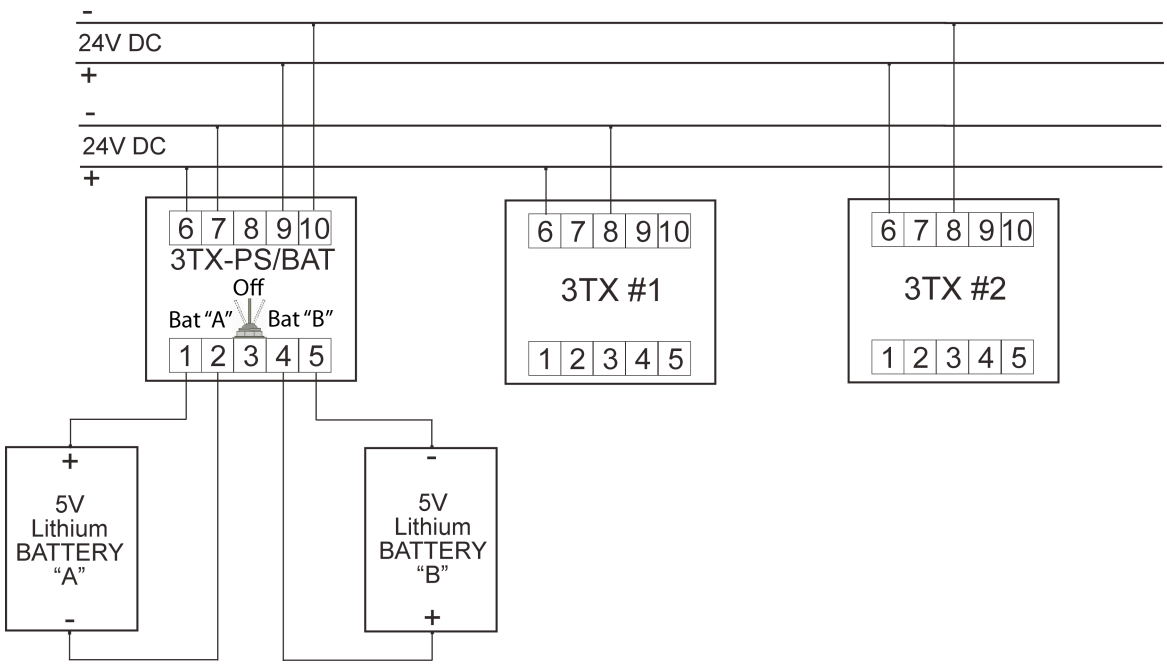
3TX–PS/BAT Dual Isolated & Regulated 24VDC Power Supply for 3TX Transmitters using 5V Lithium Batteries

The 3TX-PS/BAT is a 35mm DIN-RAIL mounted module that provides dual isolated and regulated 24VDC power to energize 3TX transmitters using 5V lithium batteries as the input power source. The dual 24VDC power outputs are isolated from each other as well as each battery input. The max capacity for each 24VDC output is one (1) each 3TX transmitter giving a total capacity of two (2) each 3TX transmitters as the max load when simultaneously using both isolated 24VDC power outputs. The 3TX-PS/BAT module can also operate from the 5VDC output from most USB charging adapters. The 3TX-PS/BAT module serves as the basis for portable use of the 3TX transmitters where 100-240 VAC line power or 24VDC power is not available.

Max load 1 each 3TX transmitters per each isolated 24VDC output. Proper wiring for connection of two (2) each 3TX transmitters to one 3TX-PS/BAT when both 24VDC isolated & regulated outputs are used shown in the schematic below.



Two each 3TX-PS/BAT can energize 4 each 3TX transmitters for configurations such as in the "CARRY-ON" portable.

Three-way switch on the 3TX-PS/BAT controls whether 24VDC power supply is "Off" when set to middle or using battery "A" when set to left or battery "B" when set to right. Only "A" **or** "B" battery input is used at one time based upon the switch position. The 5VDC input source source is typically a USB rechargaeble LiPo type battery although a permanent 5VDC or 6VDC can also be used. Both 24VDC outputs from terminals 5&6 and 9&10 are always active when source "A" or "B" is selected by the three-way switch on the 3TX-PS/BAT module. The second 24VDC power output from terminals 9&10 is used if you plan to energize more than one 3TX transmitter modules since each 3TX module has a typical nominal power consumption of 60mA max.

IMPORTANT SAFETY NOTICE: ENSURE THAT THE POLARITY OF THE WIRING FOR THE INPUT AND OUTPUT CONNECTION IS CORRECT! No protection exists against inverted or incorrect wiring of input power source or 24VDC output power. Typical color coding is black for Gnd terminals 2&5 (-) & red for +5VDC terminals 1&4 (+) from most battery USB cables. ***Great caution should be taken to ensure that all connections are correct or else permanent damage may result to both 3TX-PS/BAT and/or 3TX transmitters!***

TECHNICAL SPECIFICATIONS

Mechanical

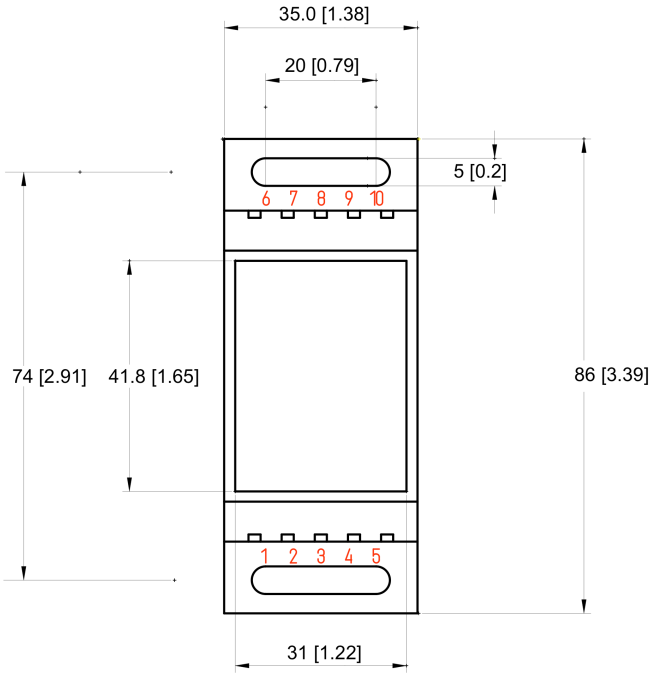
Housing:	Lexan UL94V-0 (Upper part) Noryl UL94V-0 (Lower part)
Mounting:	M36 for 35 mm DIN rail
IP Class:	Housing IP40. Connector IP20
Connector:	Max 16A. Max 2.5 mm² Max torque 0,6 Nm
Temp.:	Usage -15 to +50 °C (Storage -35 to +75 °C)
Weight:	75 grams (2.64 ounces)
Dimensions:	D 58 x W 36 x H 86 mm (2.3″ X 1.4″ X 3.4″)
CE mark:	EN61326A

RoHS COMPLIANT

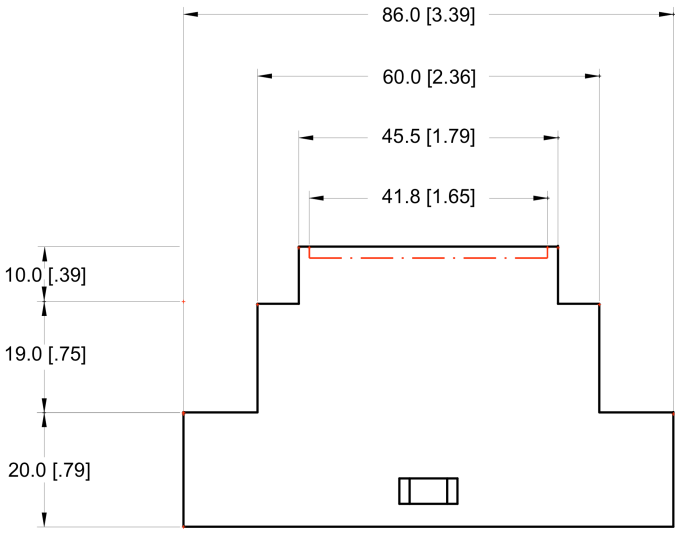
Electrical

Power Input:	5VDC rated min 1A (1,000mA) load
No. of Inputs:	2 each toggled with 3-position switch
Power Outputs:	24VDC ±10%
No. of Outputs:	2 each on terminals 6&7 and 9&10
Output Type:	Each output isolated from each input Outputs are isolated from each other
Max Load:	85mA for each 24VDC output can be used to power 1 each 3TX transmitter
Max No. of 3TX Modules:	Total 2 each 3TX transmitters can be powered with 1 each 3TX-PS/BAT
Efficiency:	80% or better for DC/DC stepup

DIMENSIONAL DETAIL FOR UPPER PART OF 35mm DIN-RAIL 3TX ENCLOSURE



Top View



Side View

GENERAL NOTES:

1) All dimensions shown above are in metric units of millimeters (mm) with the imperial units of inches shown in [brackets]. Dimensions are for reference purposes only with no specific tolerance guaranteed.
2) The 3TX-PS/BAT stepup-up DC/DC boost-up converter is used in the ASTI supplied battery powered NEMA 4X portable field enclosures such as the LUNCHBOX and CARRY-ON assemblies to power the 3TX transmitters when a permanent 24VDC or 100-240VAC power source is not available.
3) All 3TX modules must be installed in secondary enclosure with a rating (IP65, IP66, IP67, IP68, NEMA 4X, NEMA 6P and so forth) that is suitable for the planned field use and area classification.

Last Modified May 27, 2016 | Revision 2