Netway SPECTRUM

Fiber Solution

NetWaySP1BT2 Series

802.3bt Media Converter/Injectors

Models Include:

NetWaySP1BT2

- 802.3bt Media Converter/Injector
- Modular plastic case.

NetWaySP1BT2WPN

- 802.3bt Media Converter/Injector.
- NEMA4/4X rated outdoor enclosure.

NetWaySP1BT2WP

- 802.3bt Media Converter/Injector with Integral Power.
- NEMA4/4X rated outdoor enclosure.

NetWaySP1BT2WPX

- 802.3bt Media Converter/Injector with Integral Power.
- NEMA4/4X rated outdoor enclosure.
- Accommodates up to four (4) 12VDC/4AH batteries.

Installation Guide

CE

Altronix®

More than just power.™

DOC#: NetWaySP1BT2 Rev. 071425

Installing Company: _____ Service Rep. Name: _____

Address: _____ Phone #: _____

Overview:

Altronix NetWaySP1BT2 Series 802.3bt media converter/injectors provide a single 802.3bt (4PPoE) port up to 90W and accommodate two (2) fiber optic cables (1Gb) to transmit data. Units can be deployed with structured cable and conventional single/multimode fiber. Cameras/edge devices may be located up to 100m from the unit.

Features:

Agency Listings:

- CE European Conformity.

Input:

- **NetWaySP1BT2 and NetWaySP1BT2WPN:** 48-56VDC @ 1.9A (95W). *See pg. 4 for recommended Power Sourcing Equipment.*
- **NetWaySP1BT2WP and NetWaySP1BT2WPX:** 115VAC, 60Hz, 2.5A or 230VAC, 50/60Hz, 1.3A

Fiber Port:

- Two (2) 1Gb SFP ports. *See below for recommended SFP modules.*

PoE Port:

- Single port rated up to 90W max.
- IEEE 802.3af, 802.3at and 802.3bt compliant.

Data Port:

- Connectivity: RJ45, auto-crossover.
- Wire type: 4-pair CAT5e and higher.
- Speed: 10/100/1000 Mbps.
- Distance: up to 100m.

Battery Backup (NetWaySP1BT2WP and NetWaySP1BT2WPX):

- Built-in charger for sealed lead acid or gel type batteries.
- Automatic switch over to stand-by battery when AC fails.

Environmental:

- *Refer to Environmental Conditions on page 5.*

LED Indicators (Refer to Fig. 1, Pg. 4):

- **Yellow and Green LEDs** (RJ45 jack)**:**
  Yellow (left) LED: 10/100 Mbps.
  Green (right) LED: 1000 Mbps.
- **Green PoE LEDs:** Indicate PoE present.
- **Green SFP (Fiber) LEDs:** Indicate SFP connection.

Mechanical:

NetWaySP1BT2:

- Modular plastic case. 3.375" x 3.8" x 1" (85.7mm x 96.5mm x 25.4mm).

NetWaySP1BT2WPN:

- NEMA4/4X, IP66 Rated enclosure for outdoor use.
- Dimensions (H x W x D approx.): 9.5" x 7.32" x 4.92" (241.3mm x 185.9mm x 125mm)

NetWaySP1BT2WP:

- NEMA4/4X, IP66 Rated enclosure for outdoor use.
- Dimensions (H x W x D approx.): 13.31" x 11.31" x 5.59" (338.1mm x 287.3mm x 142mm).

NetWaySP1BT2WPX:

- NEMA4/4X, IP66 Rated enclosure for outdoor use.
- Accommodates four (4) 12VDC/4AH batteries (48V of backup).
- Dimensions (H x W x D approx.): 17.53" x 15.3" x 6.67" (445.3mm x 388.6mm x 169.4mm).

Recommended Altronix SFP Modules:

Altronix P1MM, P1SM10, P1AB2K and P1GCE are hot-pluggable SFP fiber transceiver modules and are readily usable with all Altronix Spectrum fiber optic equipment for 1Gb transmission rates.

P1MM	For use with Multi-Mode Fiber for distances up to 550m.
P1SM10	For use with Single-Mode Fiber for distances up to 10km.
P1AB2K	For use with Single Strand Single-Mode Fiber for distances up to 2km.
P1GCE	For use with CAT5e or better for distances up to 100m.

Recommended Altronix Power Sourcing Equipment (for NetWaySP1BT2 and NetWaySP1BT2WPN):

NetWaySP4P Ethernet to Fiber Media Converter with Integral Power Supply/Charger.
Four (4) 56VDC non power-limited outputs up to 120W max. full power per port (240W total power). Four (4) 1Gb SFP ports.

NetWaySP4PX Ethernet to Fiber Media Converter with Integral Power Supply/Charger.
Four (4) 56VDC non power-limited outputs up to 120W max. full power per port (480W total power). Four (4) 1Gb SFP ports.

NetWaySP4P2 Ethernet to Fiber Media Converter with Integral Power-Limited Power Supply/Charger.
Four (4) 56VDC power-limited outputs up to 60W max. full power per port (240W total power). Four (4) 1Gb SFP ports.

WayPoint562 High Current Outdoor Power Supply/Charger.
56VDC/120W output.
Filtered and electronically regulated output. Short circuit and thermal overload protection.

Vertiline563 EIA 19" 1U Rack Mountable Dual Independent Power Supply/Charger.
56VDC @ 3A each output.
Filtered and electronically regulated output. Short circuit and thermal overload protection.

PoE201 Power Supply/Charger Board.
56VDC/120W output.
Filtered and electronically regulated output. Short circuit and thermal overload protection.

Installation Instructions:

Wiring methods shall be in accordance with the National Electrical Code/NFPA 70/ANSI, and with all local codes and authorities having jurisdiction. All units should be installed by a trained service personnel.

Installation (NetWaySP1BT2):

1. Mount NetWaySP1BT2 in desired location utilizing the mounting hole *(Fig. 3a, pg. 6)*. Use a proper fastener and/or wall anchor when securing NetWaySP1BT2 with screw through its mounting hole to the surface. To mount NetWaySP1BT2 on a standard DIN rail, use optional DCL2 DIN rail mounting clip.
   Note: Earth ground can be used, if needed, for high transient or outdoor environments. If used, insert an Earth ground wire (included with product) into the internal ground terminal until secured (a slight tug can check stability) & fasten the free end to a chassis earth ground. If earth ground is not attached and needed, refer to Fig. 1, pg. 4 for manual placement.

Installation (NetWaySP1BT2WPN, NetWaySP1BT2WP, NetWaySP1BT2WPX):

2. Remove backplane from enclosure prior to drilling. Do not discard hardware.
   Note: Make sure that hardware will not interfere with components of the circuit board.
3. Mark and drill desired inlets on the enclosure to facilitate wiring. Maximum NEMA type 4X rated fittings to be used are 0.5". Follow manufacturer's specifications for the appropriate size opening.
   Note: Inlets for conduit fittings should only be made on the bottom of the enclosure.
   To facilitate wire entry utilize weather-tight NEMA rated connectors *(supplied)*, bushings, and cable.
4. Clean out the inside of enclosure before remounting circuit boards/backplane.
5. Mounting NEMA4/4X rated enclosure *(Enclosure Dimensions, pg. 10-12)*:
   Wall mount: Mount unit in desired location. Mark and drill holes to line up with the top and bottom hole of the enclosure flange. Secure enclosure with appropriate fasteners (e. g. screws and anchors; bolts and locking nuts, etc.) that are compatible with mounting surface and are of sufficient length/construction to ensure a secure mount *(Fig. 7, pg. 9)*.
   Pole Mount: *Refer to Fig. 8 - 12, pg. 9.*
6. Mount backplane in enclosure with hardware.

Power Connection (NetWaySP1BT2 and NetWaySP1BT2WPN):

1. Use external 48-55V UL Listed ITE power supply, carefully observing correct polarity *(Fig. 1, pg. 4)*.
2. Use 14AWG or larger for all power connections.

Power Connection (NetWaySP1BT2WP and NetWaySP1BT2WPX):

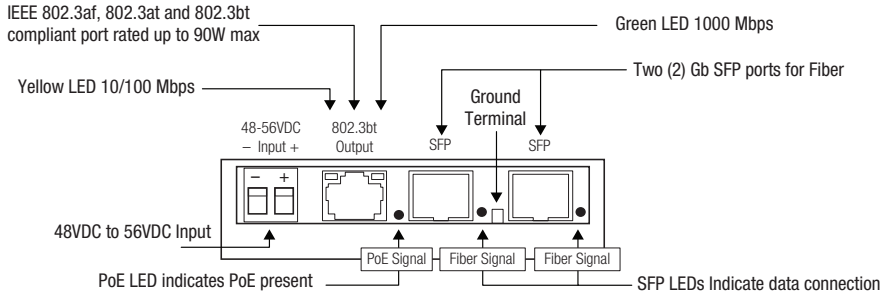
Before powering unit, set input voltage selection switch to proper Input Voltage position (Fig. 5a, 6a, pg. 7, 8). Units are factory set for 115VAC.

1. Connect AC power from overcurrent protective device circuit breaker (20A @ 115VAC, 60Hz or 16A @ 230VAC, 50/60Hz) to the terminals marked [L, N] on power supply board *(Fig. 5, 6, pg. 7, 8)*. Connect ground lug to earth or green branch wire on backplane (12AWG min.). Use 14AWG or larger for all power connections (Battery, DC output, AC input).
2. **Battery Backup** (if desired): Connect four (4) 12VDC batteries wired in series to terminals marked [– BAT +] *(Fig. 5, 6, pg. 7, 8)*, carefully observing polarity.
   When use of stand-by batteries is desired, they must be lead acid or gel type.
   For outdoor battery backup, battery enclosure must have sufficient ventilation. Use Altronix Vent2 kit.
   Note: When batteries are not used, a loss of AC will result in the loss of output voltage.
   Keep power-limited wiring separate from non power-limited wiring by utilizing separate knockouts/ inlets. Minimum 0.25" spacing must be provided.
   CAUTION: Do not touch exposed metal parts. Shut branch circuit power before installing or servicing equipment. There are no user serviceable parts inside. Refer installation and servicing to qualified service personnel.

Input/Data Connections:

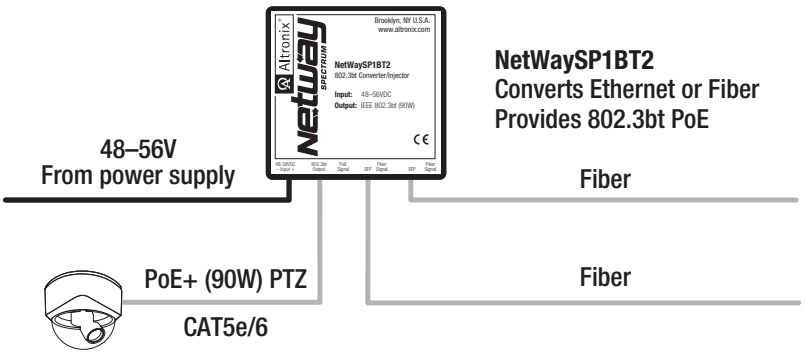
1. Connect fiber optic cables to fiber SFP modules. Connect the modules to the port marked [SFP] on the NetWaySP1BT2. Connect the other end of fiber cable to an SFP module of a remote device. SFP LED will illuminate indicating data connection *(Fig. 1, pg. 4)*.
2. Using 4-pair CAT5e or higher cable connect PoE load device to be powered to the port marked [802.3bt Output] on NetWaySP1BT2. After authentication and classification have been established, [PoE Signal] LED will illuminate indicating PoE presence.

Fig. 1



Typical Application:

Fig. 2



Technical Specifications:

Parameter	Description
Ports	Two (2) 1Gb SFP ports. One (1) IEEE 802.3af, 802.3at and 802.3bt compliant output port rated up to 90W max.
Input Power Requirements	**NetWaySP1BT2 and NetWaySP1BT2WPN:** 48-56VDC @ 1.9A (95W). *See pg. 3 for recommended Power Sourcing Equipment.* **NetWaySP1BT2WP and NetWaySP1BT2WPX:** 115VAC, 60Hz, 2.5A or 230VAC, 50/60Hz, 1.3A.
Indicators	**Yellow and Green LEDs (RJ45 jacks):** IP Link status, 10/100/1000 Base-T/active. **PoE Green LED:** Indicates PoE present. **Fiber Signal Green LEDs:** Indicate SFP connection.
Evironmental Conditions	**Temperature:** **NetWaySP1BT2:** **Operating (90W):** – 40ºC to 75ºC (– 40ºF to 167ºF). **Storage:** – 40ºC to 75ºC (– 40ºF to 167ºF). **NetWaySP1BT2WPN, NetWaySP1BT2WP and NetWaySP1BT2WPX:** **Operating:** **60W:** – 40ºC to 75ºC (– 40ºF to 167ºF). **80W:** – 40ºC to 70ºC (– 40ºF to 158ºF). **90W:** – 40ºC to 60ºC (– 40ºF to 140ºF). **Storage:** – 40ºC to 85ºC (– 40ºF to 185ºF). **Relative Humidity:** 85% +/–5%. **Operating Altitude:** – 304.8 to 2,000m.
Regulatory Compliance	CE European Conformity.

Weights (approx.)	**Model**	**Product Weight**	**Shipping Weight**
	NetWaySP1BT2	0.25 lb. (0.11 kg)	0.3 lb. (0.14 kg)
	NetWaySP1BT2WPN	3.7 lb. (1.68 kg)	5 lb. (2.27 kg)
	NetWaySP1BT2WP	10.5 lb. (4.76 kg)	11.9 lb. (5.4 kg)
	NetWaySP1BT2WPX	15 lb. (6.8 kg)	17.5 lb. (7.9kg)

Fig. 3 - **NetWaySP1BT2**

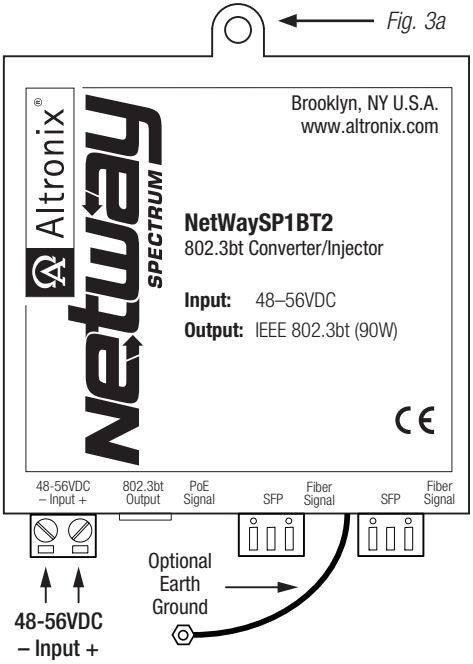


Fig. 4 - **NetWaySP1BT2WPN**

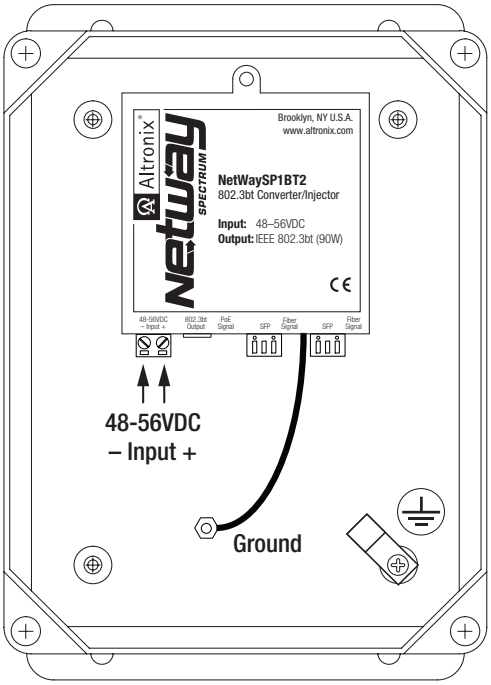


Fig. 5 - **NetWaySP1BT2WP**

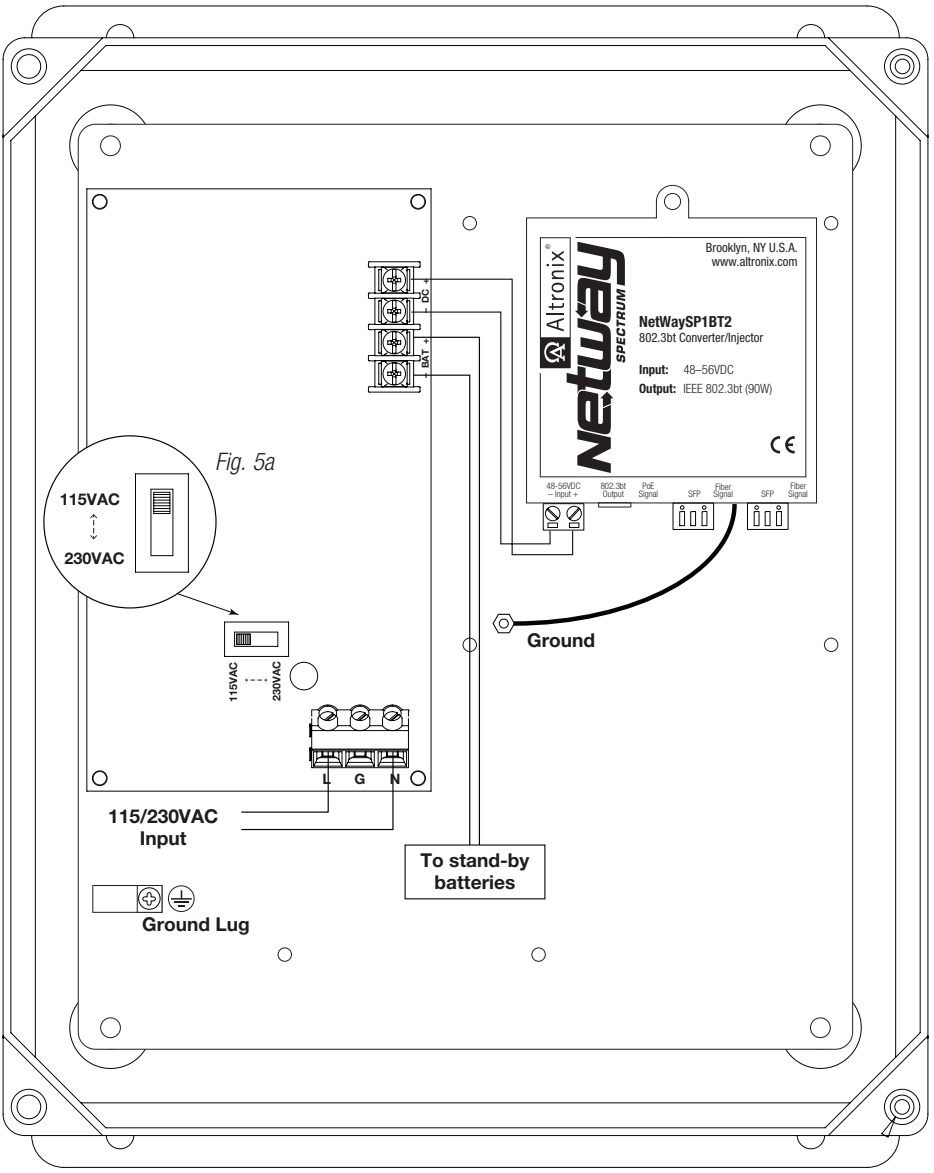


Fig. 5a

Fig. 6 - **NetWaySP1BT2WPX**

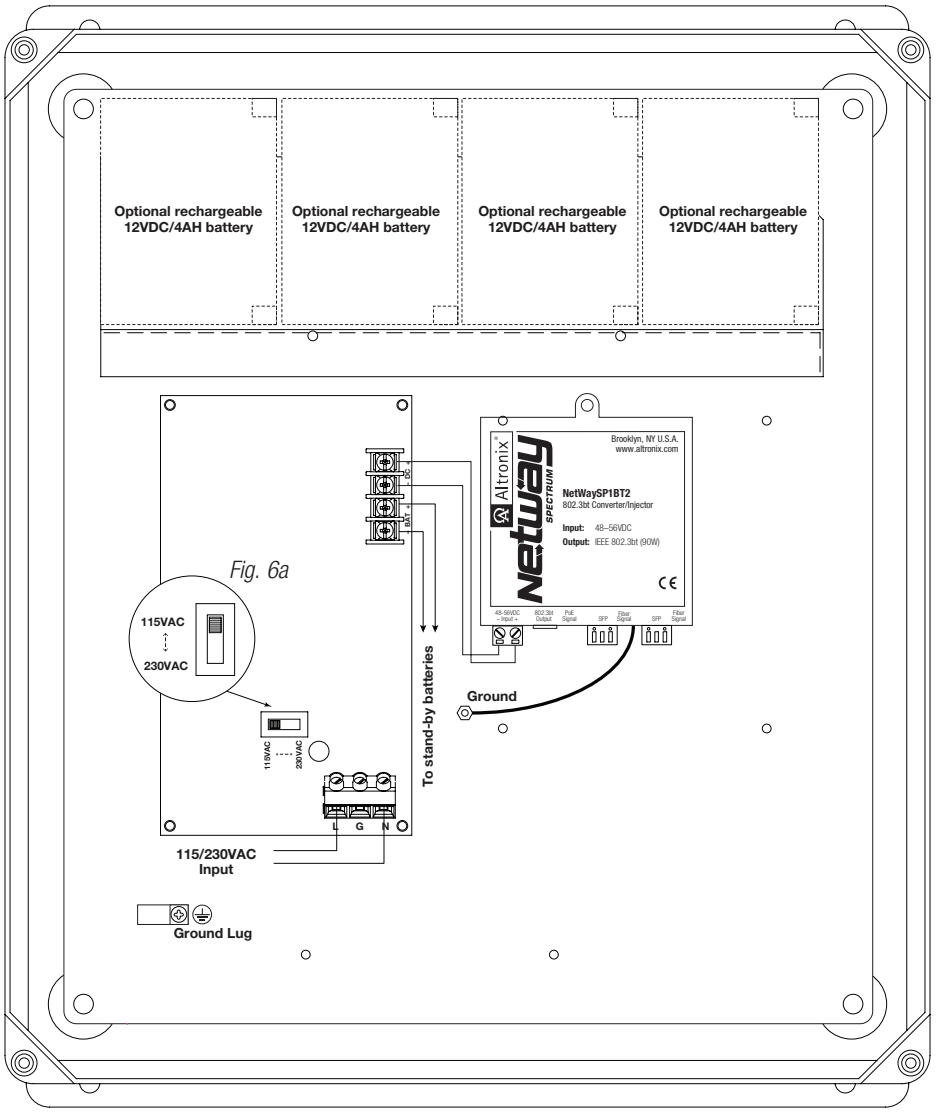
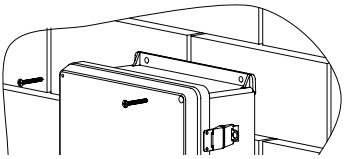


Fig. 6a

Wall Mount Installation:

1- Place unit at desired location and secure with mounting screws *(not included) (Fig. 7, pg. 9).*

Fig. 7



Pole Mounting Using Optional Pole Mount Kit **PMK1** (NetWaySP1BT2WPN, NetWaySP1BT2WP) **or PMK2** (NetWaySP1BT2WPX)**:**

This installation should be made by qualified service personnel. This product contains no serviceable parts. PMK1 and PMK2 outdoor pole mount kits are designed to simplify the installation of Altronix outdoor rated power supplies and accessories housed in models WP1, WP2, WP3 and WP4 NEMA rated enclosures. PMK1 and PMK2 can be mounted on 2" to 8" (50.8mm to 203.2mm) diameter round or 5" (127mm) square poles. Brackets are designed for use with the Wormgear Quick Release Straps (two included).

1. Thread one (1) wormgear quick release strap through the slots on the back of a mounting bracket *(Fig. 6, pg. 8).*
2. Once the desired height of the top Pole Mount bracket is achieved, tighten the straps down by sliding open end of the strap through the locking mechanism on the strap, then tighten the screw with flat head screwdriver or 5/16" hex socket driver *(Fig. 8, pg. 9 and Fig. 9, pg. 9).*

Fig. 8

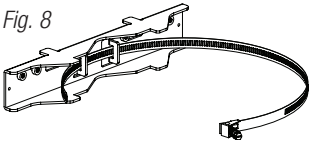


Fig. 9

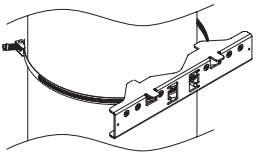
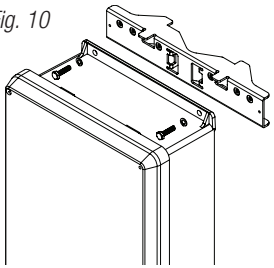


Fig. 10



3. Attach the bottom bracket to the enclosure by inserting bolts through the flange of the enclosure and into the bracket, tightening bolts with a 7/16" hex socket *(Fig. 10, pg. 9).*
4. Thread the second wormgear quick release strap through the slots on the back of the bottom mounting bracket *(Fig. 11, pg. 9).*
5. Mount enclosure onto the top bracket by inserting bolts through flange of the enclosure and into the bracket, tightening bolts with a 7/16" hex socket *(Fig. 9, pg. 9).*
6. Tighten the straps of the bottom bracket down by sliding the open end of the strap through the locking mechanism on the strap, then tighten screw with flat head screwdriver or 5/16" hex socket driver *(Fig. 9, pg. 9).*
7. Clip excess straps.

Fig. 11

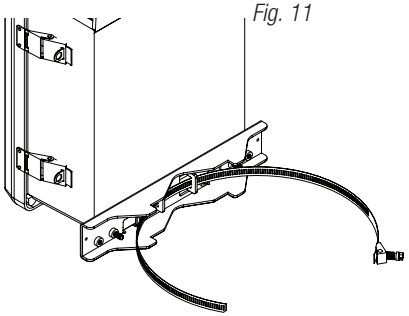


Fig. 12
2" to 8"(50.8mm to 203.2mm) diameter round pole

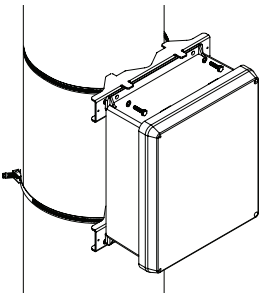
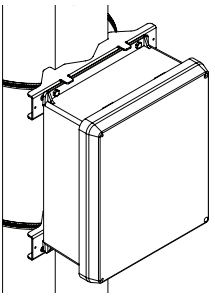
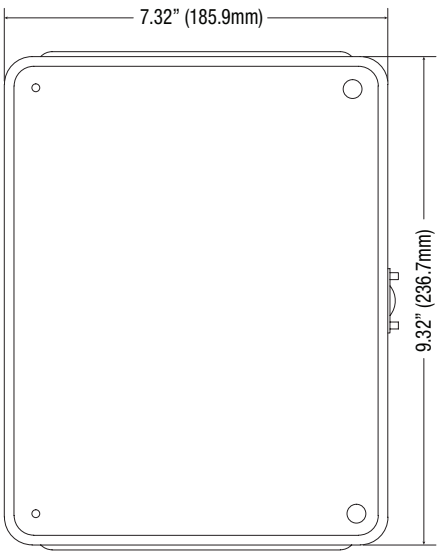


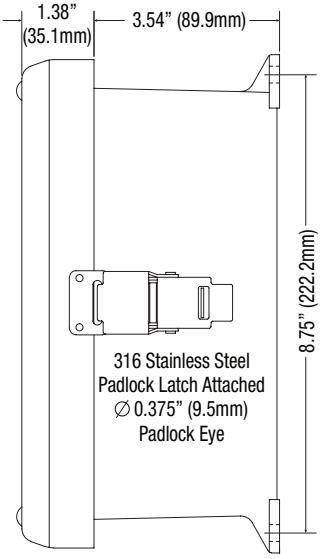
Fig. 12a
5" (127mm) square pole

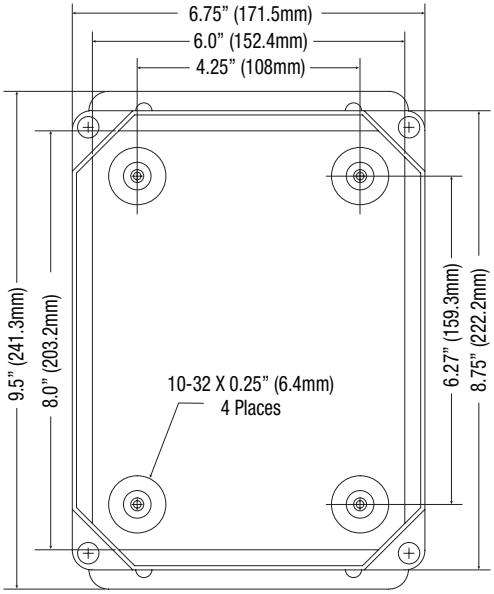


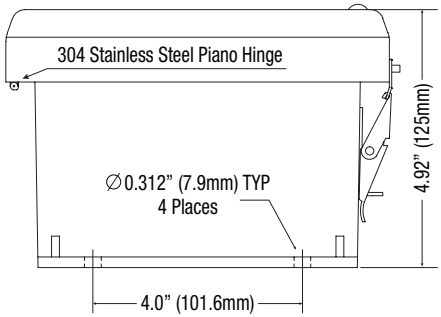
NetWaySP1BT2WPN
Mechanical Drawing and Dimensions (H x W x D approx.):

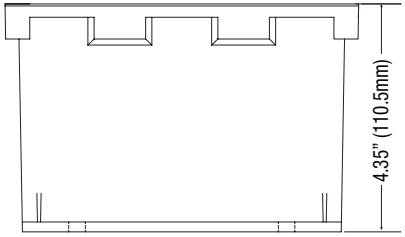
9.5" x 7.32" x 4.92" (241.3mm x 185.9mm x 125mm)







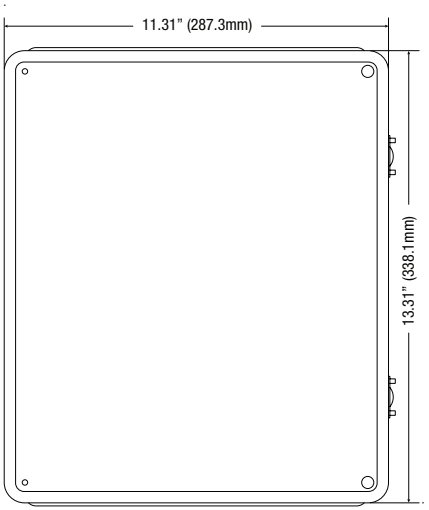




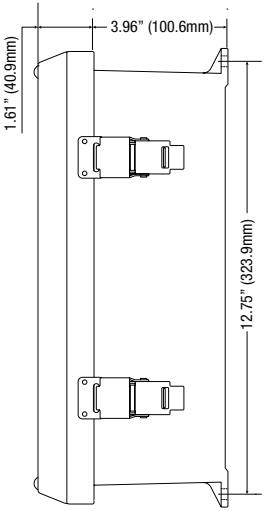
NetWaySP1BT2WP
Enclosure Drawing and Dimensions (H x W x D approx.):

13.31" x 11.31" x 5.59" (338.1mm x 287.3mm x 142mm)

FRONT VIEW



RIGHT SIDE VIEW



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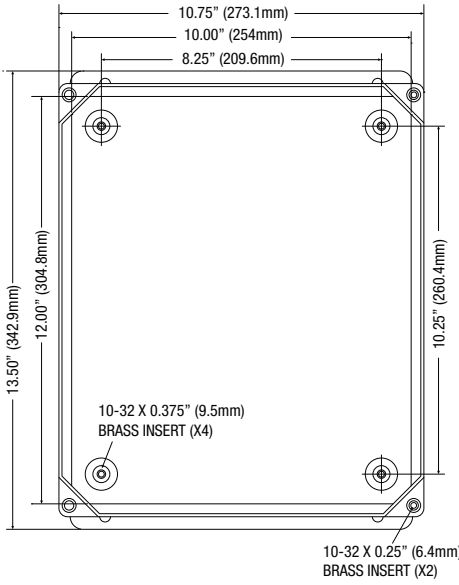
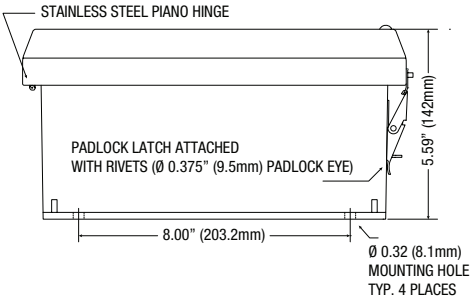


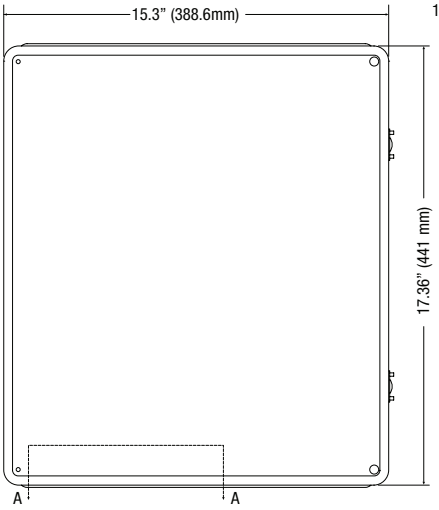
END VIEW



NetWaySP1BT2WPX
Mechanical Drawing and Dimensions (H x W x D approx.):

17.53" x 15.3" x 6.67" (445.3mm x 388.6mm x 169.4mm)

FRONT VIEW



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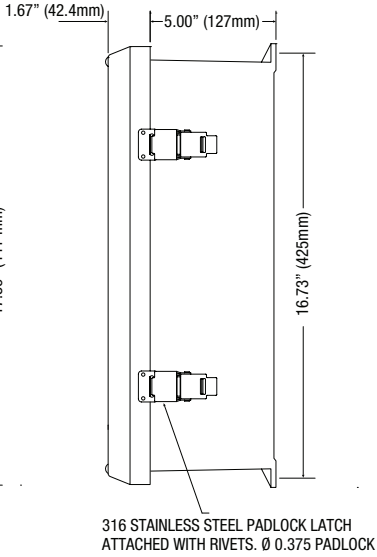

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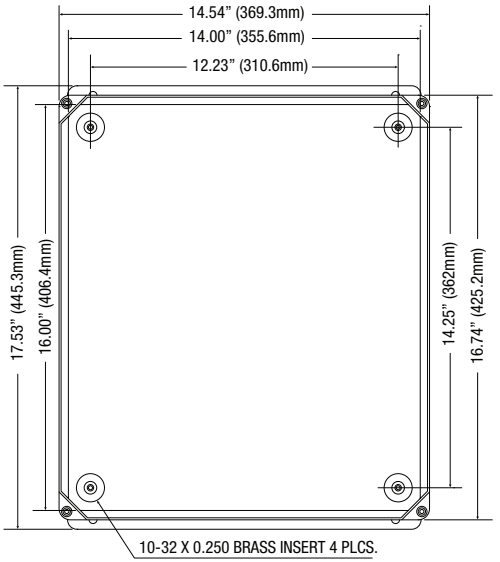
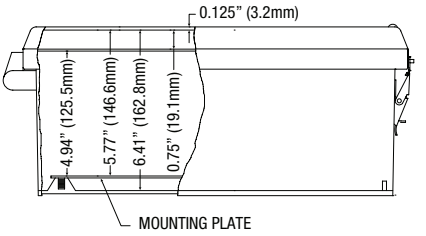


SECTION A-A



END VIEW