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Fiber Solution

NetWaySP3 Series

3-Port Ethernet over Fiber

PoE+ Hardened Switches

Models Include:

NetWaySP3WP

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

NetWaySP3WPX

- Includes Fiber Optic SFP 1G Link, 3-port PoE+ switch and power supply.
- NEMA4/4X, IP66 rated Outdoor enclosure.
- Accommodates up to four (4) 12VDC/4AH batteries.

NetWaySP3X

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

NetWaySP3WPN

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

NetWaySP3PL

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

NetWaySP3B

- Fiber Optic SFP 1G Link and 3-port PoE+ switch
- Board Only

Installation Guide



DOC#: NetWaySP3 Rev. 020917

More than just power.™

Installing Company: _____ Service Rep. Name: _____

Address: _____ Phone #: _____

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Overview:

Altronix NetWay Indoor/Outdoor Ethernet over Fiber PoE+ Hardened Switches provide a 1Gb SFP port and three (3) PoE+ (30W) ports or up to two (2) 60W ports, passing data and power to PoE/PoE+ compliant devices. Cameras/edge devices may be located up to 100m from the unit. Features also include an integral battery charger for applications requiring backup and embedded LINQ Technology to monitor, control, and report power and diagnostics from anywhere.

Features:

Agency Listings:

- UL/cUL Listed for Information Technology Equipment (UL 60950-1), Information Technology Equipment to Be Installed Outdoors (UL 60950-22).
- CE European Conformity.

Input:

- 115VAC, 60 Hz, 2.5A or 230VAC, 50/60 Hz, 1.3A.
- NetWaySP3B/NetWaySP3WPN:
48-56V UL Listed ITE power supply (up to 120W).

Power Output:

- Three (3) ports PoE+ (30W) or up to two (2) 60W ports.
- IEEE 802.3at (30W) and IEEE 802.3af (15W) compliant.
- 120W total power.
- Integral surge protection.

Fiber Port:

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

Ethernet:

- Three (3) 10/100/1000 Mbps ports.
- Connectivity: RJ45, auto-crossover.
- Wire type: 4-pair CAT5e or better structured cable.
- Distance: up to 100m.
- Speed: 10/100/1000Mbps, half/full duplex, auto negotiation.

Battery Backup:

- Built-in charger for sealed lead acid or gel type batteries.
- Battery charging circuit: 48VDC, 300mA.
- Automatic switch over to stand-by battery when AC fails.

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.

Applications:

- Provides PoE / PoE+ for cameras/devices.
- Altronix Spectrum switches can be used as a switching node in daisy chain and ring network configurations.
- Spectrum switches can pass VLAN 802.IQ protocol.
- Spectrum switches can pass SNMP protocol.

Environmental:

- Refer to Technical Specifications Chart on page 4 for Environmental Conditions.

LINQ Technology:

- Remote network management allows for camera/device reset and monitoring.
- PoE port management via Dashboard IP management program.
- 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.

Accessories:

- **NetWaySP1A** - Ethernet over Fiber Media Converter/Repeater -for applications requiring an additional SFP (Fiber) port (*Fig. 2, pg. 7*).

Mechanical:

NetWaySP3WP

- 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).

NetWaySP3WPN

- 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).

NetWaySP3WPX

- 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).

NetWaySP3X

- Dimensions (H x W x D approx.):
13.5" x 13" x 3.25"
(342.9mm x 330.2mm x 82.6mm).

NetWaySP3PL

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

NetWaySP3B

- Dimensions (L x W x D approx.):
5.625" x 4.5" x 0.625"
(158.8mm x 142.9mm x 15.9mm).

Mounting 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.

NetWaySP3WP/SP3WPN/SP3WPX 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. 12-13*):
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. 4, pg. 9*).
Pole Mount: Refer to *Figs. 5 - 9, pg. 9*.

Note: All inlets for conduit fittings should be on the bottom of the enclosure.

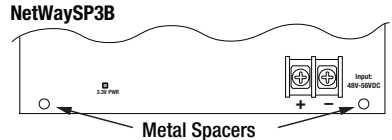
5. Mount backplane in enclosure with hardware.
6. To facilitate wire entry utilize weather-tight NEMA rated connectors (*supplied*), bushings, and cable.

NetWaySP3X 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. 10*). Secure enclosure to earth ground.

NetWaySP3B/SP3PL Mounting and Installation:

1. Mount board/backplane in the desired location/enclosure with hardware supplied.
2. **NetWaySP3B:** Connect 56VDC/120W max power source to terminal marked [+] and [-].
Note: For proper earth ground connections on NetWaySP3B fasten metal spacers (provided) to threaded studs at indicated board mounting holes (*shown on the right*).
This is recommended for better environmental immunity.



Installation Instructions:

1. For NetWaySP3WP, NetWaySP3WPX, NetWaySP3X, and NetWaySP3PL:
Before powering unit, set input voltage selection switch to proper Input Voltage position (Fig. 2a, pg. 7). Units are factory set for 115VAC.
2. 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. 2, pg. 7*). Use 14AWG or larger for all power connections (Battery, DC output, AC input). Connect ground lug Ⓧ to earth or green branch wire (12AWG min.).
Note: For NetWaySP3WPN use external 48-56V UL Listed ITE power supply, carefully observing correct polarity (*Fig. 3, pg. 7*).
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.
3. Connect structured cables from port marked [Port 1], [Port 2] or [Port 3] on NetWaySP3B to PoE compliant cameras/edge devices (*Fig. 2, pg. 7*).
Note: All interconnected devices must be UL Listed.

4. 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. 2, pg. 7*).
5. **Battery Backup** (if desired): Connect four (4) 12VDC batteries wired in series to terminals marked [+ BAT -] (*Fig. 2, pg. 7*), 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.
6. Please ensure that the cover is secured with:
Key lock and screws for **NetWaySP3X**,
Latches and optional Altronix Lock1WP **NetWaySP3WP, NetWaySP3WPN and NetWaySP3WPX**.

Recommended Altronix SFP Modules:

P1MM - For use with Multi-Mode Fiber for distances up to 550m.

P1AB2K - For use with Single Strand Single-Mode Fiber for distances up to 2km.

Technical Specifications:

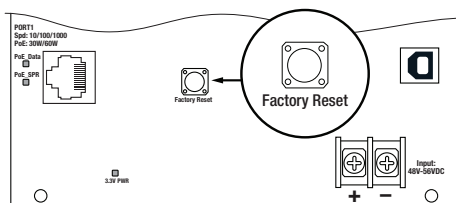
Configuring Unit for Network Connection:

Visit altronix.com for the latest firmware and installation instructions

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. 1, pg. 6; Fig. 2b, pg. 7*). 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. 1



Typical Applications:

NetWaySP3WP and NetWaySP3WPX Power Supply Board Orientation

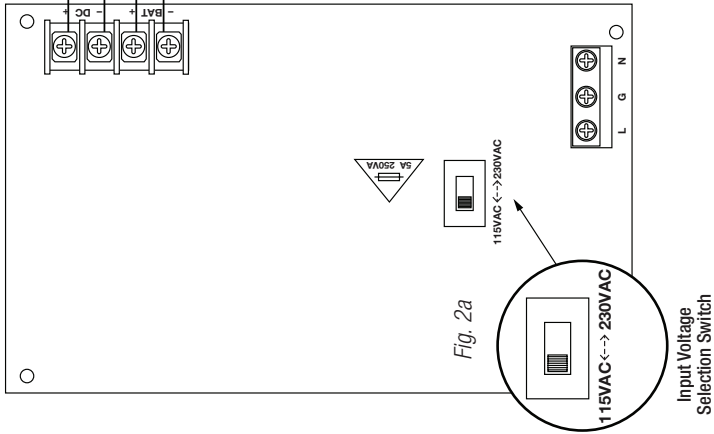
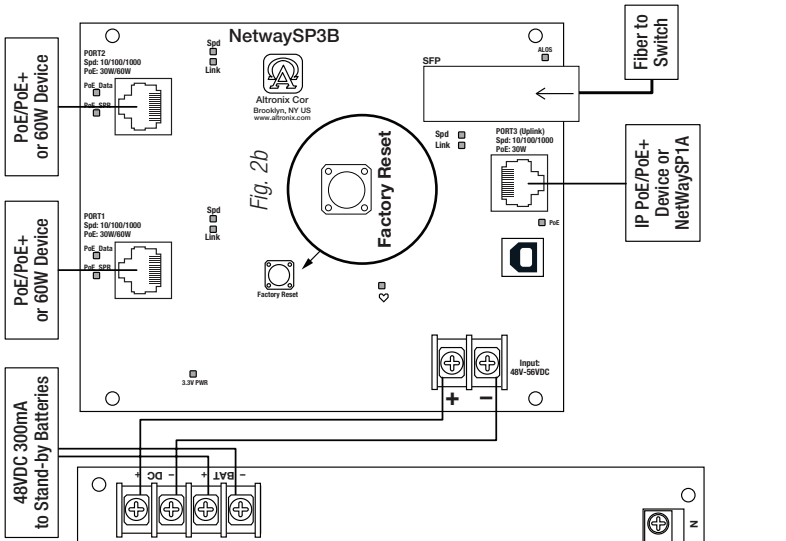


Fig. 2

NetWaySP3X - Power Supply Board Orientation

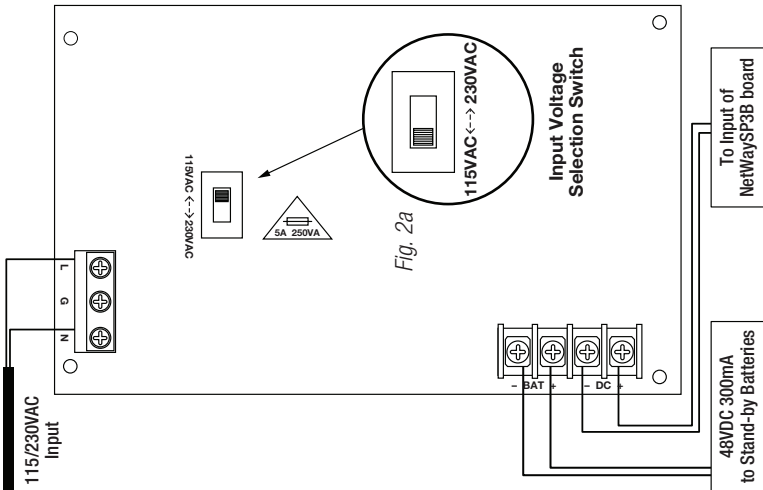
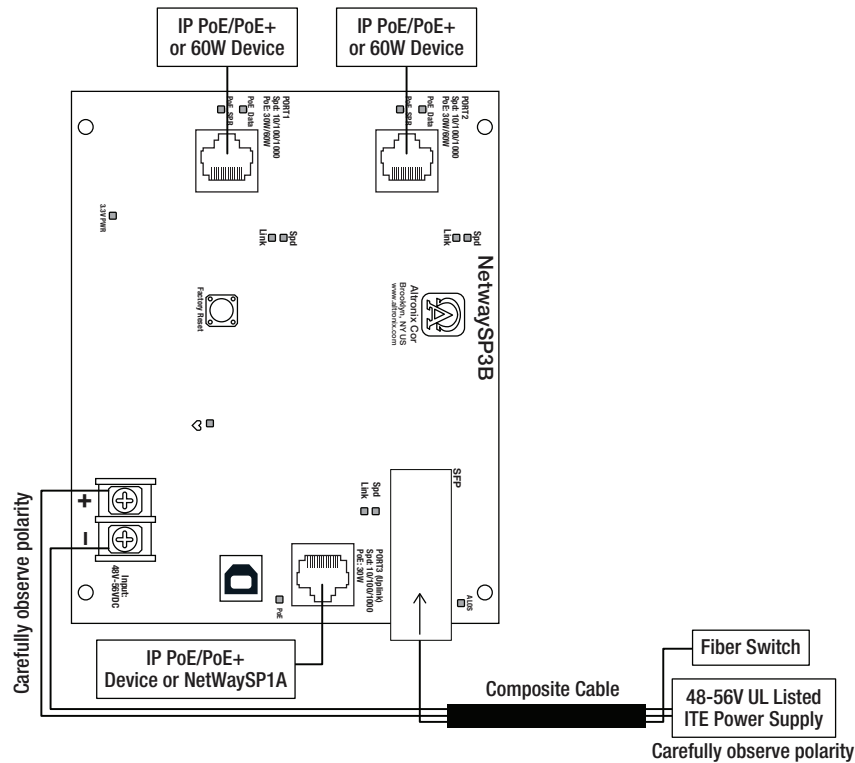


Fig. 3 - NetWaySP3WPN – Typical Application with Composite Cable



Power Distance Chart

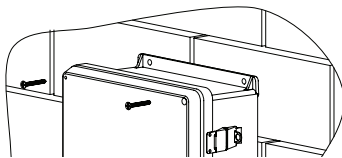
Power Requirements	Power Cabling	Maximum Distance (ft./m)
15W	12/2	11,162' / 3403m
30W	12/2	5,581' / 1702m
45W	12/2	3,767' / 1,148m
60W	12/2	2,739' / 835m
75W	12/2	2,249' / 686m
90W	12/2	1,872' / 571m
105W	12/2	1,607' / 490m
120W	12/2	1,408' / 429m
15W	16/2	4,415' / 1,346m
30W	16/2	2,207' / 673m
45W	16/2	1,490' / 454m
60W	16/2	1,083' / 330m
75W	16/2	889' / 271m
90W	16/2	740' / 226m
105W	16/2	635' / 194m
120W	16/2	557' / 170m

Estimated distances based on starting voltage of 56VDC and accounts for a 10 volt drop. All distances are per IEEE 802.3at standard for device power requirements of minimum 44VDC and leave an approximate 2 volts for safety and flexibility.

Wall Mount Installation

1. Place unit at desired location and secure with mounting screws *(not included)* (Fig. 4, pg. 9).

Fig. 4



Pole Mounting Using Optional Pole Mount Kit

PMK1 (NetWaySP3WP and NetWaySP3WPN) or PMK2 (NetWaySP3WPX):

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. 5, pg. 9).
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. 5, pg. 9 and Fig. 8, pg. 9).

Fig. 5

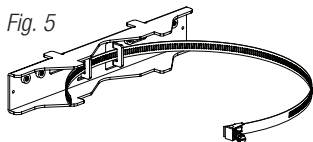


Fig. 6

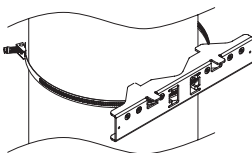
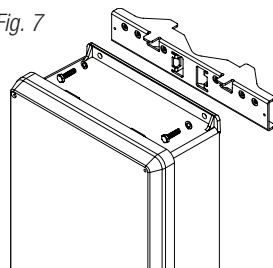


Fig. 7



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

Fig. 8

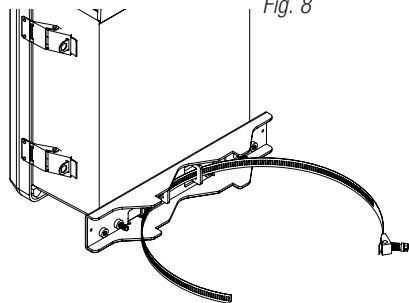


Fig. 9
2" to 8" (50.8mm to 203.2mm)
diameter round pole

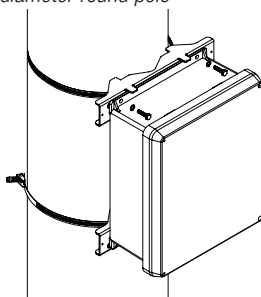
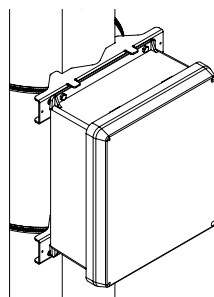
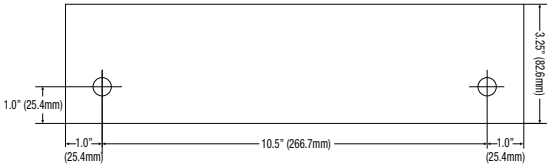
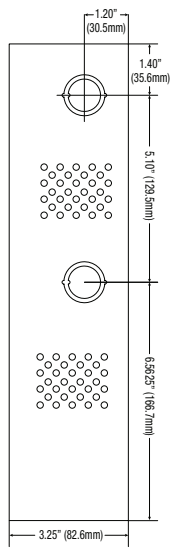
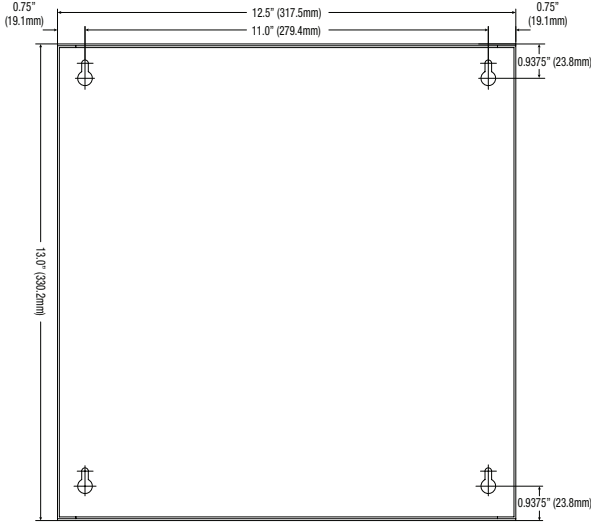
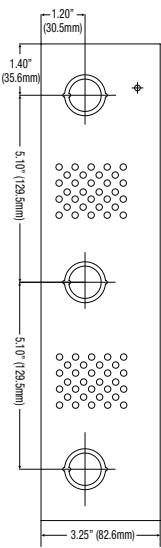
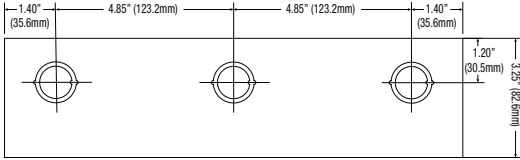


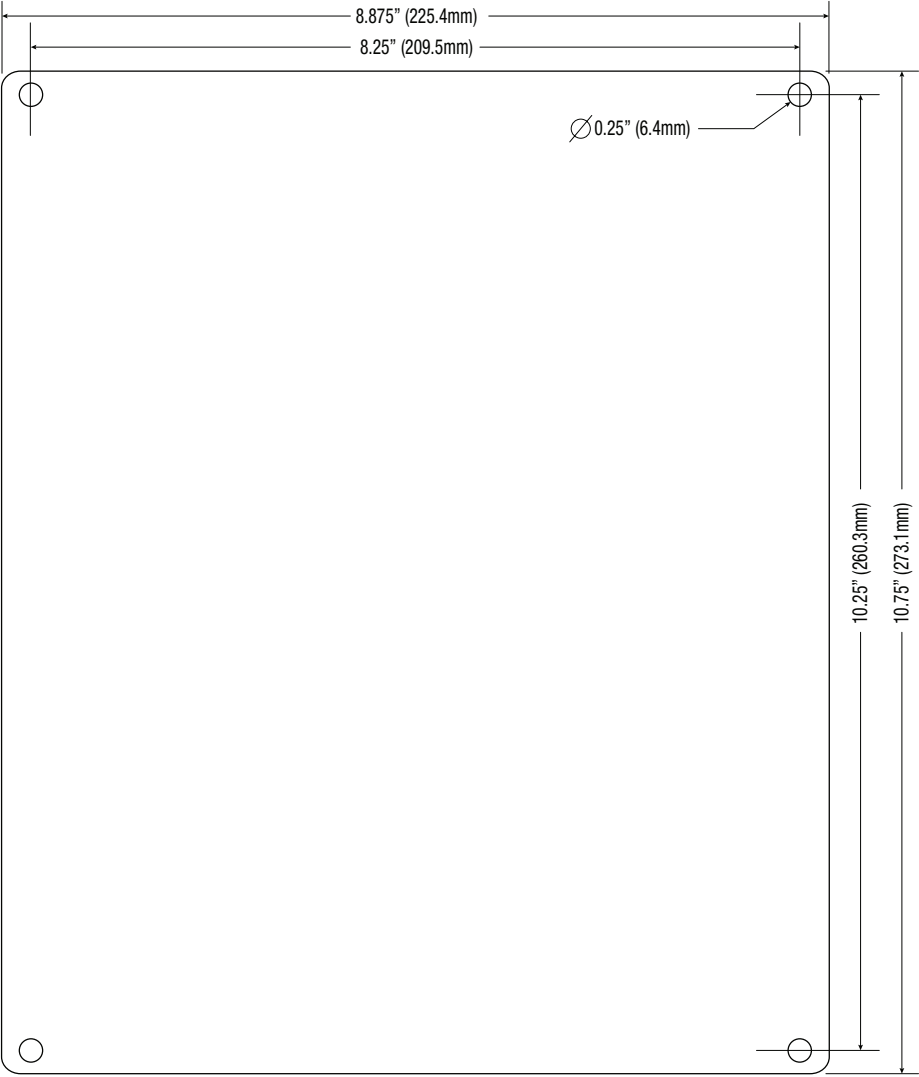
Fig. 9a
5" (127mm) square pole



NetWaySP3X
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)



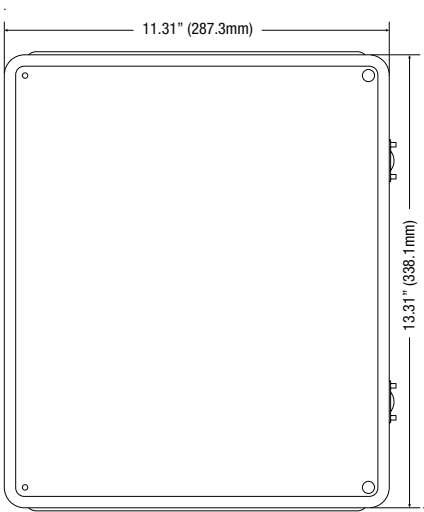
NetWaySP3PL
Mechanical Drawing and Dimensions (H x W x D approx.):
10.75" x 8.875" x 2.375" (273.1mm x 225.4mm x 60.3mm)



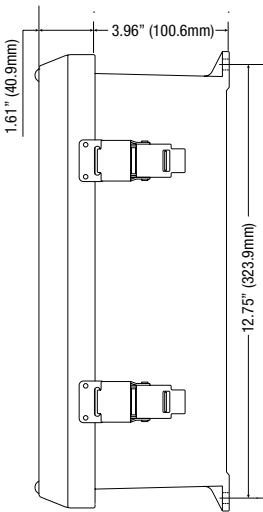
NetWaySP3WP and NetWaySP3WPN
Mechanical Drawing and Dimensions (H x W x D approx.):

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

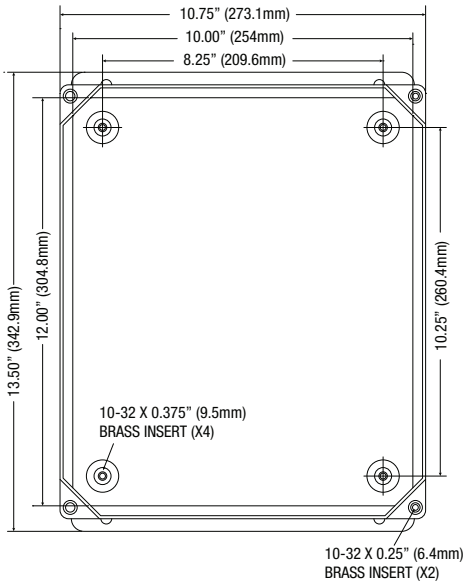
FRONT VIEW



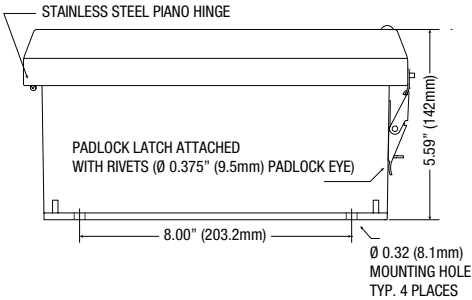
RIGHT SIDE VIEW



FRONT VIEW COVER REMOVED

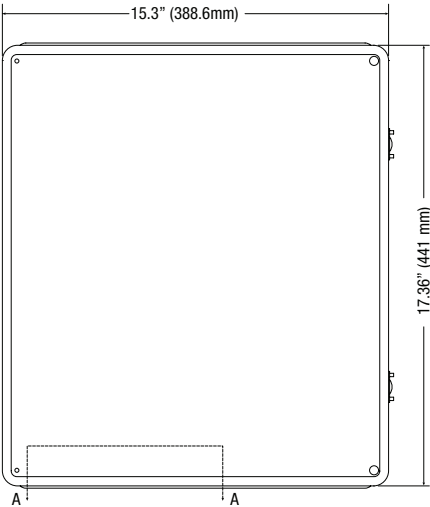


END VIEW

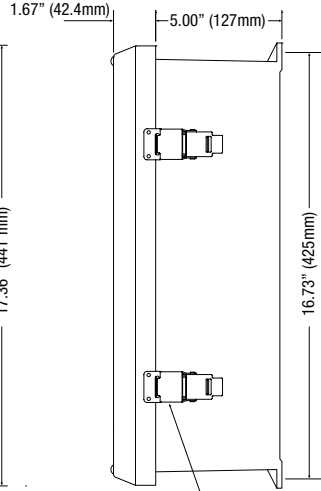


NetWaySP3WPX **Mechanical Drawing and Dimensions (H x W x D approx.):** 17.53" x 15.3" x 6.67" (445.3mm x 388.6mm x 169.4mm)

FRONT VIEW

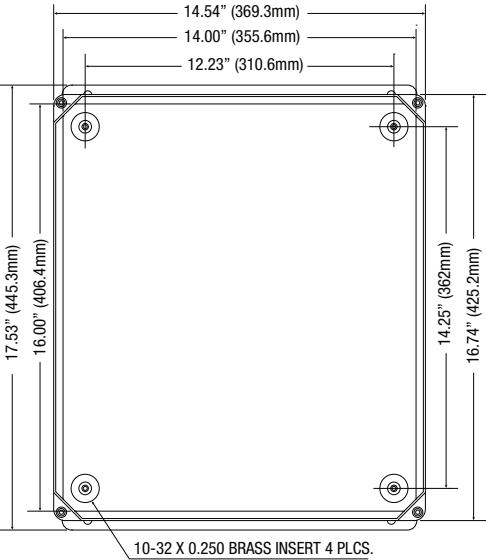


RIGHT SIDE VIEW

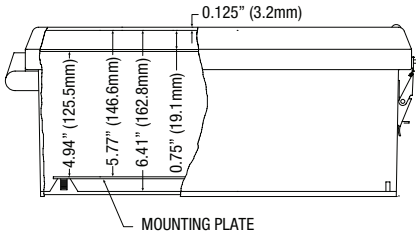


316 STAINLESS STEEL PADLOCK LATCH
 ATTACHED WITH RIVETS. Ø 0.375 PADLOCK EYE

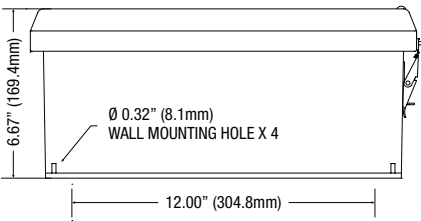
FRONT VIEW COVER REMOVED



SECTION A-A



END VIEW



Notes:

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Altronix is not responsible for any typographical errors.

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