Netway SPECTRUM

Fiber Solution

Embedded LINQ TECHNOLOGY

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NetWaySP3L Series

Hardened Ethernet over Fiber PoE+ Switch with Optimized Lithium Iron Phosphate Battery Charger

Models Include:

NetWaySP3LWP

- Fiber Optic SFP 1G Link, 3-port PoE+ switch and power supply.
- NEMA4/4X, IP66 rated Outdoor enclosure.

NetWaySP3LWPX

- Fiber Optic SFP 1G Link, 3-port PoE+ switch and power supply.
- NEMA4/4X, IP66 rated Outdoor enclosure.
- Accommodates one (1) 12V LiFePO4 battery.

NetWaySP3LX

- Fiber Optic SFP 1G Link, 3-port PoE+ switch and power supply.
- NEMA1 rated Indoor enclosure.

NetWaySP3LPL

- Fiber Optic SFP 1G Link, 3-port PoE+ switch and power supply.
- Backplane version

Installation Guide

CE

Altronix®

DOC#: NetWaySP3L Rev. 071620

More than just power.™

Installing Company: _____ Service Rep. Name: _____

Address: _____ Phone #: _____

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Overview:

Altronix NetWay Spectrum Indoor/Outdoor Hardened Ethernet over Fiber PoE+ Switches with Optimized Lithium Iron Phosphate Battery Charger provide one (1) 1Gb SFP (Fiber) port and three (3) PoE/PoE+ ports rated up to 60W each passing data and power to PoE/PoE+ compliant devices. These units are designed to support a single 12V $LiFePO_4$ **(Lithium Iron Phosphate)** battery for high storage and charge/discharge cycle life reliability.
Embedded LINQ Technology allows to monitor, control and report power and diagnostics from anywhere.

Features:

Input:
- 115VAC, 60Hz, 2.5A or 230VAC, 50/60Hz, 1.3A.

Power Output:
- Three (3) PoE/PoE+ ports rated up to 60W each.
- 75W total power.
- IEEE 802.3at (30W) and IEEE 802.3af (15W) compliant.
  (**Note:** connected devices in total not to exceed 75W).
- Integral surge protection.

Fiber Port:
- One (1) Gigabit SFP ports.
- Use with SFP module 1000Base-X (1Gb), compliant to Class 1 laser product (not included).

Ethernet Ports:
- Three (3) 10/100/1000 Mbps ports.
- Connectivity: RJ45, auto-crossover.
- Wire type: 4-pair CAT5 or better structured cable.
- Distance: up to 100m.
- Speed: 10/100/1000 Mbps, half/full duplex, auto negotiation.

Applications:
- Provides PoE / PoE+ / 60W for cameras/devices.

Battery Backup:
- Built-in charger for 12V $LiFePO_4$ **(Lithium Iron Phosphate)** battery.
  Caution: Do not use lead acid or gel type batteries.
- Automatic switch over to stand-by battery when AC fails.

Environmental:
- Operating Ambient Temperature:
  60W: –40ºC to 75ºC (–40ºF to 167ºF);
  75W: –40ºC to 70ºC (–40ºF to 158ºF);
- Relative Humidity: 85%, +/– 5%
- Storage Temperature:
  –40ºC to 85ºC (–40ºF to 185ºF).
- Operating Altitude: –304.8 to 2,000m.

LINQ Technology:
- Remote network management allows for camera/device reset and monitoring.
- Provides local and/or remote access to critical information via LAN/WAN.
- Email and Windows Dashboard Alert notifications report real-time diagnostics.
- Event log tracks history.

LEDs:
- Individual **PoE On** LEDs for each port.
- Individual **IP Link status, 10/100Base-T/active** LEDs for each port.
- **ALOS** LED indicates fiber connection for SFP port.
- **Heartbeat** LED indicates proper operation of the unit.

Accessories:
NetWaySP1A
- Ethernet over Fiber Media Converter/Repeater - for applications requiring an additional SFP (Fiber) port.

P1MM
- SFP multi-mode transceiver (distances up to 550m).

P1SM10
- SFP single mode transceiver (distances up to 10km).

P1AB2K
- SFP single strand single mode transceiver kit (distances up to 2km).

P1GCE
- SFP Copper Transceiver for use with CAT5e or better (distances up to 100m).

PMK2
- Pole Mount Kit for outdoor enclosures.

BTL125
- 12VDC 4.5AH Lithium Iron Phosphate Battery.

Mechanical:
NetWaySP3LWP
- 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).

NetWaySP3LWPX
- NEMA4/4X, IP66 Rated enclosure for outdoor use.
- Accommodates one (1) 12V $LiFePO_4$ **(Lithium Iron Phosphate)** battery.
- Dimensions (H x W x D approx.):
  17.375" x 12" x 6.5"
  (441.3mm x 304.8mm x 165.1mm).

NetWaySP3LX
- Dimensions (H x W x D approx.):
  13.5" x 13" x 3.25" (342.9mm x 330.2mm x 83mm).

NetWaySP3LPL
- Dimensions (H x W x D approx.):
  10.75" x 8.875" x 2.375"
  (273.1mm x 225.4mm x 60.3mm).

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.

Mounting Instructions:

NetWaySP3LPL Mounting and Installation:

1. Mount backplane in the desired location/enclosure with hardware supplied *(Backplane Dimensions, pg. 10)*.

NetWaySP3LWP/WPX Enclosure Mounting and Installation:

1. 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.
2. 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.
   UL Listed NEMA type 4X rated conduit connector/hubs shall be used for the appropriate size inlets.
3. Clean out the inside of enclosure before remounting circuit board.
4. Mounting NEMA4/4X rated enclosure *(Enclosure Dimensions, pgs. 11-12)*:
   Wall mount: Mount unit in desired location. Mark and drill holes to line up with the top and bottom holes 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. 5, pg. 8)*.
   Pole Mount: *Refer to Figs. 6 - 11, pg. 8.*
5. Mount backplane in enclosure with hardware.
6. To facilitate wire entry utilize weather-tight NEMA rated connectors *(supplied)*, bushings, and cable.

NetWaySP3LX Enclosure Mounting and Installation:

1. Mount unit in the desired location. Mark and predrill holes in the wall to line up with the top two keyholes in the enclosure. Install two (2) upper fasteners and screws in the wall with the screw heads protruding. Place the enclosure's upper keyholes over the two (2) upper screws; level and secure. Mark the position of the lower two (2) holes. Remove the enclosure. Drill the lower holes and install two fasteners. Place the enclosure's upper keyholes over the two (2) upper screws. Install the two (2) lower screws and make sure to tighten all screws *(Enclosure Dimensions, pg. 9)*. Secure enclosure to earth ground.

Power Connection:

1. Secure cabinet to earth ground. Connect AC power from overcurrent protective device circuit breaker (20A @ 115VAC, 60Hz, 16A @ 230VAC, 50/60Hz) to the terminals marked [L, N] on power supply board *(Fig. 1, pg. 4)*. Use 14AWG or larger for all power connections (Battery, DC output, AC input).
   Connect ground lug ⏚ to earth or green branch wire (12AWG min.).
   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.

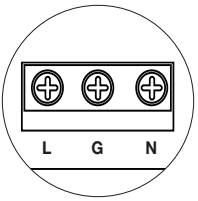


Fig. 1

Input/Data Connections:

1. Connect structured cables from port marked [Port 1], [Port 2] or [Port 3] on NetWay unit to PoE compliant cameras/edge devices *(Fig. 4, pg. 5)*.
   Note: All interconnected devices must be UL Listed.
2. Insert SFP module into port marked [SFP], then connect cable to the SFP module on NetWaySP3B to the corresponding input of an SFP switch *(Fig. 4, pg. 5)*.

Battery Backup:

4. **Battery Backup** (if desired): Connect one (1) 12V $LiFePO_4$ **(Lithium Iron Phosphate)** battery to terminals marked [+ BAT –] *(Fig. 2, pg. 4)*, carefully observing polarity.
   Use Altronix **BTL125** 12V/4.5AH Lithium Iron Phosphate battery.
   Note: When battery is not used, a loss of AC will result in the loss of output voltage.
   CAUTION: Do not use lead acid or gel type batteries.

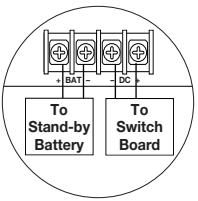


Fig. 2

Security:

5. Please ensure that the cover is secured with:
   Key lock and screws for **NetWaySP3LX**, latches and optional Altronix Lock1WP for **NetWaySP3LWP/WPX.**

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.

Technical Specifications:

Parameter	Description		
Number of Ports	Three (3) ports PoE+ (30W) or up to two (2) 60W ports. One (1) Gigabit SFP Port.		
Input Power Requirements	115VAC, 60Hz, 2.5A or 230VAC, 50/60Hz, 1.3A.		
Environmental Conditions	Operating Ambient Temperature: Relative Humidity: Storage Temperature: Operating Altitude:	**60W:** –40ºC to 75ºC (–40ºF to 167ºF); **75W:** –40ºC to 70ºC (–40ºF to 158ºF); 85%, +/– 5% – 40ºC to 85ºC (– 40ºF to 185ºF). – 304.8 to 2,000m.	
Weights (approx.)	**Model**	**Product Weight**	**Shipping Weight**
	NetWaySP3LWP NetWaySP3LWPX NetWaySP3LX NetWaySP3LPL	10.72 lb. (4.86 kg) 15 lb. (6.8 kg) 6.85 lb. (3.11 kg) 2.8 lb. (1.27 kg)	12.1 lb. (5.49 kg) 17.5 lb. (7.9kg) 7.75 lb. (3.51 kg) 4.2 lb. (1.9 kg)

Typical Applications:

Fig. 4

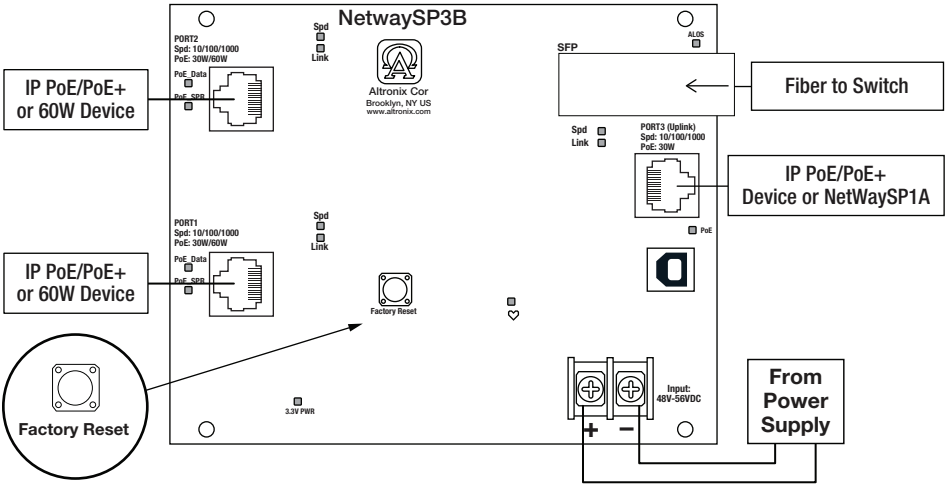
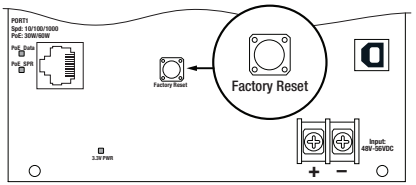


Fig. 4a

Factory Reset Option:

1. Power the unit down. Allow approximately 30 seconds for the unit to power down completely.
2. Depress **Factory Reset** button on NetWaySP3B while reapplying power to the unit *(Fig. 4a, pg. 5; Fig. 5, pg. 6)*. Continue holding the button until the LEDs on board go through the start up cycle, then release the button.
3. The unit returns to the original factory settings.

Fig. 5

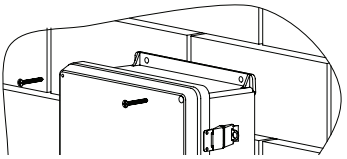


Notes:

Wall Mount Installation:

1- Place unit at desired location and secure with mounting screws *(not included) (Fig. 6, pg. 8).*

Fig. 6



Pole Mounting Using Optional Pole Mount Kit **PMK1** (NetWaySP3LWP) **or PMK2** (NetWaySP3LWPX)**:**

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 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. 7, 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. 8 and Fig. 10, pg. 8).*

Fig. 7

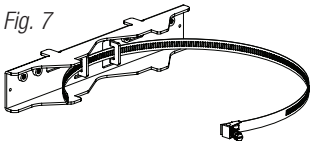


Fig. 8

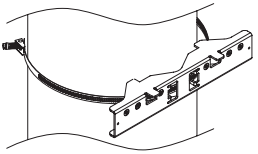
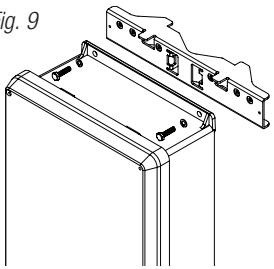


Fig. 9



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. 9, pg. 8).*
4. Thread the second wormgear quick release strap through the slots on the back of the bottom mounting bracket *(Fig. 10, pg. 8).*
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. 8, pg. 8).*
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. 8, pg. 8).*
7. Clip excess straps.

Fig. 10

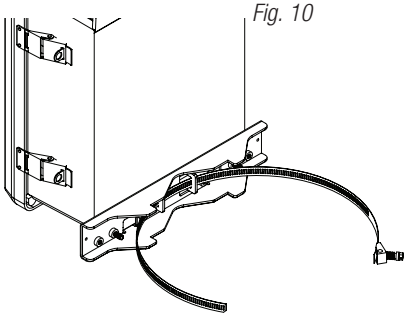


Fig. 11
2" to 8"(50.8mm to 203.2mm) diameter round pole

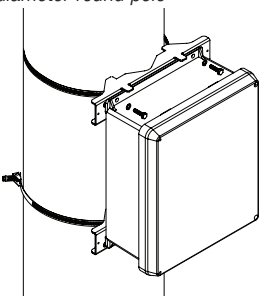
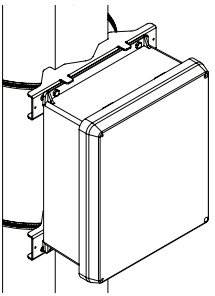
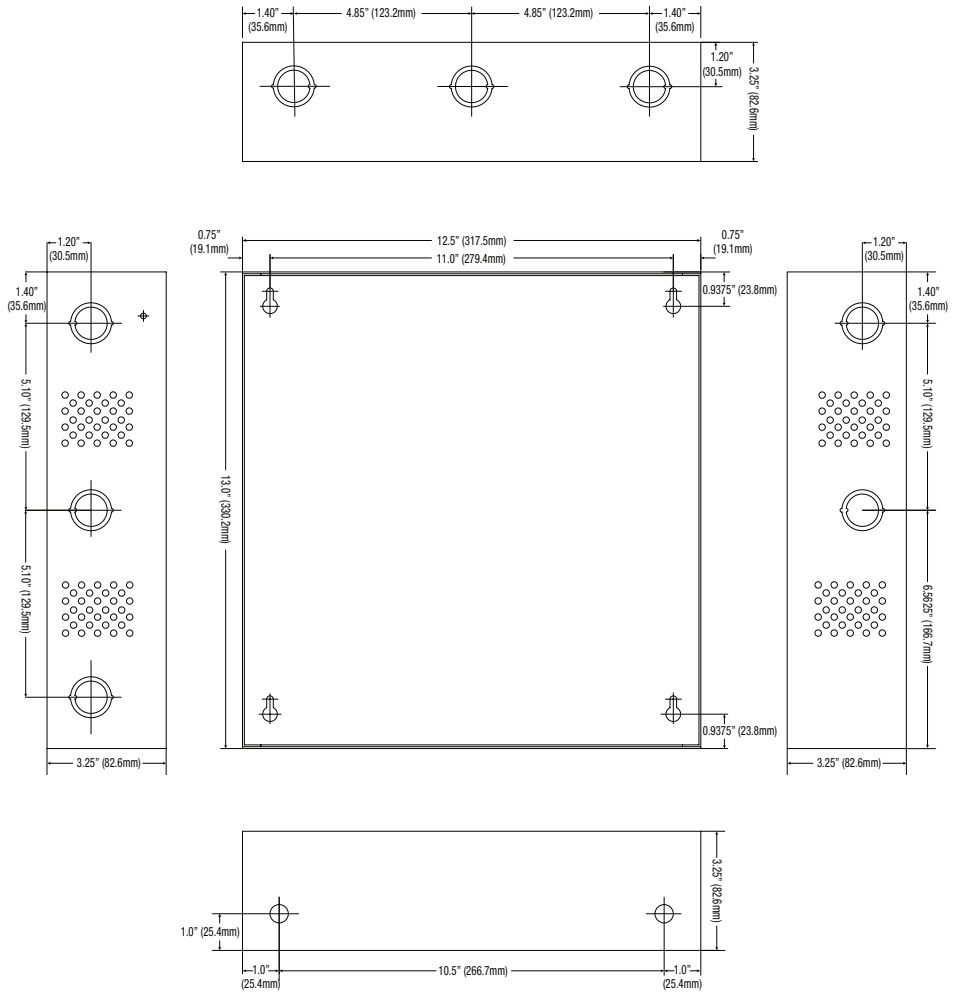


Fig. 11a
5" (127mm) square pole



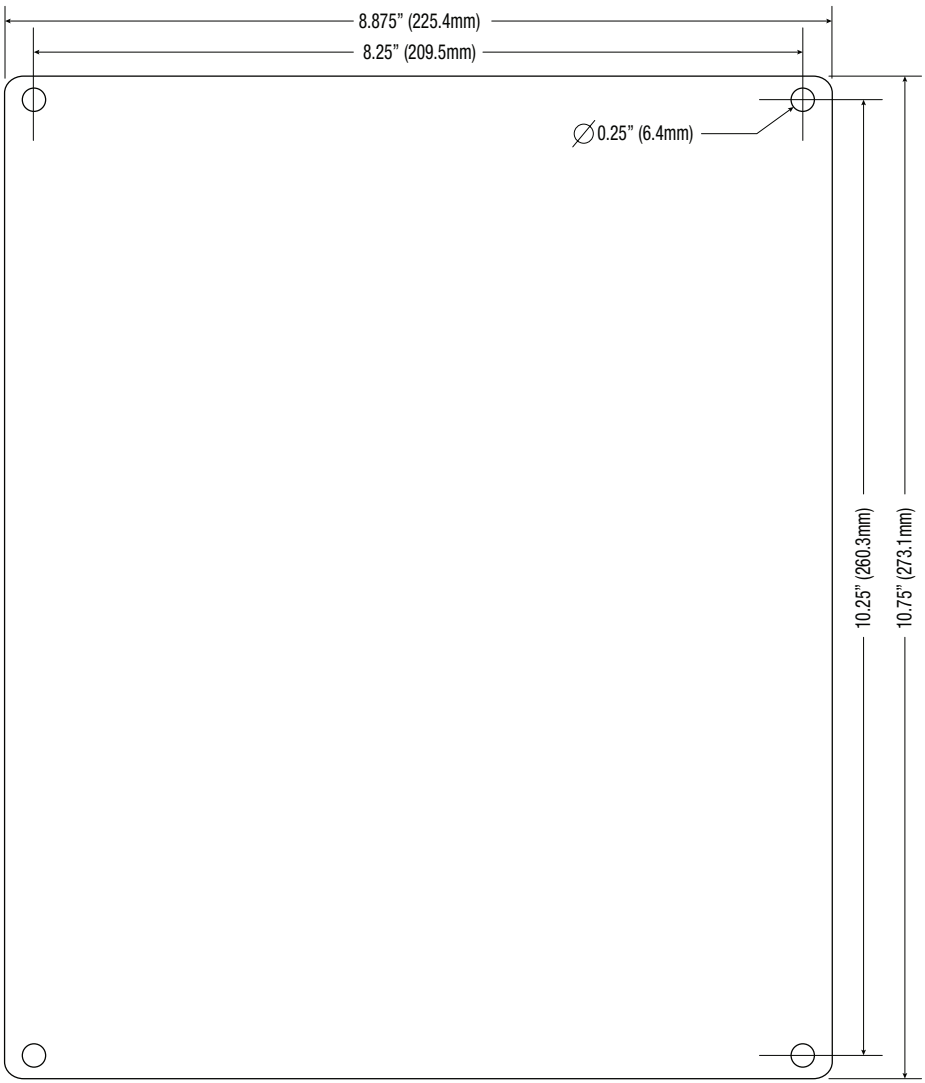
NetWaySP3LX
Mechanical Drawing and Dimensions (H x W x D approx.):

13.5” x 13” x 3.25” (342.9mm x 330.2mm x 82.6mm)



NetWaySP3LPL
Mechanical Drawing and Dimensions (H x W x D approx.):

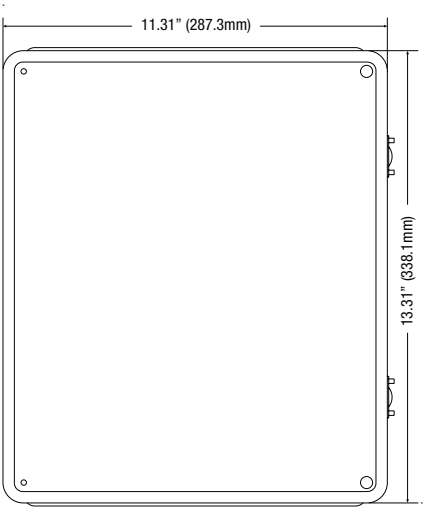
10.75” x 8.875” x 2.375” (273.1mm x 225.4mm x 60.3mm)



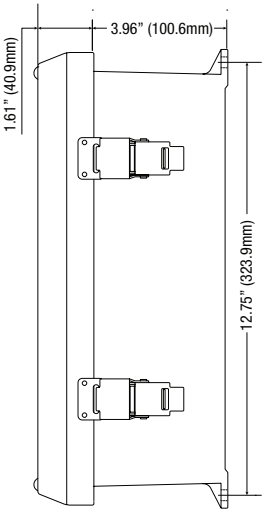
NetWaySP3LWP
Mechanical Drawing and Dimensions (H x W x D approx.):

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

FRONT VIEW



RIGHT SIDE VIEW



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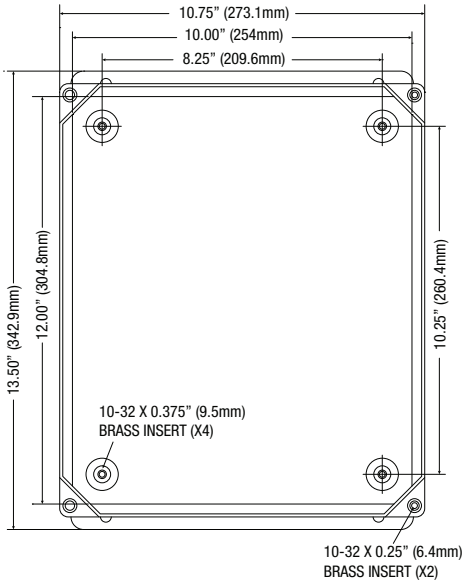
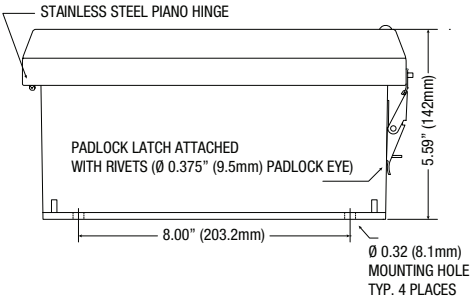


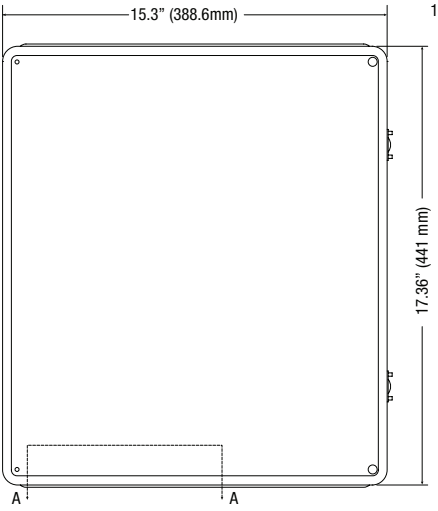
END VIEW



NetWaySP3LWPX
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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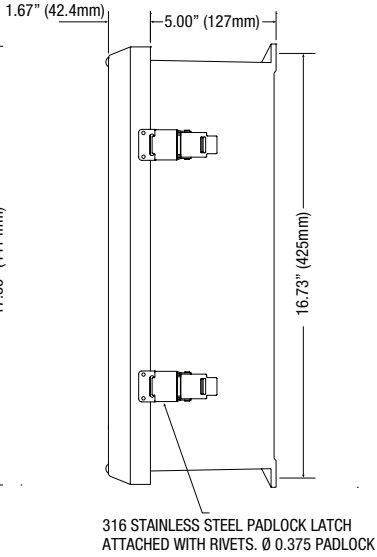

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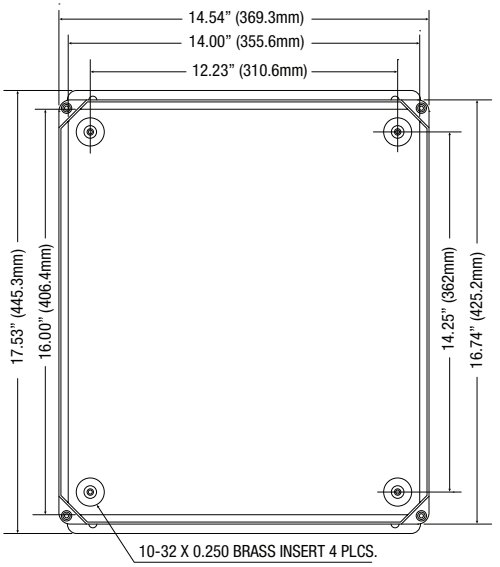
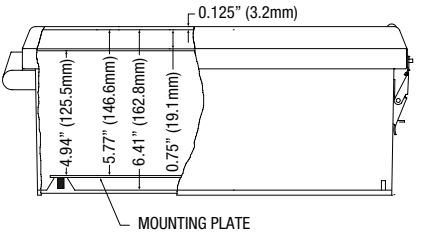


SECTION A-A



END VIEW

