



Power over the Ethernet

NetWay5PQ Series

LINQ Managed 5-Port Hardened PoE+ Switches

Models Include:

NetWay5PQWP

- 5-port Managed Hardened PoE Switch with Power Supply/Charger
- NEMA4/4X, IP66 rated Outdoor enclosure.

NetWay5PQWPX

- 5-port Managed Hardened PoE Switch with Power Supply/Charger
- NEMA4/4X, IP66 rated Outdoor enclosure.
- Accommodates up to four (4) 12VDC/4AH batteries.

NetWay5PQX

- 5-port Managed Hardened PoE Switch with Power Supply/Charger
- NEMA1 rated Indoor enclosure.

NetWay5PQWPN

- 5-port Managed Hardened PoE Switch
- NEMA4/4X rated outdoor enclosure

NetWay5PQ

- 5-port Managed Hardened PoE Switch
- Board Only

Installation Guide



More than just power.™

Rev. 012924

Installing Company: _____ Service Rep. Name: _____

Address: _____ Phone #: _____

Overview:

Altronix Netway5PQ Series are LINQ managed hardened PoE+ switches. They provide a network data uplink and four (4) PoE ports to power IP devices, such as PoE access controllers and cameras. Other applications may include solar power (with NetWay5PQ and NetWay5PQWPN), as well as integrating network door access systems with video surveillance.

For unmanaged switches see NetWay5P Series.

Features:

Input:

- **NetWay5PWPQ, NetWay5PWPQX, NetWay5PQX:** 120VAC, 60Hz, 2.5A.
- **NetWay5PQ/NetWay5PQWPN:** 12 or 24VDC from a UL Listed power source or a solar panel with nominal 24V (~12-35V) output.
- Board internal power consumption is 6W (0.25A@24V or 0.5A@12V).

Output:

- Four (4) PoE/PoE+ ports.
- IEEE 802.3at (30W) and IEEE 802.3af (15W) compliant.
- Maximum Output Power: 120W at 24VDC/6A. 60W at 12VDC/6A.
- Single data uplink port.

Ethernet Ports:

- Five (5) 10/100/1000 Mbps ports.
- Connectivity: RJ45, auto-crossover.
- Wire type: 4-pair CAT5e or higher structured cable.
- Distance: up to 100m.
- Speed: 10/100/1000 Mbps, half/full duplex, auto negotiation.

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.

VLAN:

- Multiple management VLAN assignment.
- 802.1Q Tagged VLAN.
- Up to 10 VLAN groups. ID Range 2-4095.

LED Indicators:

- Individual **PoE On** LEDs for each port.
- Individual **IP Link status, 100/1000Base-T/active** LEDs for each port.

Environmental:

- **Operating Ambient Temperature:** – 30°C to 70°C (– 22°F to 158°F).
- **Storage Temperature:** – 40°C to 85°C (– 40°F to 185°F).
- Humidity: 20 to 85%, non-condensing.
- Operating Altitude: – 304.8 to 2,000m.

Applications:

- Allows to power up to four (4) IP devices and networking of multiple remote devices without the need for running multiple cables from the main switch/server.

Mechanical:

NetWay5PQ:

- Dimensions (L x W x D approx.): 5.9" x 3.6" x 0.75" (150mm x 91.4mm x 19mm).

NetWay5PQWPN

- NEMA 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).

NetWay5PQWP:

- 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).

NetWay5PQWPX:

- 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).

NetWay5PQX:

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

Fig. 1 - NetWay5PQ Board Configuration

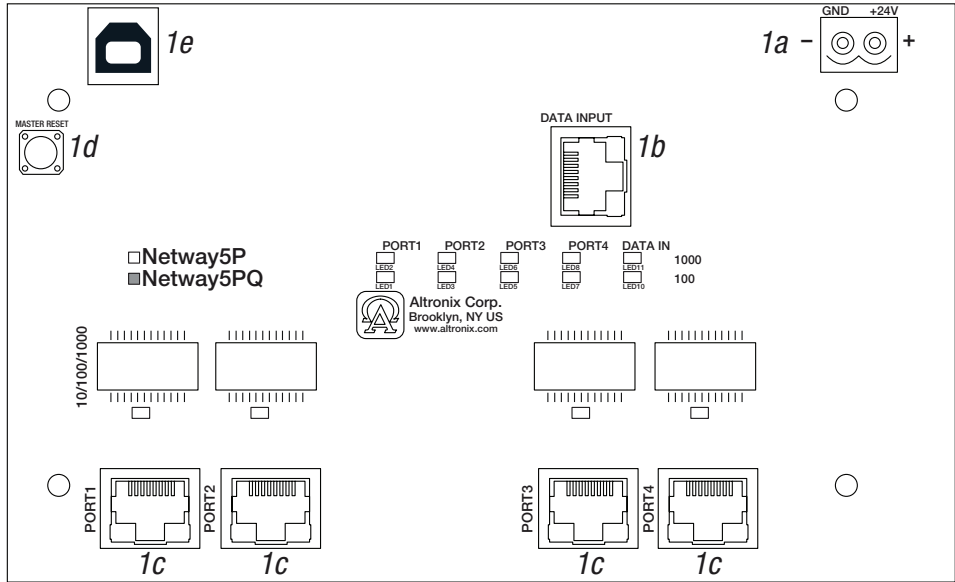
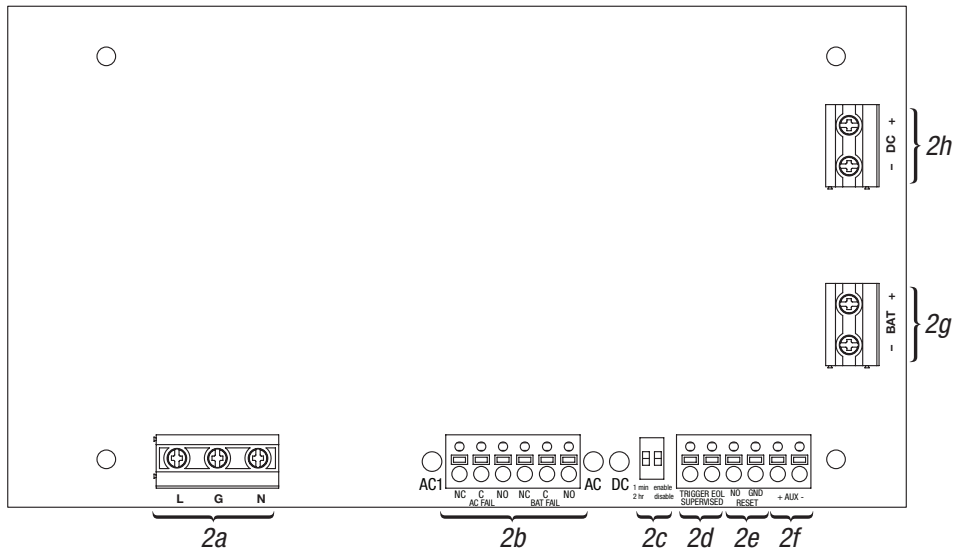


Fig. 2 - eFlow104NB Board Configuration



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. Wiring should be UL Listed and/or Recognized wire suitable for the application. All units should be installed by a trained service personnel.

Installation:

NetWay5PQ:

1. Mount NetWay5PQ in the desired location/enclosure (mounting hardware included).
2. Connect NetWay5PQ to power source and Ethernet devices:
NetWay5PQ can be powered by a UL Listed 12 or 24VDC power source, e.g. Altronix eFlow power supply/charger or a solar panel with nominal 24V (~12-35V) output.
3. Connect a power source to the [GND +24V] terminals carefully observing polarity (*Fig. 1a, pg. 3*).
4. Connect a Data source to the [Data Input] RJ45 jack (*Fig. 1b, pg. 3*).
5. Connect Access Control boards, Altronix LINQ units or other IP devices to the [Port 1 - Port 4] RJ45 jacks (*Fig. 1c, pg. 4*). Refer to the corresponding Installation Guides for details.

NetWay5PQWPN/NetWay5PQWP/NetWay5PQWPX:

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.
To facilitate wire entry utilize weather-tight NEMA rated connectors (*supplied*), bushings, and cable.
3. Clean out the inside of enclosure before remounting circuit boards/backplane.
4. Mounting NEMA4/4X rated enclosure (*Enclosure Dimensions, pg. 13-15*):
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. 5, pg. 12*).
Pole Mount: Refer to *Fig. 6 - 11, pg.12*.
5. Mount backplane in enclosure with hardware.

NetWay5PQX:

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. 16*). Secure enclosure to earth ground.

Power Connection:

NetWay5PQWP, NetWay5PQWPX, NetWay5PQX:

1. Connect unswitched AC power (120VAC 60Hz) to terminals marked [L, N] (*Fig. 2a, pg. 3*). Green "AC" LED on power supply board will turn on. Use 14 AWG or larger for all power connections.
Secure green wire lead to earth ground.
Keep power-limited wiring separate from non power-limited wiring (120VAC 60Hz Input, Battery Wires). 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.
2. When the use of stand-by batteries is desired, they must be lead acid or gel type. If batteries are housed in a weather-proof enclosure (NetWay5PQWP, NetWay5PQWPX), it must be properly ventilated. Use Altronix Vent2 kit. Connect battery to terminals marked [- BAT +] (*Fig. 2g, pg. 3*). Use two (2) 12VDC batteries connected in series for 24VDC operation (battery leads included) Use batteries - Casil CL1270 (12V/7AH), CL12120 (12V/12AH), CL12400 (12V/40AH), CL12650 (12V/65AH) batteries or UL recognized BAZR2 batteries of an appropriate rating. When batteries are not used, a loss of AC will result in the loss of the output voltage.
3. Connect appropriate signaling notification devices to AC FAIL & BAT FAIL (*Fig. 2b, pg. 4*) supervisory relay outputs.

- To delay AC reporting for 2 hrs. set DIP switch [AC Delay] to OFF position (Fig. 2c, pg. 3).
To delay AC reporting for 1 min. set DIP switch [AC Delay] to ON position (Fig. 2c, pg. 3).
Note: Must be set to ON position for Burglar Alarm Applications.
- To enable Fire Alarm Disconnect set DIP switch [Shutdown] to ON position (Fig. 2c, pg. 3).
To disable Fire Alarm Disconnect set DIP switch [Shutdown] to OFF position (Fig. 2c, pg. 3).
- Trigger terminals are end of a line resistor supervised (10k ohms). Opening or shorting trigger terminals will cause [DC] output to shutdown (Fig. 2d, pg. 3).
- Place a jumper for non-latching FACP. A momentary short on these terminals resets FACP latching [Trigger EOL Shutdown] (Fig. 2e, pg. 3).

NetWay5PQ, NetWay5PQWPN:

- Mount NetWay5PQ/NetWay5PQWPN in the desired enclosure/location (mounting hardware is included).
- NetWay5PQ/NetWay5PQWPN can be powered by a UL Listed 12/24VDC power source, e.g. Altronix eFlow power supply/chargers or a solar panel with nominal 24V (~12-35V) output.

Input/Data Connections:

- Connect a Data source to the [Data Input] RJ45 jack (Fig. 1b, pg. 4).
- Connect Access Control boards, Altronix LINQ units or other IP devices to the [Port 1 - Port 4] RJ45 jacks (Fig. 1c, pg. 3). Refer to the corresponding Installation Guides for details.

Terminal and Port Identification:

NetWay5PQ PoE+ Switch

Terminal/Port Legend	Function/Description
GND +24V	Connect a 12/24VDC UL Listed power source to these terminals carefully observing polarity. Factory connected to power supply in NetWay5PQWP, NetWay5PQWPX, NetWay5PQX (Fig. 1a, pg. 3)
Data Input	Can be used as a Data Uplink (Fig. 1b, pg. 3).
Port 1 - Port 4	Data and PoE/PoE+ (IEEE 802.3af (15W) and IEEE 802.3at (30W) compliant) ports (Fig. 1c, pg. 3).
Master Reset	Resets NetWay5P/NetWay5PQ to factory settings. See Factory Reset Option , pg. 9 (Fig. 1d, pg. 3).
USB Port	Can be used as an option to configure the Netway5PQ for managed operation (Fig. 1e, pg. 3).

eFlow104NB Power Supply/Charger

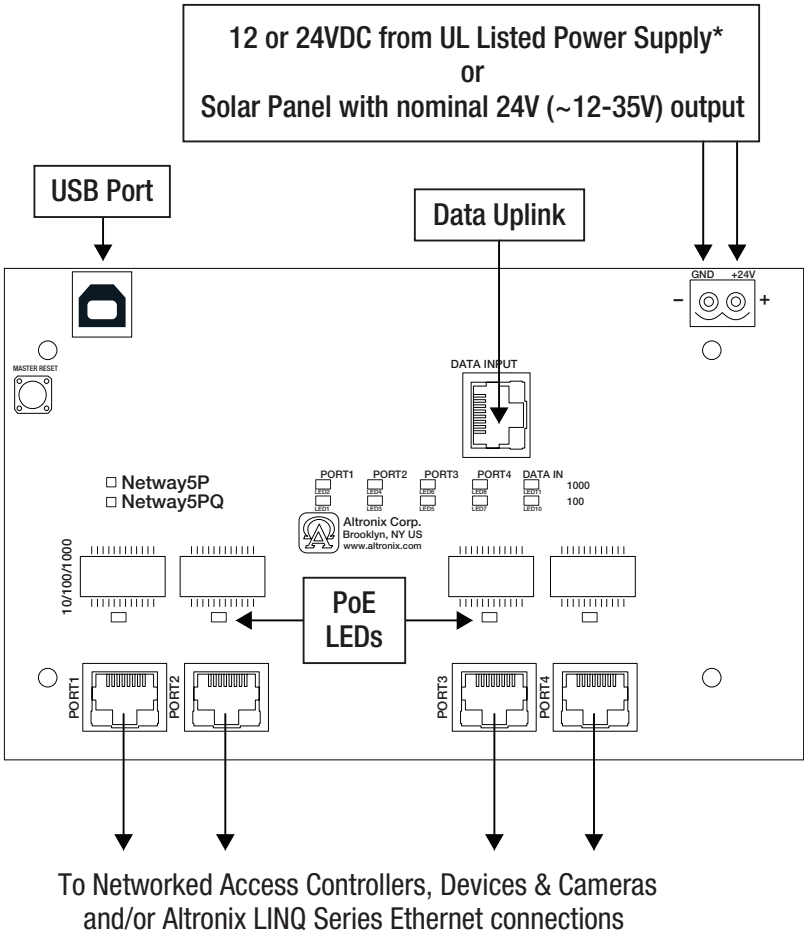
Terminal Legend	Function/Description
L, N	Connect 120VAC 60Hz to these terminals: L to hot, N to neutral (non power-limited) (Fig. 2a, pg. 3).
– DC +	24VDC nominal @ 10A continuous output factory connected to NetWay5PQ (Fig. 2h, pg. 3).
Trigger EOL Supervised	Fire Alarm Interface trigger input from a short or FACP. Trigger inputs can be normally open, normally closed from an FACP output circuit (power-limited input) (Fig. 2d, pg. 3).
NO, GND RESET	FACP interface latching or non-latching (power-limited) (Fig. 2e, pg. 3).
+ AUX –	Auxiliary Class 2 power-limited output rated @ 1A (unswitched) (Fig. 2f, pg. 3).
AC Fail NC, C, NO	Indicates loss of AC power, e.g. connect to audible device or alarm panel. Relay normally energized when AC power is present. Contact rating 1A @ 30VDC (power-limited) (Fig. 2b, pg. 3).
Bat Fail NC, C, NO	Indicates low battery condition, e.g. connect to alarm panel. Relay normally energized when DC power is present. Contact rating 1A @ 30VDC. A removed battery is reported within 5 minutes. Battery reconnection is reported within 1 minute (power-limited) (Fig. 2b, pg. 3).
– BAT +	Stand-by battery connections. Maximum charge current 1.54A (non power-limited) (Fig. 2g, pg. 3).

Technical Specifications:

Parameter	Description		
Input Power Requirements	NetWay5PQWP, NetWay5PQWPX, NetWay5PQX: 120VAC, 60Hz, 2.5A. NetWay5PQ/NetWay5PQWPN: 12/24VDC from a UL Listed power source or a solar panel with nominal 24V (~12-35V) output. Current draw: 6A at maximum 120W output.		
Output	Four (4) PoE/PoE+ ports. Single data uplink port.		
Indicators	NetWay5PQ: Individual PoE On LEDs for each port. Individual IP Link status, 100/1000Base-T/active LEDs for each port. eFlow104NB: AC input and DC output LED indicators.		
Environmental Conditions	Operating Ambient Temperature: – 30°C to 70°C (– 22°F to 158°F). Storage Temperature: – 40°C to 85°C (– 40°F to 185°F). Humidity: 20 to 85%, non-condensing. Operating Altitude: – 304.8 to 2,000m.		
Weights (approx.)	Model	Product Weight	Shipping Weight
	NetWay5PQWP	10.5 lb. (4.76 kg)	11.9 lb. (5.4 kg)
	NetWay5PQWPN	3.7 lb. (1.68 kg)	5 lb. (2.27 kg)
	NetWay5PQWPX	15 lb. (6.8 kg)	17.5 lb. (7.9kg)
	NetWay5PQX	6.65 lb. (3.02 kg)	7.55 lb. (3.42kg)
	NetWay5PQ	0.25 lb. (0.11 kg)	0.75 lb. (0.34 kg)

Fig. 3

Typical Application:



***NetWay5PQWP, NetWay5PQWPX and NetWay5PQX are factory connected to Power Supply**

Configuring Unit for Browser-Based Connectivity:

Point your browser to IP address of your unit.

If the IP address is not known, you can use the USB Tool to discover the IP address.

Visit altronix.com for the latest firmware and installation instructions

Reaching Out to Altronix Tech Support

For an expeditious resolution to your inquiry, when calling tech support please have the following information ready:

1. Product name and version (a screenshot of the product's **About** page is ideal)
2. An outline (in as much detail as possible) of your setup and the events leading up to the issue
3. A detailed description of the issue(s) reported.

VLAN (IEEE 802.1Q, 802.1P)

VLAN (Virtual Local Area Networks) are a group of subnetwork that are configured in the switch and allow for the grouping together of devices on each subnetwork for improved network traffic as well as providing higher security by allowing greater control over which devices have access to each other. It is important to plan how you will setup your devices for each VLAN.

Keep in mind:

- Due to the complexity of VLAN it is always recommended that a Network Administrator with knowledge of VLAN handles configuration and installation of any VLAN enabled devices.
- Modifying VLAN will alter the network, it is recommended whenever possible to configure VLAN over USB.
- It is important to know when to configure a port as a Trunk or an Access port.

Trunk ports connect to equipment that support VLAN, whereas Access does not – see section below.

Basic VLAN Overview:

VLAN can be confusing even for seasoned professionals, for that reason, we provide a quick overview of the basics.

The IEEE 802.1Q standard for VLAN allows the adding of an additional header to network packets with a number between 0 - 4094 in which 0 is a wild card, 1 is VLAN Native and the rest are available for assignment. A VLAN switch allows you to create multiple networks on a single switch that can be either logically separated (share no ports) or share 1 or more TRUNK ports.

Ports on a VLAN are either assigned as TRUNK or ACCESS and never both.

TRUNK ports keep VID (VLAN ID, i.e. subnetwork Identification) tags on egress (when leaving port) and on ingress (when entering a port). This makes them ideally suited for extending VLAN across multiple switches. TRUNK ports can be a member of multiple VLANs, allowing one port to serve as the gateway to multiple networks.

ACCESS ports drop VIDs on egress and assign the VID that the port is a member of on ingress. This makes ACCESS ports ideal for when you want to leave/join the VLAN (drop/add the VID header). An example would be when reaching an endpoint such as a camera, which may not handle VLAN packets. VLAN protocol data will be stripped (untagged) before it reaches the camera and data packets sent from the camera will be tagged as it enters the VLAN switch. An access port can ONLY be assigned to one VLAN

Configuring VLAN on the Altronix NetWay5PQ Series Switch:

1. Under the **Network** tab click on the **VLAN** section.
2. By default, VLAN is disabled, and the management interface will be available over all ports and USB via a LinQ Dashboard.
3. To configure the VLAN you must first enable it, configure the VLAN table and then submit the changes. Until submit button has been pressed, no changes to VLAN will take effect.
4. Once enabled, all ports will be assigned to the default VLAN (VLAN Native) with VID=1 as ACCESS ports. The management interface is always available on VLAN Native and cannot be deleted, however, Management can be added to other VLAN IDs and all ports can be removed from VLAN Native (typically to create a new VLAN).
 - a. **CAUTION:** if you are configuring VLAN over a network connection and you move your port off of a management VLAN or to a VID your computer isn't a member of, you will lose access to the management interface.
5. To add an entry to the VLAN Table, click **ADD VLAN**.
6. Enter a name for the VLAN.
7. Enter a VLAN ID, i.e. 10, 20, etc. Ensure this VLAN ID is associated with a VLAN setup on the main switch and that your Laptop or PC being used for programming is on this same ID.

Note: VLAN ID could be any value 2-4094.
8. Assign VLAN QOS (Quality of Service) priority. 0 = Lowest and 7 = Highest.
9. Pick a Trunk port (Tagged Ports). Trunk ports are typically the main connection for network traffic for each group. They are usually connected to a network switch, WAPs, etc.
10. Pick the Access port(s) (Untagged Ports) associated with the VLAN. Access Ports are typically used for Cameras, etc. If programming locally, ensure your laptop or PC is connected to one of these ports.
11. Save Configuration.
12. Repeat steps 5 - 11 to add another VLAN entry.
13. Double check your VLAN Table and when ready, click **Submit**.

14. If unit is accidentally programmed incorrectly and you cannot access the NetWay5PQ, physically moving ports of your PC connected to the main switch to a correct port (when being programmed remotely), or, simply connect the device to the computer hosting the Dashboard over USB to the VLAN table and try again.

Note: VLAN can be configured over USB while connected simultaneously over the network.

This is very useful for confirming your setup works as expected without having to worry about losing access to the management site.

Advanced Port Settings:

Advanced settings allow you to set specific configurations on individual ports (to change from default settings).

Default VLAN Settings:

When a port serves as a TRUNK port in multiple VLAN entries, this value determines which VID to assign to untagged ingress packets at this port.

Discard Tagged Packets:

If enabled, any network packet arriving at this port with a VID Tag will be dropped.

Discard Untagged Packets:

If enabled, any network packet arriving at this port without a VID Tag will be dropped.

Forward Unknown VID:

If enabled, packets with an unknown VID will be forwarded to this Port.

VID Replacement:

If enabled, replace any ingress packets VID with the port default VID.

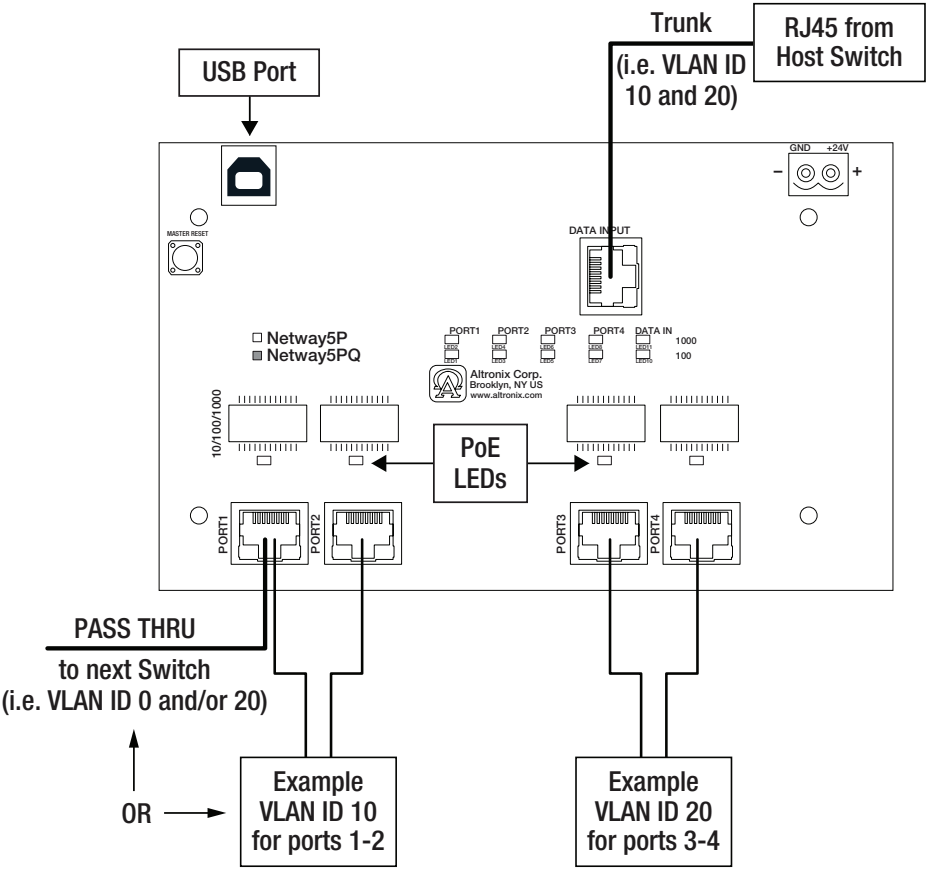
Reaching Out to Altronix Tech Support:

For an expeditious resolution to your inquiry, when calling tech support regarding VLAN please have the following information ready.

1. Product name and version (a screenshot of the product's About page is ideal)
2. On the VLAN Page click **DOWNLOAD PORT MEMBERSHIP REPORT**. This will download a VLAN report file. Please have this ready to share with Tech Support.
3. On the VLAN Advanced Page click **DOWNLOAD ADVANCED PORT SETTING REPORT**. This will download an additional VLAN report file. Please have this ready to share with Tech Support even if you did not configure the advanced section.
4. An outline (in as much detail as possible) of your setup and the events leading up to the issue.
5. A detailed description of the issue(s) reported.

Fig. 4

Typical VLAN Setup:

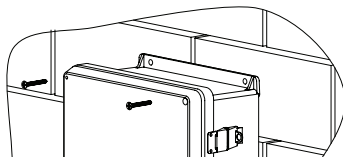


Any Ethernet port can be used for VLAN Pass Thru

Wall Mount Installation

1. Place unit at desired location and secure with mounting screws *(not included)* (Fig. 5, pg. 12).

Fig. 5



Pole Mounting Using Optional Pole Mount Kit

PMK1 (NetWay5PQWPN and NetWay5PQWP) or PMK2 (NetWay5PQWPX):

This installation should be made by qualified service personnel. This product contains no serviceable parts. Pole mount kits are intended for use with Altronix outdoor rated power supplies or accessories housed in WP2, WP3 and WP4 enclosures. 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. 12).
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. 7, pg. 12 and Fig. 9, pg. 12).

Fig. 6

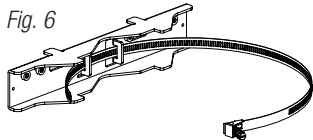


Fig. 7

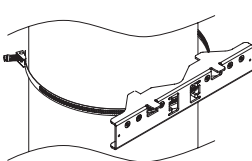
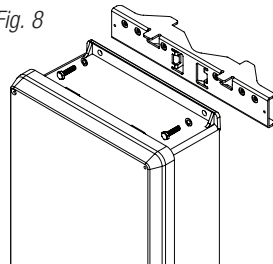


Fig. 8



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. 12).
4. Thread the second wormgear quick release strap through the slots on the back of the bottom mounting bracket (Fig. 9 pg. 12).
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. 10, pg. 12).
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. 10, pg. 12).
7. Clip excess straps.

Fig. 9

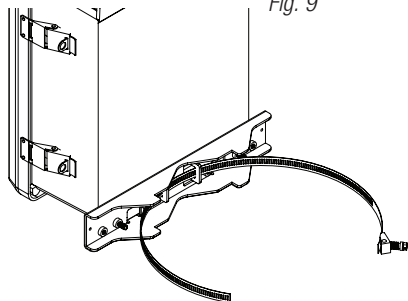


Fig. 10
2" to 8" (50.8mm to 203.2mm)
diameter round pole

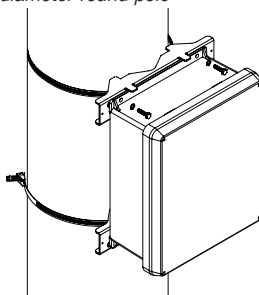
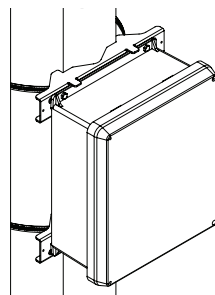
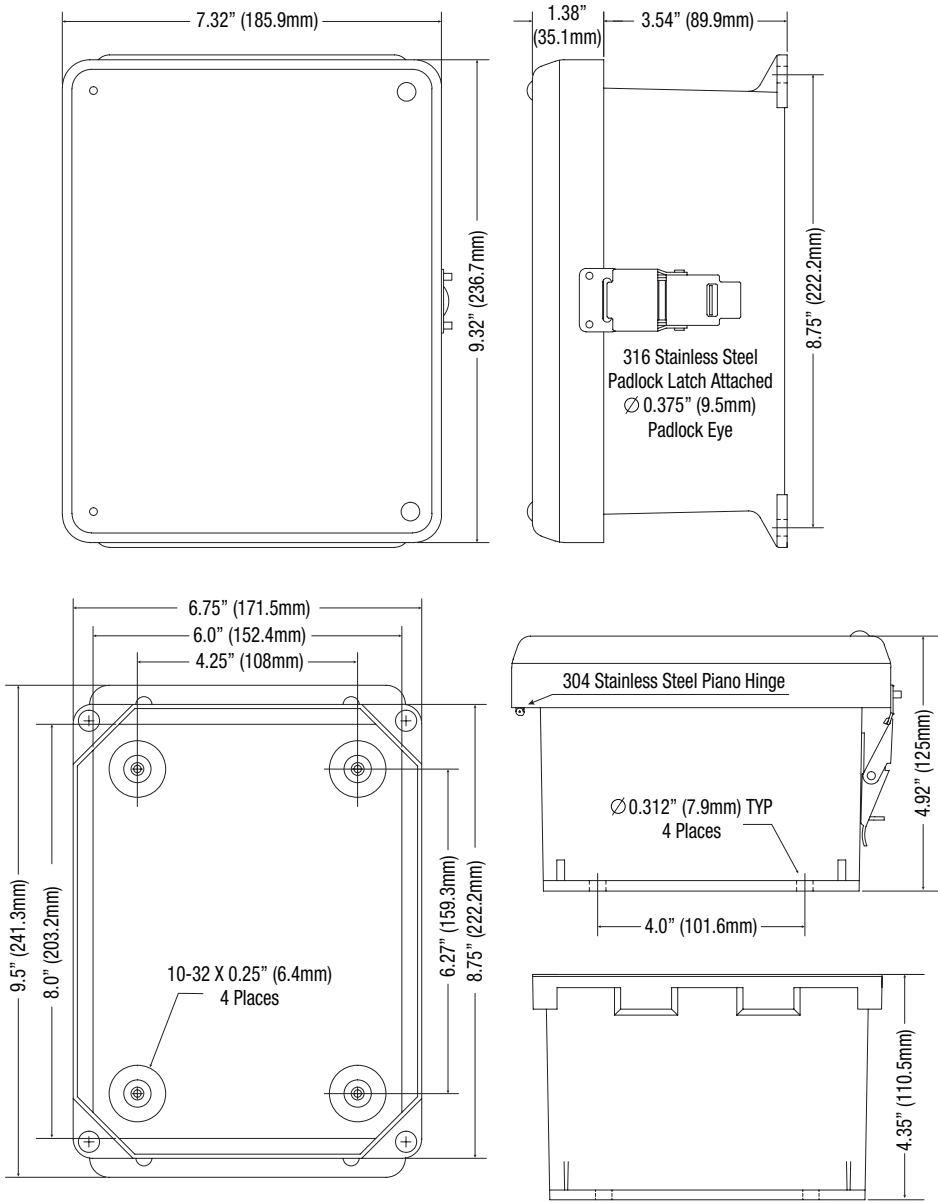


Fig. 11
5" (127mm) square pole



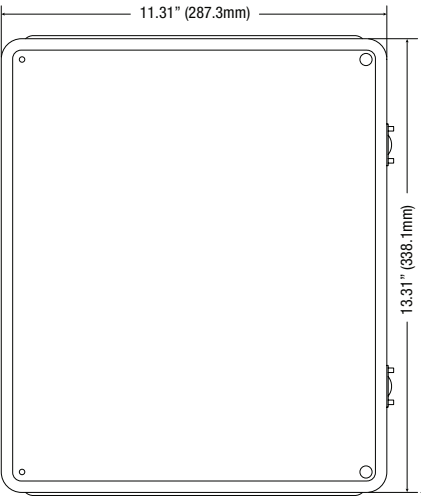
NetWay5PQWPN
Mechanical Drawing and Dimensions (H x W x D approx.):

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

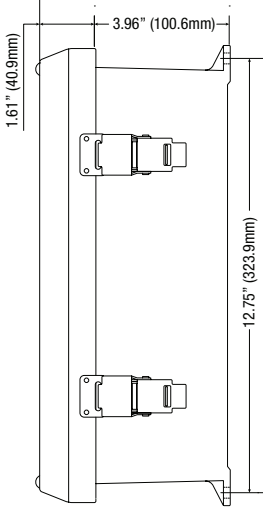


NetWay5PQWP **Mechanical Drawing and Dimensions (H x W x D approx.):** 13.31" x 11.31" x 5.59" (338.1mm x 287.3mm x 142mm)

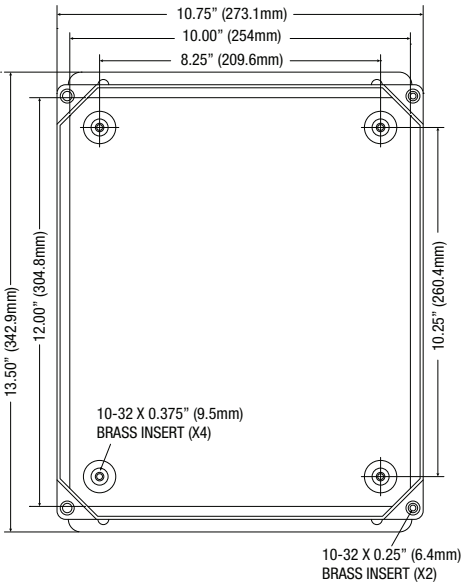
FRONT VIEW



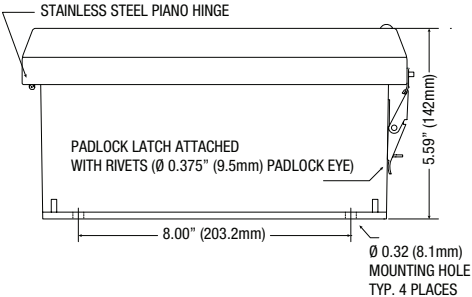
RIGHT SIDE VIEW



FRONT VIEW COVER REMOVED



END VIEW

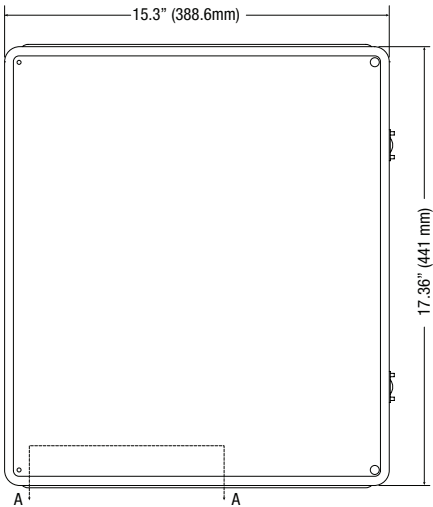


NetWay5PQWPX

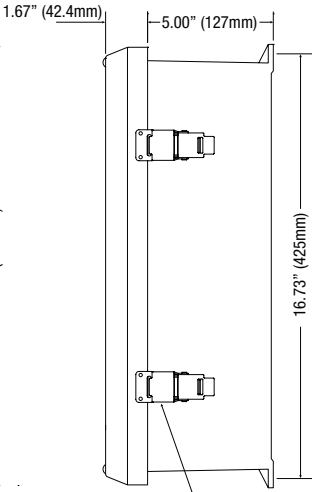
Mechanical Drawing and Dimensions (H x W x D approx.):

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

FRONT VIEW

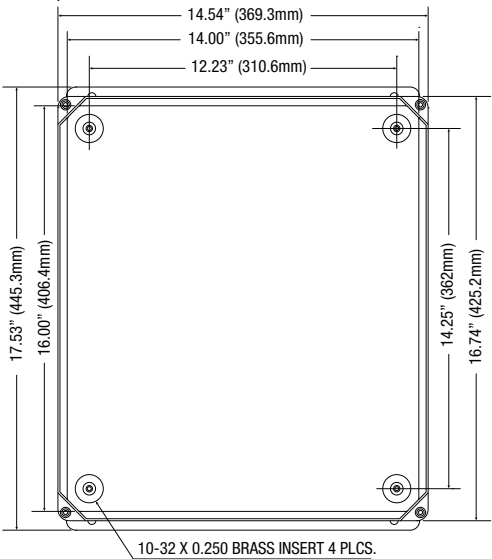


RIGHT SIDE VIEW

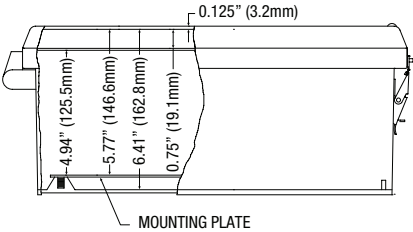


316 STAINLESS STEEL PADLOCK LATCH
ATTACHED WITH RIVETS. Ø 0.375 PADLOCK EYE

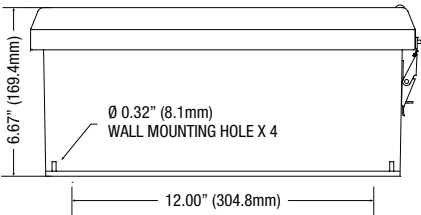
FRONT VIEW COVER REMOVED



SECTION A-A



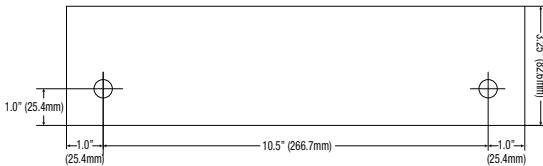
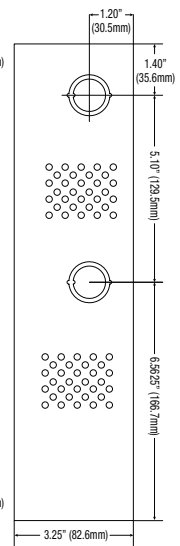
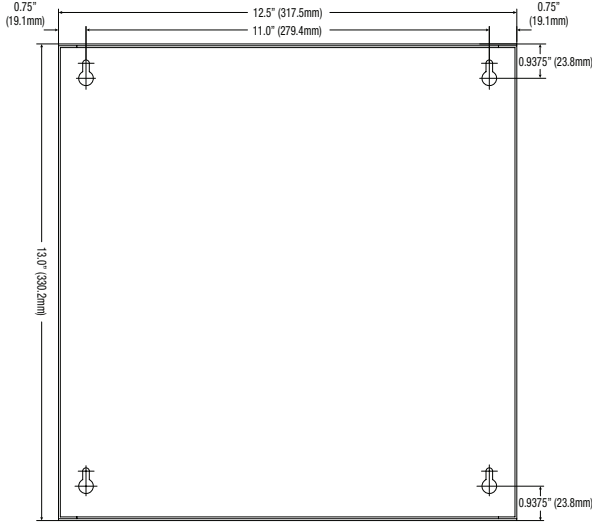
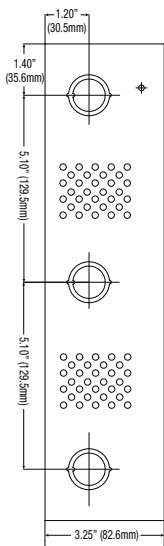
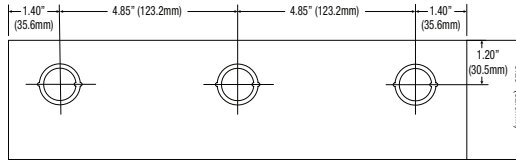
END VIEW



NetWay5PQX

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)



Altronix is not responsible for any typographical errors.

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