

Getting Started with DGL61-W

User Guide

Version: 02

DocId: DGL61-W_startup_guide_v02



User Guide:	Getting Started with DGL61-W
Version:	02
Date:	2021-04-08
DocId:	DGL61-W_startup_guide_v02
Status	Public / Released

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0 Document History

Preceding document: "Getting Started with DGL61-W", Version 01

New document: "Getting Started with DGL61-W", Version 02

Chapter	What is new
---	Documented use with Java MIDlet for WWAN/MBIM and LEDs.

New document: "Getting Started with DGL61-W", Version 01

Chapter	What is new
---	Initial document setup.

1 Introduction

The DGL61-W is a cost effective USB dongle for use in cellular networks. The purpose of this document¹ is to guide you through getting started both on Windows and Linux. We will focus on connecting the hardware, installing the supplied drivers on a Microsoft® Windows 7 system, using Microsoft® Windows 10 and Linux and getting started with Device Gateway LTE DGL61-W.

1.1 Supported Products

This document applies to the following Thales product:

- Cinterion® DGL61-W

1.2 Related Documents

- [1] DGL61-W Hardware Interface Description
- [2] PLS62-W AT Command Specification
- [3] Developer Zone article [DGL61-W status LEDs driver with Connection Manager](#)
- [4] Developer Zone article [Windows Desktop Serial Port Monitor](#)
- [5] Developer Zone article [OpenWrt Raspberry Pi networking WWAN](#)
- [6] Developer Zone article [OpenWrt Raspberry Pi networking MBIM](#)
- [7] Developer Zone article [Make the ELS81-E/US MBIM Function Works with Ubuntu Linux 18.04](#)

¹ The document is effective only if listed in the appropriate Release Notes as part of the technical documentation delivered with your Thales module.

2 Getting Started with DLGL61-W

2.1 Overview

The DGL61-W requires the use of a plastic SIM card; format is "micro SIM" (not nano). Before you plug in and thus power up the DGL61-W to your computer, please insert your SIM Card into DGL61-W.

Connect DGL61-W with your computer system using a free USB 2.0 connection.

As shipped from the factory the DGL61-W will start, register to the network, illuminate its LEDs and present itself to the Operating System as a Wireless Ethernet Adapter (CDC-ECM) device. This type of connection is supported by Windows 7, Windows 10 and Linux host devices with appropriate software drivers.

It is also possible to use the DGL61-W in MBIM mode, which is particularly well suited to Windows 10 configurations.

To control the automatic behavior of the DGL61-W - update or remove the automatic Java software please see the Developer Zone article [3].

Depending on your operating system you have to do different steps:

- **Windows 7:** only supports CDC-ECM Wireless Ethernet Adapter mode

Download and install the Thales IoT PLS62-W drivers from the product page of DGL61-W (<https://www.thalesgroup.com/en/markets/digital-identity-and-security/iot/iot-connectivity/products/iot-products/dgl61>).

Once the drivers are installed the DGL61-W will start the network connection automatically; you will see an "Ethernet cable" icon in the task bar.



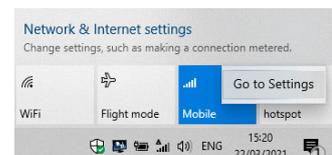
AT^SSRVSET="actsrvset",1 - Windows 7 only supports CDC-ECM

For details see [Section 2.2](#).

- **Window 10:** supports both CDC-ECM and MBIM modes

Windows 10 with the DGL61-W in CDC-ECM mode, please see Windows 7 above.

Windows 10 with the DGL61-W in MBIM mode, Windows will recognize DGL61-W automatically and start treating it as a Generic MBIM device. Windows 10 controls the connection to the Internet depending on your configuration; you will see a cellular device icon in the task bar (with a warning triangle when roaming).



AT^SSRVSET="actsrvset",4 - Windows 10 optionally supports MBIM

For details see [Section 2.3](#).

- **Linux:** supports both CDC-ECM and MBIM modes

Under Linux it is possible to use the DGL61-W in both CDC-ECM and MBIM modes. It is significantly easier to use CDC-ECM.

Many Desktop Linux distributions support CDC-ECM adapters by default. However, if you are using an Embedded Linux such as OpenWrt you may need to install additional drivers - Embedded Linux:

To install the required drivers for Linux CDC-ECM mode please see this Developer Zone article [\[5\]](#).

To install the required drivers for Linux MBIM mode please see this Developer Zone article [\[6\]](#).

- For using DGL61-W with Linux (Ubuntu 18.04) and MBIM see Developer Zone article [\[7\]](#), which is valid for DGL61-W too.

2.2 Installation on Windows 7

2.2.1 Technical Requirements

- DGL61-W
- Computer running Windows 7, USB 2.0 Interface
- Corresponding driver package (USB) - download from DGL61-W product page <https://www.thalesgroup.com/en/markets/digital-identity-and-security/iot/iot-connectivity/products/iot-products/dgl61>
- Local administrator privileges - required to install drivers
- SIM/USIM in micro-SIM size from your chosen MNO /cellular network provider

2.2.2 Installation Procedure

1. Insert micro SIM - with the "metal pads" facing upwards. Gently pushing SIM into the SIM card holder until it clicks. Push inwards again to remove.



Figure 1: Insert SIM

2. Connect DGL61-W with the PC/Notebook

2.2 Installation on Windows 7

- Windows 7 is starting to search for driver.

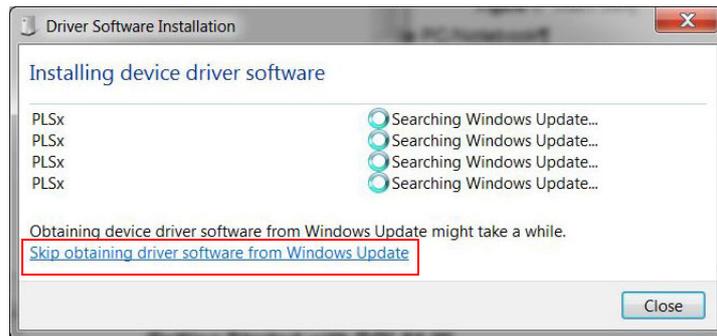


Figure 2: Windows is searching for Drivers

- Stop search for drivers from Windows Update by clicking on "Skip obtaining driver software from Windows Update" (see Figure 2) and then click on "Yes" (see Figure 3)

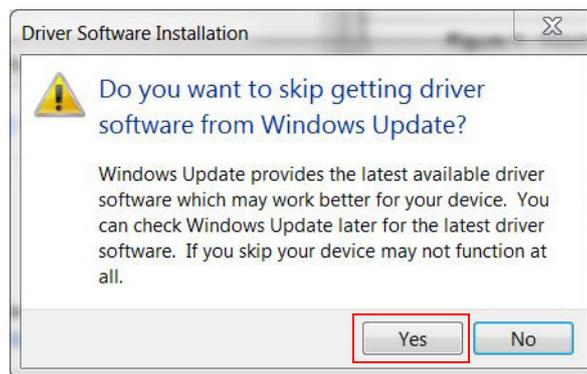


Figure 3: Aborting Driver Installation

- Open "Device Manager" from "Control Panel"

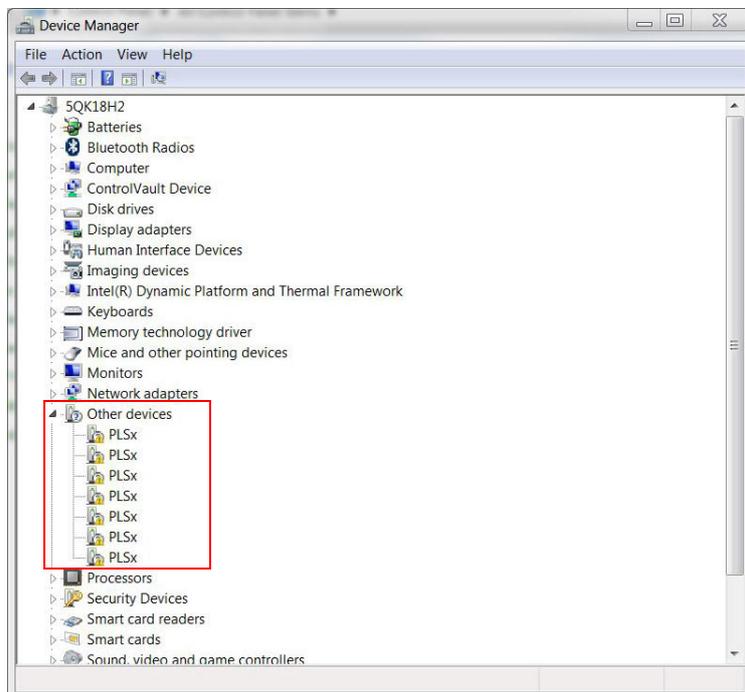


Figure 4: Device Manager before installing the drivers

- For each "PLSx" in section "other Devices" select "Update Driver Software ..." do the steps 7 to 11

- 7. Select "Browse my computer for driver software"

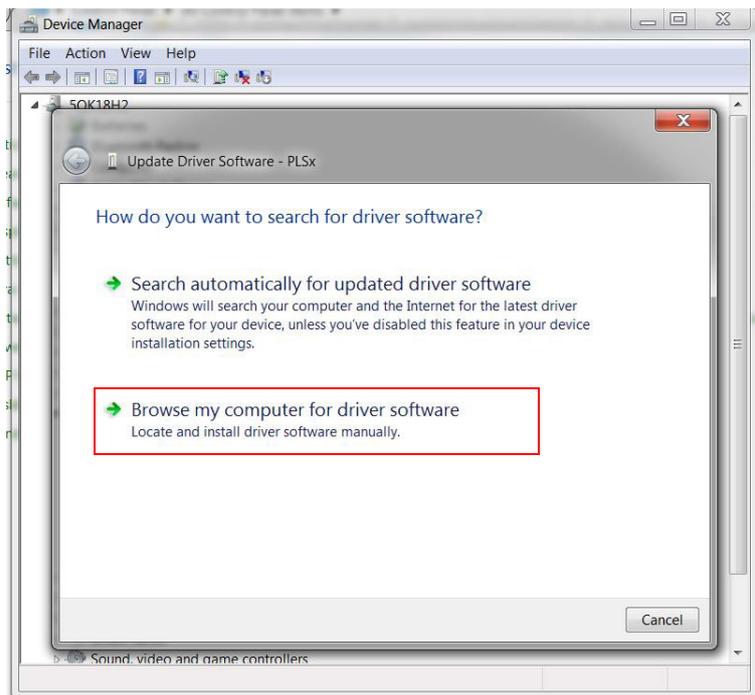


Figure 5: Select installation method

- 8. Enter path to unzipped driver package (1), set check mark at "Include subfolders" (2) and click on "Next" (3)

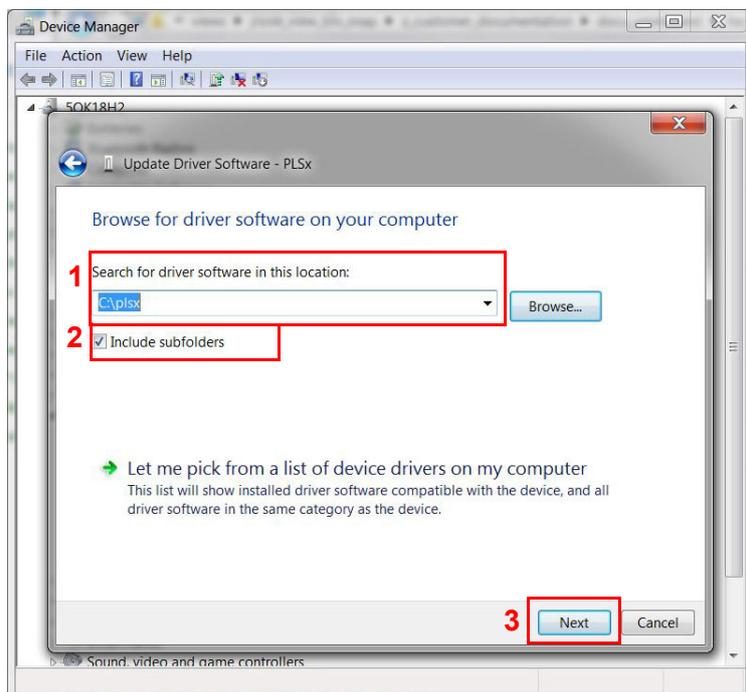


Figure 6: Enter path to unzipped driver package

2.2 Installation on Windows 7

- 9. Set check mark at "Always trust software from "Gemalto M2M GmbH" (1) and click on "Install (2)

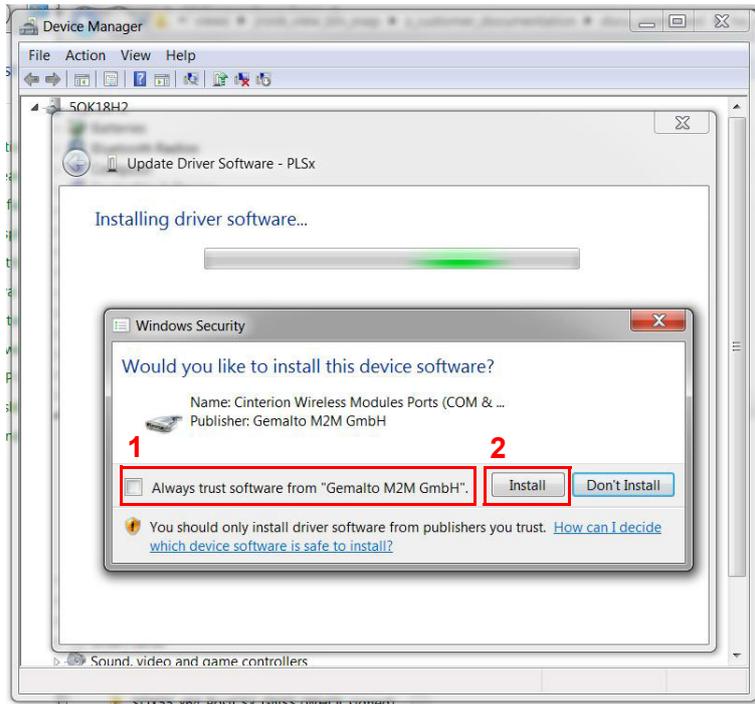


Figure 7: Trust and Install

- 10. "Click on "Close"

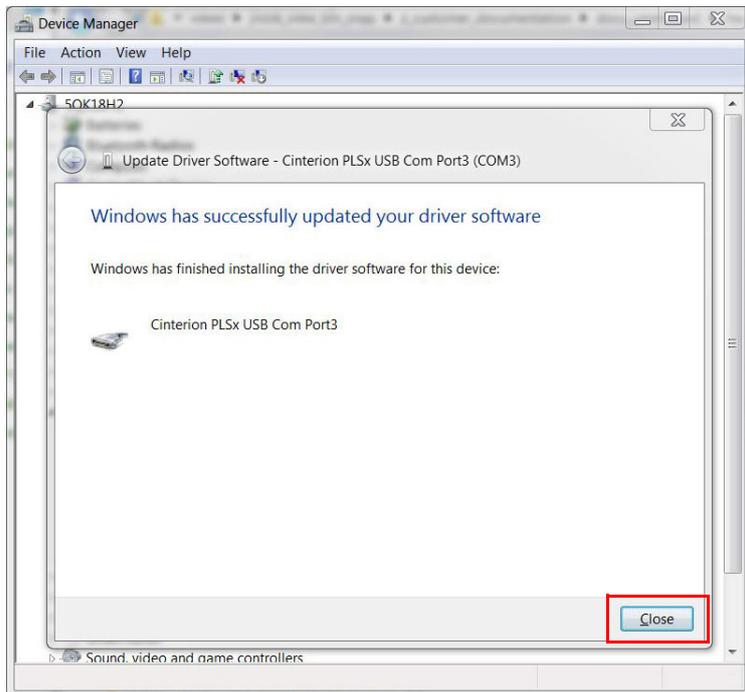


Figure 8: Installed successfully

11. The "Device Manager" shows first Device is installed

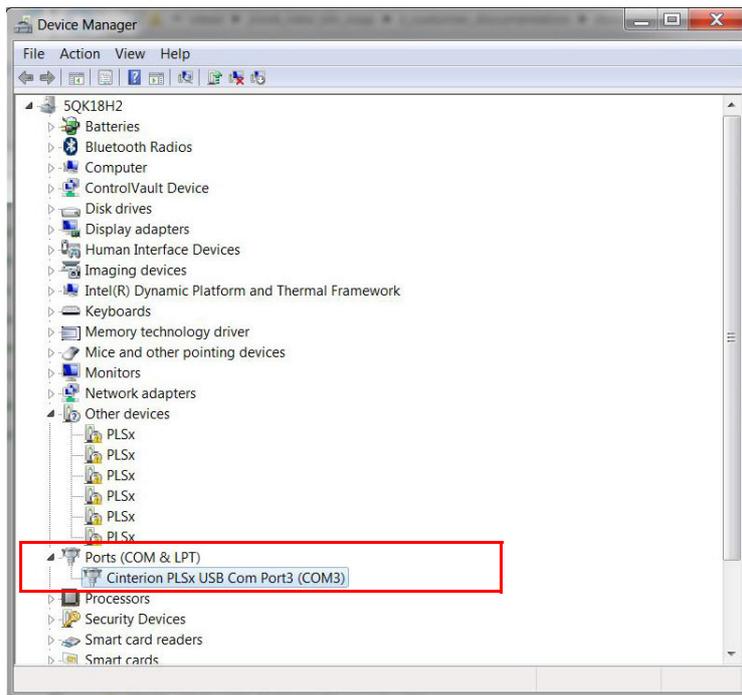


Figure 9: First Device installed

12. After the Steps 6 to 11 are done for each "PLSx" devices the "Device Manager" shows following devices for the DGL61-W

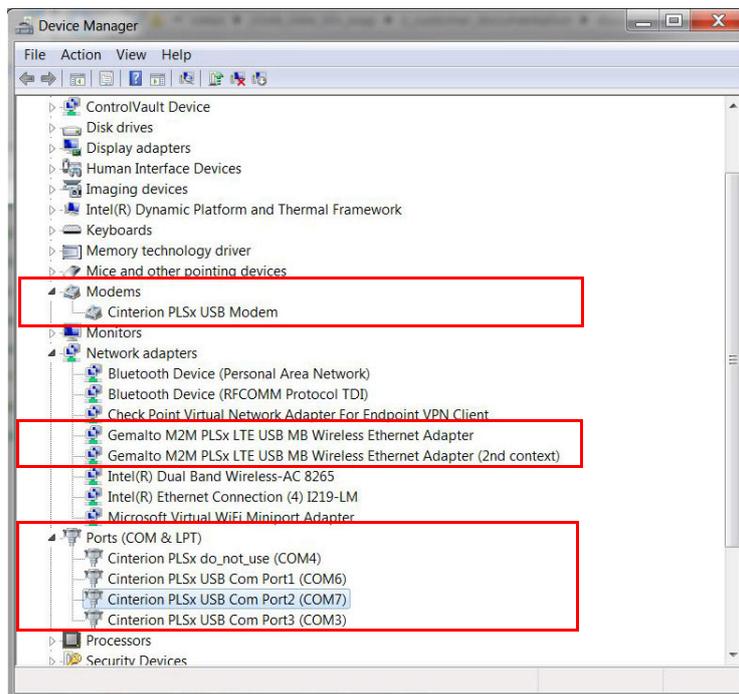
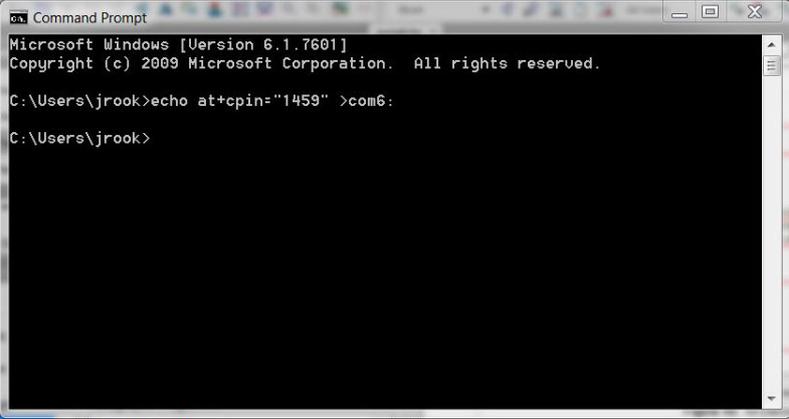


Figure 10: All Devices installed

13. If SIM card is SIM PIN protected: Close the "Device Manager" and open a "Command Prompt" and enter **"echo at+cpin="your PIN">comx:"**

(x is the number of first installed COM interface of the DGL61-W (Port1)) - see Serial Port Monitor [\[4\]](#)



```
Command Prompt
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\jrook>echo at+cpin="1459" >com6:
C:\Users\jrook>
```

Figure 11: Enable SIM Card by entering PIN

14. Now you are connect to Internet by DGL61-W.
15. The LEDs on the DGL61-W should be lit.

2.3 Installation on Windows 10

2.3.1 Technical Requirements

- DGL61-W
- Computer running Windows 10, USB 2.0 Interface
- Corresponding USB driver package - download from DGL61-W product page: <https://www.thalesgroup.com/en/markets/digital-identity-and-security/iot/iot-connectivity/products/iot-products/dgl61>
- Local administrator privileges - required to install drivers
- SIM/USIM in micro-SIM size from your chosen MNO /cellular network provider

2.3.2 Installation Procedure

Drivers are part of Windows 10 and will be installed automatically.

1. Insert micro SIM with the "metal pads" facing upwards. Gently pushing SIM into the SIM card holder until it clicks (see [Figure 1](#)). Push inwards again to remove.
2. Connect DGL61-W with the PC / Notebook
3. Windows 10 installs all Devices for a generic MBIM device
4. Open the "Device Manager" from the "Control Panel" to check if all Devices are installed.

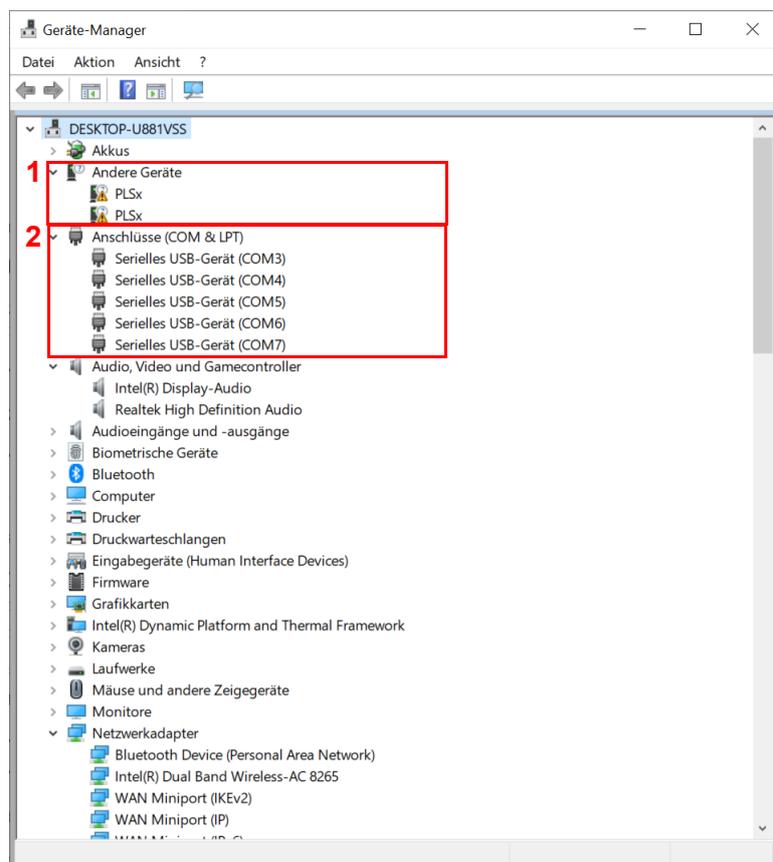


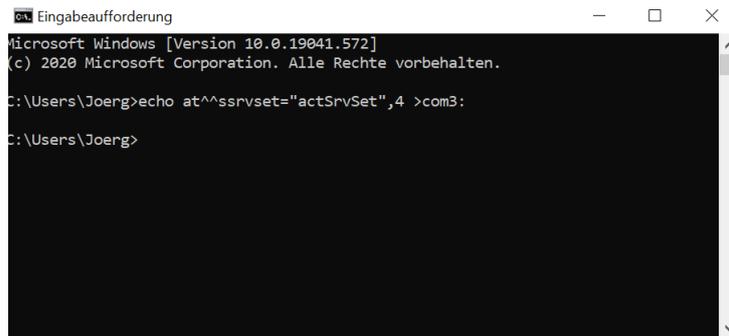
Figure 12: Device Manager after automatic driver installation

5. If all devices are installed, go to step 7.

If there are two devices under "Other devices" (at "1" in [Figure 12](#)), which are not installed, then open "Command Prompt" and enter "**echo at^^ssrvset="srvActSet",4 >comx:**"

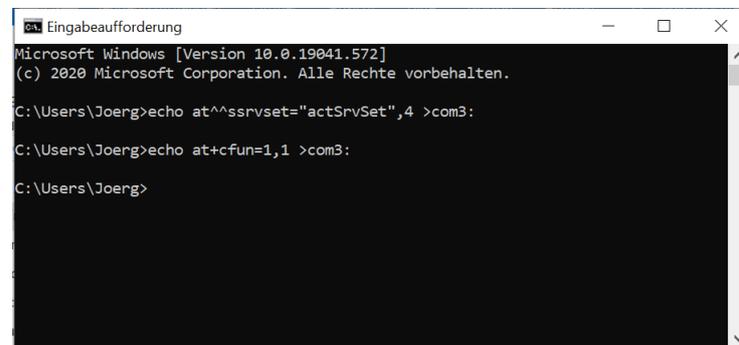
(x is the number of first installed COM interface of the DGL61-W, see [Figure 12](#) at "2") - see Serial Port Monitor [\[4\]](#)

6. Restart the module by entering "**echo at+cfun=1,1 <comx:**" for re-enumeration of the USB interface



```
Eingabeaufforderung
Microsoft Windows [Version 10.0.19041.572]
(c) 2020 Microsoft Corporation. Alle Rechte vorbehalten.
C:\Users\Joerg>echo at^^ssrvset="actSrvSet",4 >com3:
C:\Users\Joerg>
```

Figure 13: Configure USB Interface of DGL61-W



```
Eingabeaufforderung
Microsoft Windows [Version 10.0.19041.572]
(c) 2020 Microsoft Corporation. Alle Rechte vorbehalten.
C:\Users\Joerg>echo at^^ssrvset="actSrvSet",4 >com3:
C:\Users\Joerg>echo at+cfun=1,1 <com3:
C:\Users\Joerg>
```

Figure 14: Restart DGL61-W

2.3 Installation on Windows 10

7. The Device Manager shows that all devices are installed:

5x COM interfaces and

1x Network Adapter

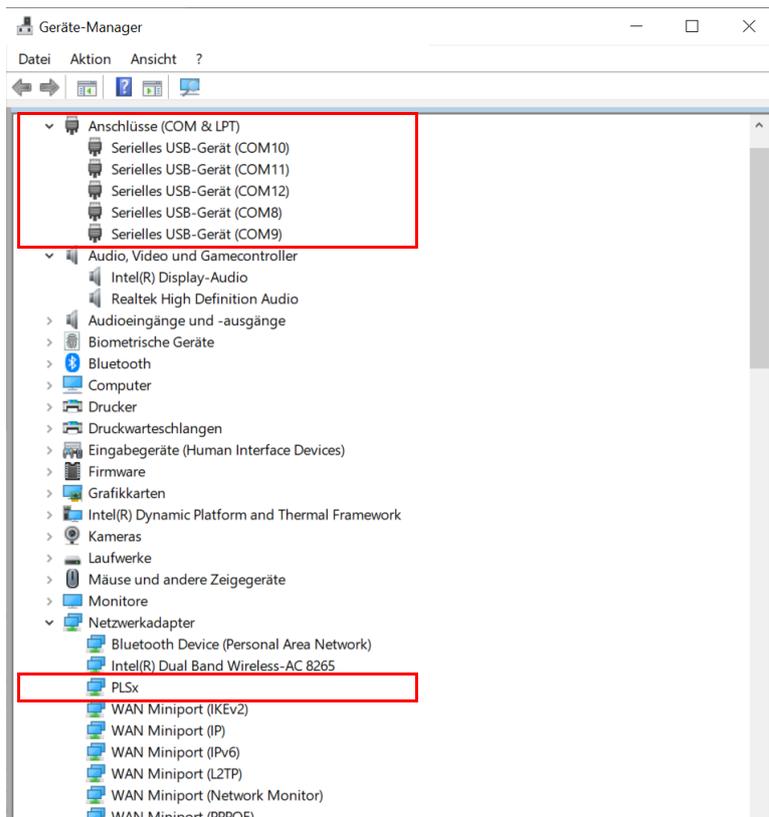


Figure 15: Device Manger after all device are installed

8. Follow the message given by Windows 10 to enter the PIN for the SIM will guide you to the following window and click on "unlock SIM" to enter the PIN.

The Cellular page can be found at "Control Panel" "Network & Internet", if you are not following the message given by Windows 10.

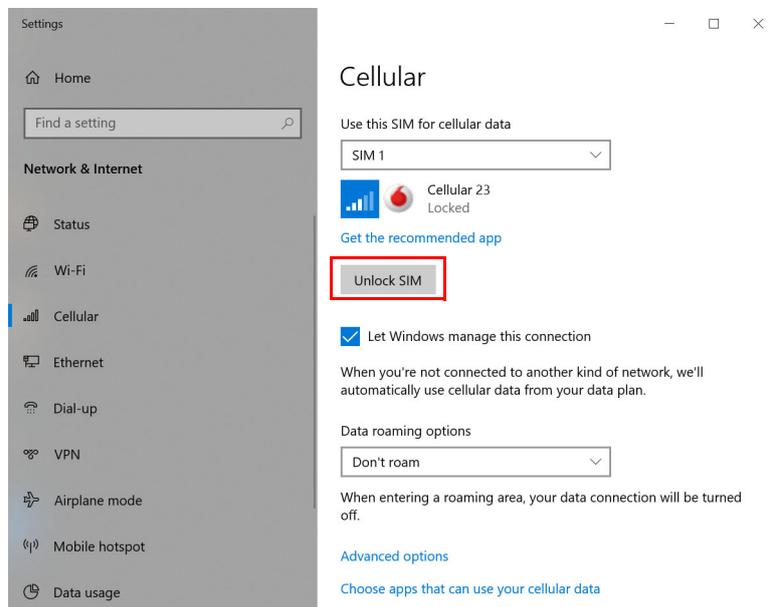


Figure 16: Cellular configuration page

2.3 Installation on Windows 10

- 9. Enter the PIN for your SIM Card (1) and click on "Next" (2)

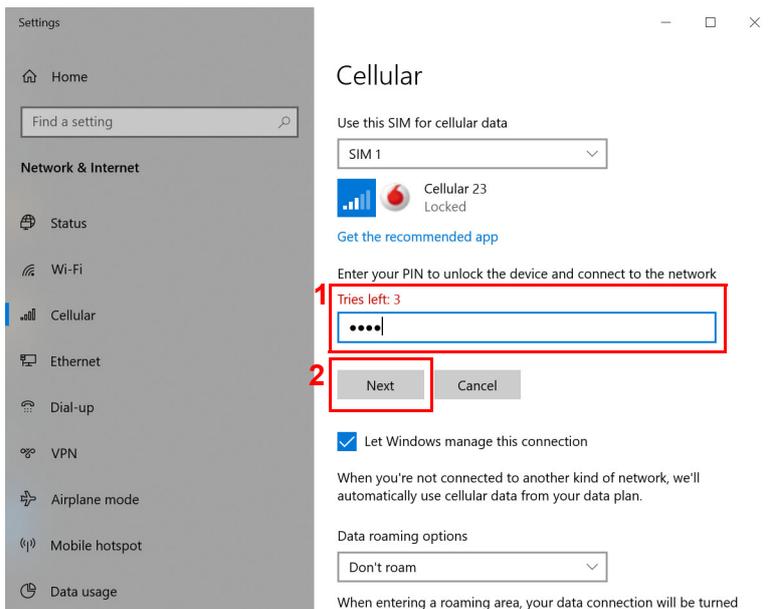


Figure 17: Enter the PIN

- 10. The status of the connection will change from "Locked" to "Connected"

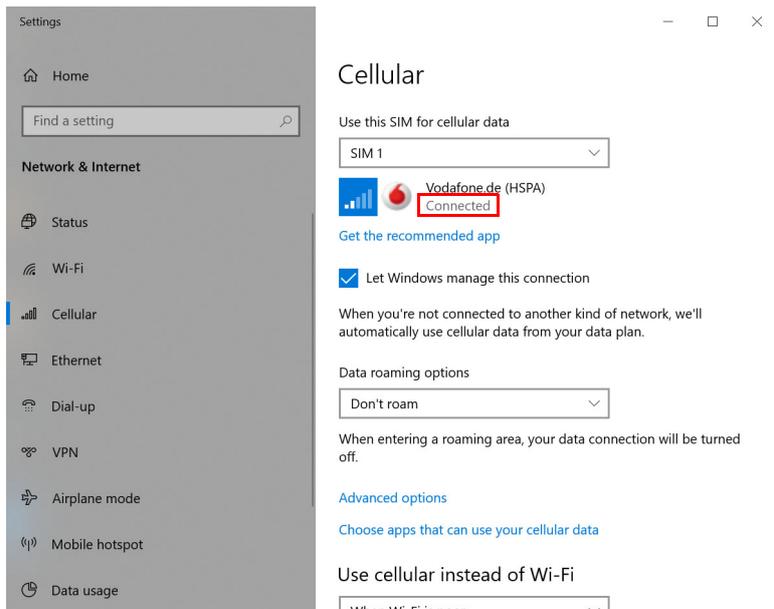


Figure 18: Cellular connected

- 11. Now you are connect to Internet by DGL61-W.



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