PoE Driven Power Supply with Lithium Battery Backup

Installation Guide

Tango1B

Altronix®

More than just power.™

Rev. TANGO-071119

Overview:

Altronix Tango1B Voltage Regulator converts an IEEE802.3bt PoE input into a regulated 24VDC and/or 12VDC output up to 75W. It eliminates the need for a high voltage power supply inside of an enclosure. The Tango 8-pin connector allows for stacking with compatible Altronix sub-assemblies such as ACMS8 and PDS8, saving valuable enclosure space. Tango1B is designed to support a single 12V $LiFePO_4$ **(Lithium Iron Phosphate)** battery for high storage and charge/discharge cycle life reliability.

Specifications:

Ethernet Input:

- 802.3bt PoE up to 90W or 802.3at up to 30W or 802.3af up to 15W.

Power Output (when using 802.3bt 90W):

- 12VDC up to 6.25A (75W) and/or 24VDC up to 3A (75W). Combined output not to exceed 75W..
- **When charging batteries:** 12VDC up to 5.4A (65W) and/or 24VDC up to 2.7A (65W) Combined output not to exceed 65W.

Ethernet Output:

- Pass-through Ethernet Port (data only).
- 100/1G

Battery:

- 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:

- Input indicates input voltage is present.
- Battery status indicates battery trouble condition.
- PoE Class indicator.
- Supervision PoE Fail or BAT Fail.

Additional Features:

- Short circuit and overload protection.

Board Dimensions (approximate L x W x H):

7.625" x 4.125" x 1.25"
(193.7mm x 104.8mm x 32.0mm)

Accessories:

Power Sourcing Equipment

NetWay4BT - 4-Port Managed Hi-PoE Midspan Injector supplies 480W total power.
NetWay8BT - 8-Port Managed Hi-PoE Midspan Injector supplies 480W total power.

Stackable Power Distribution Modules

PDS8(CB) - Eight (8) Fuse/PTC Protected Dual Input/Output Power Distribution Module.
ACMS8(CB) - Eight (8) Fuse/PTC Protected Dual Input/Output Access Power Controller.
LINQ8PD(CB) - Eight (8) Fuse/PTC Protected Dual Input/Output Managed Power Distribution Module.

Tango1B Sub-Assembly can be installed in BC400, BC600, BC750, BC800, Trove1, Trove2, Trove3, Trove Rack Access and Power Integration Systems.

Stand-by Specifications:

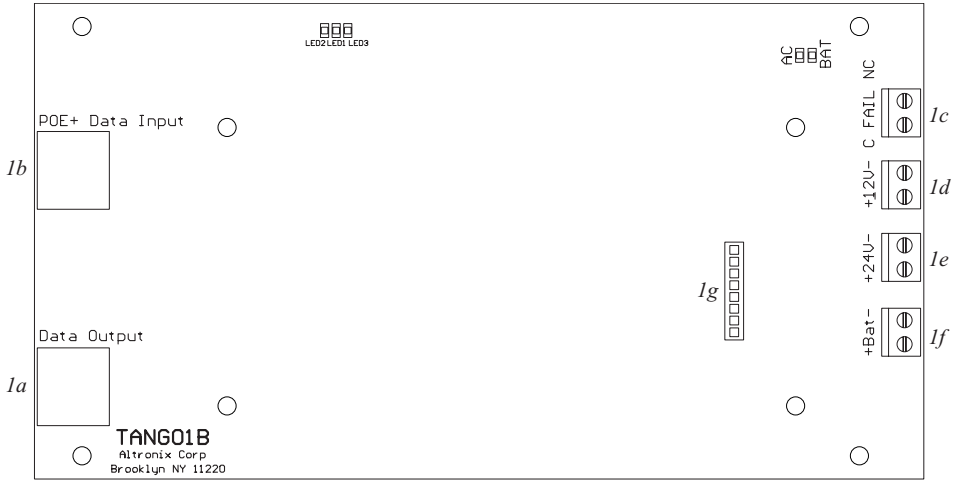
Battery	Access Control Applications Stand-by
4AH	30 Mins.
7AH	45 Mins.
12AH	1.5 Hours

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 Tango1B in the desired location/enclosure (mounting hardware included).
2. Connect IEEE802.3bt PSE to RJ45 Jack marked PoE+ Data Input *(Fig. 1b, pg. 3)*.
   CAUTION: Do not touch exposed metal parts.
   There are no user serviceable parts inside. Refer installation and servicing to qualified service personnel.
3. Measure output voltage before connecting devices. This helps avoid potential damage.
4. Connect 12V devices to be powered to terminals marked [+ 12V –] *(Fig. 1d, pg. 3)*.
5. Connect 24V devices to be powered to terminals marked [+ 24V –] *(Fig. 1e, pg. 3)*.
6. When the use of stand-by batteries is desired, they must be Lithium Iron Phosphate (LiFePO4). Connect batteries to the terminals marked [+ BAT –] (battery leads included) *(Fig. 1f, pg. 3)*.
7. Connect appropriate signaling notification devices to terminals marked [C FAIL NC] *(Fig. 1c, pg. 3)* supervisory relay output. In normal conditions this relay is closed and in trouble conditions this relay open.

Fig. 1 - Tango1B configuration



Wiring:

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

LED Diagnostics:

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)

PoE Input Class (W)	Green	Red	Blue
Class 1 (3.84)	–	–	–
Class 2 (6.49)	–	–	–
Class 3 (13.00)	Off	Off	Off
Class 4 (25.50)	Off	On	Off
Class 5 (40.00)	On	Off	On
Class 6 (51.00)	On	Off	On
Class 7 (62.00)	On	On	On
Class 8 (71.30)	On	On	On

Terminal Identification:

Terminal/RJ45 Legend	Function/Description
PoE+ Data Input	IEEE802.3bt Input *(Fig. 1b, pg. 3)*.
Data Output	Passes Data to Switch *(Fig. 1a, pg. 3)*
C FAIL NC	Power and Battery Fail *(Fig. 1c, pg. 3)*. In normal conditions this relay is closed and in trouble conditions this relay open.
+ 12V –	12VDC output *(Fig. 1d, pg. 3)*.
+ 24V –	24VDC output *(Fig. 1e, pg. 3)*.
+ BAT –	Lithium Iron Phosphate battery backup *(Fig. 1f, pg. 3)*.
8-Pin Connector *(Fig. 1g, pg. 3)*	Facilitates electrical connection to PDS8(CB) or ACMS8(CB).

Notes: