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GAI-TRONICS®
A HUBBELL COMPANY

# Model 234L(x)-xxx
# LITE Series Stanchion

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GAI-TRONICS 3030 KUTZTOWN RD. READING, PA 19605 USA
610-777-1374 ■ 800-492-1212 ■ Fax: 610-796-5954
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## Confidentiality Notice

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## General Information

GAI-Tronics Model 234L(*x*)-*xxx* LITE (Lightweight Illuminated Telecommunications Enclosure) Series Stanchions are designed for use in commercial environments to house GAI-Tronics telephones. The LITE Series Stanchions are designed for wall mounting, and are comprised of a front stanchion body and rear mounting plate.

The LITE Series Stanchions are available in both ac and 12 V dc versions. The standard LITE Series Stanchion body is made of a durable 3/16-inch nominal thickness acrylic sheet in safety yellow with black ASSISTANCE graphics applied on each side. The 1/16-inch thick aluminum rear mounting plate is powder coated gray for maximum durability. An additional eight stanchion colors and four graphics are also available.

Two LED lights are mounted on the front of the stanchion. The LED locator light contains super bright LEDs that are visible even in sunlight. The courtesy LED panel light provides nighttime illumination of the telephone.

The blue beacon mounted on top of the stanchion provides a visual indication that the stanchion telephone is in use. When used with the GAI-Tronics Series 297 and 298 Series Push-Button Phones, the blue beacon energizes when the red push button is activated and will remain activated until the call is terminated. When used with the GAI-Tronics Series 276 and 277 Handset Phones, the blue beacon energizes when the handset is lifted from the cradle, and remains activated until the handset is hung up. Refer to the Telephone Installation section on page 13.

The stanchion rear mounting plate contains a weatherproof box that houses the activation relay PCBA and a terminal block. The ac version is equipped with a second weatherproof box containing a switching power supply for converting ac line voltage to 12 V dc power. Refer to Figure 1. All components mounted to the exterior of the main stanchion body are powered by 12 V dc. Each LITE Series Stanchion includes weatherproof entry bushings, weather-resistant cable, wire nuts, and connection hardware needed for installation.

As an optional feature, most LITE Series Stanchions can be illuminated from inside the stanchion body for maximum visibility. The Model 203-003 LED String Lighting Kit contains a 19-module LED string designed to be mounted within the LITE Series Stanchion. All necessary mounting hardware is included with each stanchion. Refer to the Interior Lighting Kit section on page 5 for more information.

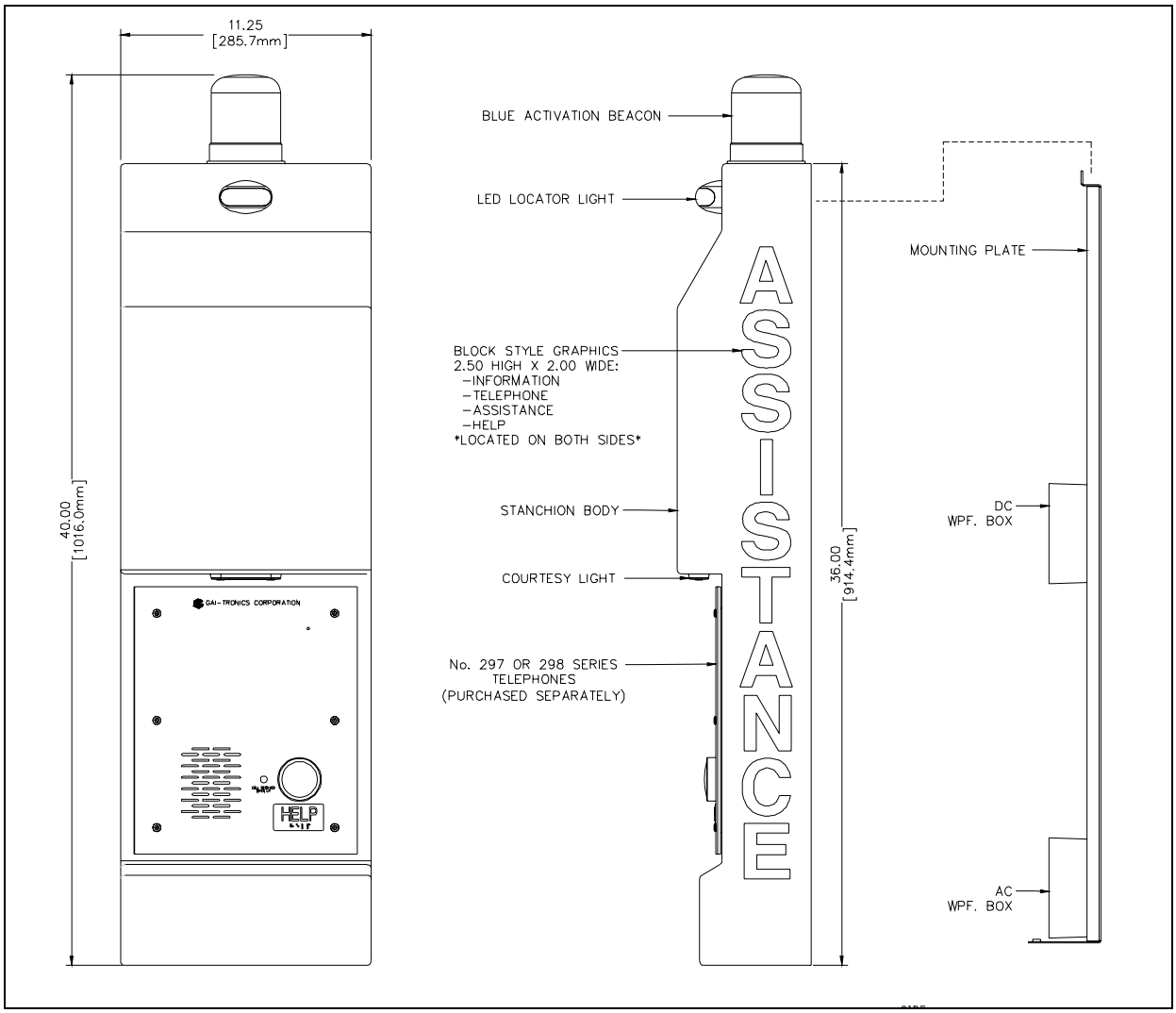


Figure 1. LITE Series Stanchion Outline

# Installation

## Unpacking

The LITE Series Stanchion is shipped packaged in a single carton. GAI-Tronics 290 and 270 Series Telephones, and the Model 203-003 Interior Lighting Kit are purchased separately and packed in separate cartons. The LITE Series Stanchion carton contains the following:

- Stanchion main body with mounted lights
- Rear mounting plate with weatherproof boxes and components
- Padded mailer containing:

| Quantities: | AC | 12 V DC |
|---|---|---|
| — #6-32 Keps nuts | 5 | 5 |
| — #6-32 Flat head thread cutting screws | 8 | 8 |
| — #10-32 Tamper-resistant pan head screws | 2 | 2 |
| — #6 flat washers | 5 | 5 |
| — Wire nuts | 12 | 12 |
| — Cable ties | 6 | 6 |
| — Anchor mounts, cable tie | 2 | 2 |
| — Packaged weatherproof covers with gaskets | 2 | 1 |
| — Cable bushings | 5 | 4 |
| — Weather resistant cable | 1 | 1 |

## Mounting Panel Pre-Wiring

For ease of installation, the LITE Series Stanchion can be partially pre-wired on a horizontal surface prior to mounting. This minimizes the connections that must be made when the stanchion is attached to the wall. It is also recommended that the appropriate telephone back box be mounted to the stanchion body at this time. See Telephone Installation on page 11.

Make the rear mounting plate wiring connections between and within the weatherproof boxes. Connect the wire leads for stanchion lights. Refer to the connection diagram in Figure 2 for components that can be pre-wired.

**⚠ NOTE ⚠ All connections must be made in accordance with the National Electrical Code (NEC) in the United States or the Canadian Electrical Codes (CEC) in Canada.**

Additionally, if the Model 203-003 Interior Lighting Kit is to be installed, it should be done at the same time. Refer to the Interior Lighting Kit section on page 5 for installation instructions.

Wire routing is exceptionally important if interior lighting is installed. Wires must be adequately bundled and anchored so as not to cast shadows on the main stanchion body. Refer to Figure 3 for proper wire routing and anchoring.

### 24 V DC Modifications

GAI-Tronics 12 V dc LITE Series Stanchions are preset for 12 V dc power operation. For 24 V dc input operation, modifications must be made to the stanchion. Modify the stanchion by removing the jumper (labeled JMPR) located on the upper right side of the relay PCBA within the dc weatherproof box. Additionally, the locator light must be replaced with a 24 V dc compatible version. Contact GAI-Tronics Corporation to obtain a 24 V dc version of the locator light. Supply the stanchion with 24 V dc input power.

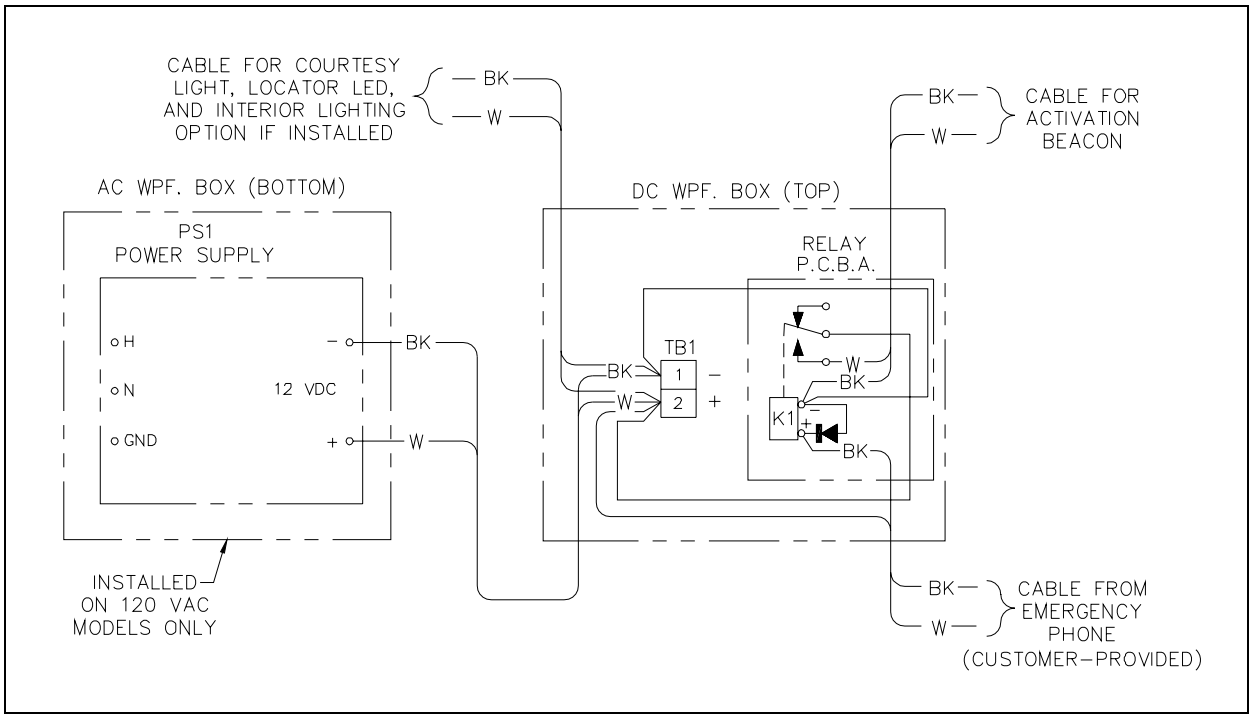


Figure 2. LITE Stanchion Pre-wired Internal Connections

## Installation of Model 203-003 Interior Lighting Kit

Most LITE Series Stanchion models can be illuminated from the interior providing a glowing appearance for maximum visibility. This is especially effective at night or in low light areas such as parking garages.

The optional Model 203-003 Interior Lighting Kit for the LITE Series Stanchion contains a 19-module LED string, with each module containing four super bright white LEDs. The string of LEDs is mounted to the stanchion's rear mounting plate. All LITE Series Stanchions include the necessary hardware for attaching the LED string to the mounting plate.

**NOTE:** The following stanchion colors cannot be lit from the interior because the stanchion body material is opaque:

**234LN-xxx** - Night Black (PLEXIGLAS 2025)

**234LE-xxx** - Earth Brown (PLEXIGLAS 2418)

**234LU-xxx** - Utility Gray (PLEXIGLAS 3001)

Begin installation of the Model 203-003 Interior Lighting Kit by placing the rear mounting plate on a horizontal surface. Arrange the string of LEDs, without permanently attaching them, as shown in Figure 3. Hook the mounting feet on the five mounting studs to insure proper layout and spacing of the string. Untwist any modules as necessary. Permanently attach the LED modules to the panel as follows:

1. Place the five provided metallic spacer washers (provided with stanchion) on each mounting stud. Beginning in the bottom left of the rear mounting plate, peel the transfer film off of the first LED module and locate it using the protruding stud. Refer to Figure 3.

2. Move to the mounting stud on the top left corner and peel the transfer film off of the LED module closest to it. Locate it using the protruding stud. Repeat this step for the top center, top right, and bottom right protruding studs. Do not peel the transfer film and attach the LED modules between the studs.

3. Assemble the 6-32 nuts (provided with stanchion) to the studs with the LED modules on them. Tighten the nuts snug against the modules. Do not over-tighten the nuts, as this will stress the self-adhesive tape on the modules.

4. Beginning in the bottom left of the panel, peel the transfer film from the remaining LED modules and attach them. Align each module with the one below it and maintain consistent spacing between each module. Repeat this step with all modules, working around the panel in a clockwise direction. If care is taken, the modules will be consistently spaced when complete.

5. Finally, wire the module string into 12 V dc power. Refer to Figure 3 for the suggested wire layout and connection points. If a separate 12 V dc power source is used, be sure to attach the white wire to positive and black to negative.

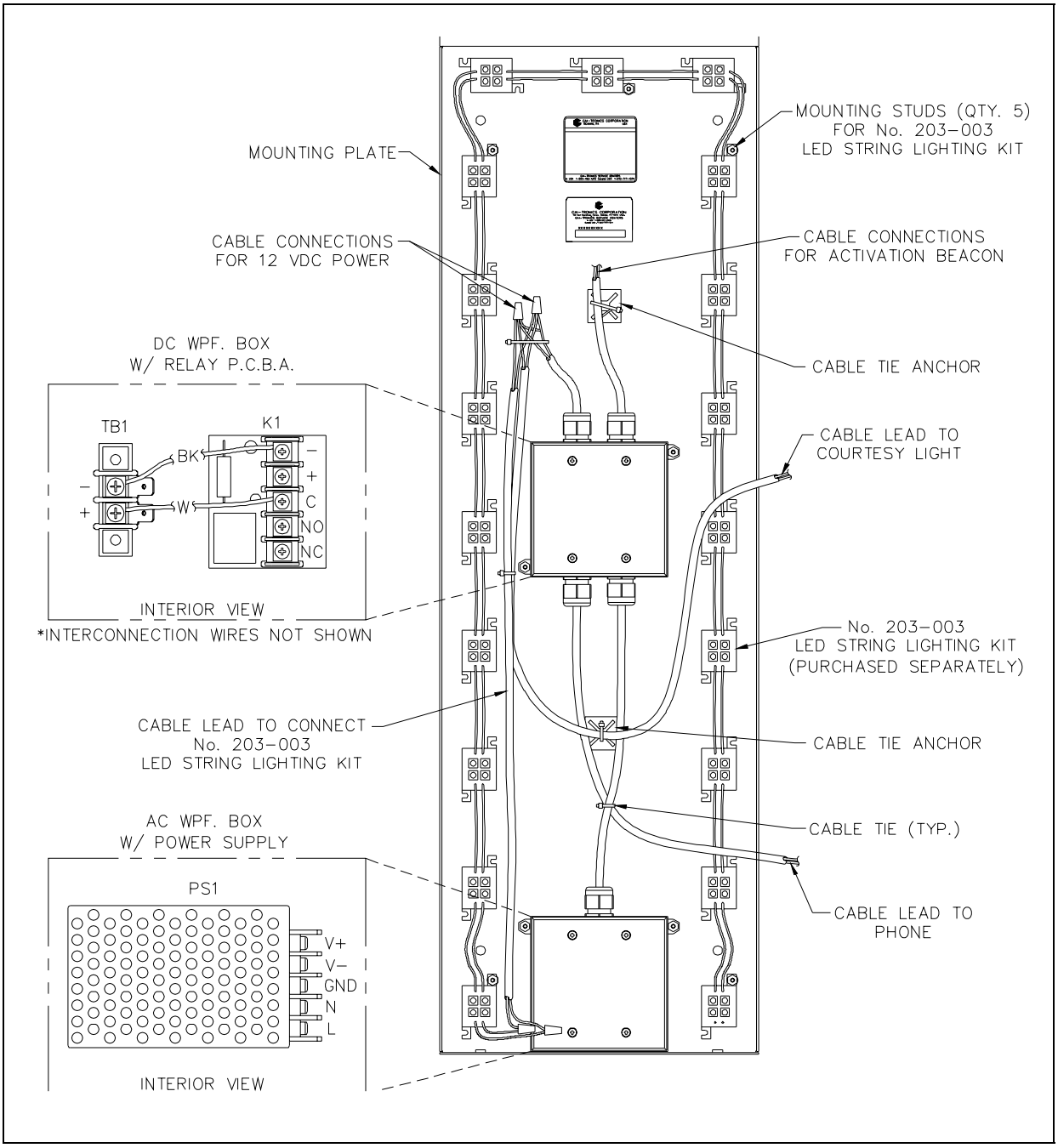


Figure 3. Basic Wire Routing

## Stanchion Mounting

The LITE Series Stanchion mounting plate has four 5/16-inch diameter mounting holes for attaching the stanchion to the wall.

1. Fasten the mounting plate to a wall or flat surface that can support at least 25 pounds, using 1/4-inch bolts and fender washers (customer supplied) for attachment. Refer to Figure 4 for mounting hole dimensions and suggested mounting height.

   ⚠ **NOTE** ⚠ **It is the installer's responsibility to mount the stanchion at a height in accordance with the American Disabilities Act (ADA) and any other applicable codes.**

2. Determine the method of routing the external power cable into the stanchion. The external power cable can be routed to enter the stanchion through the bottom or the back of the mounting plate. Refer to Figure 4.

3. The bottom of the mounting plate contains three locating holes for cable entry. Remove the bottom weatherproof box before drilling. Drill out the center hole with enough clearance to allow 1/2 NPT conduit entry into the weatherproof box for power cable entry.

4. If entering through the back of the mounting plate, drill a hole with enough clearance to allow 1/2 NPT conduit entry into the weatherproof box. Remove the 1/2-inch conduit hole plug from the rear of the weatherproof box to locate the drilled hole location.

5. The left or right hole at the bottom of the mounting plate can be drilled to allow wire entry for the telephone PBX line.

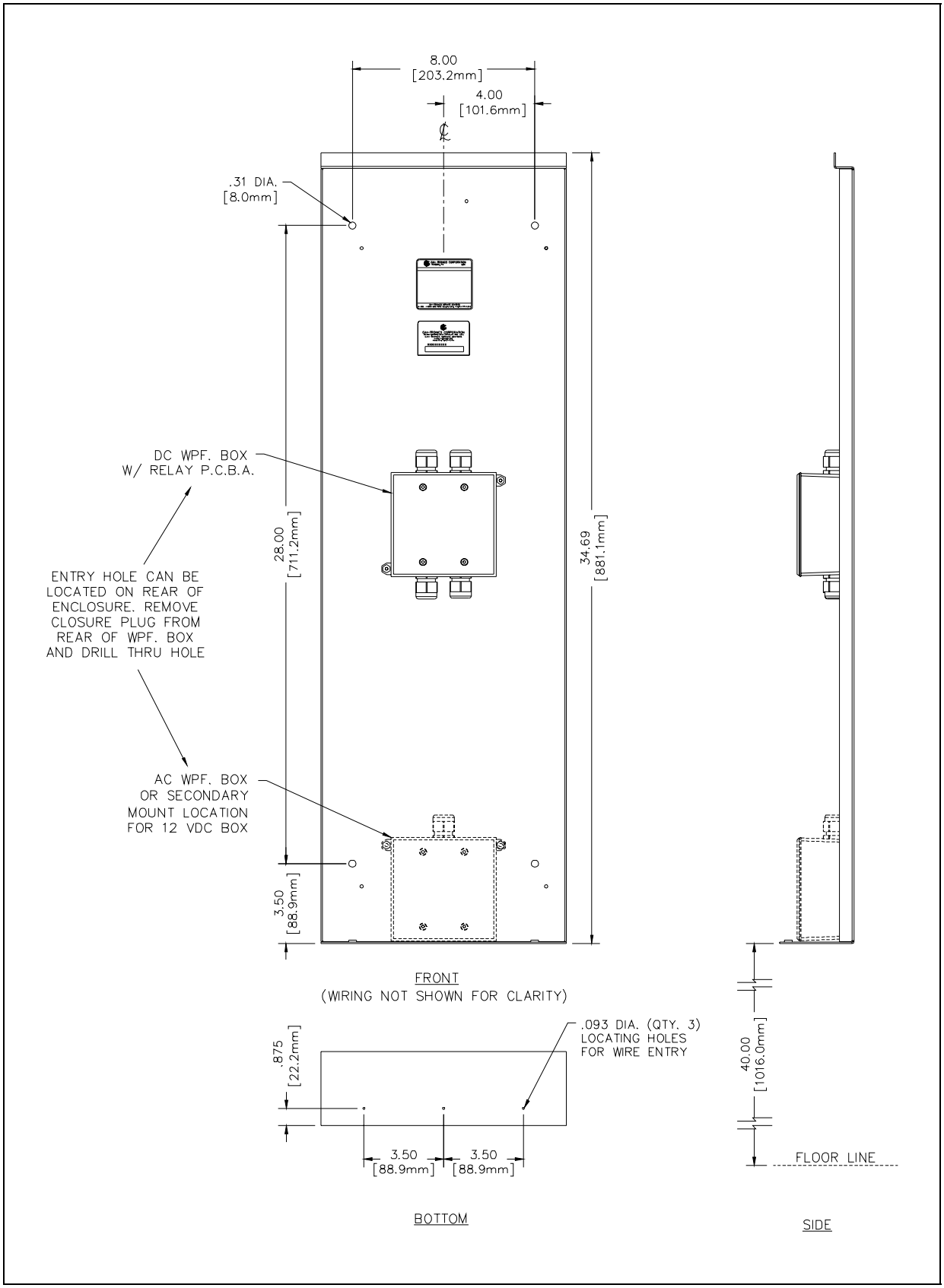


Figure 4. Mounting Detail

## Installation Wiring

⚠ **NOTE** ⚠ All connections must be made in accordance with the National Electrical Code (NEC) in the United States or the Canadian Electrical Codes (CEC) in Canada. External power should not be applied to the stanchion until all wiring has been completed. The NEC will require a minimum No. 18 AWG wire for the field wiring of the ac mains and an appropriate disconnect device shall be provided as part of the building installation.

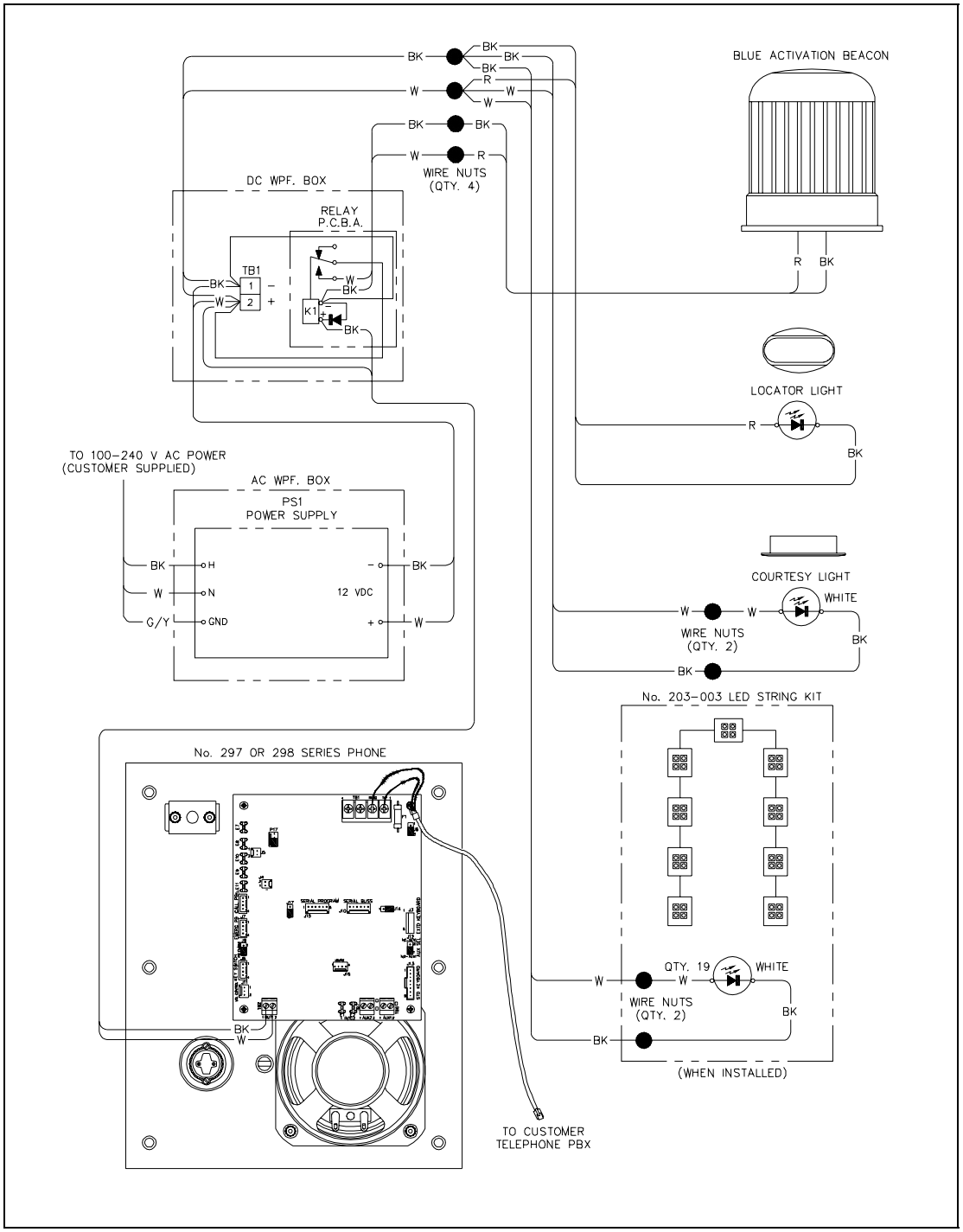


Figure 5. Connection Diagram

1. After attaching the pre-wired mounting plate to the wall, make connections for the light components on the main stanchion body. For ease of connection, and to maintain shorter wire lengths, position the main stanchion body on a cart or temporary stand as close to the mounting plate as possible.

2. Connect the LED locator light and courtesy light wires to the proper 12 V dc power cable leads from the weatherproof box. Connect the activation beacon wires to the relay cable leads from the weatherproof box. Refer to Figure 5 and Figure 6.

**NOTE 1:** Final installation wiring is exceptionally important when the interior lighting kit is installed. Wires must adequately bundled and anchored so as not to cast shadows on the main stanchion body. For proper wire routing and cable tie anchoring refer to Figure 6.

**NOTE 2:** Ensure that all wiring connections are securely twisted, capped with the supplied wire nuts, and properly taped with electrical tape.

With the exception of connecting to a GAI-Tronics telephone output and customer-supplied incoming power, all internal wiring connections should now be complete.

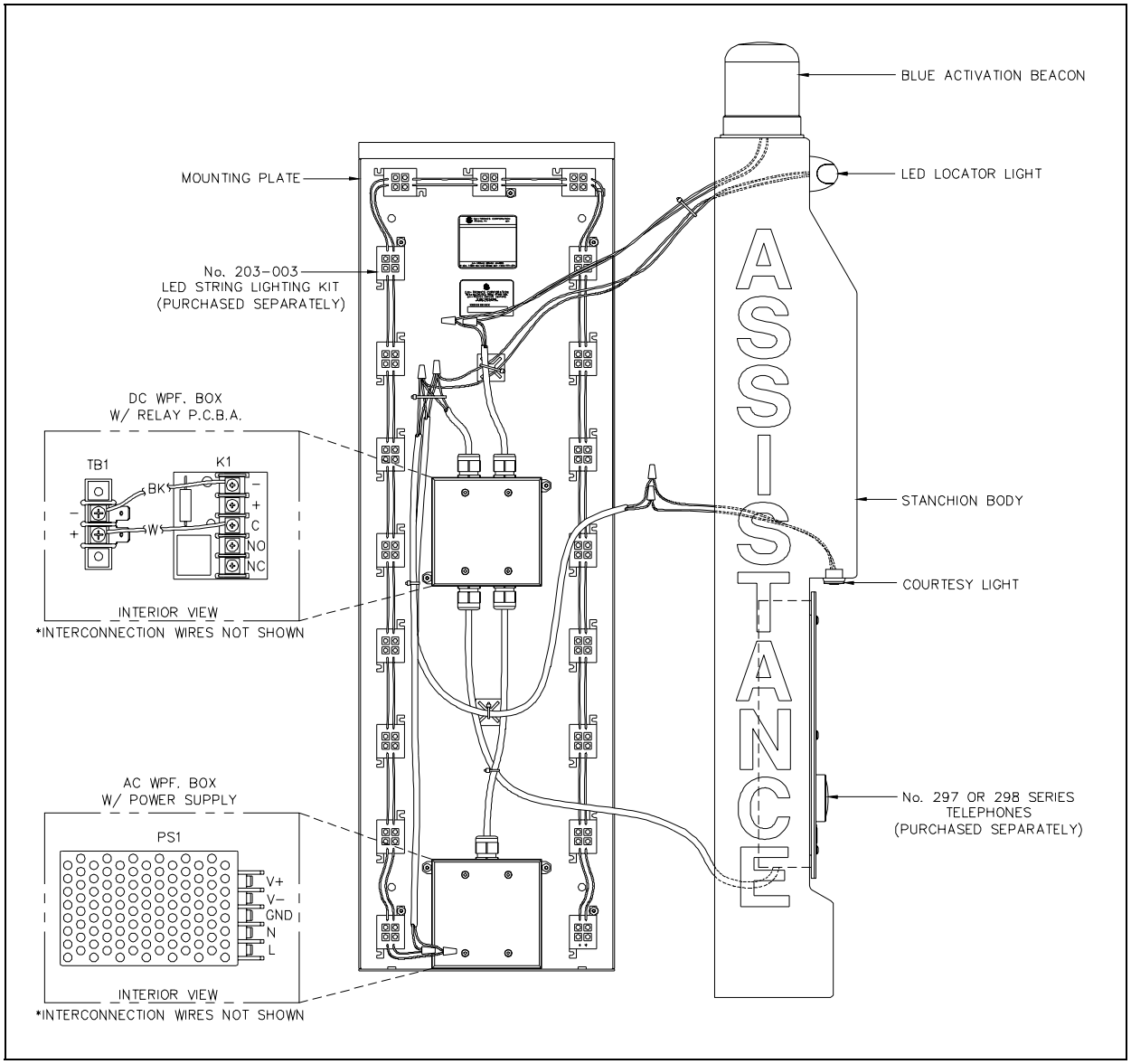


Figure 6. Installation Wiring Diagram

3. Connect the proper power source to the stanchion. For ac powered stanchions, power should be routed to the ac weatherproof box located at the bottom of the stanchion. For 12 V dc powered stanchions, the corresponding 12 V dc can be routed directly into the weatherproof box containing the relay and terminal block. Attach the power input directly to the terminal block (positive = red or white, negative = black). All cable entering or exiting the weatherproof boxes must be properly sealed with the supplied Heyco bushings or properly sized conduit fittings. For 12 V dc stanchion models, skip to step 6.

4. To attach the incoming ac power to the power switcher, remove the two screws holding the internal mounting bracket. The switching power supply is attached to this bracket. Connect incoming ac power to the corresponding connection point on the power switcher (H = black, N = white, ground symbol = green). Refer to Figure 7.

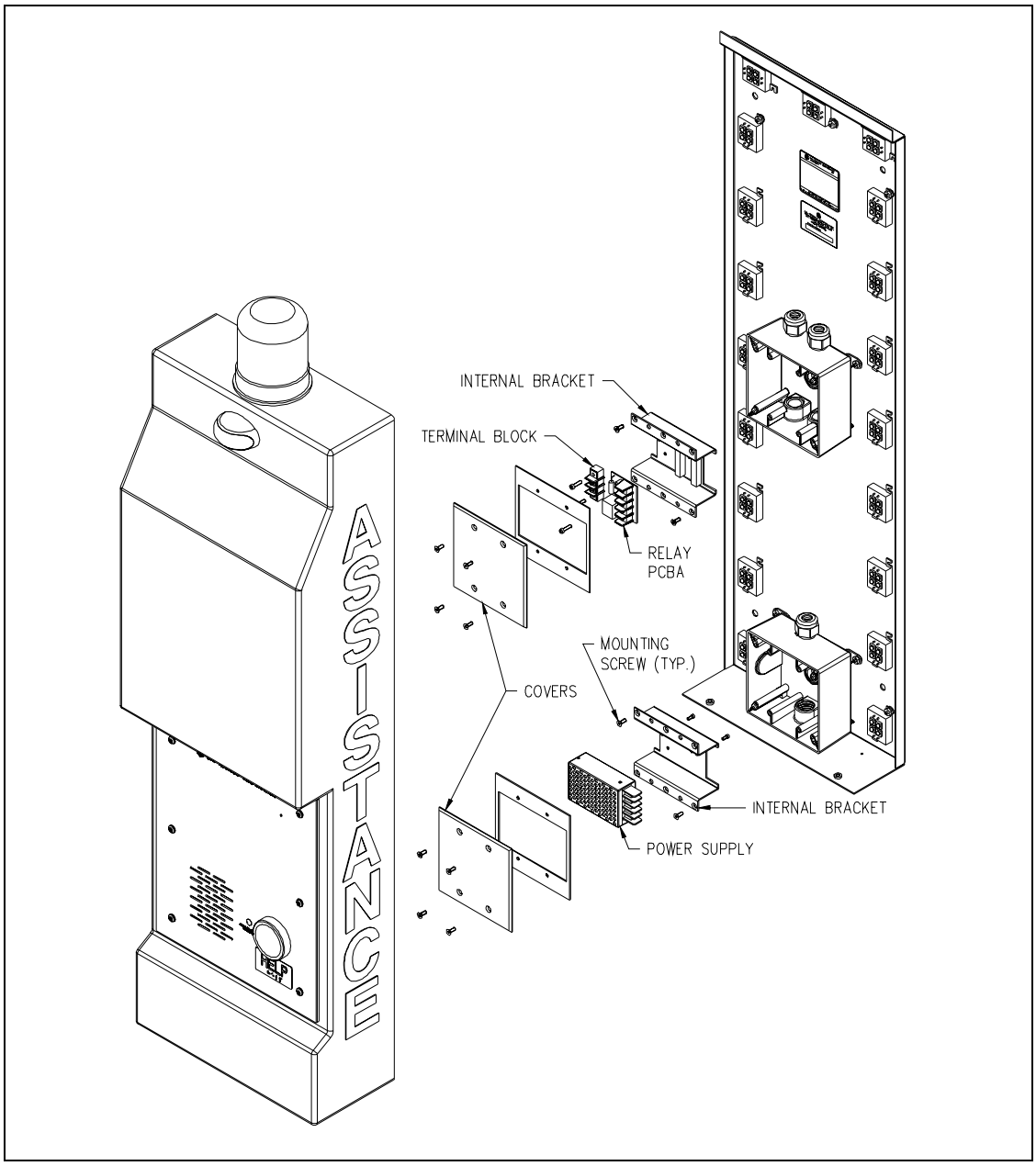


Figure 7. Power Supply - Exploded View

5. Reattach the internal mounting bracket. Route the incoming power wires through the access slot on the bracket. Use the two screws that were removed previously to reattach the bracket.

6. Slide the stanchion body over the upper lip of mounting plate at an angle that allows the support bar of the main body to slide into the top lip of the mounting plate. Rotate the main body parallel to the support surface, allowing the bottom lip of the mounting plate to insert into the stanchion body. Refer to Figure 8. Do not attach the bottom attachment screws until after telephone installation and final test.

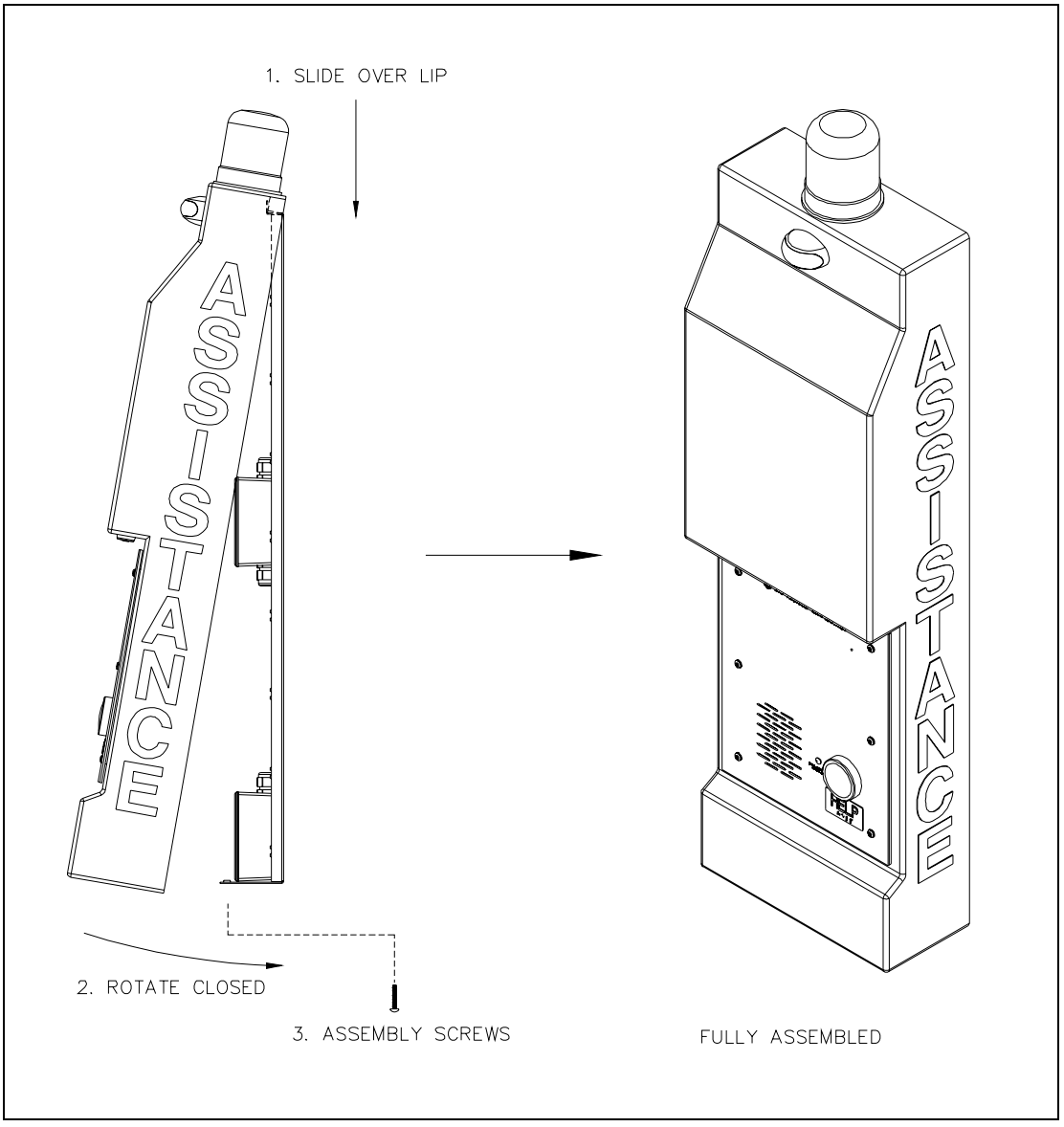


Figure 8. Assemble Stanchion

## Telephone Installation

The following GAI-Tronics telephone models are compatible with the LITE Series Stanchions.

| Pub. No. | Telephone Model |
|---|---|
| Pub. 42004-352 | Model 297-001 Flush-Mount Hands-free Phone |
| Pub. 42004-351 | Model 297-003 S.M.A.R.T. Flush-Mount Hands-free Phone |
| Pub. 42004-352 | Model 298-001 Flush-Mount Hands-free Phone with Keypad |
| Pub. 42004-351 | Model 298-003 S.M.A.R.T. Flush-Mount Hands-free Phone with Keypad |
| Pub. 42004-350 | Model 277-003 S.M.A.R.T. Flush-Mount Handset Autodial Phone |
| Pub. 42004-349 | Model 276-003 S.M.A.R.T. Flush-Mount Handset Phone with Keypad |
| Pub. 42004-337 | Model 276-001 Industrial Phone with Keypad |
| Pub. 42004-338 | Model 277-001 Autodial Telephone |

The telephones listed above must be weatherproofed before installation within a LITE Series Stanchion in an unprotected outdoor environment. All stanchion components are housed in weatherproof boxes (3R rating) or are completely sealed (IP 66 rating). Standard GAI-Tronics telephones do not have sealed rear enclosures, and the stanchion body does not provide adequate protection. Weatherproofing can be accomplished in two ways: by purchasing a sealed back box (Part No. 236-002) or by sealing the standard GAI-Tronics back box.

**NOTE:** Steps 1 through 4 should be performed prior to wiring the stanchion body components to the rear mounting plate.

1. Separate the back box from the telephone front panel.

2. If installing in an unprotected outdoor area, a sealed telephone back box must be used. Part No. 236-002 sealed back box can be purchased, or the supplied standard back box enclosure can be sealed.

3. To seal the standard back box, run a sufficient bead of silicon caulk on both the inside and outside of the enclosure's four corners and seams. Ensure that all gaps are sealed.

4. The standard back box has a top and a bottom opening. Seal the supplied top hole plug to the back box with silicone sealant. Attach a weatherproof cable bushing to the bottom enclosure hole for wire entry. Additional entries can be placed on the bottom of the back box. Use the proper weatherproof cable bushing for all wire entry. Indoor applications do not require sealing.

5. Place the back box into the phone opening from the front of the stanchion. Mount the box using the eight 6-32 self-tapping flat head screws supplied in the stanchion's parts envelope. Refer to Figure 9.

6. The telephone front panel is shipped from the factory with a cable and modular plug attached to TB1. If the telephone line is to be hard-wired to the phone, this cable can be removed and discarded. Skip to step 7. If desired, an optional modular telephone jack can be mounted to the inside of the back box allowing the use of the cable and modular plug that is attached to TB1.

7. Bring the cable lead from the relay PCBA through the access hole of at the bottom of the back box for connection to the telephone PCBA.

8. Attach the telephone's cable lead to TB2 (out) on the telephone PCBA as shown in Figure 5.

9. Install the phone's front panel using the six tamper-resistant screws and six washers provided with the phone. Figure 9. **Do not over-tighten.** Excessive tightening will cause the panel to warp.

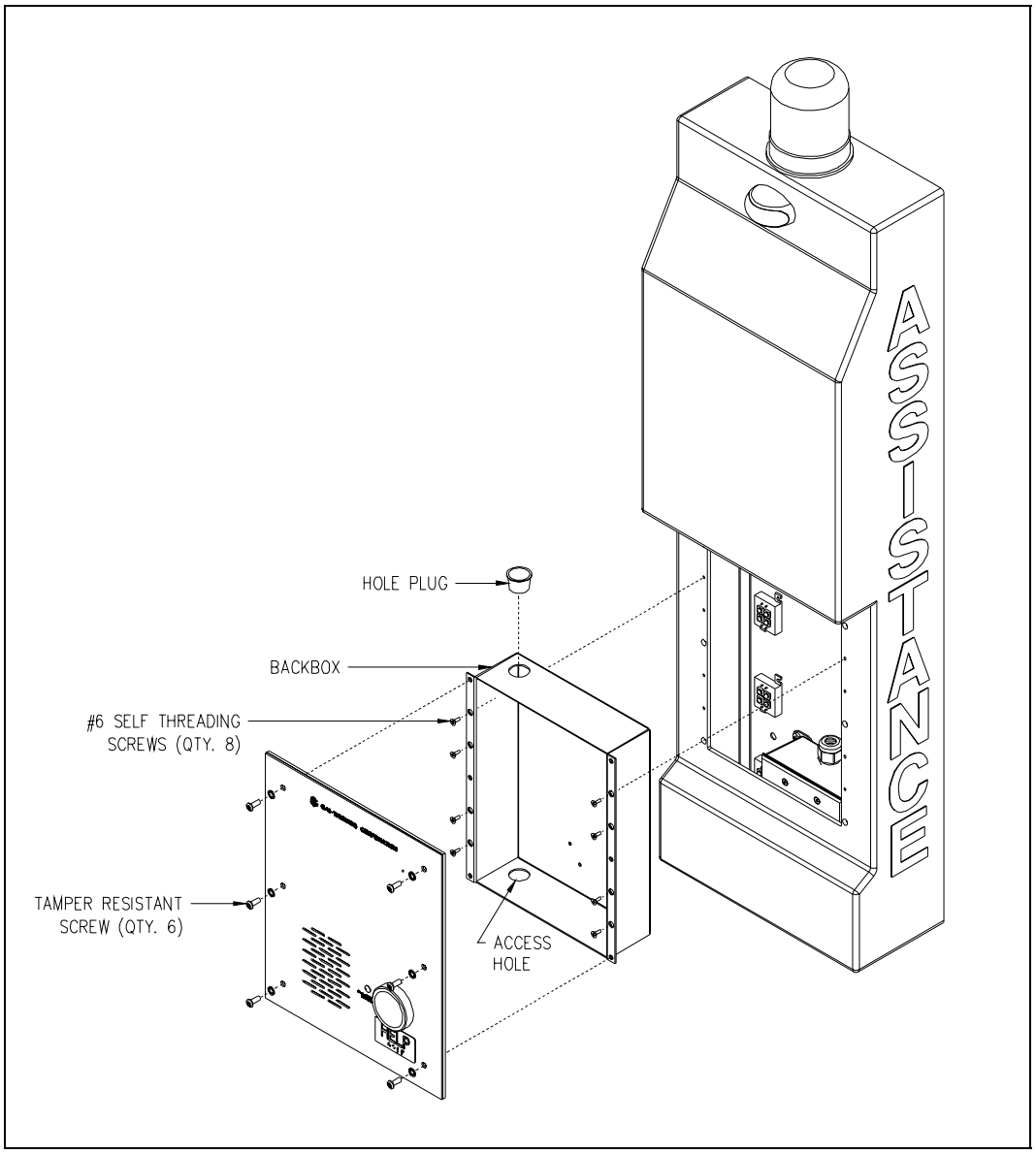


Figure 9. Telephone Installation

## Final Assembly

Test the stanchion as follows:

1. Energize the circuit for testing purposes before closing the stanchion.

2. When energized, the courtesy light and locator LED light will illuminate. If the Model 203-003 Interior Lighting Kit has been installed, it will also illuminate.

   ⚠ **CAUTION** ⚠

   **The lighting kit LEDs are very bright, and care should be taken to protect the eyes as necessary if the stanchion body is removed.**

3. Ensure that the mounted telephone is on an active line and all programming to the telephone is complete in accordance with its instruction manual. Depress the red button to test that the telephone dials to the proper phone number and the beacon activates. After the open line is disconnected, the beacon will stop flashing. Refer to the connection diagram in Figure 5 and phone's user manual to troubleshoot any problems. For handset version phones, lifting the handset from the cradle should activate the beacon.

4. After all testing has been successfully completed, attach the supplied gasket and cover to the weatherproof boxes. Wrap the supplied closure plug threads with Teflon® tape, and use them to seal any open access holes.

5. If the stanchion has the interior lighting kit installed, check the location of all wires before screwing the enclosure shut. If wire shadows are cast in an unacceptable manner on the main stanchion, make adjustments by lifting the bottom of the main stanchion body away from the wall approximately 8–10 inches. Adjust any wires as necessary, and replace the stanchion body parallel to the wall.

6. The screw attachment locations on the rear mounting panel will be in line with the countersunk holes in the main stanchion body when the mounting plate, mounting surface, and stanchion main body are parallel. Attach the two supplied 10-32 tamper-resistant screws into the screw hole locations located on the bottom of the stanchion to secure the body.

# Maintenance

## Cleaning

The exterior of the GAI-Tronics LITE Series Stanchions can be cleaned with a soft, clean cloth or nonabrasive soap or detergent and water. Dislodge any caked on dirt or mud by hand before wiping down with a wet sponge or chamois. A build up of dirt or grit on the sponge, cloth, or chamois can cause scratching to occur when cleaning. Be sure to use a clean cloth.

Grease and oil can be removed with kerosene or aliphatic naphtha (no aromatic content). Paint, permanent marker, and pen can be removed with soap and water or isopropyl alcohol.

**NOTE:** Acrylic resin based paints cannot be removed.

⚠ **NOTE** ⚠ Do **not** use solvents such as acetone, benzene, carbon tetrachloride, fire extinguisher fluid, dry-cleaning fluid, window cleaners, scouring compounds, and lacquer thinners on the LITE Series Stanchion. These fluids will attack the stanchion main body.

## Decal Repair

1. Using a very sharp instrument such as an X-Acto-type knife, loosen then lift a corner edge of the damaged decal.

2. Carefully peel back and remove the loosened decal.

3. Wipe the area clean with isopropyl alcohol. Allow the area to dry.

4. Peel the backing from the replacement decal, leaving the decal attached to the front cover material, and carefully align it with the target area.

5. With the cover material still attached, press the replacement decal in place, then squeegee any air bubbles from under the new decal starting at the center and working toward the edges.

6. Peel off the cover material, being careful not to tear or lift the decal. If the decal lifts as the cover material is being removed, push down on the uncovered decal, and squeegee as necessary to remove any bubbles.

## Replacement Parts

Most LITE Series Stanchion components can be easily replaced. The courtesy light, LED locator light, and interior light LED string kit have a life span of 4–6 years when continuously lit. These components all contain long life LEDs that have an operational life dependent upon the installation environment. Operational life can be extended with the installation of a timer or day/night sensor. Refer to a qualified electrician.

| Part No. | Part Description |
|---|---|
| 201-002 | Blue Activation Strobe, 12–48 V dc, mini Xenon |
| 202-001 | LED Red Locator Lamp, 12 V dc |
| 202-002 | LED Blue Locator Lamp, 10–33 V dc |
| 236-002 | Weatherproof Telephone Back Box |
| 233-001 | Tamper-resistant Screwdriver |
| 28229-004 | Tamper-resistant Screws, 10-32 × 1-1/4-inches |
| 203-002 | Panel Courtesy Light, White LED, 10–33 V dc |
| 203-003 | LED Interior String Lighting Kit (optional) |
| 40404-009 | Switching Power Supply, 100–240 V ac/12 V dc, 2.1 amps, 25 watts |
| 45001-200 | Relay PCBA, SPST 12V 400-ohm coil |
| 84510-101 | Safety Yellow Stanchion Body with ASSISTANCE Graphics |
| 84510-102 | Cobalt Blue Stanchion Body with ASSISTANCE Graphics |
| 84510-103 | Safety Red Stanchion Body with ASSISTANCE Graphics |
| 84510-104 | Golf Green Stanchion Body with ASSISTANCE Graphics |
| 84510-105 | Bright White Stanchion Body with ASSISTANCE Graphics |
| 84510-106 | Safety Orange Stanchion Body with ASSISTANCE Graphics |
| 84510-107 | Night Black Stanchion Body with ASSISTANCE Graphics |

# Specifications

Dimensions ..... 11.25 W × 6.0 D × 40.0 H inches (285.8 mm × 152.4 mm × 1016 mm)
Main Body
- Material thickness ..... 0.177 inches thick (3/16-inch nominal) acrylic
- Finish ..... None

Mounting Plate
- Material thickness ..... 0.060-inch thick aluminum
- Finish ..... Powder-coated gray

Power ratings
- Activation beacon ..... 12–48 V dc, mini Xenon
- Locator light (red) ..... 12 V dc
- Panel light ..... 10–33 V dc
- Power supply input ..... 100–240 V ac, 0.7 amp
- Relay PCBA ..... SPST 12V 400-ohm coil

Temperature range ..... -4º F to 122º F (-20º C to 50º C)

Weight ..... Approximately 12 lbs.

**Approvals**

Safety of Information Technology Equipment ..... UL/CSA 60950
Enclosures for Electrical Equipment ..... UL50, Type 3R

# Warranty

Equipment. GAI-Tronics warrants for a period of one (1) year from the date of shipment, that any GAI-Tronics equipment supplied hereunder shall be free of defects in material and workmanship, shall comply with the then-current product specifications and product literature, and if applicable, shall be fit for the purpose specified in the agreed-upon quotation or proposal document. If (a) Seller's goods prove to be defective in workmanship and/or material under normal and proper usage, or unfit for the purpose specified and agreed upon, and (b) Buyer's claim is made within the warranty period set forth above, Buyer may return such goods to GAI-Tronics' nearest depot repair facility, freight prepaid, at which time they will be repaired or replaced, at Seller's option, without charge to Buyer. Repair or replacement shall be Buyer's sole and exclusive remedy. The warranty period on any repaired or replacement equipment shall be the greater of the ninety (90) day repair warranty or one (1) year from the date the original equipment was shipped. In no event shall GAI-Tronics warranty obligations with respect to equipment exceed 100% of the total cost of the equipment supplied hereunder. Buyer may also be entitled to the manufacturer's warranty on any third-party goods supplied by GAI-Tronics hereunder. The applicability of any such third-party warranty will be determined by GAI-Tronics.

Services. Any services GAI-Tronics provides hereunder, whether directly or through subcontractors, shall be performed in accordance with the standard of care with which such services are normally provided in the industry. If the services fail to meet the applicable industry standard, GAI-Tronics will re-perform such services at no cost to buyer to correct said deficiency to Company's satisfaction provided any and all issues are identified prior to the demobilization of the Contractor's personnel from the work site. Re-performance of services shall be Buyer's sole and exclusive remedy, and in no event shall GAI-Tronics warranty obligations with respect to services exceed 100% of the total cost of the services provided hereunder.

Warranty Periods. Every claim by Buyer alleging a defect in the goods and/or services provided hereunder shall be deemed waived unless such claim is made in writing within the applicable warranty periods as set forth above. Provided, however, that if the defect complained of is latent and not discoverable within the above warranty periods, every claim arising on account of such latent defect shall be deemed waived unless it is made in writing within a reasonable time after such latent defect is or should have been discovered by Buyer.

Limitations / Exclusions. The warranties herein shall not apply to, and GAI-Tronics shall not be responsible for, any damage to the goods or failure of the services supplied hereunder, to the extent caused by Buyer's neglect, failure to follow operational and maintenance procedures provided with the equipment, or the use of technicians not specifically authorized by GAI-Tronics to maintain or service the equipment. THE WARRANTIES AND REMEDIES CONTAINED HEREIN ARE IN LIEU OF AND EXCLUDE ALL OTHER WARRANTIES AND REMEDIES, WHETHER EXPRESS OR IMPLIED BY OPERATION OF LAW OR OTHERWISE, INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

# Return Policy

If the equipment requires service, contact your Regional Service Center for a return authorization number (RA#). Equipment should be shipped prepaid to GAI-Tronics with a return authorization number and a purchase order number. If the equipment is under warranty, repairs or a replacement will be made in accordance with the warranty policy set forth above. 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 identifying the Regional Service Center closest to you.