



GAI-TRONICS®
A HUBBELL COMPANY

HUBBCOM™ GSC1100/GSC2100 Dual-Port DT/WM Smart Controllers

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Dual-Port DT/WM Smart Controllers

Confidentiality Notice

This installation manual contains sensitive business and technical information that is confidential and proprietary to GAI-Tronics. GAI-Tronics retains all intellectual property and other rights in or to the information contained herein, and such information may only be used in connection with the operation of your GAI-Tronics product or system. This manual may not be disclosed in any form, in whole or in part, directly or indirectly, to any third party.



General Information

This manual covers the installation of HUBBCOM Dual-Port Desktop/Wall-Mount Smart Controllers Models GSC1100 and GSC2100. The Model GSC1100 Smart Controller includes a handset and is only suitable for horizontal (landscape) installation. The Model GSC2100 Smart Controller does not include a handset and is suitable for vertical (portrait) or horizontal (landscape) use (see [Figure 1](#)). See the GAI-Tronics website at <https://www.gai-tronics.com> for system applications, system specifications, warranty information, and the GUDA (GAI-Tronics Universal Device Application).



HUBBCOM smart controllers require configuration when placed into service. Use the GUDA (GAI-Tronics Universal Device Application) software to configure the smart controller for its intended purpose. Pub. 42004-531 provides instructions to obtain, install, and run the GUDA software. Refer to Pub. 42004-551 for information on HUBBCOM smart controller configuration parameters (see the [Reference Documents](#) section).

Important Safety Instructions



- **Read, follow, and retain instructions**—Read and follow all safety and operating instructions before installing or operating the unit. Retain instructions for future reference.
- **Heed warnings**—Adhere to all warnings on the unit and in the operating instructions.
- **Attachments**—Do not use attachments not recommended by the product manufacturer, as they may cause hazards.
- **Servicing**—Do not attempt to service this unit. Opening or removing covers may expose dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
- HUBBCOM Smart Controllers are for indoor use only.

 **ATTENTION** —Install equipment without modification and according to all applicable local, national, and international electrical codes. North America—Consult the National Electrical Code (NFPA 70), Canadian Standards Association (CSA 22.1), and local codes for specific requirements regarding your installation. Install Class 2 circuit wiring in accordance with the NEC.



Only trained, qualified, and competent personnel must install these devices. Installation must comply with state and national regulations, as well as safety practices for this type of equipment.

 **WARNING**  —Use only 24 V dc power supplies that conform to UL/CSA/CE Class II, Double Insulated supplies with over voltage and short circuit protection. Use only a dc source with a 50-watt maximum output or fuse the supply with a 2-amp fuse. EMI standards to Class B.



- **Onderhoud**—Probeer dit apparaat niet zelf te repareren. Het openen of verwijderen van afdekkingen kan u blootstellen aan gevaarlijke spanning of andere gevaren. Laat alle onderhoud over aan bevoegd onderhoudspersoneel.
- HUBBCOM Smart Controllers zijn alleen bedoeld voor gebruik binnenshuis.

 **AANDACHT**  —Gebruik alleen 24 VDC-voedingen die voldoen aan UL/CSA/CE Klasse II, dubbel geïsoleerde voedingen met overspanning en kortsluitbeveiliging. Gebruik alleen een DC-bron met een maximale output van 50 W of fuseer de voeding met een 2-ampère zekering. EMI-normen voor klasse B.



- **Dépannage**—N'essayez pas de réparer cet appareil vous-même. Ouvrir ou retirer les capots peut vous exposer à des tensions dangereuses ou à d'autres dangers. Confiez toute réparation à un personnel qualifié.
- Les contrôleurs intelligents HUBBCOM sont conçus pour une utilisation en intérieur uniquement.

 **ATTENTION**  —Utilisez uniquement des alimentations 24 Vcc conformes à UL/CSA/CE Classe II, des alimentations à double isolation avec protection contre les surtensions et les courts-circuits. Utilisez uniquement une source cc avec une sortie maximale de 50 watts ou fusionnez l'alimentation avec un fusible de 2 ampères. Normes EMI à la classe B.

- **Manutenzione**—non tentare di riparare l'unità da soli. L'apertura o la rimozione dei coperchi potrebbero esporre a tensioni pericolose o altri rischi. Rivolgersi a personale qualificato per l'assistenza.
- Gli HUBBCOM Smart Controller sono progettati esclusivamente per uso interno.

 **AVVERTIMENTO**  —Utilizzare solo alimentatori a 24 V cc conformi a UL/CSA/CE Classe II, alimentatori a doppio isolamento con protezione da sovratensione e cortocircuito. Utilizzare solo una fonte di corrente continua con un'uscita massima di 50 watt o collegare l'alimentazione con un fusibile da 2 A. Standard EMI per la classe B.

- **Mantenimiento**—no intente reparar esta unidad por sí mismo. Abrir o quitar las cubiertas puede exponerlo a un voltaje peligroso u otros peligros. Remita todo el servicio a personal de servicio calificado.
- Los controladores inteligentes HUBBCOM están diseñados para uso en interiores solamente.

 **ADVERTENCIA**  —Utilice solo fuentes de alimentación de 24 V cc que cumplan con UL/CSA/CE Clase II, fuentes con doble aislamiento con sobretensión y protección contra cortocircuitos. Utilice solo una fuente de CC con una salida máxima de 50 vatios o fusione la fuente con un fusible de 2 amperios. Estándares EMI a Clase B.

Installation

Mount the HUBBCOM Model GSC1100 or Model GSC2100 to a wall or use them as desktop units.

NOTE: HUBBCOM devices require access to an NTP (network time protocol) server.

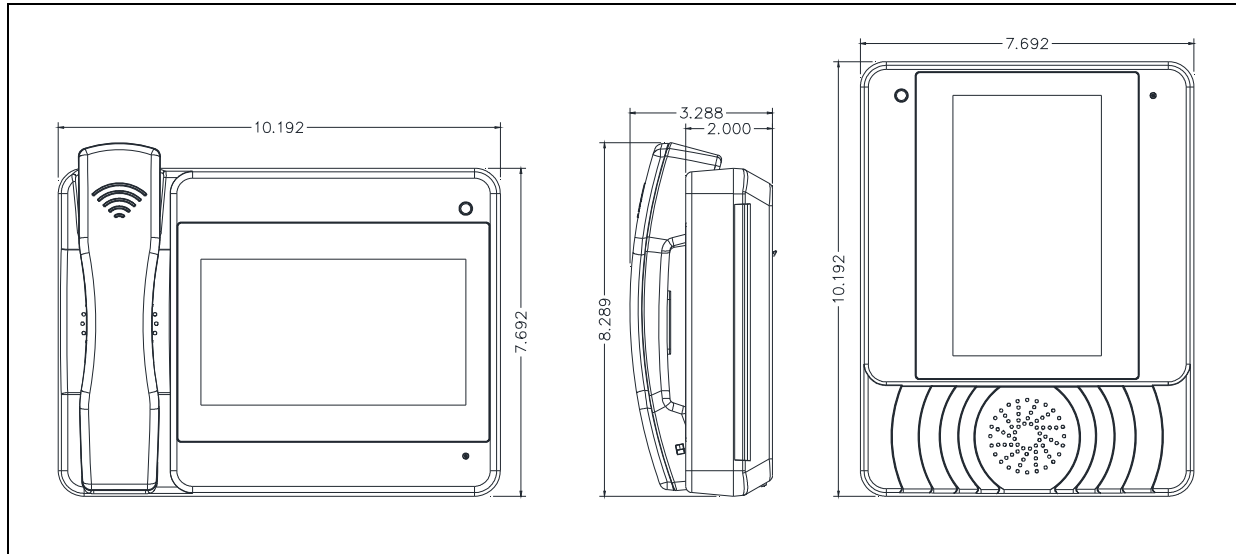


Figure 1. HUBBCOM Model GSC1100 (horizontal) and Model GSC2100 (vertical) Smart Controllers

Desktop Units

Use the HUBBCOM smart controller as a desktop station by installing the included kickstand (see [Figure 2](#)). Handset units must be setup horizontally. Configure hands-free units vertically or horizontally (based on programming).

1. Remove the cable termination cover and set it aside.
2. Complete the necessary cable terminations as described in the [Wiring](#) section.
3. Route the terminated wires through the half round access holes and secure with a tie wrap to the integrated anchors.
4. Replace the cable termination cover by hooking the two tabs into the slots and rotating the cover downward until it clicks into place.

5. Install the kickstand:

The kickstand provides four positions in both orientations to suit the situation where it is used (see [Table 1](#) and [Figure 4](#)).

1. Determine the orientation of the unit.
2. Insert one side of the kickstand, with the flange properly oriented, into the desired position in the rear cutout (see [Figure 4](#)).
3. Press the other side into place and compress firmly to snap it into place.

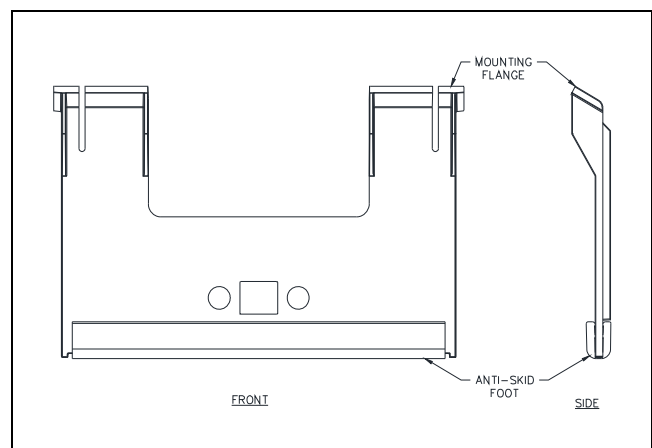


Figure 2. Smart Controller Kickstand

Table 1. Smart Controller Kickstand Positions

Orientation/ Position	Horizontal (Models GSC1100 & GSC2100)	Vertical (Model GSC2100)
1 (flange up)	75°	75°
2 (flange up)	60°	60°
2 (flange down)	45°	45°
3 (flange up)	30°	30°

Wall Mounting

Wall mount HUBBCOM smart controllers on a single or double gang electrical box or directly to a wall surface using wall anchors or toggle bolts.

Single or double gang electrical box mounting:

1. Orient the wall-mount bracket (see [Figure 3](#)) over the electrical box with the small flanges on top and the large flanges on the bottom.
2. Use #8-32 flathead machine screws (not included) to attach the mounting bracket to the electrical box using holes A-A for a double gang (four screws), or B-B for a single gang electrical box (two screws).
3. Feed the cable(s) into the electrical box and through the mounting bracket center hole.
4. Remove and discard the cable termination cover from the back of the unit.
5. Remove the two #8 × ½-inch mounting bracket screws from the bottom of the rear panel and set aside (see [Figure 4](#)).
6. Complete all necessary cable terminations (see the [Wiring](#) section).
7. With the proper orientation for the unit's configuration, angle the unit to hook it onto the top flange brackets (D-D or E-E, see [Figure 4](#)), then rotate and slide it downward until it rests on the mounting bracket.
8. Secure the unit to the support bracket using the two #8 × ½-inch screws previously removed by screwing them into the unit's chassis through the holes in the bottom flanges.

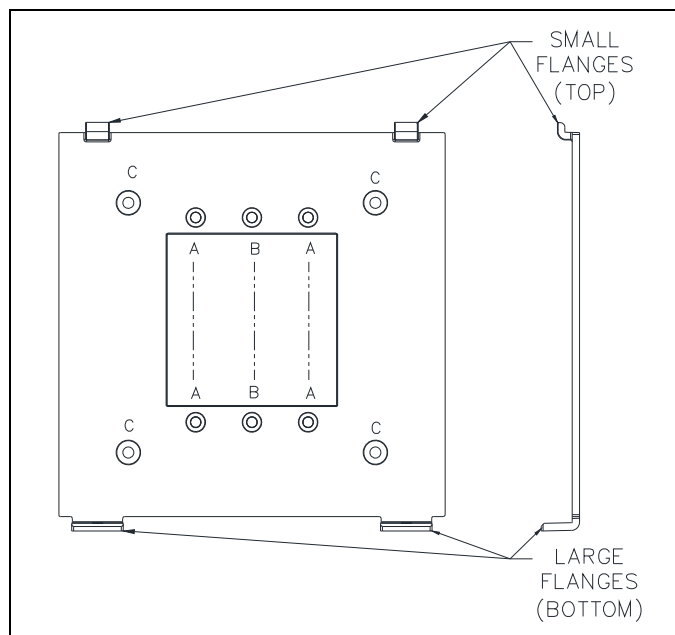


Figure 3. Smart Controller Wall-Mount Bracket

Surface mounting with toggle bolts or wall anchors:

1. Orient the support bracket on the wall with the small flanges on top and the large flanges on the bottom.
Suggested mounting height is 48 inches from the floor to the bottom of the mounting bracket.
2. Mark the locations (C) for the four wall anchors or toggle bolts (not included) and the area in the center of the bracket where the cable(s) come through the wall using the support bracket as a template (see [Figure 3](#)).
3. Drill the necessary holes for the toggle bolts or wall anchors and cut or drill a hole in the center area for the smart controller's cables.
4. Attach the mounting bracket to the wall using toggle bolts or wall anchors (not included).
5. Bring the cable(s) out through the support bracket center cutout.
6. Remove and discard the cable termination cover from the back of the unit.
7. Remove the two #8 × ½-inch mounting bracket screws from the bottom of the rear panel and set aside (see [Figure 4](#)).

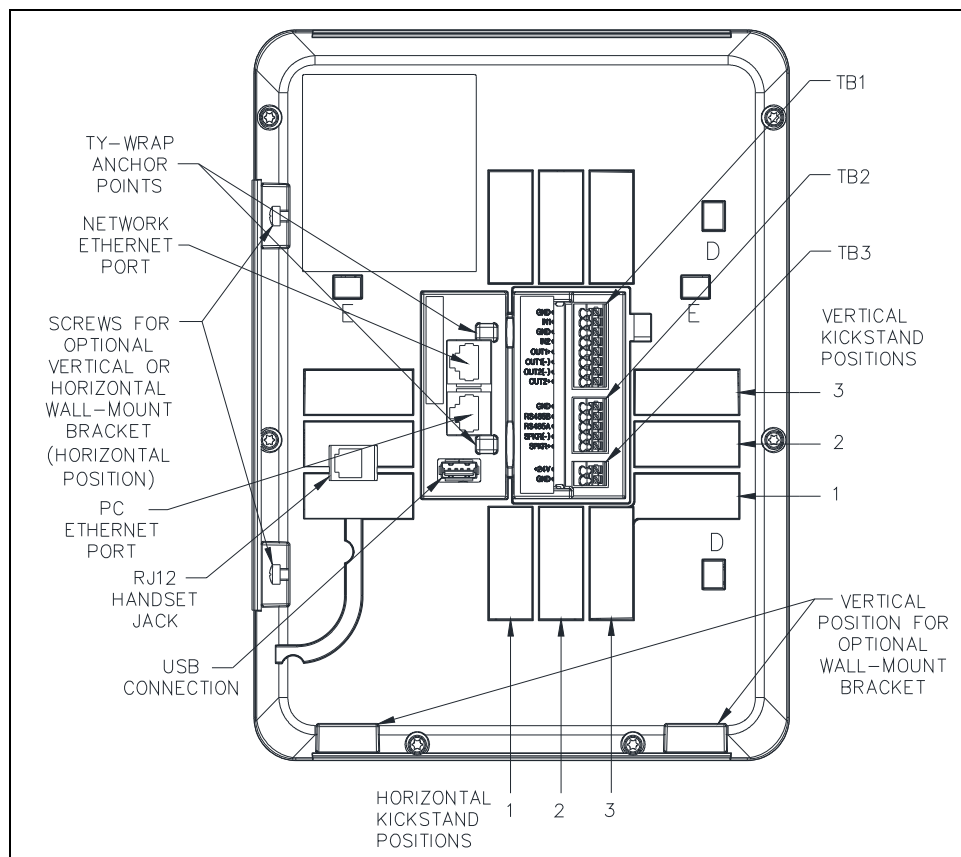


Figure 4. HUBBCOM Smart Controller—Rear View

8. Complete all necessary cable terminations (see the [Wiring](#) section).
9. With the proper orientation for the unit's configuration, angle the unit to hook it onto the top flange brackets (D-D or E-E, see [Figure 4](#)), then rotate and slide it downward until it rests on the mounting bracket.
10. Secure the unit to the support bracket using the two #8 × ½-inch screws previously removed by screwing them up into the unit's chassis through the holes in the bottom flanges.

Wiring

HUBBCOM smart controllers have quick release terminal blocks that accept 18–24 AWG wires. Release wires from the terminal block by pressing the quick release button above the terminal.

NOTE: The smart controller includes two clamp-on ferrite cores. Double wrap all wires terminating to terminal blocks TB1 and/or TB2 around a ferrite core. Install the clamp on ferrite cores as close as possible to the terminal blocks.

Handset

1. Plug the RJ12 handset connector into the RJ12 jack on the back of the unit.
2. **Wall-mount installations**—Tuck the handset cord into the channel to provide strain relief for the RJ12 plug.

RTU Input/Output

Terminal Block TB1 is for optional RTU I/O (remote terminal unit input/output) functionality. Complete the following steps to terminate the RTU I/O cables:

1. Install appropriately sized ferrules onto the wire ends.
2. Install a clamp on ferrite core around all wires (double wrap) terminating to TB1 as close as possible to the terminal block.
3. Insert each wire into the correct quick release terminal (see [Table 2](#)).

Table 2. Terminal Block TB1—RTU I/O

Pin	Label	Description
1	GND	RTU Input One Ground
2	IN1	RTU Input One
3	GND	RTU Input Two Ground
4	IN2	RTU Input Two
5	OUT1+	RTU Output One +
6	OUT1(-)	RTU Output One –
7	OUT2(-)	RTU Output Two –
8	OUT2+	RTU Output Two +

RS-485/Weigand and External Speaker Connections

Terminal Block TB2 is for optional RS-485 or Weigand D0/D1 and external speaker connections. Complete the following steps to terminate the RS-485 and external speaker connections:

NOTE: Smart controllers with external speaker hook-ups require a separate 24 V dc power supply.

1. Install appropriately sized ferrules onto the wire ends.
2. Install a clamp on ferrite core around all wires (double wrap) terminating to TB2 as close as possible to the terminal block.
3. Insert each wire into the correct quick release terminal (see [Table 3](#)).

Table 3. Terminal Block TB2—RS-485/Weigand and External Speaker

Pin	Label	Description
1	GND	RS485 Ground
2	RS485B	RS485 B/Weigand D1
3	RS485A	RS485 A/Weigand D0
4	SPKR-	External Speaker -
5	SPKR+	External Speaker +

Ethernet

HUBBCOM smart controllers have dual Ethernet ports. Use the RJ45 jack furthest from the USB port to connect to the Ethernet network. The RJ45 jack closest to the USB port can be used to connect a PC (see [Figure 4](#)).

1. Plug the Ethernet cable from the network into the RJ45 port furthest from the USB port.
2. (Optional) Plug an Ethernet cable from a PC into the remaining RJ45 jack (see [Figure 4](#)).

24 V DC Power

Use external 24 V dc power in place of POE (*optional*) or for units with external speaker hook-ups (*required*). Complete the following steps to terminate the 24 V dc power source to the smart controller:

1. Install ferrules onto the wire ends.
2. Insert each wire into the correct quick release terminal (see [Table 4](#)).

Table 4. Terminal Block TB3—24 V DC Power

Pin	Label	Description
1	+24V	24 V dc Positive
2	GND	Ground

Antenna

Use the provided SMA (Sub-Miniature connector A) coaxial connector to connect an antenna.

NOTE: Connecting a HUBBCOM smart controller via WiFi disables the secondary Ethernet port.

NOTE: Use a customer-supplied antenna in flush-mount installations. FCC, IC, ETSI/CE, and TELEC Certified with PCB, Dipole, Chip, and PIFA Antennae. GAI-Tronics Kit No. 12840-001 (purchased separately) meets the antenna requirements.

Service and Spare Parts

Contact a regional service center for assistance if the equipment requires service or spare parts. A return authorization number (RA#) will be issued for all required service. Ship equipment prepaid to GAI-Tronics with an RA# and a purchase order number. Repair or a replacement is made in accordance with GAI-Tronics' warranty policy if the equipment is under warranty. Please include a written explanation of all defects to assist our technicians in their troubleshooting efforts. Call 800-492-1212 inside the USA or 610-777-1374 outside the USA for help with identifying the Regional Service Center closest to you.

Reference Documents

GAI-Tronics Universal Device Application	42004-531
HUBBCOM Device Configuration Guide	42004-551

Specifications

Wi-Fi operating frequency range	2.412–2.462 GHz
Temperature Range	32 °F–122 °F (0 °C–50 °C)

Approvals

Compliance to Standard

CE

EMC emissions to Class B..... EN55032/FCC Part15B/ICES-003

Immunity..... EN55035

Assessment risk of exposure..... EN62311

Product Safety Assessment UL/IEC62368-1

Contains FCC ID: Z64-WL18DBMOD and IC: 4511-WL18DBMOD

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.