



Power over the Ethernet

NetWay5BTQ Series

LINQ Managed Hardened

802.3bt 4PPoE Switches

Models Include:

NetWay5BTQWP

- 5-port Managed Hardened 802.3bt 4PPoE Switch with Power Supply/Charger
- NEMA4/4X, IP66 rated Outdoor enclosure.

NetWay5BTQWPX

- 5-port Managed Hardened 802.3bt 4PPoE Switch with Power Supply/Charger
- NEMA4/4X, IP66 rated Outdoor enclosure.
- Accommodates up to four (4) 12VDC/4AH batteries.

NetWay5BTQWPN

- 5-port Managed Hardened 802.3bt 4PPoE Switch
- NEMA4/4X rated outdoor enclosure

NetWay5BTQX

- 5-port Managed Hardened 802.3bt 4PPoE Switch with Power Supply/Charger
- NEMA1 rated Indoor enclosure.

NetWay5BTQPL

- 5-port Managed Hardened PoE Switch with Power Supply/Charger
- Backplane version.

NetWay5BTQ

- 5-port Managed Hardened 802.3bt 4PPoE Switch
- Board Only

Installation Guide



Rev. 030624

More than just power.™

Installing Company: _____ Service Rep. Name: _____

Address: _____ Phone #: _____

Overview:

Altronix NetWay5BTQ Series are LINQ Managed Hardened 802.3bt 4PPoE Switches. They provide a network data uplink and four (4) IEEE802.3af/3at/3bt PoE ports rated at 90W each, with 240W total power. They can power IP devices, such as PoE access controllers and cameras. Other applications may include integrating network door access systems with video surveillance.

For unmanaged switches see NetWay5BT Series.

Features:

Input:

- 115VAC, 60Hz, 1.8A or 230VAC, 50/60Hz, 1A.
- **NetWay5BTQ/NetWay5BTQWPN:**
48-56V UL Listed ITE power supply.

Output:

- Four (4) IEEE802.3af/3at/3bt PoE ports rated at 90W each.
- 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.

LED Indicators:

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

VLAN:

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

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.

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.

Mechanical:

NetWay5BTQ:

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

NetWay5BTQWPN

- 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).

NetWay5BTQWP:

- 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).

NetWay5BTQWPX:

- NEMA4/4X, IP66 Rated enclosure for outdoor use.
- Accommodates sealed lead acid or gel type or LiFePO₄ (Lithium Iron Phosphate) 12VDC batteries.
- Dimensions (H x W x D approx.):
17.53" x 15.3" x 6.67"
(445.3mm x 388.6mm x 169.4mm).

NetWay5BTQPL

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

NetWay5BTQX:

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

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:

NetWay5BTQ/NetWay5BTQPL:

1. Mount board/backplane in the desired location/enclosure (mounting hardware included).
2. **NetWay5BTQ:** Connect NetWay5BTQ to power source and Ethernet devices:
NetWay5BTQ can be powered by 48-56V ITE power supply, e.g. Altronix PoE240 or PoE360 power supply/charger.
3. Connect a power source to the [GND +56V] 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.

NetWay5BTQWPN/NetWay5BTQWP/NetWay5BTQWPX:

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. 11*).
Pole Mount: Refer to *Fig. 6 - 11, pg.12*.
5. Mount backplane in enclosure with hardware.

NetWay5BTQX:

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:

NetWay5BTQWP, NetWay5BTQWPX, NetWay5BTQX:

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. 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 (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 use of stand-by batteries is desired, they can be LiFePO₄ (lithium iron phosphate), lead acid or gel type. If batteries are housed in a weather-proof enclosure (NetWay5BTQWP, NetWay5BTQWPX), it must be properly ventilated. Use Altronix Vent2 kit. Connect battery to terminals marked [- BAT 24V +] on power supply board.
Note: When batteries are not used, a loss of AC will result in the loss of output voltage.
Note: When using two 12V LiFePO₄ (lithium iron phosphate) batteries, check with manufacturer specifications that batteries can be connected in series.
For outdoor battery backup, battery enclosure must have sufficient ventilation.
Battery operational temperature should be derated 10-15°C lower than manufacture's rated high temperature.

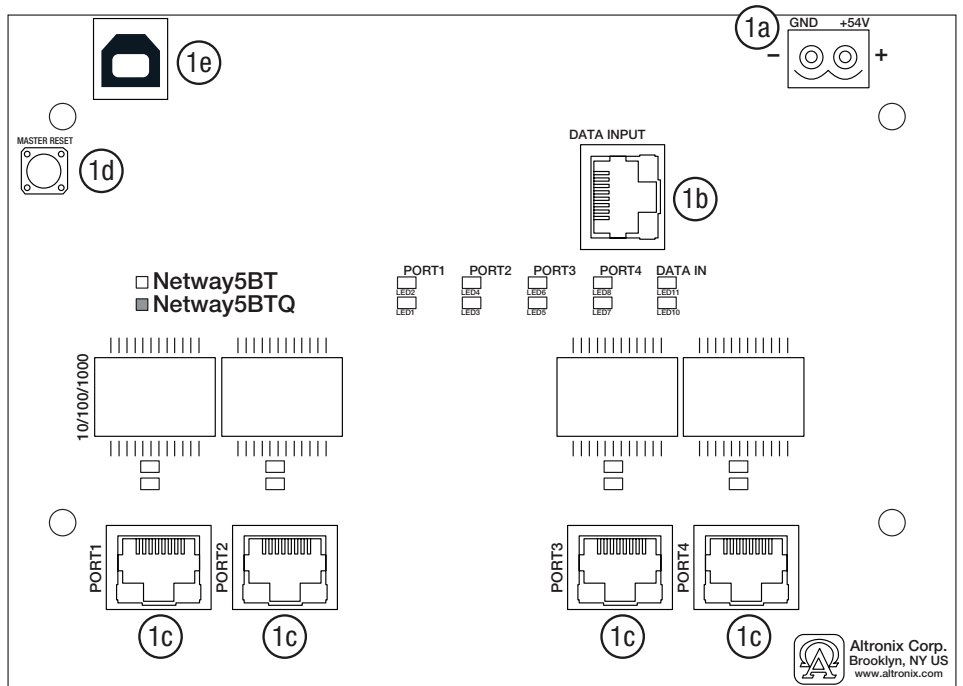
NetWay5BTQ, NetWay5BTQWPN:

- 1. Mount NetWay5BTQ/NetWay5BTQWPN in the desired enclosure/location (mounting hardware is included).
- 2. NetWay5BTQ/NetWay5BTQWPN can be powered by a 48-56V ITE power supply, e.g. Altronix PoE240 or PoE360 power supply/charger.

Input/Data Connections:

- 1. Connect a Data source to the [Data Input] RJ45 jack (Fig. 1b, pg. 4).
- 2. Connect Access Control boards, Altronix LINC 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.

Fig. 1 - NetWay5BTQ Board Configuration



Terminal and Port Identification:

NetWay5BTQ PoE+ Switch

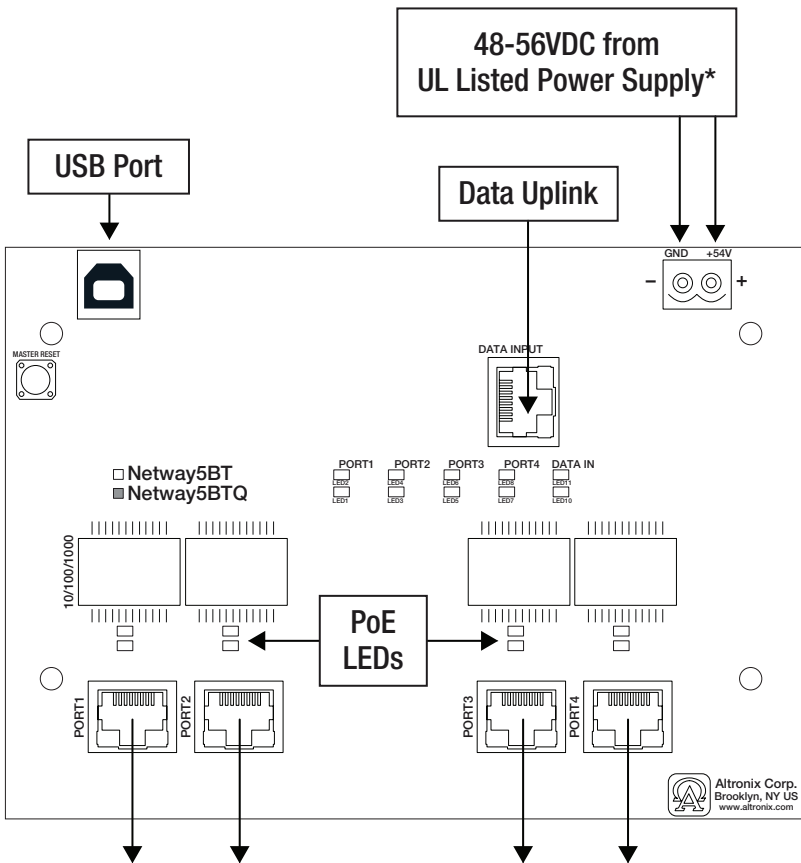
Terminal/Port Legend	Function/Description
GND +54V	Connect a 48-56 VDC UL Listed power source to these terminals carefully observing polarity. (Fig. 1a, pg. 4)
Data Input	Can be used as a Data Uplink (Fig. 1b, pg. 4).
Port 1 - Port 4	Data and PoE/PoE+ (IEEE 802.3af, 802.3at, 802.3bt compliant) ports (Fig. 1c, pg. 4).
Master Reset	Resets NetWay5BTQ to factory settings. See Factory Reset Option , pg. 9 (Fig. 1d, pg. 4).
USB Port	Can be used as an option to configure the NetWay5BTQ for managed operation (Fig. 1e, pg. 4).

Technical Specifications:

Parameter	Description		
Input Power Requirements	NetWay5BTQWP, NetWay5BTQWXP, NetWay5BTQX, NetWay5BTQPL: 120VAC, 60Hz, 4.5A. NetWay5BTQ/NetWay5BTQWPN: 48-56V from a UL Listed power source.		
Output	Four (4) PoE/PoE+ ports. Single data uplink port.		
Indicators	NetWay5BTQ: Individual PoE On LEDs for each port. Individual IP Link status, 100/1000Base-T/active LEDs for each port.		
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
	NetWay5BTQWP	10.5 lb. (4.76 kg)	11.9 lb. (5.4 kg)
	NetWay5BTQWPN	3.7 lb. (1.68 kg)	5 lb. (2.27 kg)
	NetWay5BTQWXP	15 lb. (6.8 kg)	17.5 lb. (7.9kg)
	NetWay5BTQX	6.65 lb. (3.02 kg)	7.55 lb. (3.42kg)
	NetWay5BTQPL	2.6 lb. (1.18 kg)	4.0 lb. (1.81kg)
	NetWay5BTQ	0.25 lb. (0.11 kg)	0.75 lb. (0.34 kg)

Typical Application:

Fig. 2



To Networked Access Controllers, Devices & Cameras
and/or Altronix LINQ Series Ethernet connections

***NetWay5PBTQWP, NetWay5PBTQWPX, NetWay5PBTQX and NetWay5BTQPL 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 NetWay5BTQ 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 NetWay5BTQ, 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.

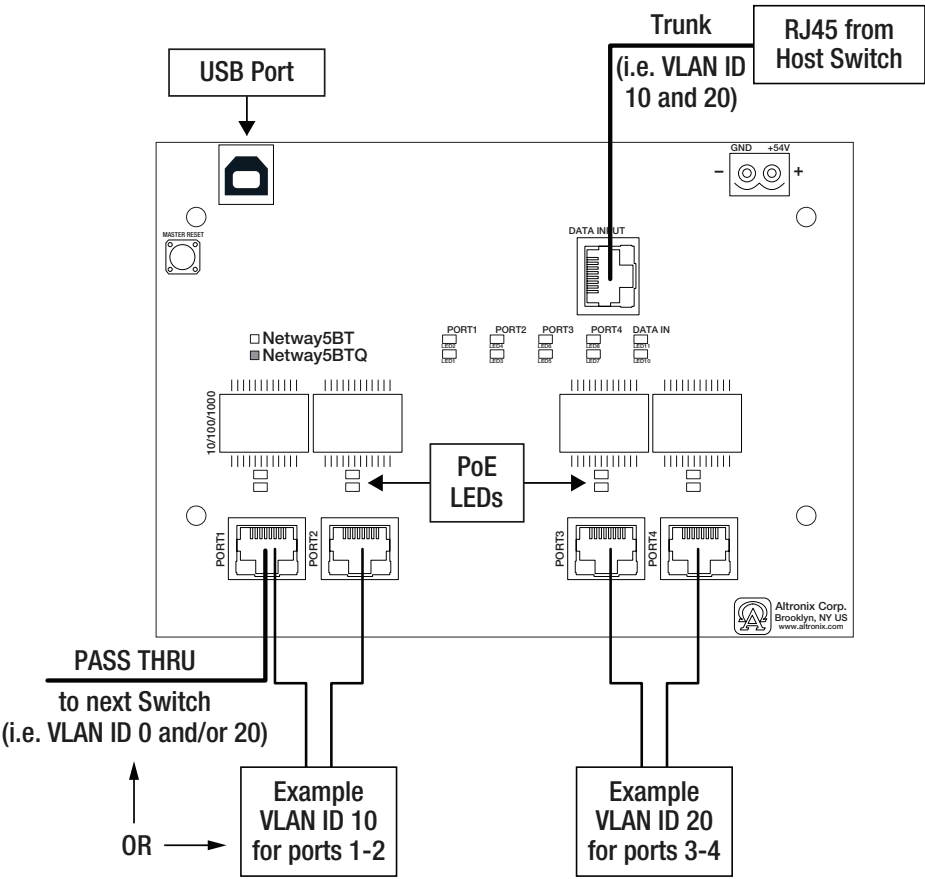
Reaching Out to Altronix Tech Support:

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. 3

Typical Vlan Setup:

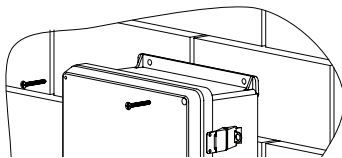


Any Ethernet port can be used for Vlan Pass Thru

Wall Mount Installation

1. Place unit at desired location and secure with mounting screws *(not included)* (Fig. 4, pg. 11).

Fig. 4



Pole Mounting Using Optional Pole Mount Kit

PMK1 (NetWay5BTQWPN and NetWay5BTQWP) or PMK2 (NetWay5BTQWPX):

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. 5, pg. 11).
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. 6, pg. 11 and Fig. 8, pg. 11).

Fig. 5

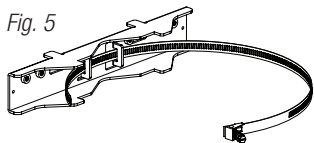


Fig. 6

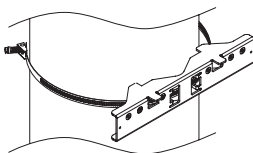
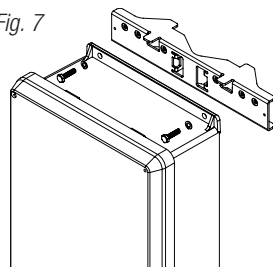


Fig. 7



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. 8, pg. 11).
4. Thread the second wormgear quick release strap through the slots on the back of the bottom mounting bracket (Fig. 8, pg. 11).
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. 11).
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. 11).
7. Clip excess straps.

Fig. 8

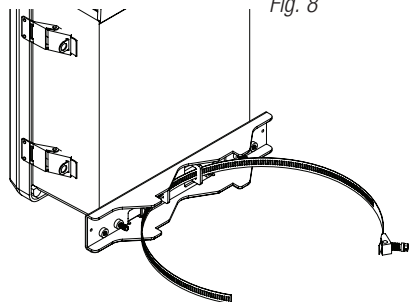


Fig. 9
2" to 8" (50.8mm to 203.2mm)
diameter round pole

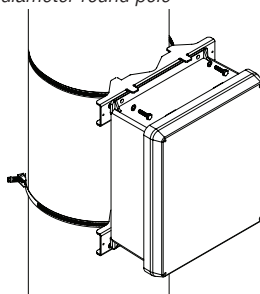
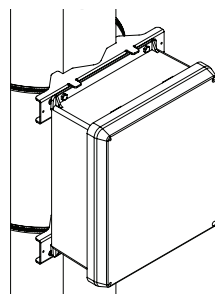


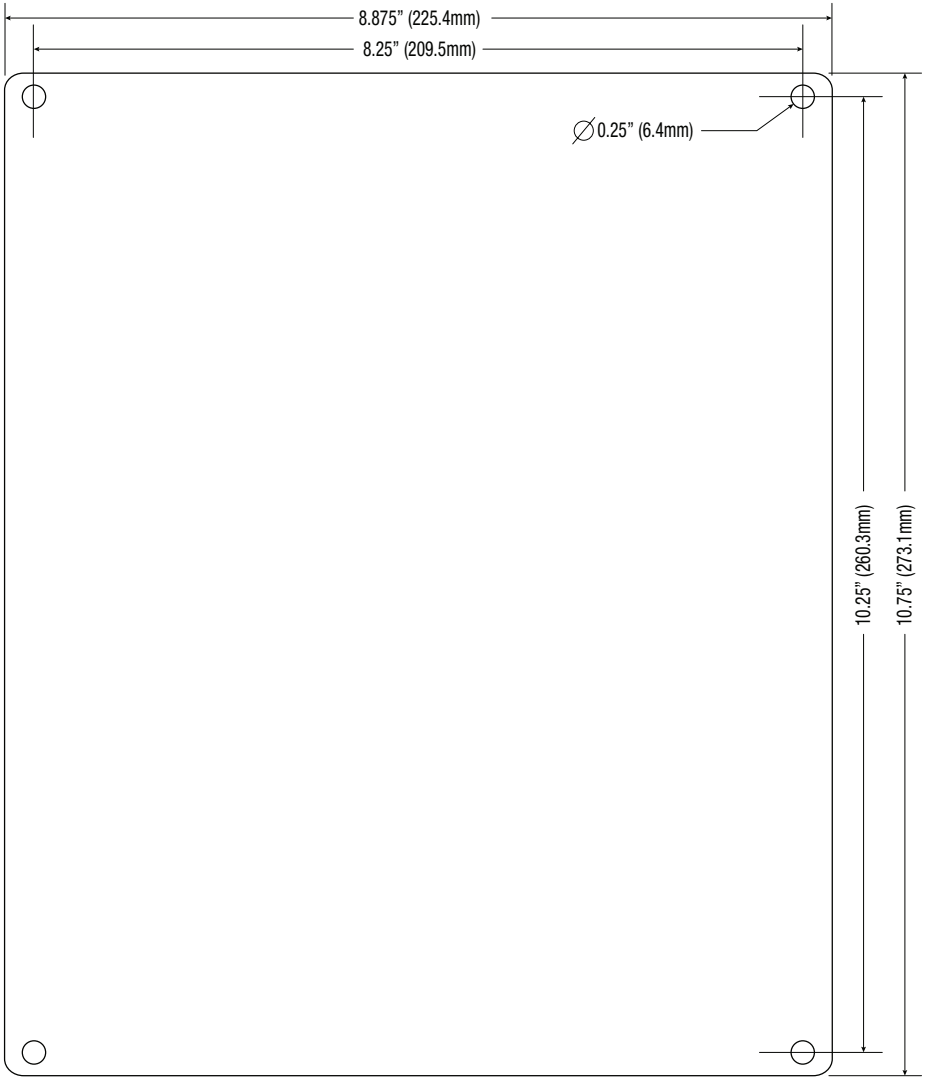
Fig. 9
5" (127mm) square pole



NetWay5BTQPL

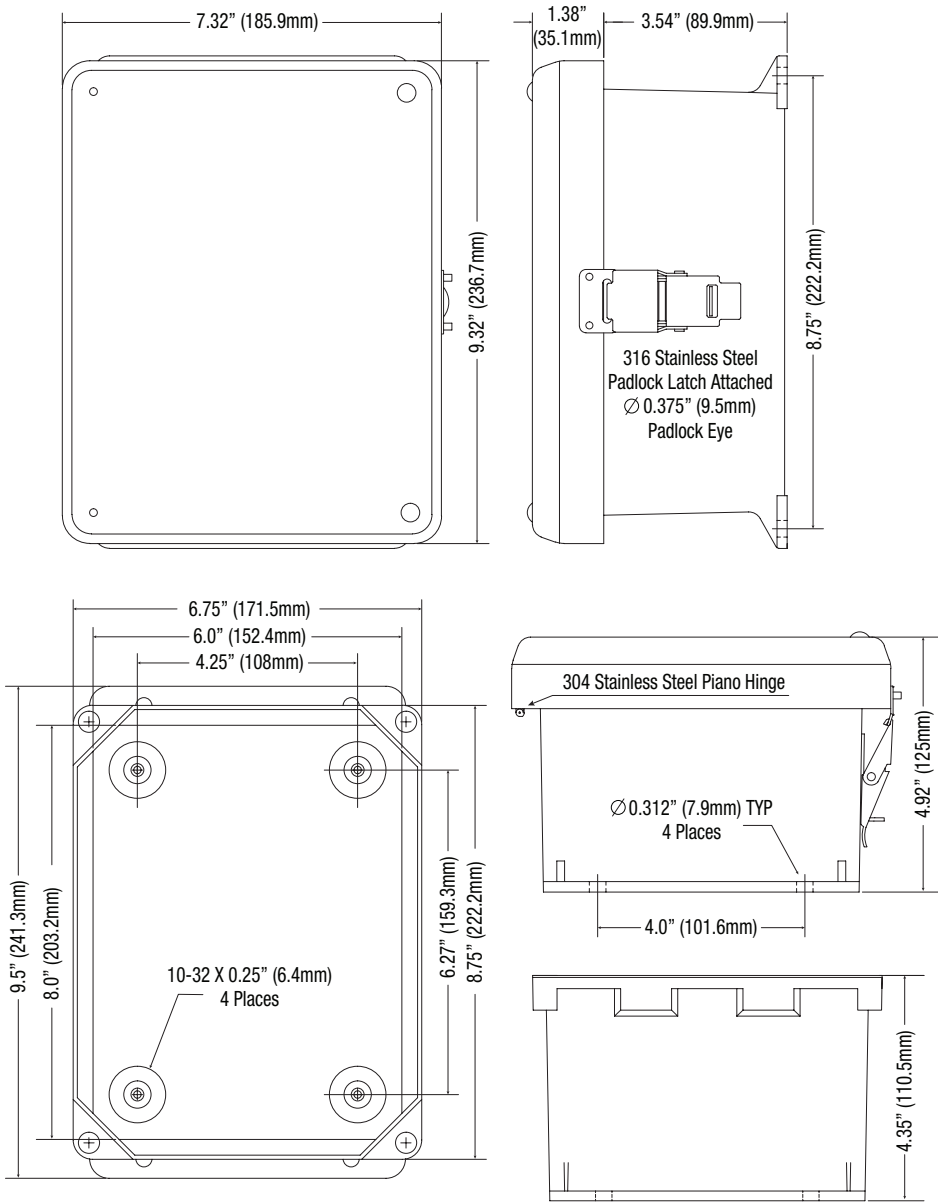
Mechanical Drawing and Dimensions (H x W x D approx.):

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



NetWay5BTQWPN
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)

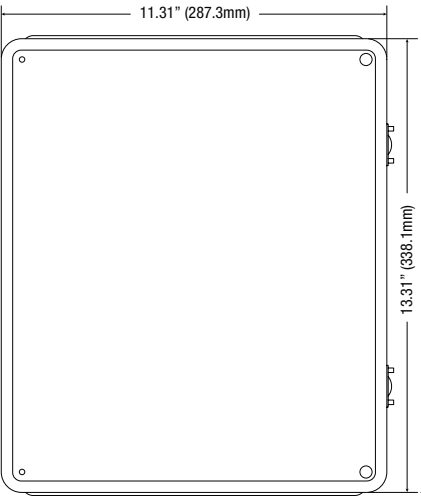


NetWay5BTQWP

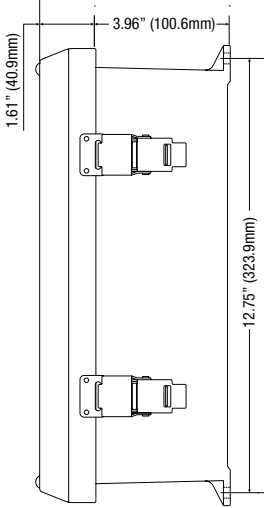
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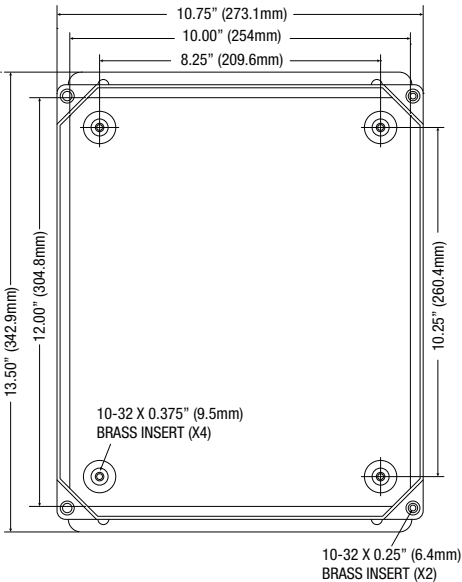
FRONT VIEW



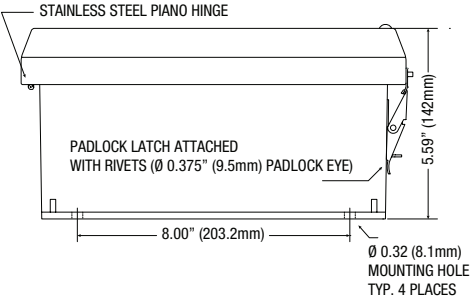
RIGHT SIDE VIEW



FRONT VIEW COVER REMOVED



END VIEW

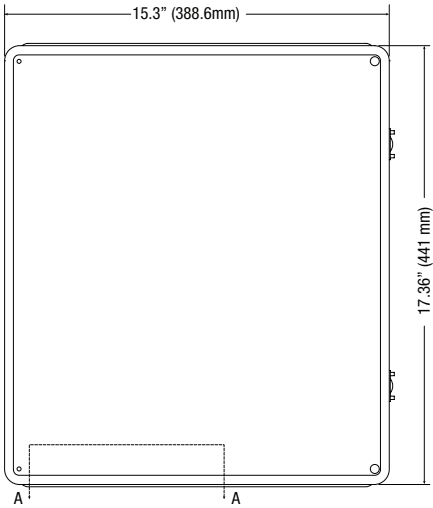


NetWay5BTQWPX

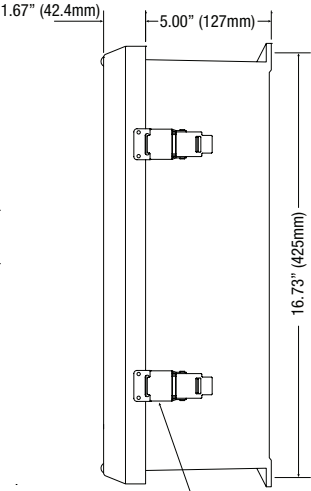
Mechanical Drawing and Dimensions (H x W x D approx.):

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

FRONT VIEW

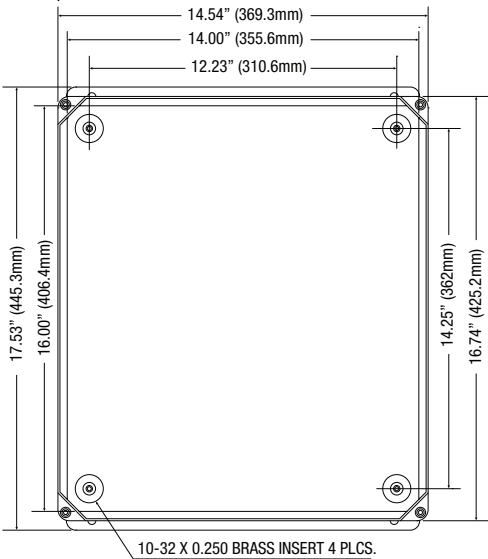


RIGHT SIDE VIEW

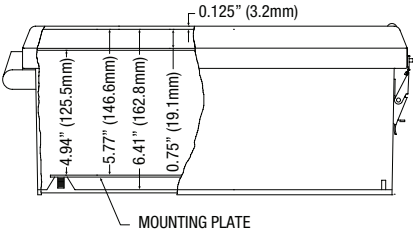


316 STAINLESS STEEL PADLOCK LATCH
ATTACHED WITH RIVETS. Ø 0.375 PADLOCK EYE

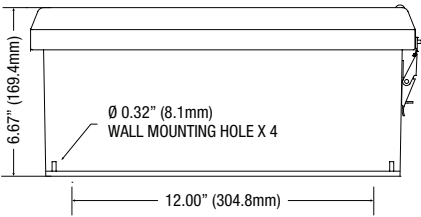
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SECTION A-A



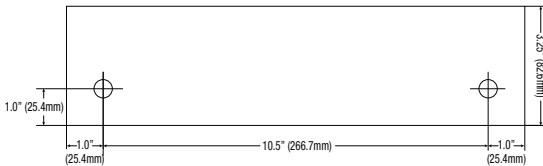
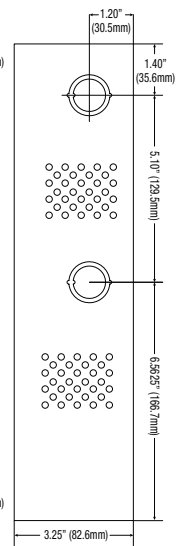
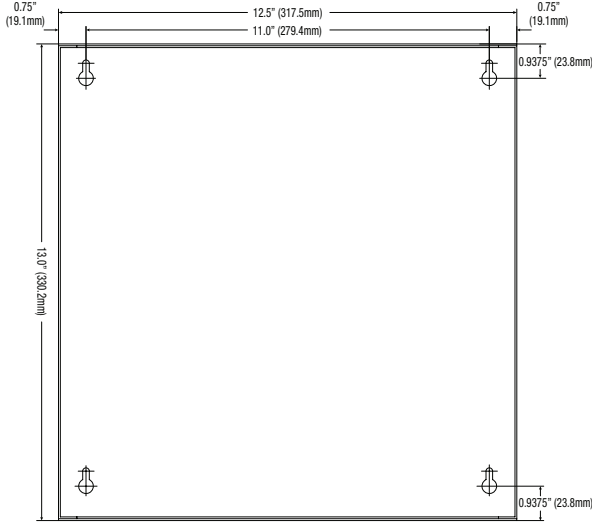
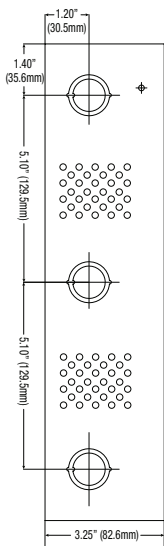
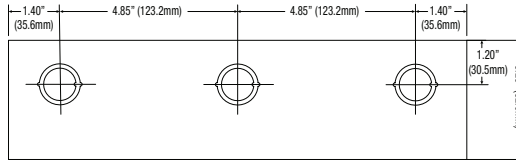
END VIEW



NetWay5BTQX

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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