Altronix Tango8P Series PoE Driven Multi-Output Power Supplies with Lithium Battery Backup Installation Guide

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Altronix Tango8P Series PoE Driven Multi-Output Power Supplies with Lithium Battery Backup

Overview:

Altronix Tango8P(CB) PoE Driven Multi-Output Power Supply converts an IEEE802.3bt PoE input into eight (8) regulated 24VDC and/or 12VDC outputs up to 72W. Ideal for access installations, it eliminates the need for a high voltage inside the enclosure. Tango8P(CB) is designed to support a single 12V LiFePO4 (Lithium Iron Phosphate) battery for 12VDC and 24VDC backup.

Specifications

Ethernet Input:

- 802.3bt PoE up to 90W or 802.3at up to 30W or 802.3af up to 15W.
- CAT-6 or higher cable is recommended for optimum performance.

Power Output (when using 802.3bt 90W):

- 12VDC up to 6.25A (72W) and/or 24VDC up to 3A (72W). Combined output not to exceed 72W.
- **When charging batteries:**
  12VDC up to 5.4A (62W) and/or 24VDC up to 2.7A (62W) Combined output not to exceed 62W.
- **Tango8P:** Fuse protected outputs rated @ 3A per output, non power-limited.
  Tango8PCB: PTC protected outputs rated @ 2A per output, Class 2 power-limited.
- Any of the eight (8) fuse/PTC protected power outputs are selectable to follow power Input 1 or Input 2. Output voltage of each output is the same as the input voltage of the input selected.
- Individual outputs may be set to OFF position for servicing.
- Surge suppression.

Fuse/PTC Ratings:

- **PDS8:** Main input fuses rated @ 10A/32V each. Output fuses rated @ 3A/32V each.
- **PDS8CB:** Main input PTCs rated @ 9A each. Output PTCs rated @ 2A each.
- **TANGO1B:** Battery fuse rated @ 10A/32V each. Ethernet Output (Tango1B):
- Pass-through Ethernet Port (data only).
- 100/1G.

Battery (Tango1B):

- 12VDC battery charger for Lithium Iron Phosphate Battery (LiFeP04 only).
- Unique technology allows for single battery to backup 12VDC and/or 24VDC systems.
- Low power shutdown. Shuts down DC output terminals if battery voltage drops below 80% of nominal. Prevents deep battery discharge.

Supervision:

- Loss of PoE Input.
- Battery Supervision.

Visual Indicators:

- **Tango1B:**
  - Input indicates input voltage is present.
  - Battery status indicates battery trouble condition.
  - PoE Class indicator.
  - Supervision PoE Fail or BAT Fail.
- **PDS8(CB):**
  - Individual voltage LEDs indicate 12VDC (Green) or 24VDC (Green and Red).

Environmental:

- **Operating temperature:** 0ºC to 49ºC ambient.
- **Humidity:** 20 to 85%, non-condensing.

Enclosure Dimensions (approximate H x W x D):
15.5” x 12.25” x 4.5” (394mm x 311mm x 114mm).

Accessories:

Power Sourcing Equipment
NetWay1BT – Single Port 802.3bt (4PPoE)
Midspan Injector supplies 90W total power.
NetWay4BT – 4-Port Managed 802.3bt (4PPoE)
Midspan Injector supplies 480W total power.

NetWay8BT – 8-Port Managed 802.3bt (4PPoE)
Midspan Injector supplies 480W total power

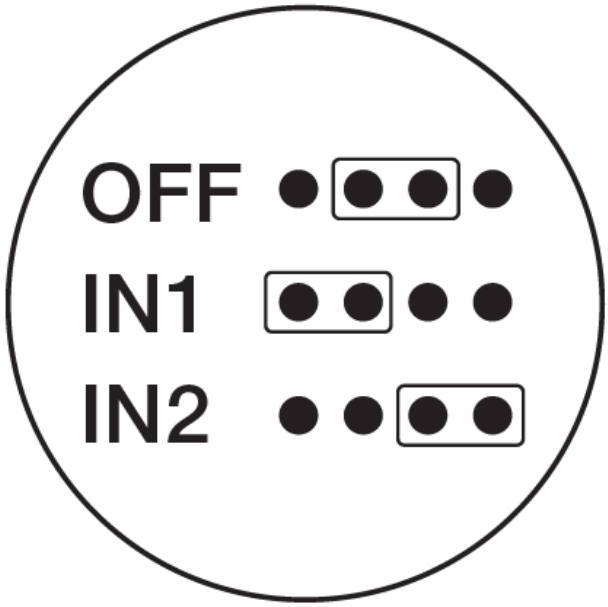
Stand-by Specifications:

Battery	Access Control Applications Stand-by
4AH	30 Mins.
7AH	45 Mins.
12AH	1.5 Hours

Installation Instructions:

Wiring methods shall be in accordance with the National Electrical Code/NFPA 70/NFPA 72/ANSI, the Canadian Electrical Code and with all local codes and authorities having jurisdiction. Product is intended for indoor use only.

1. Mount unit in desired location. Mark and predrill holes in the wall to line up with the top two keyholes in the enclosure. Install two upper fasteners and screws in the wall with the screw heads protruding. Place the enclosure's upper keyholes over the two upper screws, level and secure. Mark the position of the lower two holes. Remove the enclosure. Drill the lower holes and install the two fasteners. Place the enclosure's upper keyholes over the two upper screws. Install the two lower screws and make sure to tighten all screws (Enclosure Dimensions, pg. 8). Secure enclosure to earth ground.
2. Ensure all output jumpers [OUT1 – OUT8] on PDS8(CB) are placed in the OFF (center) position marked [•].



3. Connect IEEE802.3bt PSE from PoE source to RJ45 Jack marked [PoE+ Data Input] on the Tango1B board (Fig. 2b, pg. 4). If Data pass-through is required, connect another

   Note:

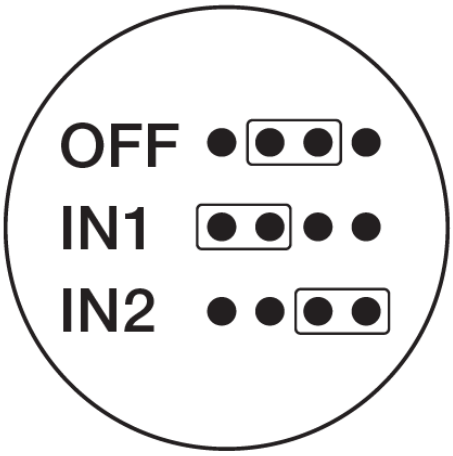
   CAT-6 or higher cable is recommended for optimum performance.

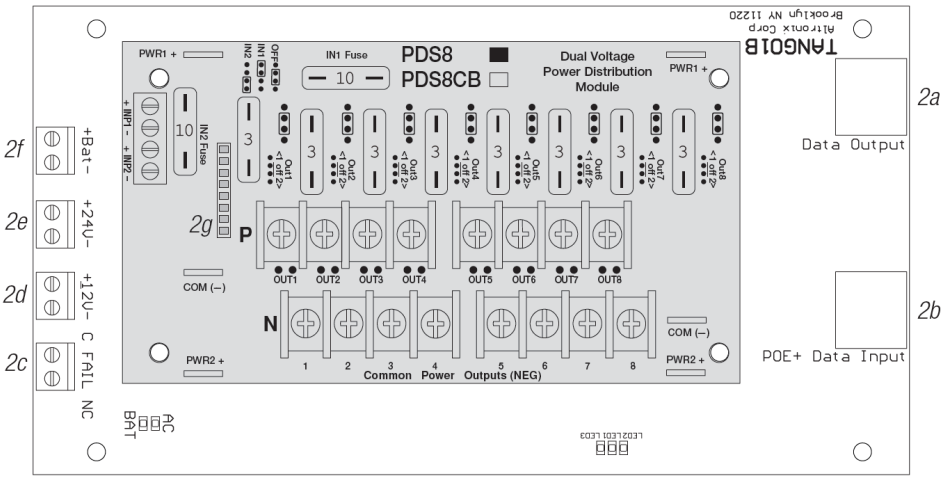
   IEEE802.3bt PSE to RJ45 jack marked [Data Output] (Fig. 2a, pg. 4).

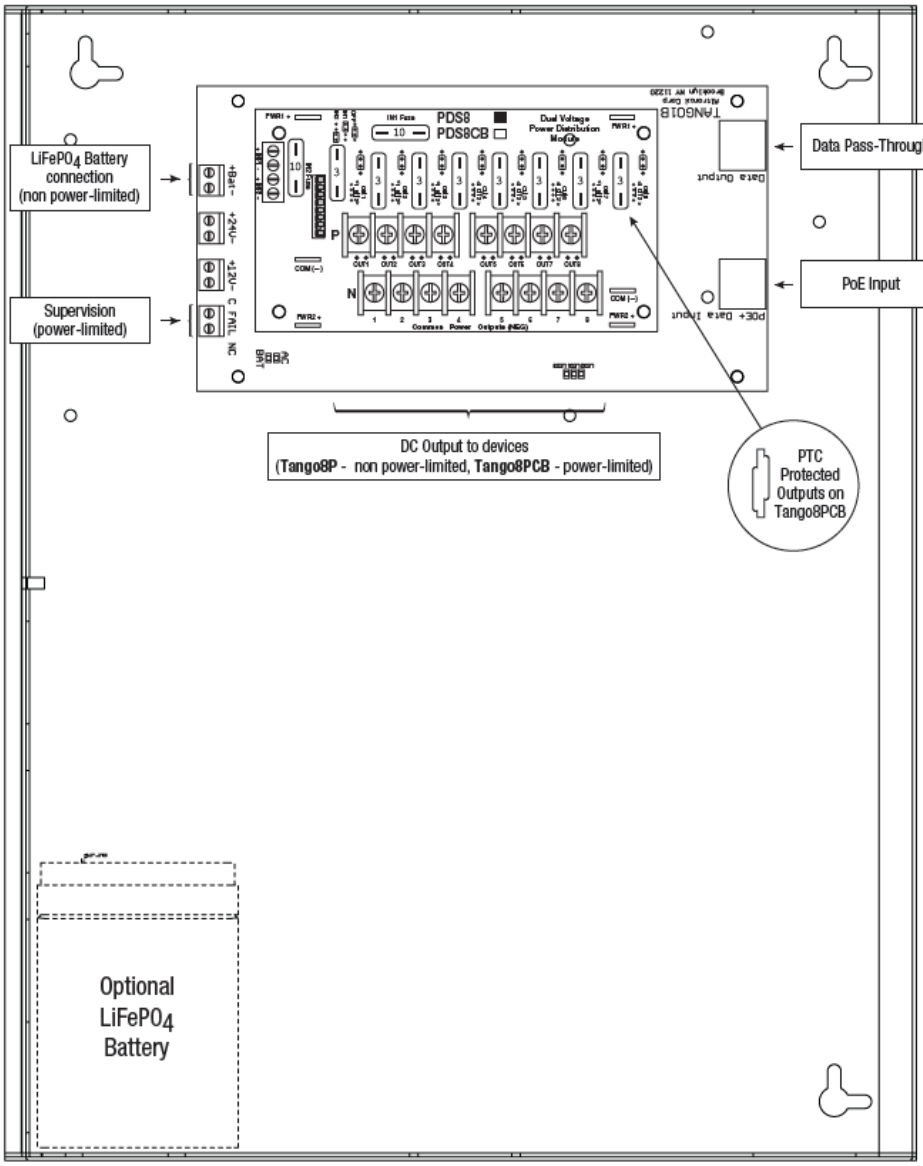
   CAUTION:

   Do not touch exposed metal parts.

   There are no user serviceable parts inside. Refer installation and servicing to qualified service personnel.
4. Set each output [OUT1 – OUT8] to route power from Input 1 or Input 2 (jumper position 1 or 2)


OFF
IN1
IN2


PDS8
PDS8CB
Dual Voltage
Power Distribution
Module
IN1 Fuse
IN2 Fuse
PWR1 +
PWR2 +
COM (–)
P
N
OUT1
OUT2
OUT3
OUT4
OUT5
OUT6
OUT7
OUT8
Common
Power
Outputs (NEG)
+Bat–
+24V–
+12V–
C
FAIL
NC
AC
BAT
Data Output
POE+ Data Input
2a
2b
2c
2d
2e
2f
2g

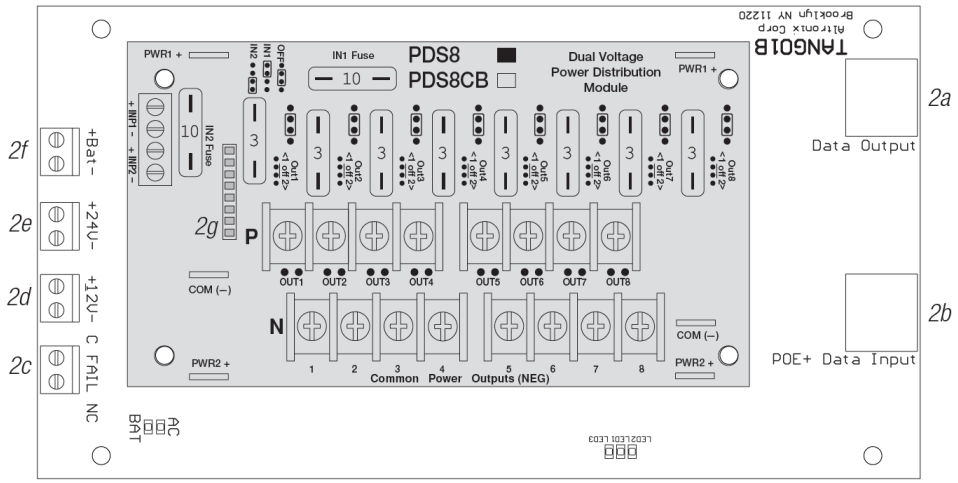


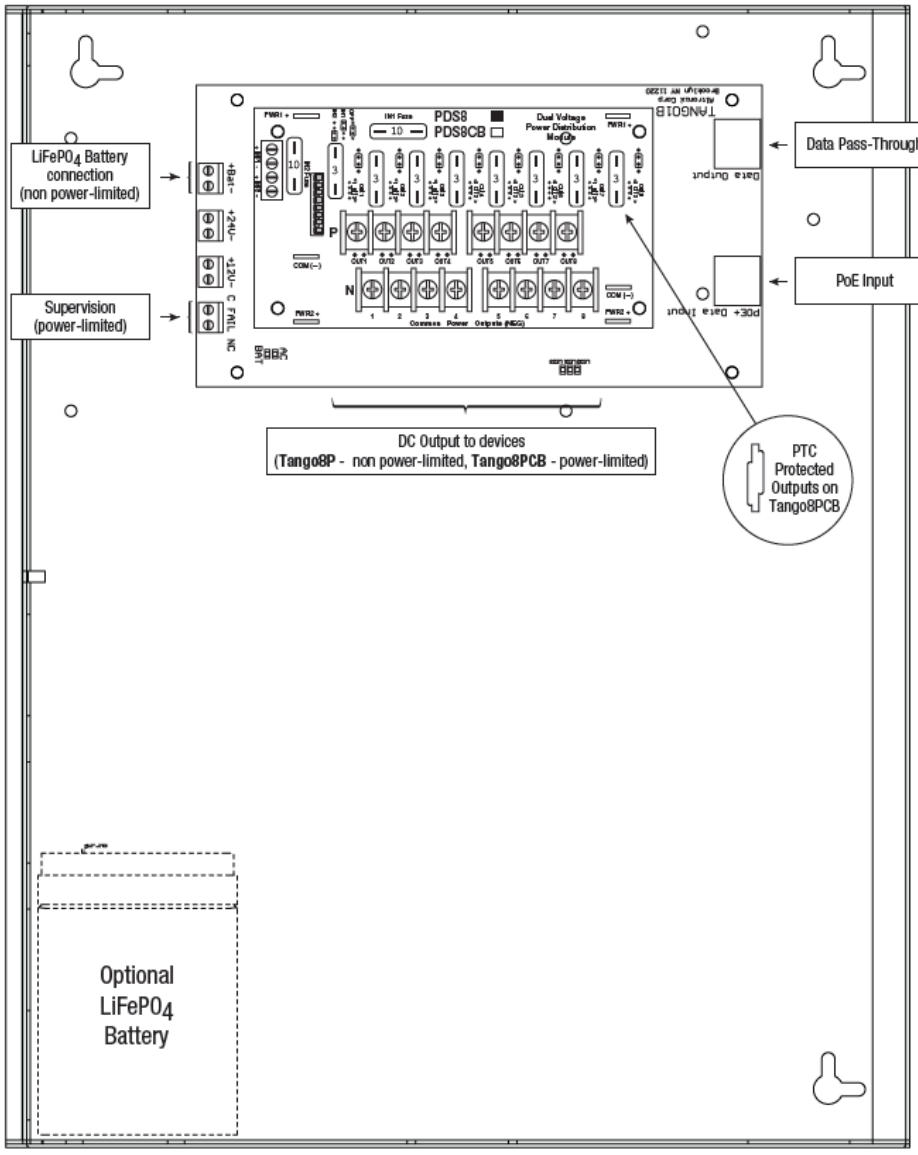
IN1 = 24VDC, IN2 = 12VDC.

Note:

Measure output voltage before connecting devices. This helps avoiding potential damage.

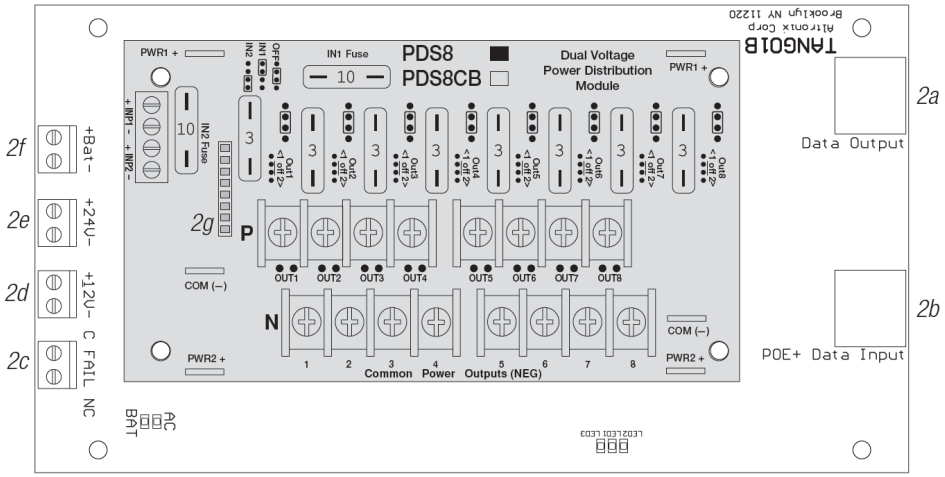
5. Connect devices to terminal pairs 1 to 8, marked [P (Positive) – OUT1-OUT8, N (Negative)]





6. When the use of stand-by batteries is desired, they must be Lithium Iron Phosphate (LiFePO4). Connect batteries to the terminals marked [+ BAT –] on Tango1B (battery leads included) (Fig. 2f, pg. 4).
7. Connect appropriate signaling notification devices to terminals marked [C FAIL NC] (Fig. 2c, pg. 4) supervisory relay output.

Tango1B with PDS8 Stacked Above



Wiring:

Use 18 AWG or larger for all low voltage power connections.

LED Diagnostics:
Tango1B

LED	ON	BLINKING
Input	Input voltage is present.	Input voltage not present.
Battery	Normal operating condition.	Battery is low or missing.
PoE	Indicates Class.	Refer to table below Classes 3-8
Supervision	PoE Fail or BAT Fail.	NC dry contact 30V 1A (not an LED)

Class	Green	Red	Blue
Class 1	–	–	–
Class 2	–	–	–
Class 3	Off	Off	Off
Class 4	Off	On	Off

Class	Green	Red	Blue
Class 5	On	Off	On
Class 6	On	Off	On
Class 7	On	On	On
Class 8	On	On	On

PDS8:

LED	ON
Green	12VDC Output.
Green and Red	24VDC Output.

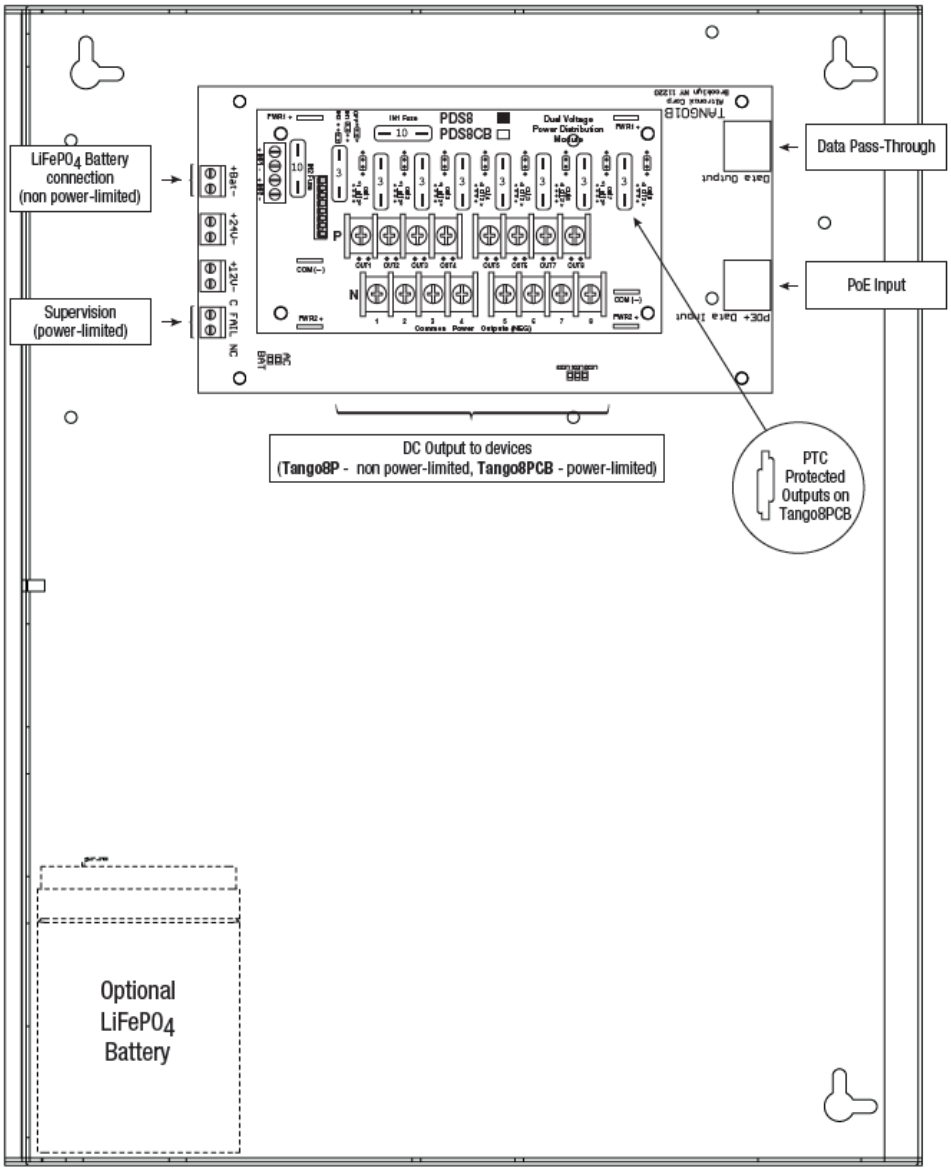
Terminal Identification:
Tango1B

Terminal/RJ45 Legend	Function/Description
PoE+ Data Input	IEEE802.3bt Input *(Fig. 2b, pg. 4)*.
Data Output	Passes Data to Switch *(Fig. 2a, pg. 4)*
C FAIL NC	Power and Battery Fail *(Fig. 2c, pg. 4)*.
+ 12V –	12VDC output *(Fig. 2d, pg. 4)*.
+ 24V –	24VDC output *(Fig. 2e, pg. 4)*.
+ BAT –	Lithium Iron Phosphate battery backup *(Fig. 2f, pg. 4)*.
8-Pin Connector *(Fig. 2g, pg. 4)*	Facilitates electrical connection to PDS8(CB).

PDS8:

Terminal Legend	Function/Description
+ INP1 –	Factory connected to Tango1B. Do not use these terminals.
+ INP2 –	Factory connected to Tango1B. Do not use these terminals.
P [OUT1-OUT8]	Positive DC power outputs.
N [OUT1-OUT8]	Negative DC power outputs.

Tango8P(CB)

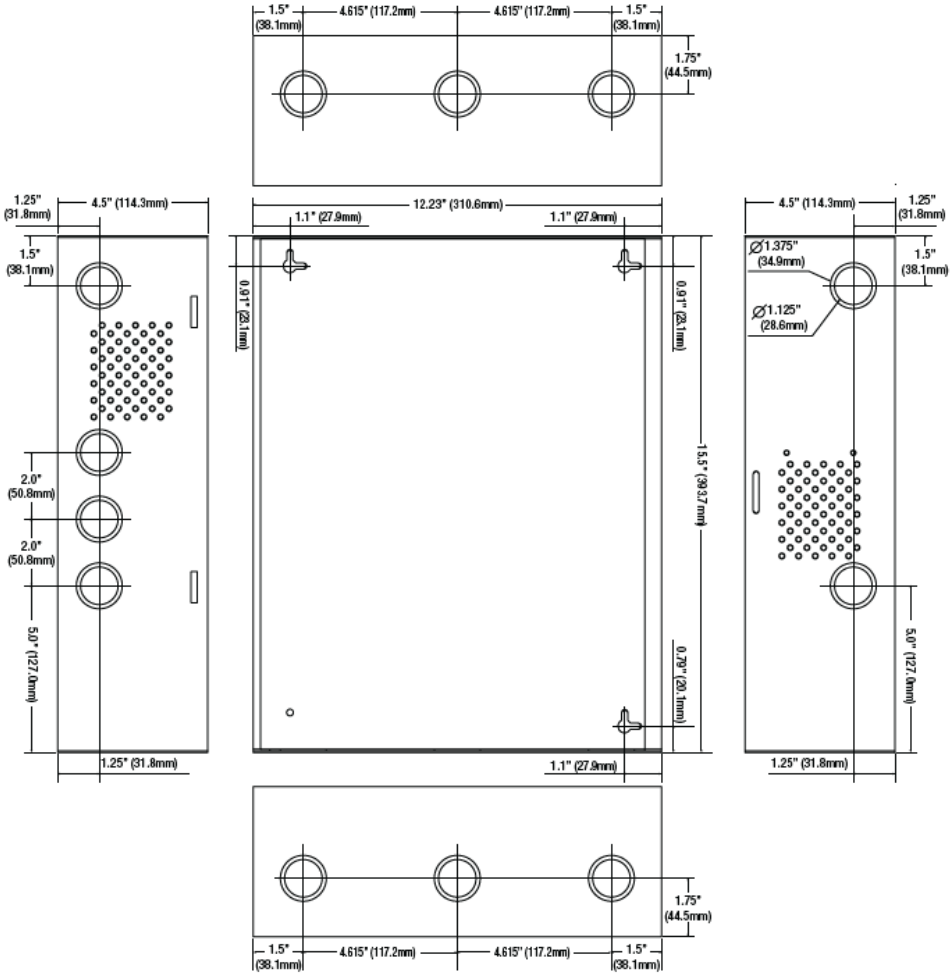


Available Power Using Structured Cable (CAT-5e)

Distance (Feet/Meters)	Available Watts	12VDC Available Amps	24VDC Available Amps
328 (100m)	60	5	2.5
300 (91m)	61	5.08	2.5
250 (76m)	62	5.24	2.62
200 (61m)	64	5.39	2.7
150 (46m)	66	5.54	2.77
100 (30m)	68	5.69	2.85
50 (15m)	70	5.84	2.92
4 (1.2m)	72	6.0	3.0

Enclosure Dimensions (BC400):

15.5” x 12.25” x 4.5” (394mm x 311mm x 114mm)



Documents / Resources

	Altronix Tango8P Series PoE Driven Multi-Output Power Supplies with Lithium Battery Backup [pdf] Installation Guide Tango8P Series PoE Driven Multi-Output Power Supplies with Lithium Battery Backup, Tango8P, Tango8PCB, Tango8P Series, PoE Driven Multi-Output Power Supplies with Lithium Battery Backup, PoE Driven Multi-Output Power Supplies, Power Supplies

References

- Altronix Home