond. The driver also signed by Microsoft's Windows Hardware certification program for all OS's supporting the sensor platform.

The u-blox GNSS Sensor and VCP Device Driver parses NMEA messages from the receiver^[2] to convert latest location information (e.g. latitude, longitude, altitude) to sensor data for the location and sensor platform. The supported sensor data and properties are listed in [Appendix A](#).

2.4 u-blox Virtual COM Port (VCP) Device Driver

In addition to the Sensor Device Driver, u-blox provides a Virtual COM Port (VCP) driver to help customers connecting or testing u-blox GNSS positioning chips and modules with legacy Windows applications that can connect only to a COM port. This solution is intended to help u-blox customers to smoothly migrate their legacy location applications to the modern Windows Location and Sensor Platform.

This driver is optional and is not required for the sensor device driver to operate correctly.

2.5 u-center for Windows

The u-center GNSS evaluation software for automotive, mobile terminal and infrastructure applications provides a powerful tool for evaluation, performance analysis and configuration of u-blox GNSS receivers. Its unique flexibility makes the u-center GNSS evaluation software an invaluable tool for evaluation, analysis and configuration of u-blox GNSS receivers. u-blox GNSS receivers can be configured using the u-center evaluation software.

From version 5.08 on, u-center allows collection and monitoring of location and u-blox sensor properties and data (see [Appendix A](#)). Users can access this functionality by activating either the Location API or the bidirectional Sensor API functions (see [Appendix B](#)). u-center converts sensor data and properties into NMEA and UBX-similar messages to benefit from all u-center evaluation features, and therefore all u-blox aiding, reset (e.g. warm start),

and other proprietary functionalities.

The Sensor API initiates events whenever sensor data and property events are generated (like Location API functions). The bi-directional sensor API also features access to u-blox proprietary messages through the Sensor API property fields.

u-center software with location API capabilities is available free of charge from the [u-blox website](#).

2.6 Required Messages

Please note that the Sensor Device Driver will activate the following messages in the receiver. This is to ensure the receiver outputs the messages that are needed to extract the information required by the sensor platform.

The following messages will be enabled by the driver:

- NMEA-GST
- NMEA-GBS
- NMEA-GGA
- NMEA-GLL
- NMEA-GNS
- NMEA-GSA
- NMEA-GSV
- NMEA-RMC
- NMEA-GRS
- NMEA-VTG
- NMEA-ZDA

3. Selection Guide for GNSS USB Driver

See the "Figure 2" will help you choose the correct USB driver for Windows for your application.

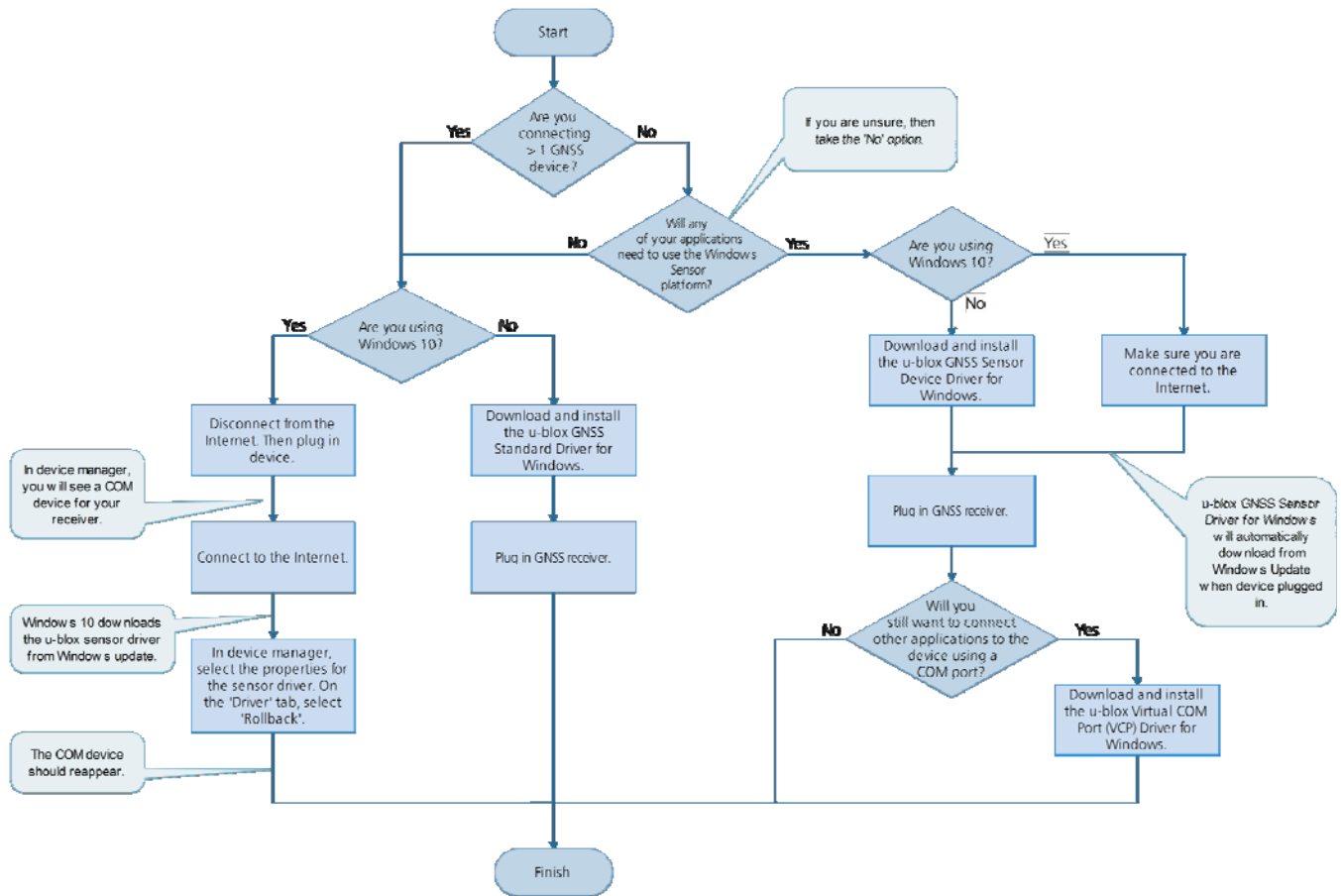


Figure 2: Selection Guide for GNSS USB Driver for Windows

© Important notes

Only one driver can be installed on your computer.

4. Driver Installation

➤ To use the u-blox GNSS Sensor Device Driver, you have to:

1. Install the u-blox GNSS Sensor Device Driver (see [Sensor Device Driver Installation with the Installer](#))
2. Connect the device (see [Connecting the u-blox GNSS receiver](#))
3. Enable the sensor (see [Connecting the u-blox GNSS receiver](#))

➤ To use the u-blox GNSS VCP Device Driver, you have to:

Install the u-blox GNSS VCP Device Driver ([see VCP Device Driver Installation with the Installer](#))

➤ To use the u-blox GNSS Standard Device Driver, you have to:

Install "ubloxGnss_usbcdc_windows_3264_v1.2.0.8" Download the latest version of the u-blox GNSS Standard Driver for Windows.

The following sections explain the installation procedure.

4.1 Sensor Device Driver Installation with the Installer

This section explains the installation of the Sensor Device Driver with the provided installer.

- If not otherwise noted, the screen shots are taken from a Windows 10 installation.
1. Download the latest version of the u-blox GNSS Sensor Device Driver installer
 2. Double-click on the downloaded file to start the installation.
 3. On the pop-up window, select the language, and then accept the License Agreement.

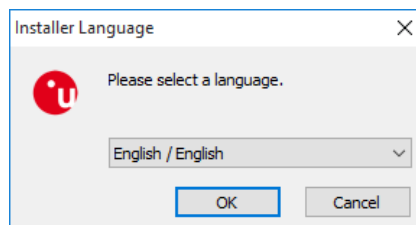


Figure 3: Language selection



Figure 4: Welcome message

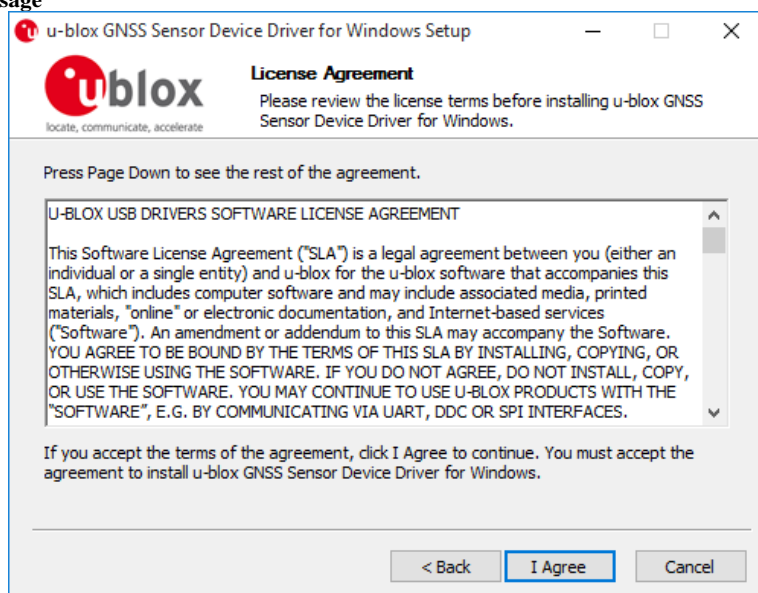


Figure 5: License agreement

4. On the "Choose Components" window, as shown below, make sure the GNSS Sensor Device Driver is selected as shown in Figure 6. Then click on the "Install" button.

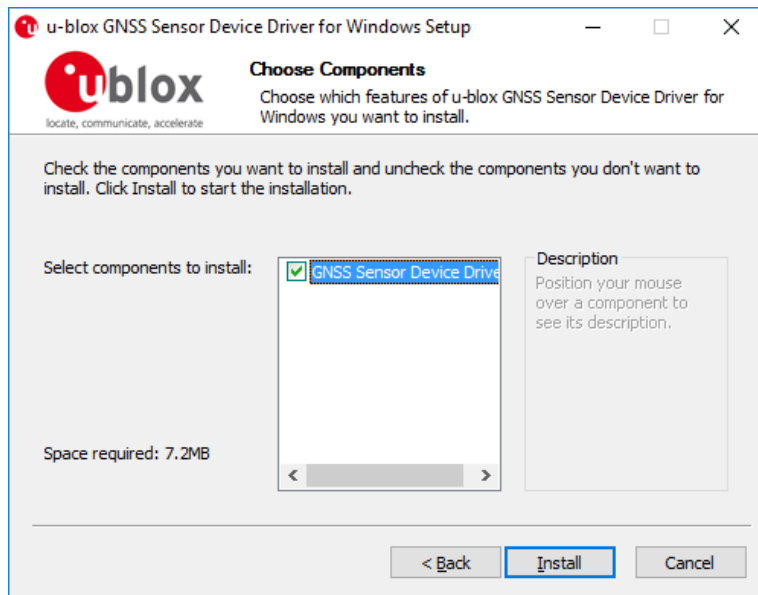


Figure 6: Driver selection

5. Click on "Next" to start the installation of the Sensor Device Driver.

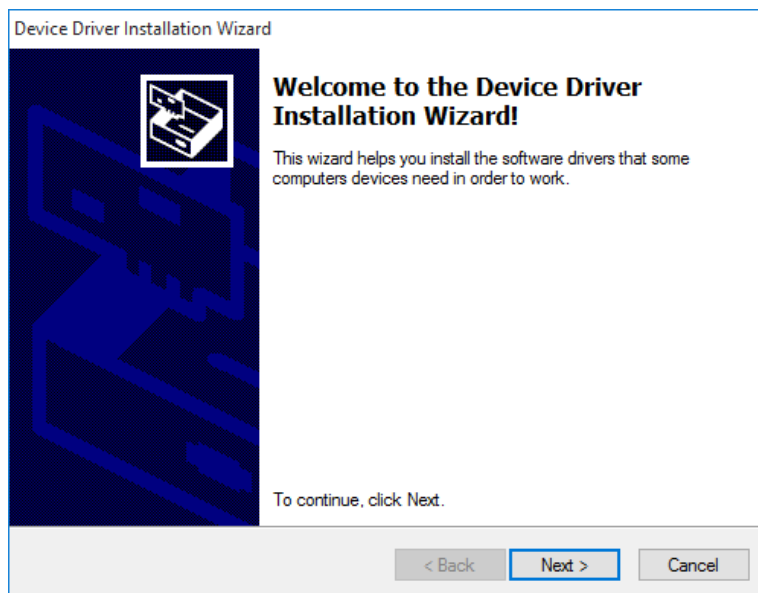


Figure 7: Installation of Sensor Device Driver start

After a successful installation, the following window will be shown. Click on "Finish" to complete the USB Sensor Device Driver installation.

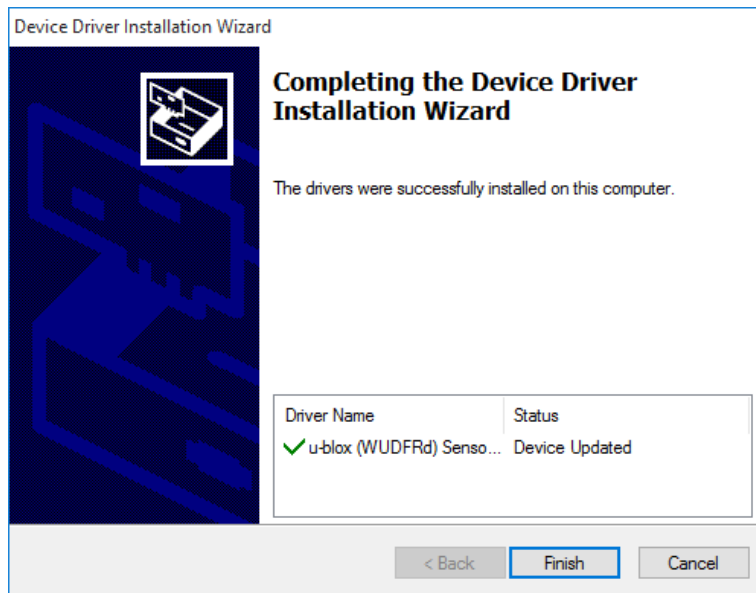


Figure 8: Installation of Sensor Device Driver completed

6. The installation of the Sensor Device Driver is now finished and you can click on "Finish" to quit the installer.

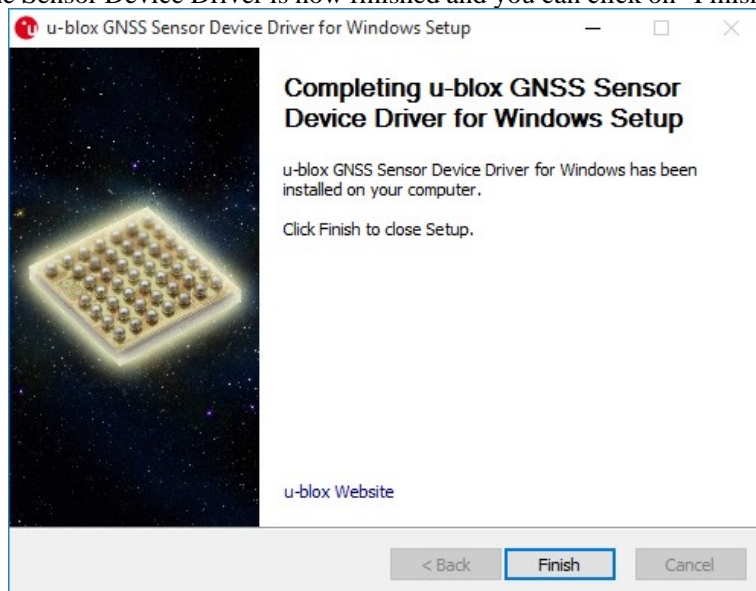


Figure 9: Installation completed

4.2 Virtual COM Port Device Driver Installation with the Installer (Optional)

- The Sensor Device Driver has to be installed in order to get the Virtual COM Port Device Driver to work. This section explains the installation of the VCP Device Driver with the provided installer.

1. Download the latest version of the installer. Follow the steps below to install it.
2. Double-click on the downloaded file to start the installation.
3. On the pop-up window, select the language, and then accept the License Agreement.

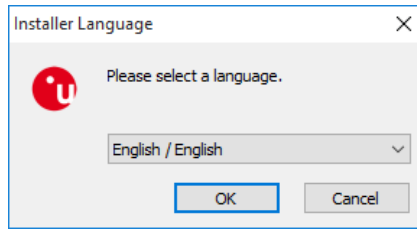


Figure 10: Language selection

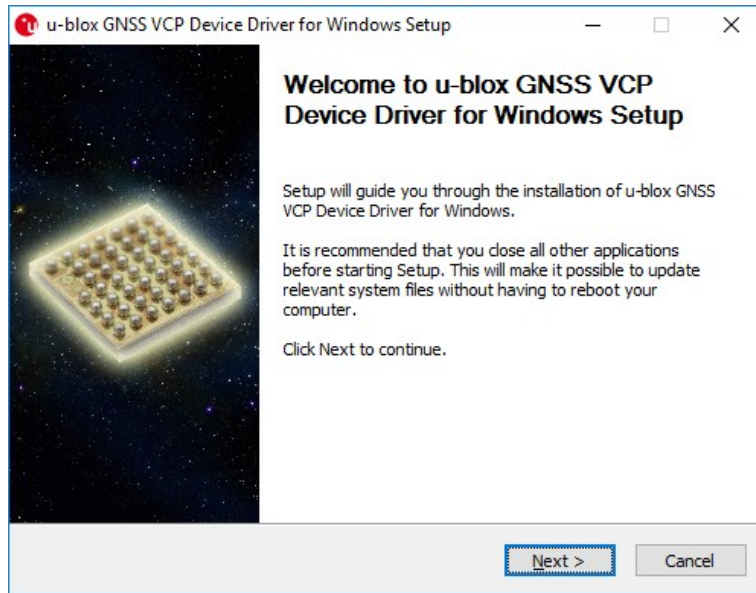


Figure 11: Welcome message

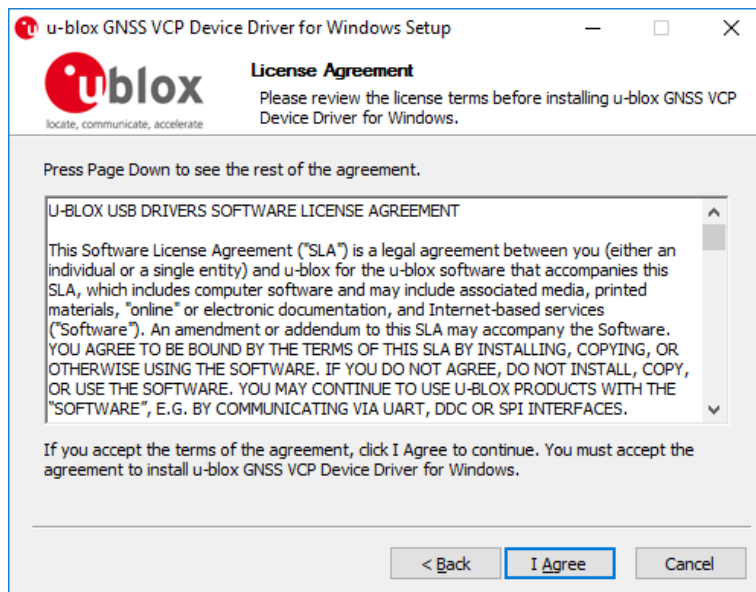


Figure 12: License agreement

4. On the "Choose Components" window, as shown below, make sure the VCP Device Driver is selected as shown in Figure 13. Then click on the "Install" button.

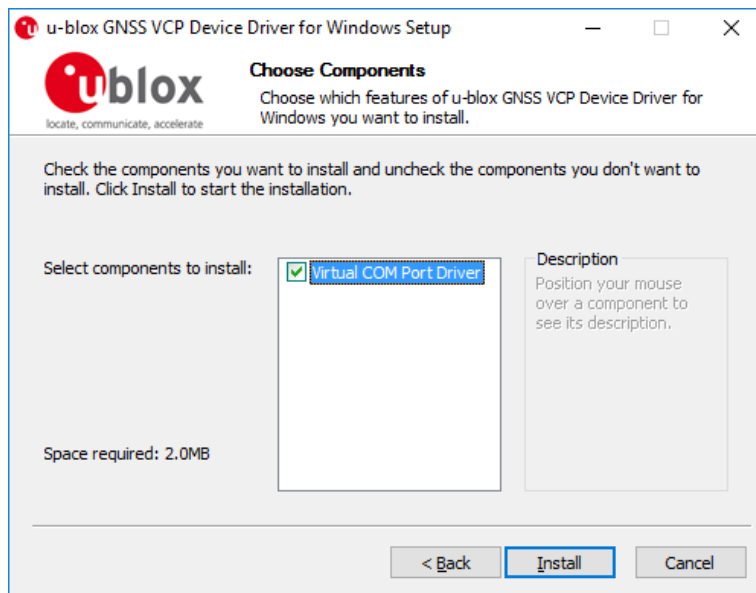


Figure 13: Driver selection

5. Click on "Next" to start the installation of the VCP Device Driver.

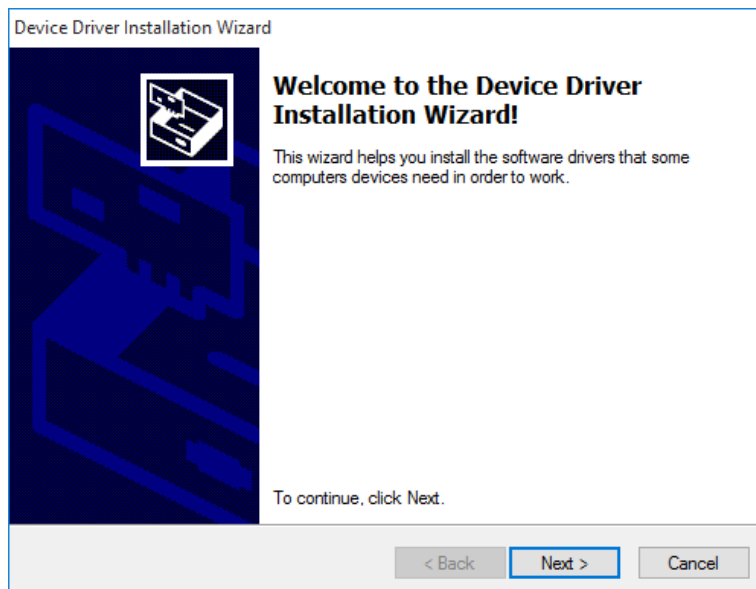


Figure 14: Installation of VCP Device Driver start

After a successful installation, the following window will be shown. Click on "Finish" to complete the Virtual COM Port installation.

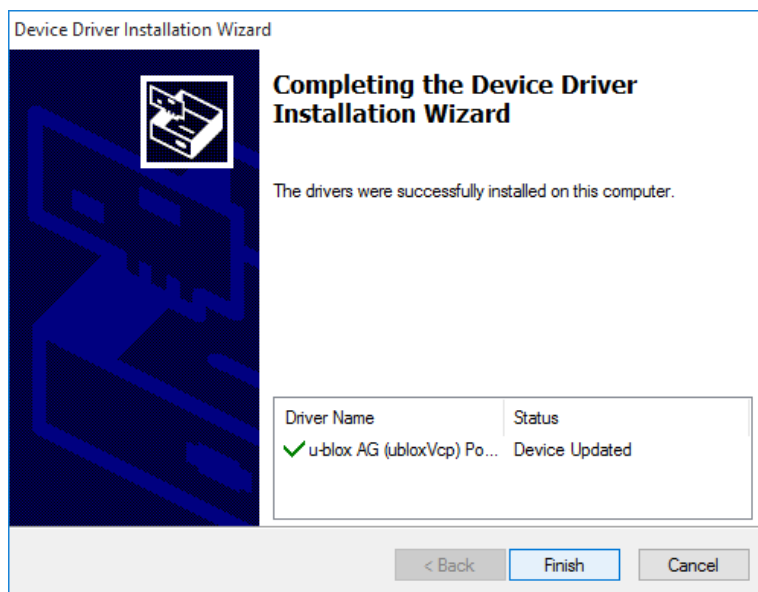


Figure 15: Installation of Virtual COM Port completed

- The installation of the VCP Device Driver is now finished and you can click on "Finish" to quit the installer.



Figure 16: Installation completed

4.3 Connecting the u-blox GNSS receiver

Once the Sensor Device Driver has been installed (see [Sensor Device Driver Installation with the Installer](#)), a u-blox GNSS receiver can be connected to any USB port.

- When the device is connected for the first time to any port, the driver is installed. The following window will appear.

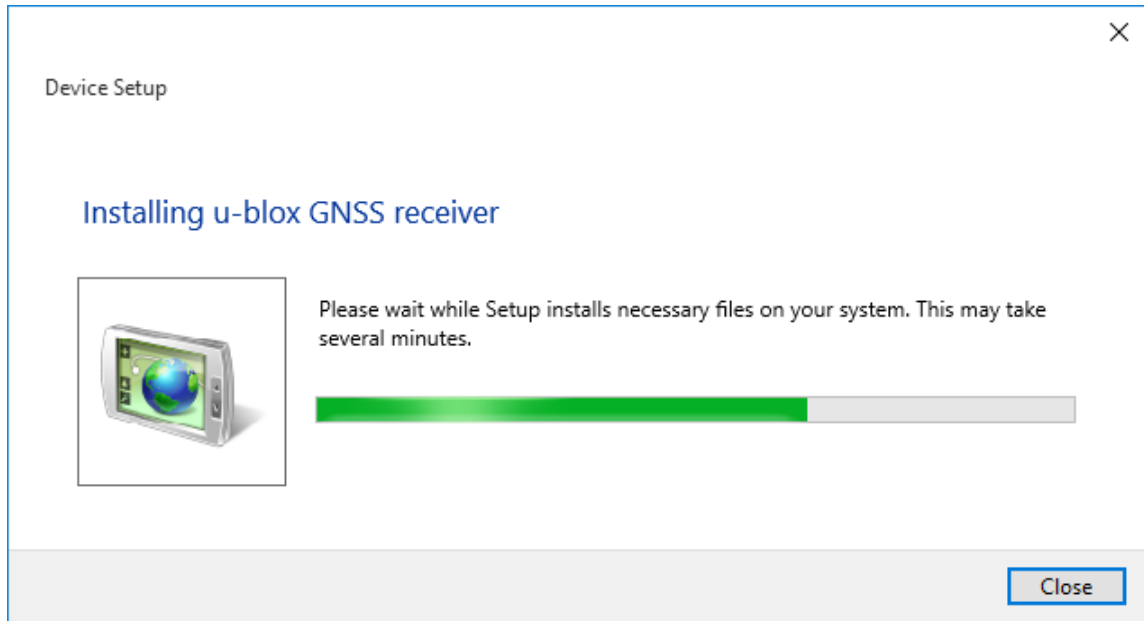


Figure 17: Device Setup

2. The installed drivers appear in the Device Manager as in the figure below.

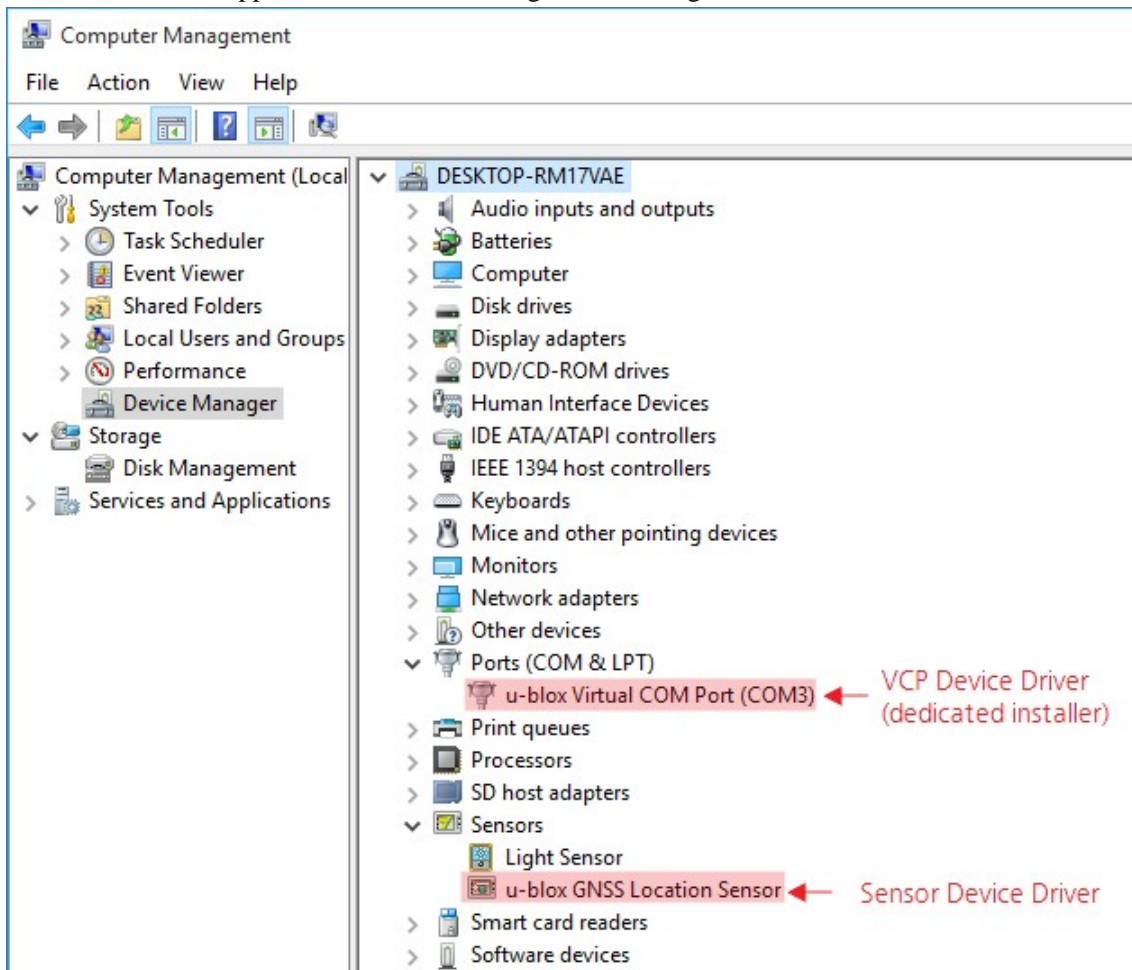


Figure 18: Device Manager

3. The access to the sensor data (like position) needs to be granted/enabled in the Control Panel of Windows, depending on the used Windows version.
 - In Windows 7 under "Location and Other Sensors":

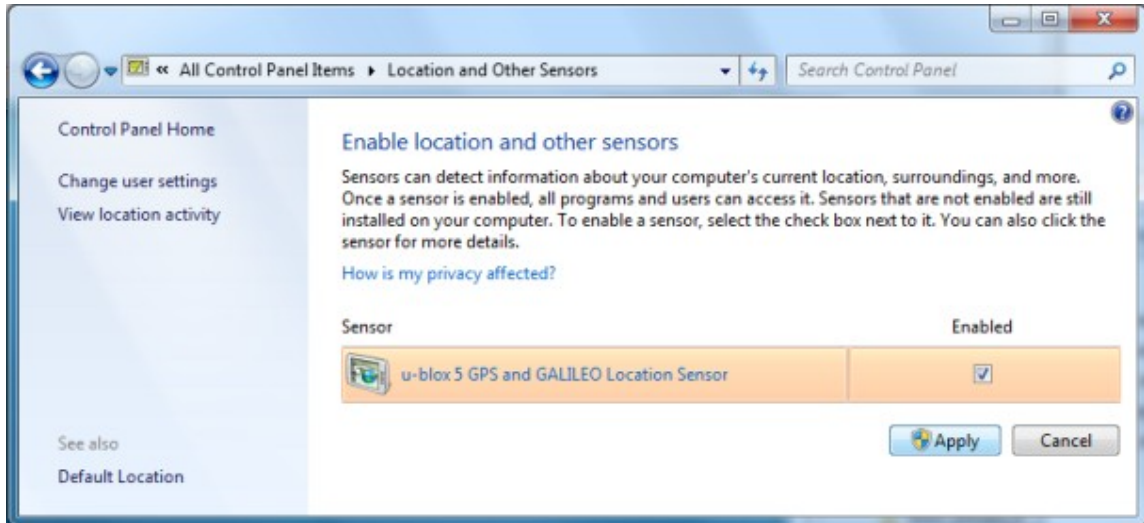


Figure 19: Location Sensor Dialog Windows 7

- In Windows 8/8.1 under "Location Settings":

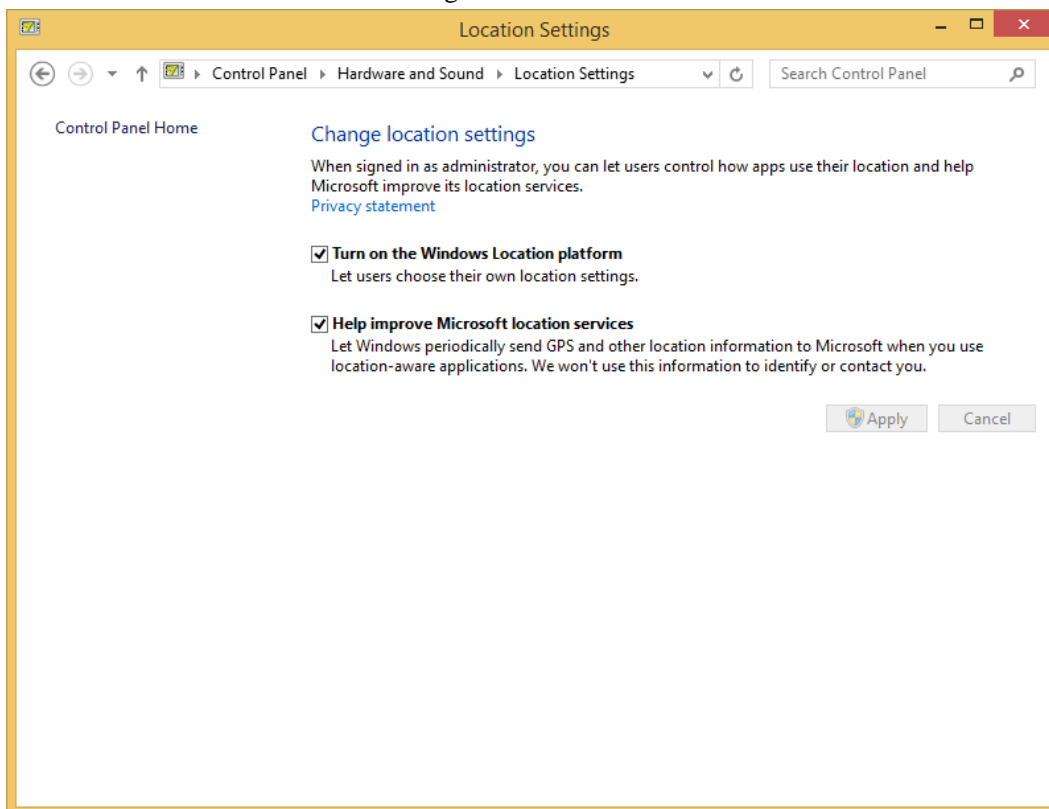


Figure 20: Location Sensor Dialog Windows 8/8.1

- In Windows 10 under "Settings->Privacy->Location":

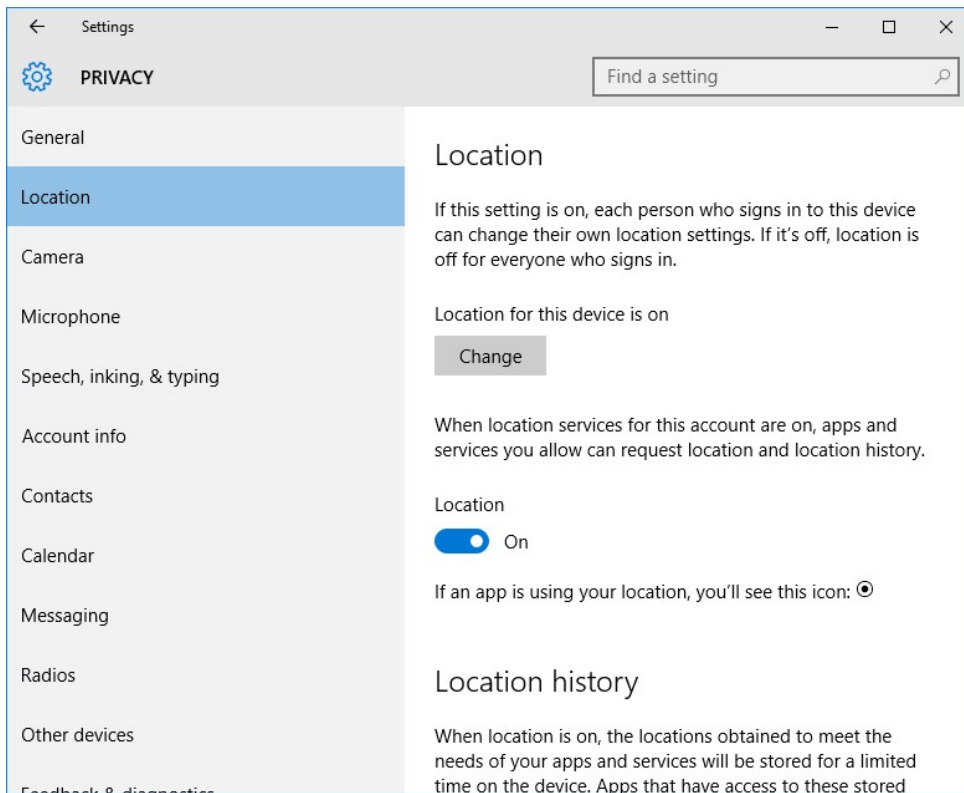


Figure 21: Location Sensor Dialog Windows 10

- In Windows 11 under "Settings->Privacy & security->Location":

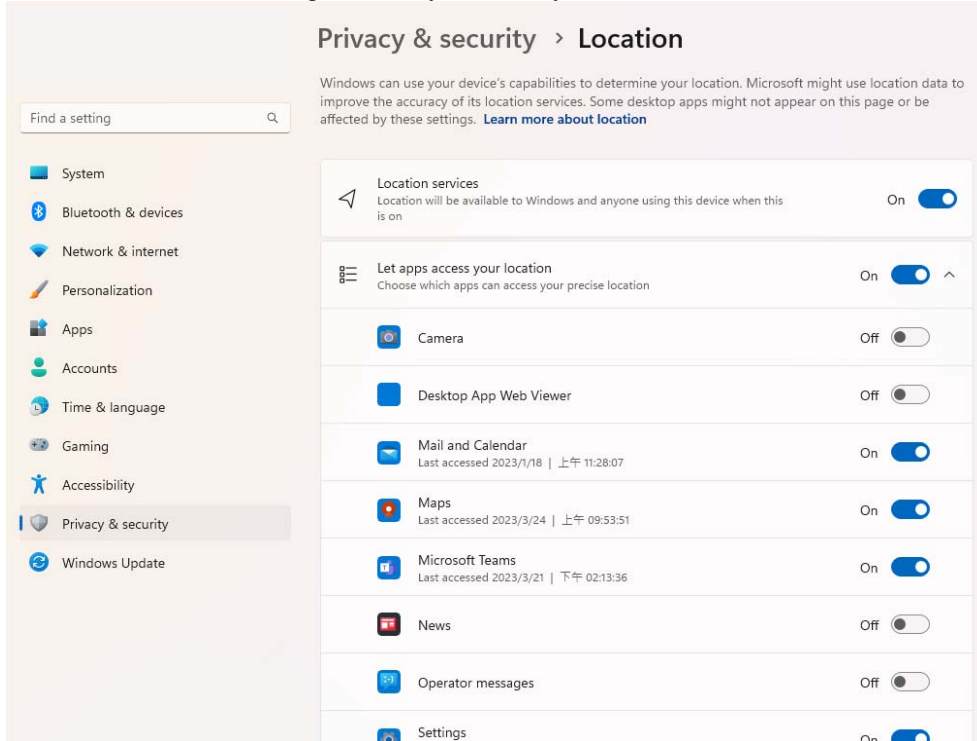


Figure 22: Location Sensor Dialog Windows 11

4. In order to see if the device works through the installed sensor, Microsoft Maps can be used.

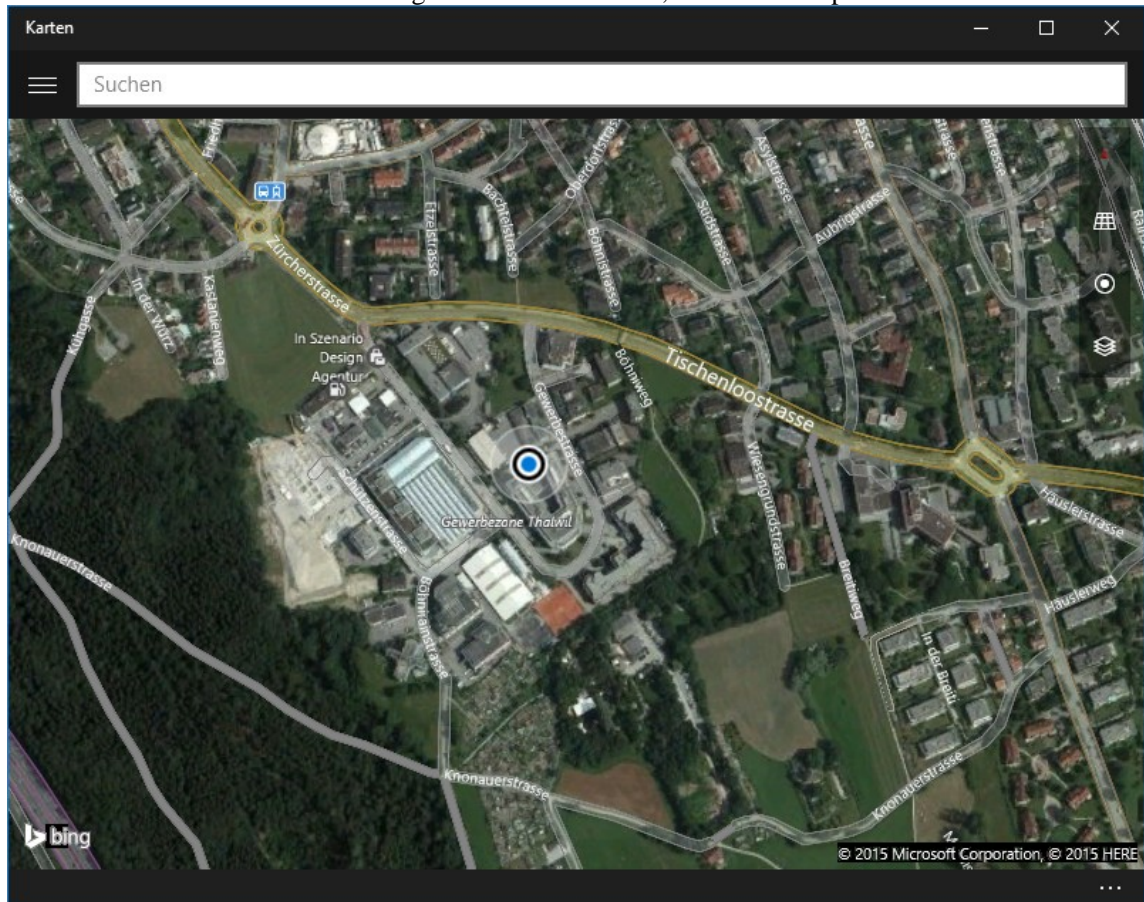


Figure 23: Maps with Location service

The Windows 10 taskbar shows an icon when an application requests the location from the platform:

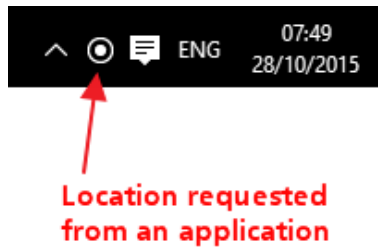


Figure 24: Location Request Icon

4.4 Silent Installation

The installers support silent installation, allowing an installation to occur in the background with no need for the user interaction during installation.

To do a silent installation, run the following from the command line

```
ubloxGnss_sensorDeviceDriver_windows_3264_v2.31.exe /S or
```

```
ubloxGnss_vcpDeviceDriver_windows_3264_v2.30.exe /S
```

Please note that the command parameter '/S' is case-sensitive.

Drivers are installed after a short while, after which (assuming the Sensor Device Driver installer was run), a u-blox GNSS device can be connected (see [Connecting the u-blox GNSS receiver](#)).

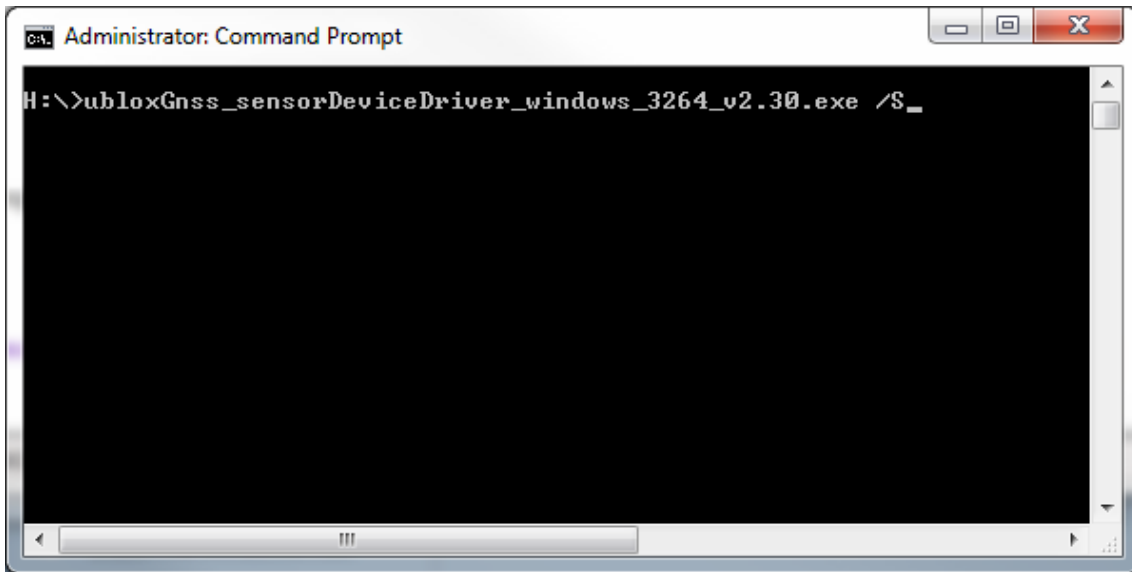


Figure 25: Silent Installation

4.5 Uninstalling the Driver

1. On Apps & Features, click on the appropriate Windows Driver Package to uninstall as shown below.

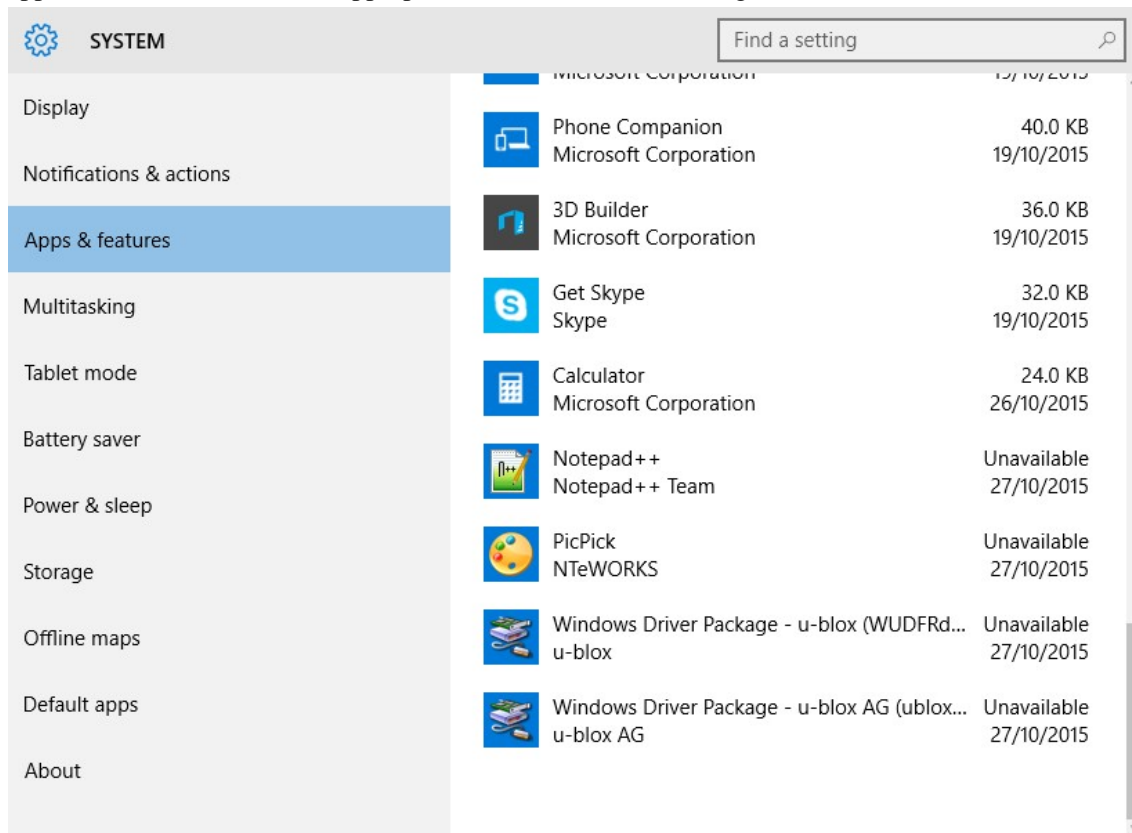


Figure 26: Uninstall Driver

2. The driver is now removed.

5. Supported Sensor Data Properties

5.1 Read Only Properties

SENSOR_PROPERTY_CONNECTION_TYPE
SENSOR_PROPERTY_CURRENT_REPORT_INTERVAL
SENSOR_PROPERTY_DESCRIPTION
SENSOR_PROPERTY_FRIENDLY_NAME
SENSOR_PROPERTY_MANUFACTURER
SENSOR_PROPERTY_MIN_REPORT_INTERVAL
SENSOR_PROPERTY_MODEL
SENSOR_PROPERTY_PERSISTENT_UNIQUE_ID
SENSOR_PROPERTY_SERIAL_NUMBER
SENSOR_PROPERTY_STATE
SENSOR_PROPERTY_TYPE
SENSOR_DATA_TYPE_TIMESTAMP
SENSOR_DATA_TYPE_ALTITUDE_ELLIPSOID_METERS
SENSOR_DATA_TYPE_ALTITUDE_SEALEVEL_METERS
SENSOR_DATA_TYPE_ERROR_RADIUS_METERS
SENSOR_DATA_TYPE_FIX_QUALITY
SENSOR_DATA_TYPE_FIX_TYPE
SENSOR_DATA_TYPE_HORIZONTAL_DILUTION_OF_PRECISION
SENSOR_DATA_TYPE_LATITUDE_DEGREES
SENSOR_DATA_TYPE_LONGITUDE_DEGREES
SENSOR_DATA_TYPE_POSITION_DILUTION_OF_PRECISION
SENSOR_DATA_TYPE_SATELLITES_IN_VIEW
SENSOR_DATA_TYPE_SATELLITES_IN_VIEW_AZIMUTH
SENSOR_DATA_TYPE_SATELLITES_IN_VIEW_ELEVATION
SENSOR_DATA_TYPE_SATELLITES_IN_VIEW_PRNS
SENSOR_DATA_TYPE_SATELLITES_IN_VIEW_STN_RATIO
SENSOR_DATA_TYPE_SATELLITES_USED_COUNT
SENSOR_DATA_TYPE_SATELLITES_USED_PRNS
SENSOR_DATA_TYPE_SPEED_KNOTS
SENSOR_DATA_TYPE_TRUE_HEADING_DEGREES
SENSOR_DATA_TYPE_VERTICAL_DILUTION_OF_PRECISION
SENSOR_DATA_TYPE_ALTITUDE_ELLIPSOID_ERROR_METERS
SENSOR_DATA_TYPE_ALTITUDE_SEALEVEL_ERROR_METERS
SENSOR_DATA_TYPE_GEOIDAL_SEPARATION
SENSOR_DATA_TYPE_GPS_OPERATION_MODE
SENSOR_DATA_TYPE_GPS_SELECTION_MODE
SENSOR_DATA_TYPE_GPS_STATUS

5.2 Read/Write Properties

SENSOR_PROPERTY_CURRENT_REPORT_INTERVAL
SENSOR_PROPERTY_LOCATION_DESIRED_ACCURACY



6.u-center for Windows

Selection of the Sensor API functionality is shown in the figure below. When the u-blox sensor is enabled, the Sensor API should blink green every time sensor location data events are generated.

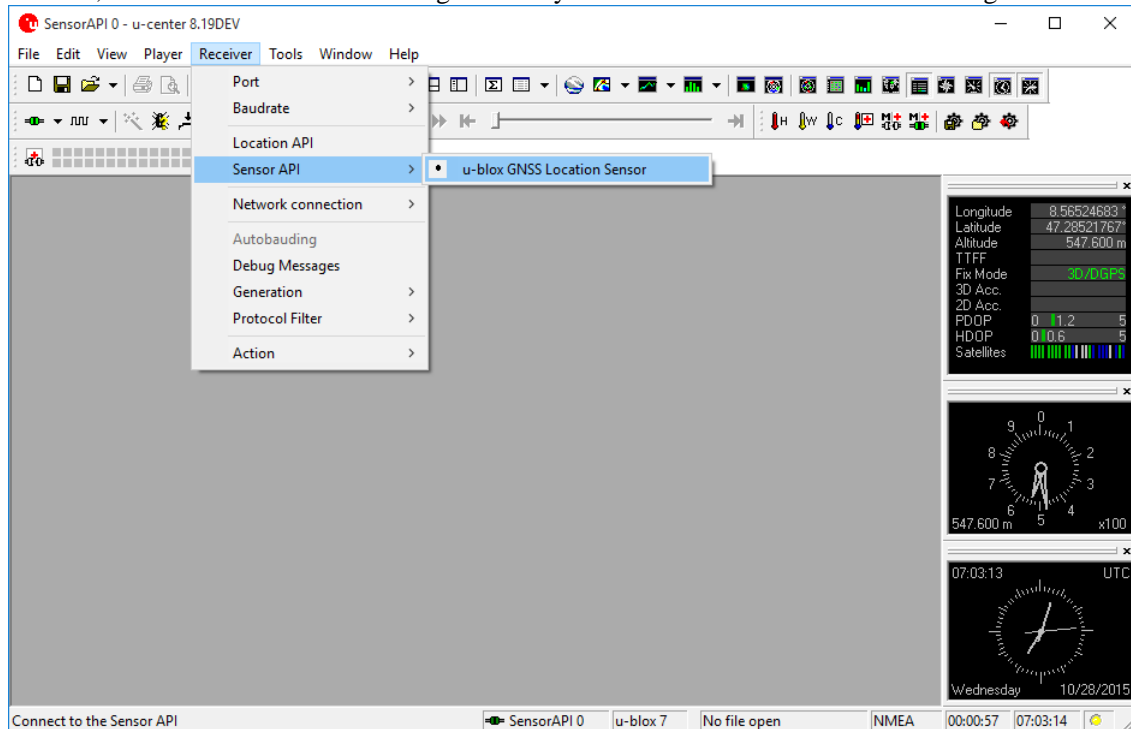


Figure 27: u-center using Sensor API

- You can use the U-center as a test tool. Please execute the accessory CD-ROM "auto.exe". Click the "u-center User Guide" button on the Home screen. The content will teach you how to use it.

7. INITIALIZING YOUR GPS RECEIVER

Before using your GPS receiver for navigation (especially for the first time), the receiver must obtain a local GPS fix (coordinates) of the current position. To do this, take your laptop (with your USB driver and the mapping software loaded and configured) to an open area that has a clear view to the sky (such as a park or empty field). Start your software (or the included GPS Info utility program) and wait for initialization of the GPS to complete. This may take a few minutes depending on various factors such as the distance of the current coordinates from the last time the GPS receiver was activated, GPS signal strength and surrounding terrain (tall trees and buildings can block the satellite signals). Once the RAW GPS data is displayed onto the screen, if applicable for your software, a fix has been initialized (red LED on the GPS will also start to flash). In some cases initialization can take up to several minutes depending on the conditions mentioned above before complete GPS data will be displayed on the screen.

Coordinates scrolling with zero's means that the port connection is complete, but the satellite data is not being received yet (possibly still initializing or in a bad area for satellite reception).

8. SAFETY AND LEGAL NOTICES

Please read this section carefully before using the GPS receiver

Globalsat WorldCom Corporation / USGlobalsat, Inc. will not accept any responsibility whatsoever for accidents resulting from failure to observe common sense precautions. Your personal judgment, traffic regulations, and common sense must always take precedence over any directions produced by GPS receiver or the mapping software

WARNING: Make sure that the GPS receiver is secure and does not interfere with driving visibility and safety.

It is your responsibility as the vehicle operator to securely place the GPS unit and antenna so that they will not interfere with driving and prevent operations of any safety device (such as the Airbag) in your vehicle. Do not mount the devices in a place where the driver or passengers may receive injury during vehicle operation or collision. For your safety, take care to route all cables away from shifters, pedals, accessory controls and mechanisms.

WARNING: Drive safely and use common sense.

It is your responsibility as the vehicle operator to drive safely, observe all traffic rules and above all use your own personal judgment while driving. If you feel that a route suggested by the navigation software instructs you to perform an unsafe or illegal maneuver, places you in an unsafe situation, or routes you into an area which you consider unsafe, do not follow the instructions.

WARNING: Keep your eyes on the road.

It is your responsibility as the vehicle operator to keep your eyes on the road and be an alert driver at all times, especially when the vehicle is moving. The vehicle's operator should not be distracted by the navigation equipment or software. Should there be a distraction with the ability to drive responsibly, please turn off the device. Should you want to look at the display for a prolonged time, park the car safely, while following all traffic regulations before looking at the display.

WARNING: Do not remove covers or open housings, there are no user serviceable parts inside. Refer servicing to qualified personnel only.



9. SPECIFICATIONS

BU-353W11

GPS Electrical Characteristics (Receiver)

Parameter	Specification
GPS Module	u-blox M8M GNSS high performance
Receiver type	GPS/QZSS L1C/A, GONASS L1OF, SBAS L1C/A, Galileo*1
Channels	72- channel all-in-view tracking *1 *2
Operational Limits*3	
Dynamics	≤ 4 g
Altitude	50,000 meters .
Velocity	500 meters/sec.
Accuracy	
Velocity accuracy*4	0.05 meters/sec.
Heading accuracy*4	0.3 degrees

GNSS		GPS & GLONASS	GPS	GLONASS
Horizontal position accuracy *5		2.5 m	2.5 m	4.0 m
Max navigation	ROM	10 Hz	18 Hz	18 Hz
Update rate	FLASH	5HZ	10 Hz	10 Hz
Time-To-First-Fix *6	Cold start	26 s	30 s	31 s
	Hot start	1 s	1 s	1 s
	Aided starts *7	3 s	3 s	3 s
Sensitivity	Tracking & Navigation	-164 dBm	-164 dBm	-163 dBm
	Reacquisition	-160 dBm	-159 dBm	-156 dBm
	Cold start	-148 dBm	-147 dBm	-145 dBm
	Hot start	-157 dBm	-156 dBm	-155 dBm

Protocol	Type
NMEA 0183 , version 2.1 、 2.3、 4.0、 4.1 (The default NMEA version is 4.0)	Input/output ,ASCII
UBX RTCM 2.3 *8	Input/output ,binary,u-blox proprietary Input, messages 1,2,3,9

Temperature

Operating	-40°C ~85°C
Storage	-40°C ~85°C
Humidity	Up to 95% non-condensing

Power

Voltage	4.5V ~ 5.5V
Current	40mA typical



GlobalSat WorldCom Corporation

16F., No.186, Jian 1st Rd., Zhonghe Dist., New Taipei City,
Taiwan (FAR EAST CENTURY PARK)

Physical Characteristics

Dimension	1.83" x 1.51" x 0.76" (46.5mm x 38.3mm x 19.2mm)
USB Cable Length	60" (150~154cm)

- *1 The augmentation systems: SBAS and QZSS can be enabled only if GPS operation is configured. Galileo is not enabled as the default configuration .
- *2 The EVA M8M series modules comes in two variants:EVA-M8M-0 defaults to GPS/QZSS/GLONASS whereas EVA-M8M-1 defaults to GPS/QZSS/BeiDou.
- *3 Assuming Airborne < 4 g platform
- *4 50% @ 30m/s
- *5 CEP, 50%, 24 hour static, -130dBm, >6 SVs
- *6 All satellites at -130 dBm, except Galileo at -127 dBm
- *7 Dependent on aiding data connection speed and latency
- *8 RTCM correction cannot be used together with SBAS.
- *9 Rates with SBAS and QZSS enabled for > 98% fix report rate under typical conditions

10. Pin description

BU-353W11 USB A Type

PIN Number	Name	Type	Description
1	Vin	P	Main power supply to the GPS receiver.
2,3	USB IF		USB IF to transmits channel for outputting navigation and measurement data to user's navigation software or user written software.
4	GND	P	Ground.

Indicator	Color	Description
LED	RED	LED OFF: Receiver switch off LED ON: Receiver switch on, No fixed, Signal searching LED Flashing: Position Fixed

11. Related Documents

Reference	Document name
1	Introduction to the Sensor and Location Platform in Windows
2	u-blox M8 Receiver Description and Protocol Specification, Doc. No UBX-13003221
3	u-blox-GNSS-Sensor-and-VCP-Device-Driver_UserGuide_(UBX-15022397)
4	USBDriverWindowsSelectionGuide_(UBX-15022403)
5	u-blox M8 Receiver Description and Protocol Specification, Doc. No UBX-13003221

For regular updates to u-blox documentation and to receive product change notifications please register on the u-blox website.

