Quick Manual

Ruggedized Intelligent Gateway

GWS-BTI2

Copyright

The documentation and the software included with this product are copyrighted 2017 by

ECS Co., Ltd. All rights are reserved. ECS Co., Ltd. reserves the right to make

improvements in the products described in this manual at any time without notice. No part

of this manual may be reproduced, copied, translated or transmitted in any form or by any

means without the prior written permission of ECS Co., Ltd. Information provided in this

manual is intended to be accurate and reliable. However, ECS Co., Ltd. assumes no

responsibility for its use, nor for any infringements of the rights of third parties, which may

result from its use.

Acknowledgements

Intel® BayTrial-I SoC E3825 series are trademarks of Intel Corporation.

McAfee* Embedded Control* and the Wind River* Intelligent Device Platform*

All other product names or trademarks are properties of their respective owners.

FCC Label Compliance Statement:

This device complies with Part 15 of the FCC Rules. Operation is

subject to the following two conditions:

(1) This device may not cause harmful interference

(2) This device must accept any interference received, including

interference that may cause undesired operation.

i GWS-BTI2 Ruggedized Intelligent Gateway

Waste disposal instruction

Do not throw this electronic device into the trash can when discarding.

To minimize pollution and ensure utmost protection of the global

environment, please recycle it in European WEEE (waste electrical and

electronic equipment) directive system or recycle system in Taiwan.

MPE 警語

Exposure to Radio Frequency Radiation:

To comply with FCC RF exposure compliance requirements, a separation distance of at least 20cm must be maintained

between the antenna of this device and all persons. This device must not be co-located or operating in conjunction with

any other antenna or transmitter.

NCC 警語

本產品符合低功率電波輻射性電機管理辦法 第十二條、第十四條等條文規定

1. 經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之

特性及功能。

2. 低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方

得繼續使用。

前項合法通信，指依電信法規定作業之無線電通信。

低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

電磁波曝露量MPE 標準值1mW/cm₂，送測產品實測值為：0.0941mW/cm₂

Caution! Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the

manufacturer. Dispose of used batteries according to the manufacturer's

instructions

Warning! Any changes or modifications made to the equipment which are not

expressly approved by the relevant standards authority could void your

authority to operate the equipment.

GWS-BTI2 Ruggedized Intelligent Gateway ii

Attention! Toute modification apportée à l'équipement qui n'est pas expressément

approuvé par l'autorité des normes pertinentes peuvent annuler votre

droit à faire fonctionner l'équipement.

Attention! Danger d'explosion si la pile est remplacée de façon incorrecte.

Remplacez-la uniquement avec le même type ou équivalent recommandé

par le fabricant. Jetez les piles usagées selon les instructions du fabricant

Packing List

Before setting up the system, check that the items listed below are included and in good condition.

If any items are missing, please contact your dealer immediately.

- GWS-BTI2 x1

- Adapter x1

- Power Cord x1

- User Manual x1

- USB to RS-232 cable x1 (Optional)

- Null Cable (RS-232) x1 (Optional)

- Antenna x4 (Optional)

- VESA Mount Bracket x1 (Optional)

Warning! 1. Input voltage rated 100-240 VAC, 47-63 Hz, 2.0 A,

Output Voltage rated 24 VDC, 5 A

2. Maintenance: to properly maintain and clean the surfaces, use only

approved products or clean with a dry applicator

Attention! 1. Tension de sortie Tension d'entrée nominale 100-240

VAC, 47-63 Hz, 2,0 A, la note de 24 VDC, 5 A

2. Entretien: bien entretenir et nettoyer les surfaces, utiliser uniquement des

produits approuvés ou nettoyer avec un applicateur sec

Warning! To prevent electric shock, Do not remove cover.

No user serviceable parts inside, refer servicing to qualified personnel.

Additional Information and Assistance

1. Visit the ECS websites at www.ECS.com.tw where you can find the latest information

about the product.

2. Contact your distributor, sales representative, or ECS's customer service center for

technical support if you need additional assistance. Please have the following

information ready before you call:

- Product name and serial number

- Description of your peripheral attachments

- Description of your software (operating system, version, application software, etc.)

- A complete description of the problem

- The exact wording of any error messages

- This equipment is a source of electromagnetic waves. Before use, please make

sure that there are not EMI sensitive devices in its surrounding which may

malfunction therefore

iii GWS-BTI2 Ruggedized Intelligent Gateway

Attention! *Pour éviter un choc électrique, ne pas retirer le couvercle.*

Aucune pièce réparable par l'utilisateur, voir l'entretien à du personnel

qualifié.

Safety Instructions

1. Read these safety instructions carefully.

2. Keep this User Manual for later reference.

3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth.

Do not use liquid or spray detergents for cleaning.

4. For plug-in equipment, the power outlet socket must be located near the equipment

and must be easily accessible.

5. Keep this equipment away from humidity.

6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall

may cause damage.

7. The openings on the enclosure are for air convection. Protect the equipment from

overheating. DO NOT COVER THE OPENINGS.

8. Make sure the voltage of the power source is correct before connecting the

equipment to the power outlet.

9. Position the power cord so that people cannot step on it. Do not place anything over

the power cord.

10. All cautions and warnings on the equipment should be noted.

11. If the equipment is not used for a long time, disconnect it from the power source to

avoid damage by transient overvoltage.

12. Never pour any liquid into an opening. This may cause fire or electrical shock.

13. Never open the equipment. For safety reasons, the equipment should be

opened only by qualified service personnel.

14. If one of the following situations arises, get the equipment checked by service

personnel:

a. The power cord or plug is damaged.

b. Liquid has penetrated into the equipment.

c. The equipment has been exposed to moisture.

d. The equipment does not work well, or you cannot get it to work according to the

user's manual.

e. The equipment has been dropped and damaged.

f. The equipment has obvious signs of breakage.

15. DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT WHERE THE STORAGE

TEMPERATURE MAY GO BELOW -20° C (-4° F) OR ABOVE 60°C (140° F). THIS

COULD DAMAGE THE EQUIPMENT. THE EQUIPMENT SHOULD BE IN A

CONTROLLED ENVIRONMENT.

16. IMPROPER INSTALLATION OF VESA MOUNTING CAN RESULT IN SERIOUS

PERSONAL INJURY! VESA mount installation should be performed by a

professional technician; please contact the service technician or your retailer if you

need this service.

Contents

Memo

Chapter **1**

1.1 Introduction

GWS-BTI2 Ruggedized Intelligent Gateway solutions was based on the Intel® Baytrial-I SoC E3825 series.

The processors are supported by software components, including Ycoto Linux* Embedded

Control* , needed to connect, manage, and

secure gateways.

Common industrial applications include factory automation systems, precision machinery,

and production process control. It is also suitable for many non-industrial applications,

including interactive kiosk systems, entertainment management, and car park automation.

Users can securely aggregate, filter, and share data from edge devices to the cloud in areas

such as energy, industrial, and transportation infrastructure.

GWS-BTI2 is a reliable, cost-effective solution to meet an application's processing

requirements

1.2 Specifications

GWS-BTI2 Ruggedized Intelligent Gateway 2

Item Description

Specifications

Gerneral		I/O Interface	
˙ Certification	FCC,CE,UL,BSMI	˙ Serial Ports	RS232/485 (M12 connector)
˙ Dimension	312 x 216 X 44.5 mm	˙ LAN	Dual 10/100/1000 Base-T (M12 connectorx2)
˙ Enclosure	Aluminum	˙ USB Ports	USB 3.1 (M12 connector) / USB 2.0 (M12 connector)
˙ Mounting	DIN-rail,Wallmount, VESA	˙ VGA Port	VGA, 1600x1200 @60Hz (M12 connector)
˙ Power Consumption	60W (Typical)		
˙ Power Requierments	9~36VDC (e.g +24V@3A) (Min. 72W),AT		
˙ Weight	3.0kg		
˙ OS Support	Windows 10 IOT core, Ycoto Linux		
˙ System Design	Fanless		

System Hardware		Enviroment	
˙ CPU	On Board ATOM Bay trial-I E3825 1.33GHz	˙ Humidity	95% @ 40℃(non-condensing)
˙ Memory	DDR3L 2GB On Board	˙ Operating Temperature	-20~60℃(-4~140°F) @5~85%RH (with air flow)
˙ Indicators	LED for Power, LoRa,LAN (Active,Status)	˙ Storage Temperature	-20~60℃(-4~140°F)
˙ Storage	eMMC : Up to 32GB	˙ Shock Protection	IEC 60068-2-27
	HDD: Support One 2.5" SATA HDD		eMMC:50G @ wall mount, half sine, 11ms
˙ Display	1xVGA, 1600x1200 @60Hz		HDD:20G @ wall mount, half sine, 11ms
˙ Audio	Not Support	˙ Vibration Protection	IEC 60068-2-64(Random 10ct./min, 1hr/axis.)
˙ Watchdog Timer	Programmable level timer interval, from 1to 255 sec		eMMC : 2 Grms @ 5~500Hz,
˙ Mini PCIe Expansion	2xFull-size w/USB/routing (Wifi / BT / 3G / Zigbee)		HDD: 1 Grms @5~500Hz

Ordering Information		Accessories	
˙ GWS-BTI2	Intel ATOM Bay trial-I E3825 1.33GHz Box Computing	˙ Adaptor	
˙ GWS-BTI2-SH	GWS-BTI2 with extend 2xDI/ 2xDO /1xRS232/1xRS485	˙ Wi-Fi Module	
˙ GWS-BTI2-TS	GWS-BTI2 with extend 2x10/100Mbps LAN/2xDI/2xDO	˙ Attena	
˙ GWS-BTI2-EN	GWS-BTI2 with extend 2xRS232/2xRS485 with isolate	˙ Wall Bracket	
˙ GWS-BTI2-LR	GWS-BTI2 with 16 channel LoRa Base Station		

Note:

1. A DC 24V power supply from device or sensor is necessary for the AI port.

2. If DO is designed to drive a relay, a diode must been applied to the relay's coil side.

Item Description

1.3 Cleaning/Disinfecting

During normal use GWS-BTI2 may become soiled and should, therefore, be cleaned regularly.

Steps:

1. Wipe GWS-BTI2 with a clean cloth that has been moistened in the cleaning solution.

2. Prepare agent per manufacturer's instructions or hospital protocol.

3. Wipe thoroughly with a clean cloth.

Caution! *Do not immerse or rinse GWS-BTI2 or its peripherals. If you accidentally spill*

liquid on the device, disconnect the unit from the power source. Contact your

Biomed personnel regarding the continued safety of the unit before placing it

back in operation.

Do not spray cleaning agent on the chassis.

Do not use disinfectants that contain phenol.

Do not autoclave or clean GWS-BTI2 or its peripherals with strong aromatic,

chlorinated, ketone, ether, or other solvents, sharp tools or abrasives. Never

immerse electrical connectors in water or other liquids.

GWS-BTI2 Ruggedized Intelligent Gateway 4

Attention! *Ne pas immerger ou rincer GWS-BTI2 ou ses périphériques. Si vous*

renversez par accident un liquide sur l'appareil, débranchez l'appareil de la

source d'alimentation. Contactez votre Biomed concernant la sécurité

continue de l'unité avant de la remettre en service.

Ne pas pulvériser l'agent de nettoyage sur le châssis.

Ne pas utiliser de désinfectants contenant du phénol.

Ne pas passer à l'autoclave ou GWS-BTI2 propre ou ses périphériques avec

fortes, cétone, éther, ou d'autres solvants, des outils tranchants ou abrasifs

aromatiques chlorés. Ne jamais plonger connecteurs électriques dans l'eau

ou d'autres liquids.

Chapter 2

2.1 A Quick Tour of GWS-BTI2

Before you start to set up GWS-BTI2, take a moment to become familiar with the locations

and purposes of the controls, drives, connections and ports, which are illustrated in the

figures below.

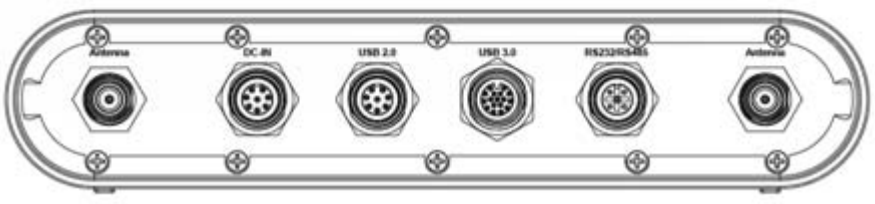When placed upright on the desktop, the GWS-BTI2 top side appears as shown in

Figure 2.1.

Figure 2.1 Top View

Figure 2.2 IO Side View

GWS-BTI2 Intelligent Gateway 6

Antenna   DC-IN   USB2.0   USB3.0   RS232/   Antenna
                                        RS485

Antenna   Power   VGA   RJ45   RJ45   Antenna