



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 LiFePO<sub>4</sub> (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 LiFePO<sub>4</sub> (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 LiFePO<sub>4</sub> (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.**

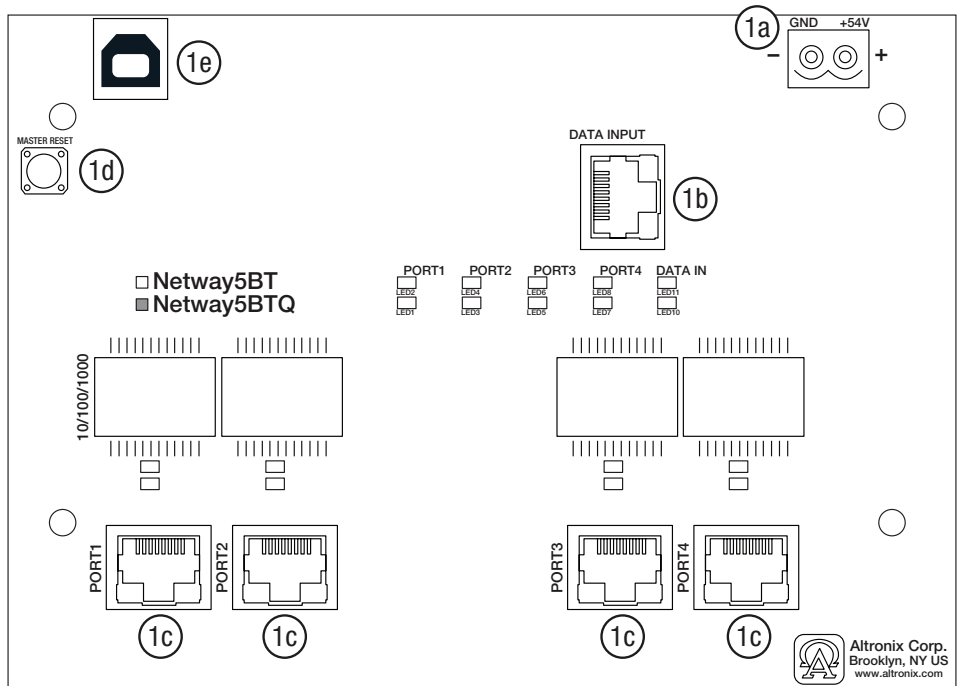
**NetWay5BTQ, NetWay5BTQWPN:**

- 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**

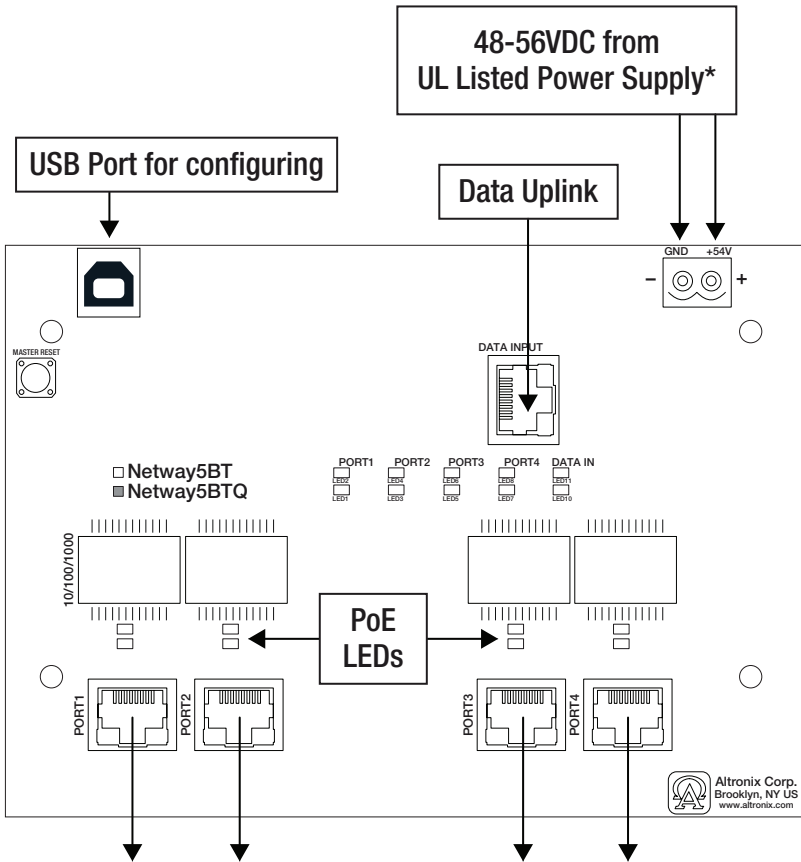
Terminal/Port Legend	Function/Description
GND +54V	Connect a 48-56 VDC UL Listed power source to these terminals carefully observing polarity. (Fig. 1a, pg. 4)
Data Input	Can be used as a Data Uplink (Fig. 1b, pg. 4).
Port 1 - Port 4	Data and PoE/PoE+ (IEEE 802.3af, 802.3at, 802.3bt compliant) ports (Fig. 1c, pg. 4).
Master Reset	Resets NetWay5BTQ to factory settings. See <b>Factory Reset Option</b> , 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	<b>NetWay5BTQWP, NetWay5BTQWPX, NetWay5BTQX, NetWay5BTQPL:</b> 120VAC, 60Hz, 4.5A. <b>NetWay5BTQ/NetWay5BTQWPN:</b> 48-56V from a UL Listed power source.		
Output	Four (4) PoE/PoE+ ports. Single data uplink port.		
Indicators	<b>NetWay5BTQ:</b> Individual <b>PoE On</b> LEDs for each port. Individual <b>IP Link status, 100/1000Base-T/active</b> LEDs for each port.		
Environmental Conditions	<b>Operating Ambient Temperature:</b> – 30°C to 70°C (– 22°F to 158°F). <b>Storage Temperature:</b> – 40°C to 85°C (– 40°F to 185°F). <b>Humidity:</b> 20 to 85%, non-condensing. <b>Operating Altitude:</b> – 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)
	NetWay5BTQWPX	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. (1.81 kg)
	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 NetWay5BTQ for Network Connection

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Please be sure to visit [altronix.com](http://altronix.com) for latest firmware and installation instructions

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## Factory Default Settings

- IP Address: 192.168.168.168
- User Name: admin
- Password: admin

1. Set the static IP address for the laptop to be used for programming to the same network IP address as the NetWay5BTQ. The default address of the NetWay5BTQ is 192.168.168.168, E.I. 192.168.168.200.
2. Connect one end of the network cable to the network jack on the NetWay5BTQ and the other to the network connection of the laptop.
3. Open a browser on the computer and enter "192.168.168.168" into the address bar.  
A dialog box Authentication Required will appear requesting both user name and password.  
Enter the default values here. Click on the button labeled **Log In**.
4. The status page of the NetWay5BTQ will appear. Click on the tab labeled **Network Settings**.  
This will open the Network Setting screen. In this screen the MAC Address of the NetWay5BTQ module will be found along with the Network Settings and Email Settings.

## Network Settings:

In the IP Address Method field select the method that the IP Address for the NetWay5BTQ will be obtained (STATIC or DHCP), then follow the appropriate steps.

### Static:

- A. IP Address: Enter the IP address assigned to the NetWay5BTQ by the network administrator.
- B. Subnet Mask: Enter the Subnet of the network.
- C. Gateway: Enter the TCP/IP gateway of the network access point (router) being used.  
Gateway configuration is required to properly receive emails from the device.
- D. HTTP Port: Enter the HTTP port number assigned to the NetWay5BTQ module by the network administrator to allow remote access and monitoring. The default inbound port setting is 80. HTTP is not encrypted and unsecure. Even though HTTP can be used for remote access, it is recommended primarily for use with LAN connections.
- E. HTTPS Port: Enter the HTTPS port number assigned to the NetWay5BTQ module by the network administrator to allow remote access and monitoring. The default inbound port setting is 443.  
Being encrypted and more secure, HTTPS is highly recommended for remote access.
- F. Click the button labeled **Submit Network Settings**.  
A dialog box will display "New network settings will take effect after the server is rebooted". Click **OK**.

### DHCP:

- A. After selecting DHCP in the IP Address Method field click the button labeled **Submit Network Settings**.  
A dialog box will display "New network settings will take effect after the server is rebooted". Click **OK**.  
Next, click on the button labeled **Reboot Server**. After rebooting the NetWay5BTQ will be set in the DHCP mode. The IP address will be assigned by the router when the NetWay5BTQ is connected to the network. It is recommended to have the assigned IP Address reserved to ensure continued access (see the network administrator).
- B. Subnet Mask: When operating in DHCP, the router will assign the subnet mask values.
- C. Gateway: Enter the TCP/IP gateway of the network access point (router) being used.
- D. HTTP Port: Enter the HTTP port number assigned to the NetWay5BTQ module by the network administrator to allow remote access and monitoring. The default inbound port setting is 80. HTTP is not encrypted and unsecure. Even though HTTP can be used for remote access, it is recommended primarily for use with LAN connections.

## Secure Network Setup (HTTPS):

In order to setup HTTPS for a Secure Network Connection, a Valid Certificate and Key must be used. Certificates and Key should be in a ".PEM" format. Self Certifications should only be used for testing purposes as no actual authentication is being performed. In a Self-Certified mode, the connection will still state that it is insecure.

How to upload Certificate and Key to setup HTTPS:

1. Open Tab Labeled "Security"
2. Select Tab Labeled "Email/SSL"
3. Scroll to bottom under "SSL Settings"
4. Click "Select Certificate"
5. Browse and select valid Certificate to upload from server
6. Click "Select Key"
7. Browse and select valid Key to upload from server
8. Click "Submit Files"

Once the Certificate and Key is uploaded successfully you can proceed with setting up HTTPS in Network Settings.

- A. HTTPS Port: Enter the HTTPS port number assigned to the NetWay5BTQ module by the network administrator to allow remote access and monitoring. The default inbound port setting is 443. Being encrypted and more secure, HTTPS is highly recommended for remote access.
- B. Click the button labeled **Submit Network Settings**.  
A dialog box will display "New network settings will take effect after the server is rebooted". Click **OK**.

## 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 NetWay5BTQB while reapplying power to the unit (*Fig. 1d, pg. 3*). 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.



## VLans

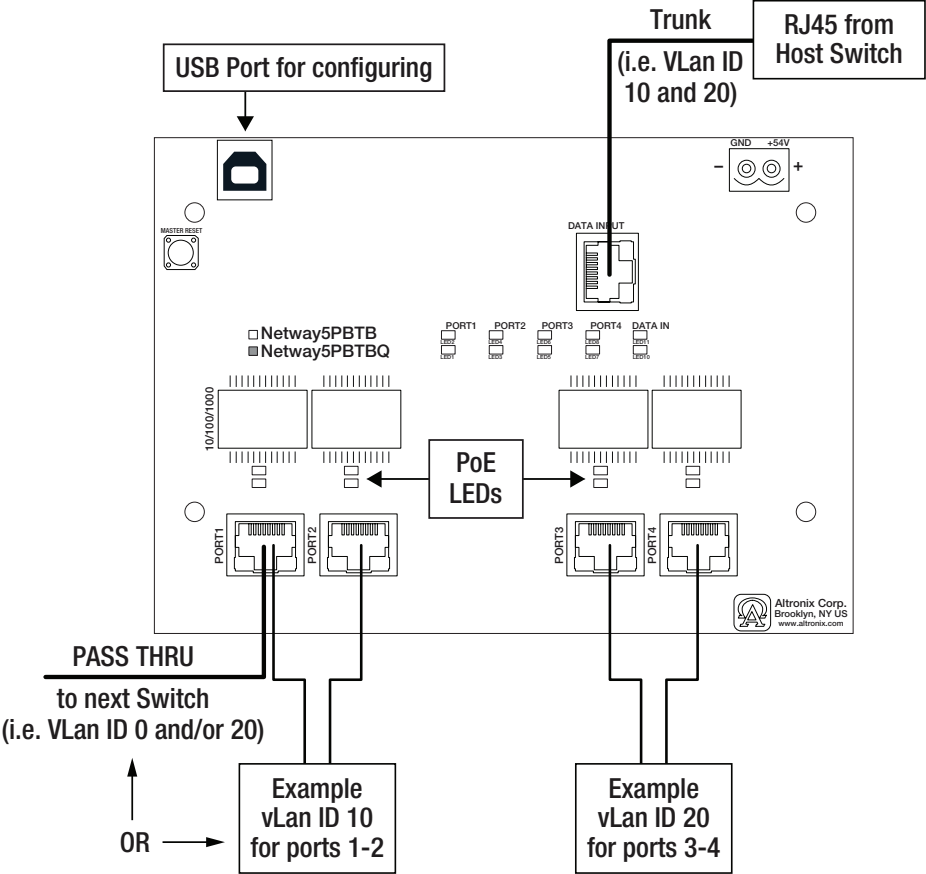
VLans (Virtual Local Area Networks) are a subnetwork that allow for the grouping together of devices for improved network traffic as well as providing higher security by allowing greater control over which devices have access to each other. It is important to plan how you will setup your devices for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

### Configuring vLan on the Altronix NetWay5BTQ Series Switch:

1. Ensure Laptop or PC being used to program the vLan settings is on a port that will be assigned to your first vLan configuration. By default the management portion of the software is assigned to vLan-1.  
**CAUTION:** Changing VID=1, the industry standard VLAN HOST address to any other VID address should be done with caution and performed only locally, since the change will drop the original HOST connection. Local access then facilitates a physical reconnection to respective port.  
**Note:** Only this vLan network allows access to IP management.
2. In Network Section click on vLan Tab.
3. Click Add vLan.
4. Enter a name for the vLan.
5. 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.
6. Assign vLan QOS (Quality of Service) priority. 0 = Lowest and 7 = Highest
7. 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.
8. 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.
9. Save Configuration.
10. Repeat steps 2 - 9 to add another vLan.  
If unit is accidentally programmed incorrectly and you cannot get into the NetWay5BTQ series programming, physically moving ports of your PC connected to the main switch to a correct port (when being programmed remotely), or, as a last resort, completing a factory reset locally and reprogramming the unit.
11. **Advanced Port Settings:**  
Unknown VID Packet Forwarding Configuration:  
On ingress unknown VID, Forward to a fixed set of ports. By default no forwarding is set.  
Configuration on Ingress Untagged Traffic:  
Trunk Port action for ingress UNTAGGED packets. By default do not drop packets.  
Keep Tag on Egress:  
Select if you want ACCESS Port to keep the vLan tag when sending egress packets.  
By default tags are stripped.  
Preferred VLAN Forwarding:  
For ACCESS Ports that belong to more than one VLAN. Select preferred vLan to forward UNTAGGED ingress packets. By default preferred vLan is the last vLan created.

Fig. 3

Typical Vlan Setup:

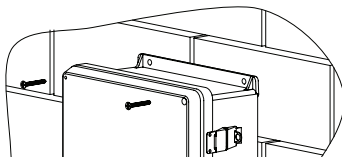


Any Ethernet port can be used for Vlan Pass Thru

## 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 WP1, 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

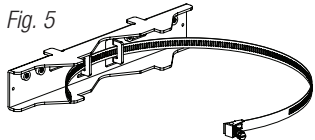


Fig. 6

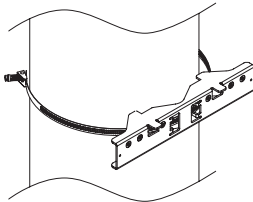
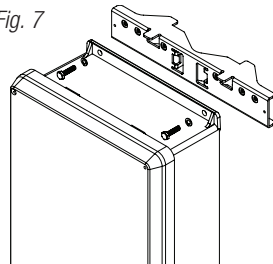


Fig. 7



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

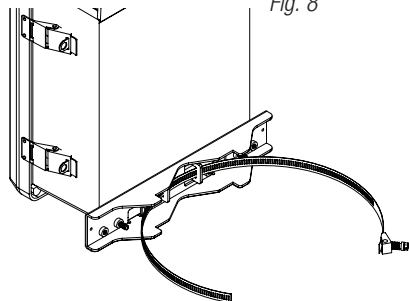


Fig. 9  
2" to 8" (50.8mm to 203.2mm)  
diameter round pole

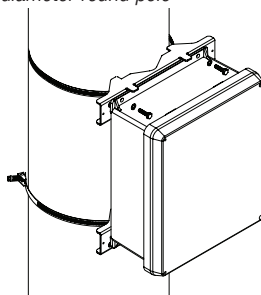
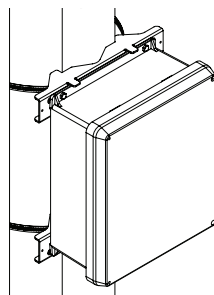


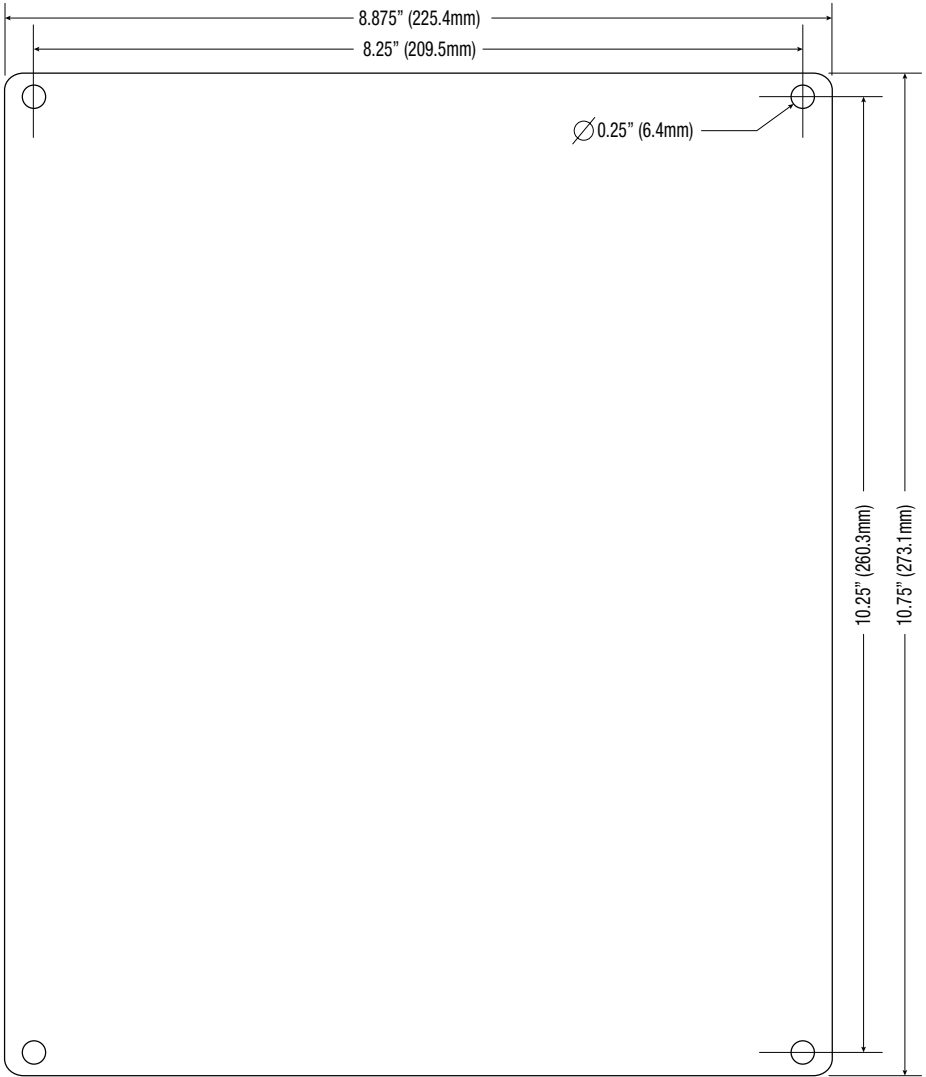
Fig. 9  
5" (127mm) square pole



## NetWay5BTQPL

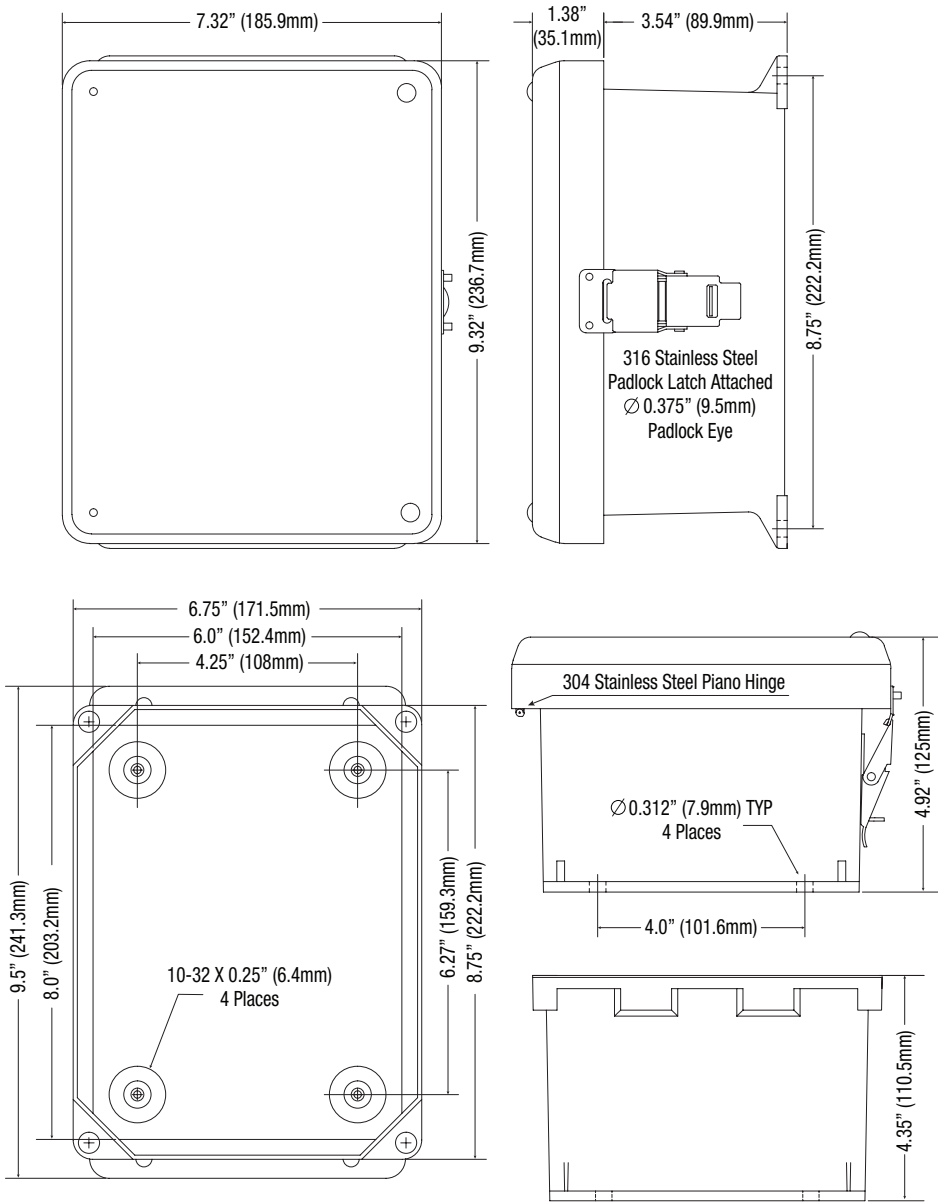
### Mechanical Drawing and Dimensions (H x W x D approx.):

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.):**

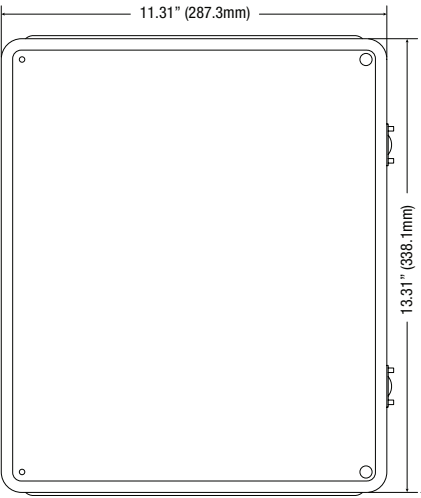
9.5" x 7.32" x 4.92" (241.3mm x 185.9mm x 125mm)



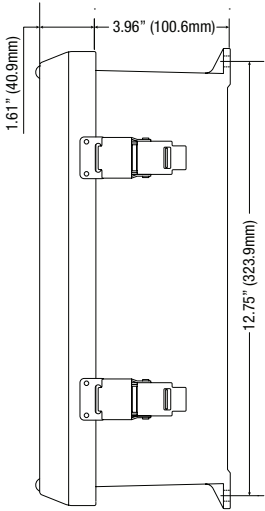
**NetWay5BTQWP**  
**Mechanical Drawing and Dimensions (H x W x D approx.):**

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

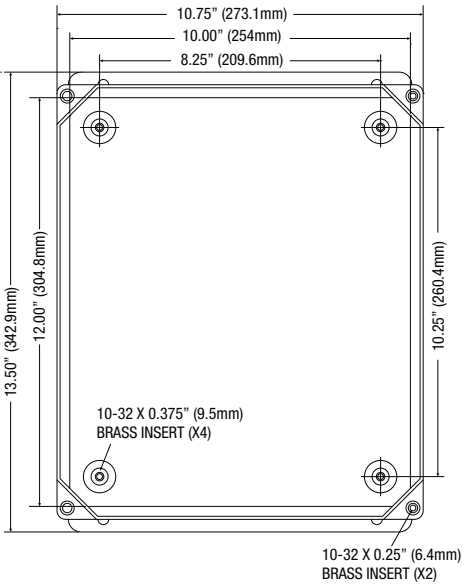
**FRONT VIEW**



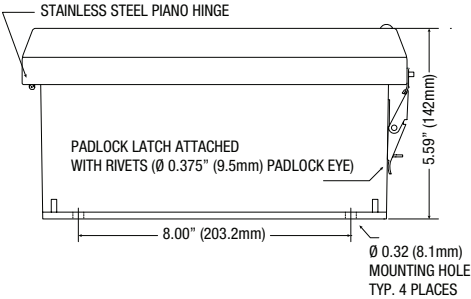
**RIGHT SIDE VIEW**



**FRONT VIEW COVER REMOVED**



**END VIEW**

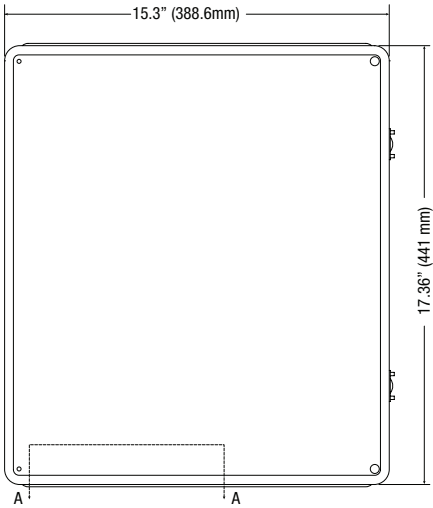


# NetWay5BTQWPX

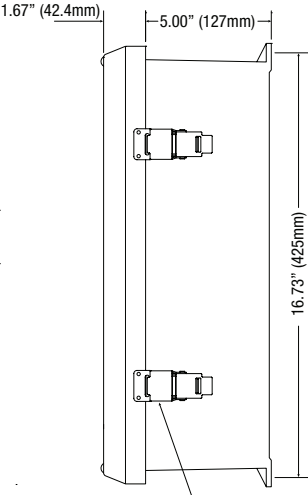
## Mechanical Drawing and Dimensions (H x W x D approx.):

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

**FRONT VIEW**

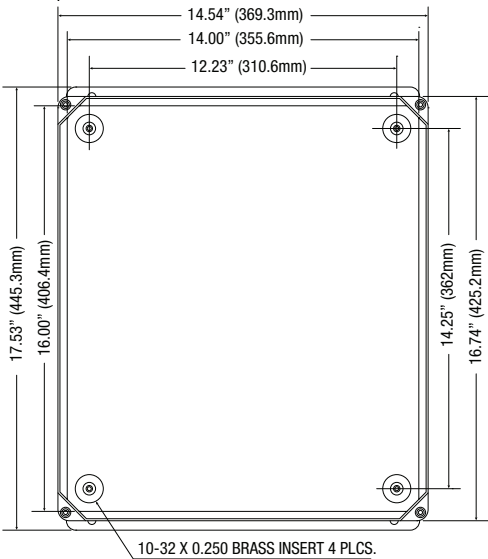


**RIGHT SIDE VIEW**

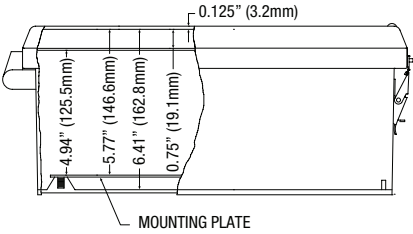


316 STAINLESS STEEL PADLOCK LATCH  
ATTACHED WITH RIVETS. Ø 0.375 PADLOCK EYE

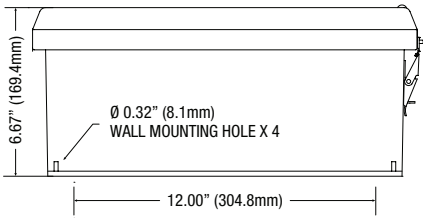
**FRONT VIEW COVER REMOVED**



**SECTION A-A**



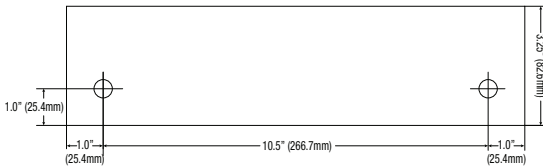
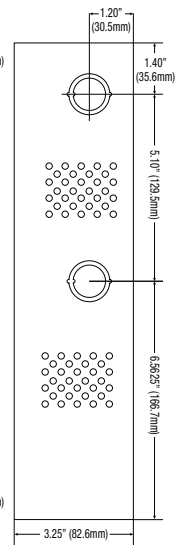
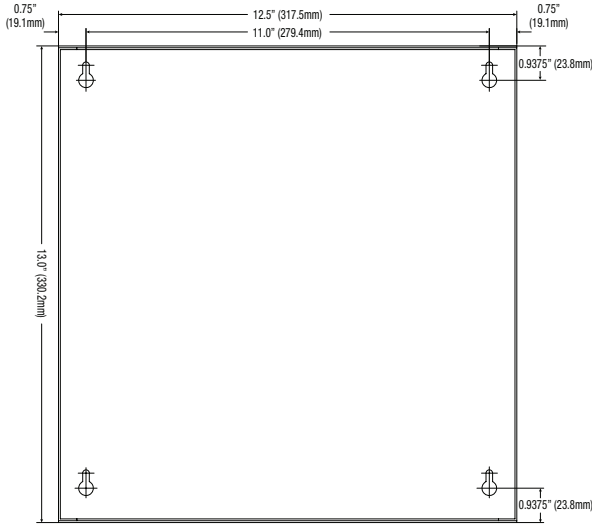
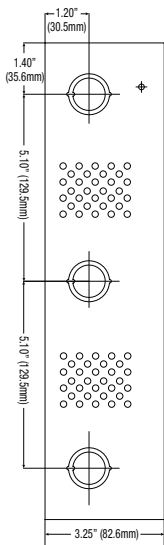
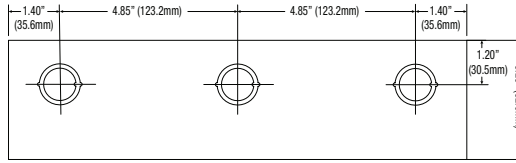
**END VIEW**



# 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.

140 58th Street, Brooklyn, New York 11220 USA | phone: 718-567-8181 | fax: 718-567-9056  
 website: [www.altronix.com](http://www.altronix.com) | e-mail: [info@altronix.com](mailto:info@altronix.com) | Lifetime Warranty  
 NetWay5BTQ Series C06X

