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EmpirBus NXTWDU Web Display Unit User Manual

EmpirBus NXT WDU
User manual

Contents

Introduction

The WDU, Web Display Unit, is an add-on product to the EmpirBus NXT product family. This document contains basic specifications and installation instructions. This and other documents are available at **www.empirbus.com**.

Scope of Delivery

All WDU models are shipped with a Micro 5pin M12 Male power cable, Ethernet cable (with Garmin RJ45 connector), and Wi-Fi antenna.

Model Range

Both the unit and the box are marked with the model number.

Model	WDU-100 010-02226-00
Ethernet (RJ45)	X
Wi-Fi	X
USB-A Host	X

Table 3.1: Model range

Installation

Mounting

The WDU should be mounted on a flat vertical surface with four screws (not included), with the orientation as shown in figure 4.1.
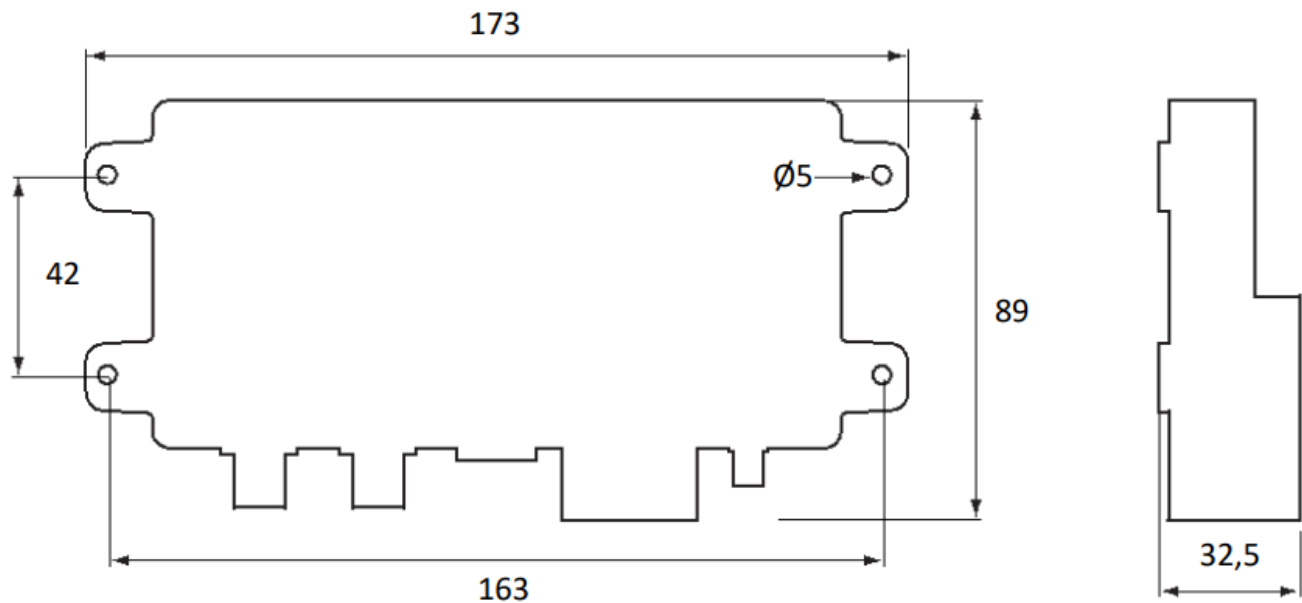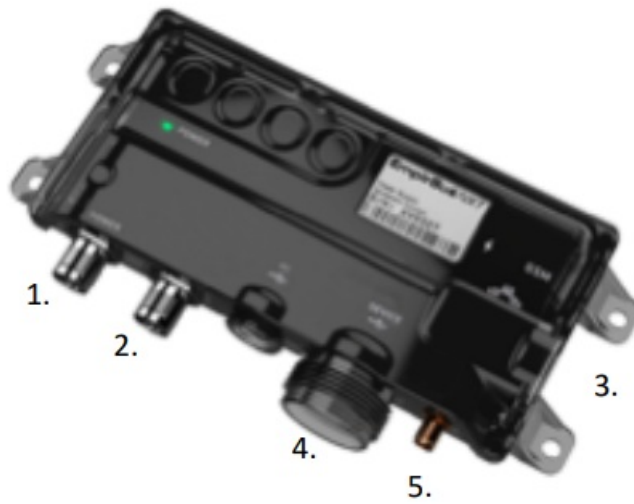

Figure 4.1: Dimensions [mm] (Drawing is not to scale.)

Connectors

The bus connector is an NMEA 2000 compatible male Micro-C 5 pin connector. It is not recommended to connect a T-connector directly to the unit, a drop cable should be between the main bus and the unit. All WDU models are equipped with a female SMA connector for Wi-Fi.

1. Power
2. NMEA
3. Ethernet
4. USB-A Host (under the black cap)
5. Wi-Fi antenna connector (SMA)

Note that the wires for the included power cable use white as a minus, and brown as a plus.

Software Installation & Setup

Loading WDU firmware with USB flash drive

1. Do a full export ("Graphics and WDU firmware") of your preferred graphics project from EmpirBus Graphics and download the generated export.
2. Extract the exported file into the root file system of a USB flash drive.
3. Put the USB flash drive into the WDU and do a power cycle.
4. Wait for the WDU to load the WDU firmware, which might take a minute. The SW LED should then light up. If the SW LED blinks or doesn't light up at all, it means that something has gone wrong (corrupt or missing files, problems with USB flash drive, etc.)
5. Disconnect the U SB flash drive and reboot the WDU by doing another power cycle.
6. The WDU should be online within a minute.

Loading graphics only

Exported graphics packages without firmware (exported as "Graphics only" from EmpirBus Graphics) can be loaded onto the WDU through the WDU Supervisor (see 5.3.2 Accessing Supervisor pages) in the Graphics section.

Settings & Supervisor

5.3.1 Accessing settings pages
The WDU settings pages will appear as a separate OneHelm application icon on a Garmin MFD if the MFD and the WDU are correctly connected (Ethernet or Wi-Fi).
It is also possible to reach the settings pages by connecting a PC to the same network as the WDU and using the

WDUFinder functionality of EmpirBus Studio (Figure 5-1).

Figure 5-1: WDU finder in EmpirBus Studio.

5.3.2 Accessing Supervisor pages

On an MFD, the Supervisor pages can be reached through the "Information" tab on the Settings pages where a "WDU Supervisor" link is shown 1 (Figure 5-2).

Figure 5-2: WDU settings, information tab.

It is also possible to reach the Supervisor pages from another client (e.g. a PC) by entering the supervisor URL in the address bar of a web browser.

The WDU finder in EmpirBus Studio (mentioned in 5.3.1 Accessing settings pages) can also be used for navigating to the Supervisor pages.

1On earlier versions the WDU Supervisor link and the WDU host address weren't available. If they're not available and you wish to use them, please upgrade to the latest version.

If the WDU has been configured to be a Wi-Fi Hotspot (see 5.4 Wi-Fi Settings), it is possible to reach the Supervisor pages from another client (e.g. a PC) by navigating to **http://192.168.5.1/supervisor/**.
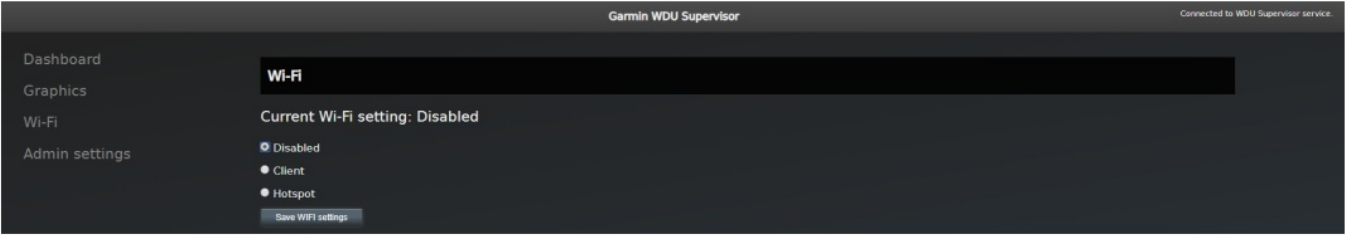
Wi-Fi Settings

Wi-Fi settings for the WDU are available on the Supervisor pages. There are three modes available:

- Disabled. This means that the Wi-Fi is completely disabled.
- Client. This means that the WDU uses its Wi-Fi as a client and connects to another Wi-Fi access point. SSID and passphrase/key to the target wireless network is required in order to connect successfully.
- Hotspot. This will make the WDU into a hotspot/access point, allowing other Wi-Fi clients to connect to it. SSID and Passphrase/key are both required to set this up. The WDU will get the IP address 192.168.5.1.

Product specifications

See table 3.1 for model specification and hardware support

Communication CAN-bus Wi-Fi	NMEA 2000
Power supply Max/average Supply voltage	180mA/80 mA @ 12V 9-32VDC (Note: Power feed is through the Power Cable)
Connectors NMEA 2000 Power supply Antenna USB host interface	Micro Spin M12 Male Micro 4pin M12 Male SMA female (Wi-Fi) USB A
Environment Ambient temperature Enclosure	-20 to +55 degrees Celsius Ingress Protection IP65, Polycarbonate
Physical data Size Weight	173 x 89 x 32.5 mm 0.2 kg

1Exposure to solvents and/or water above 60°C may cause cracking on polycarbonate.

Notes:

DECLARATION OF CONFORMITY

We, manufacturer of Garmin Sweden Technologies AB, Sweden, declare that the articles:
010-02226-00 are in conformity with EC Directive RED 2014/53/EU.

$$C\,E$$

$$FC$$

We also declare that the articles: 010-02226-00
comply with
FCC 47 CFR Part 15, Subpart B, Class A.

SIGNS ON BEHALF OF	Garmin Sweden Technologies AB
Name:	Henrik Niklasson
Position:	Product & Sales Manager
Location and date:	Uddevalla, Sweden, December 1st, 2019
Signature:	*Henrik Niklasson*

RoHS CERTIFICATE OF CONFORMANCE

We, manufacturer, Garmin Sweden Technologies AB, Sweden, declare that the articles: 010-02226-00 are in compliance with Directive 2011/65/EU on the restriction of the use of certain hazardous substances in mechanics, electrical and electronic equipment (RoHS Directives).

SIGNS ON BEHALF OF	Garmin Sweden Technologies AB
Name:	Henrik Niklasson
Position:	Product & Sales Manager
Location and date:	Uddevalla, Sweden, December 1st, 2019
Signature:	*Henrik Niklasson*

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Documents / Resources

EmpirBus EmpirBus NXT WDU User manual	**EmpirBus NXTWDU Web Display Unit** [pdf] User Manual NXTWDU, Web Display Unit

References

- **EmpirBus**