

## WIRELESS BASE UNIT

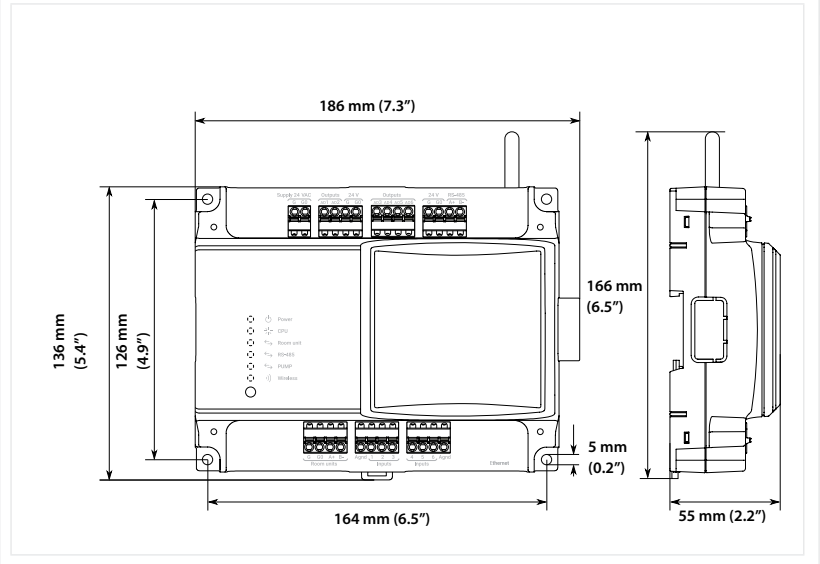


### GWBU SERIES


## PRODUCT DESCRIPTION

The GWBU wireless base unit is designed for the Greystone MESH wireless network. The base unit supports the following communication protocols: Modbus RTU and Modbus TCP. The base can be expanded with additional modules for added functionality. The base unit settings can be configured with the Greystone ConfigTool Android application which speeds up the commissioning. The device configuration can be saved to Greystone cloud service by using the application.

## DIMENSIONS

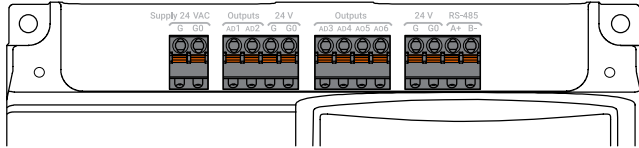


## SPECIFICATIONS

Supply	24 Vac/dc (22 to 26 V), < 7 VA <b>Note:</b> Only the DC functions work when using DC supply voltage. To get full functionality, use AC supply.
Network frequency	2.4 GHz (2400 to 2483.5 MHz)
Maximum transmit power (E.I.R.P)	4 mW (6 dBm)
Bandwidth	2000 kHz
Modulation	GFSK
Network range (max distance between devices)	Up to 100 m (330') indoors / up to 200 m (660') in open air
Network size	Up to 100 transmitters <b>Note:</b> The network performance depends on the network structure. When approaching the maximum device count, the network speed will decrease.
Inputs	6 x universal input (NTC 10K Type 2 / Pt1000 / Resistive / Potential free contact / 0 to 10 Vdc)
Outputs	6 x 0 to 10 Vdc / 2 to 10 Vdc, -0,5...+2 mA
Supply output	2 x 24 Vac, total load < 8 A
Communication	Modbus RTU / Modbus TCP
<b>Default Ethernet network settings</b>	
IP address	192.168.1.1
Subnet mask	255.255.255.0
Commissioning tool	Greystone ConfigTool 
<b>Operating conditions</b>	
Appliance class (IEC 60664-1)	III
Temperature	-5 to 50 °C (23 to 122 °F)
Humidity	0 to 90 % RH (non-condensing)
Antenna connector	SMA
Wiring terminals	1,5 mm <sup>2</sup> , spring terminals
Mounting	On the wall surface or on 35 mm DIN rail
Housing	ABS, IP22
Dimensions (w x h x d)	186 x 136 x 55 mm (7.3" x 5.4" x 2.2")
Approval	CE, UKCA, FCC, ISED

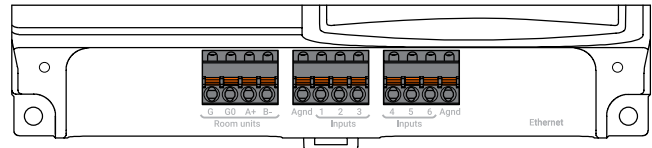
## WIRING INFORMATION

### Top connectors



TERMINAL	FUNCTION
<b>Supply 24 VAC</b>	
G	24 Vac/dc supply.
G0	Ground
<b>Outputs</b>	
AD1	Output 1. 0...10 Vdc (-0,5...+2 mA) output.
AD2	Output 2. 0...10 Vdc (-0,5...+2 mA) output.
G	24 Vac output.
G0	Ground
<b>Outputs</b>	
AD3	Output 3. 0...10 Vdc (-0,5...+2 mA) output.
AD4	Output 4. 0...10 Vdc (-0,5...+2 mA) output.
AO5	Output 5. 0...10 Vdc (-0,5...+2 mA) output.
AO6	Output 6. 0...10 Vdc (-0,5...+2 mA) output.
<b>24 V</b>	
G	24 Vac output.
G0	Ground
<b>RS-485</b>	
A+	RS-485 bus connection for Modbus RTU.
B-	RS-485 bus connection for Modbus RTU.

### Bottom connectors



TERMINAL	FUNCTION
<b>Room units</b>	
G	Not in use
G0	Not in use
A+	Not in use
B-	Not in use
<b>Inputs</b>	
Agnd	0V
1	Input 1. NTC 10K Type 2 / Pt1000 / Resistive / Potential free contact / 0...10 Vdc
2	Input 2. NTC 10K Type 2 / Pt1000 / Resistive / Potential free contact / 0...10 Vdc
3	Input 3. NTC 10K Type 2 / Pt1000 / Resistive / Potential free contact / 0...10 Vdc
4	Input 4. NTC 10K Type 2 / Pt1000 / Resistive / Potential free contact / 0...10 Vdc
5	Input 5. NTC 10K Type 2 / Pt1000 / Resistive / Potential free contact / 0...10 Vdc
6	Input 6. NTC 10K Type 2 / Pt1000 / Resistive / Potential free contact / 0...10 Vdc
Agnd	0V
<b>Ethernet</b>	
Ethernet	RJ-45 connector for Modbus TCP.

**WARNING:** Device wiring and commissioning can only be carried out by qualified professionals. Always make the device wirings in de-energized electricity network.

**WARNING:** This product is appliance class III product according to IEC 60664-1. The product may only be connected to SELV (safety extra low voltage) electricity network

**CAUTION:** The product may only be connected to overvoltage category I, II or III electricity network according to IEC 60664-1. The device terminals are grouped according to the functions to avoid any wiring mistakes. There are extra G and G0 terminals for connecting the separate supply voltage for other devices. The terminals are designed for maximum of 1.5 mm<sup>2</sup> cable area. Please note that the cables for communication (RS-485) should be twisted pair (2x2 pairs).

## ORDERING


PRODUCT	GWBU	Wireless Base Unit
ENCLOSURE		White (leave Blank)
	<b>B</b>	Black

## PART NUMBER

GWBU

NOTE: Greystone Energy Systems, Inc. reserves the right to make design modifications without prior notice.

## ACCESSORIES

	WA-AS1	Extension cable and base for GWBU antenna, 3 m (9.8') cable
		



## APPROVALS, SUPPORTED STANDARDS AND DIRECTIVES

<b>FCC/ISED</b>	<p>This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's license exempt RSS(s) and complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:</p> <ol style="list-style-type: none"> <li>1. This device may not cause harmful interference.</li> <li>2. This device must accept any interference received, including interference that may cause undesired operation of the device.</li> </ol> <p>L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :</p> <ol style="list-style-type: none"> <li>1. L'appareil ne doit pas produire de brouillage.</li> <li>2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.</li> </ol> <p>Contains:          FCC ID: XPYNINAB1          IC: 8595A-NINAB1</p>
<b>Responsible Party</b>	<p>Dent Instruments          925 SW Emkay Drive          Bend, OR 97702 USA          1-541-388-4774</p>

STANDARD	DESCRIPTION
2014/30/EU 2014/35/EU 2014/53/EU 2000/299/EC	Electromagnetic Compatibility (EMC). Low Voltage Directive (LVD). Radio Equipment Directive (RED). Classification of radio equipment: Class 1, Wideband data transmission systems (Subclass 22).
2011/65/EU (EU) 2015/863 EN 60950 EN 300 328 V2.1.1	Restriction of Hazardous Substances (RoHS2) Directive. Commission Delegated Directive, amending Annex II to Directive 2011/65/EU. Safety of information technology equipment. Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using wide band modulation techniques; Harmonised Standard covering the essential requirements of article 3.2 of directive 2014/53/EU.
EN 301 489-1 V2.1.1	Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements.
EN 301 489-17 V2.1.1	Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for Broadband Data Transmission systems.
EN 61000-6-2:2006	Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments.
EN 61000-6-4:2007/ A1:2011	Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments.

Changes or modifications made to this equipment not expressly approved by **Greystone** may void the FCC authorization to operate this equipment.

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The radiated output power of the device is far below the 47 CFR 1.1310 radio frequency exposure limits. Nevertheless, the device should be used in such a manner that the potential for human contact during normal operation is minimized.

## RADIOFREQUENCY RADIATION EXPOSURE INFORMATION

This equipment complies with radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme aux limites d'exposition aux rayonnements ISED établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps. Ce transmetteur ne doit pas être placé au même endroit ou utilisé simultanément avec un autre transmetteur ou antenne.