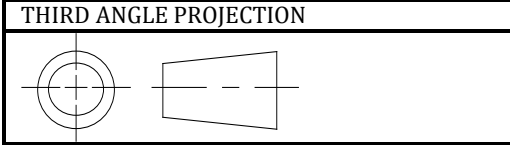


SIZE <b>A</b>	DWG NO ETX900-TSO	SH 1	REV A.8
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CLICK HERE  
TO UPDATE  
TEMPLATE

REVISION BLOCK			
REV	DESCRIPTION	DATE	APPROVED
A	Initial Release	4/05/2019	NICOSON
A.1	BMS to Rev G	4/19/2019	NICOSON
A.2	BMS to Rev H	7/2/2019	NICOSON
A.3	BMS Firmware V10.19C	11/4/2020	NICOSON
A.4	BMS Firmware V10.20C, RevH1	10/11/2021	NICOSON
A.5	BMS Firmware V11.21C, Resistor value change (R2,R3,R15,R17,R22, R31)	5/05/2022	NICOSON
A.6	BMS PCB Rev I, added heat sink to PCB	3/10/2023	NICOSON
A.7	BMS Firmware V12.22C	5/21/2023	NICOSON
A.8	BMS Hardware Rev J, BOM to Rev A.8	9/01/2024	NICOSON

## ETX900-TSO Top Level Assembly Drawing

THIS DOCUMENT SHALL BE REVISED IN ITS ENTIRETY. ALL SHEETS OF THIS DOCUMENT ARE THE SAME REVISION LEVEL AS INDICATED IN THE REVISION BLOCK. UNLESS SPECIFIED, ELSEWHERE TOLERANCES ARE +1/16" or +-5%.

<b>EarthX</b>	Windsor, CO	SIZE	DWG NO	DESCRIPTION
DRAWN	S NICOSON	<b>A</b>	ETX900-TSO	Top Level Assembly Drawing
ISSUED	R NICOSON	SCALE	SHEET	1

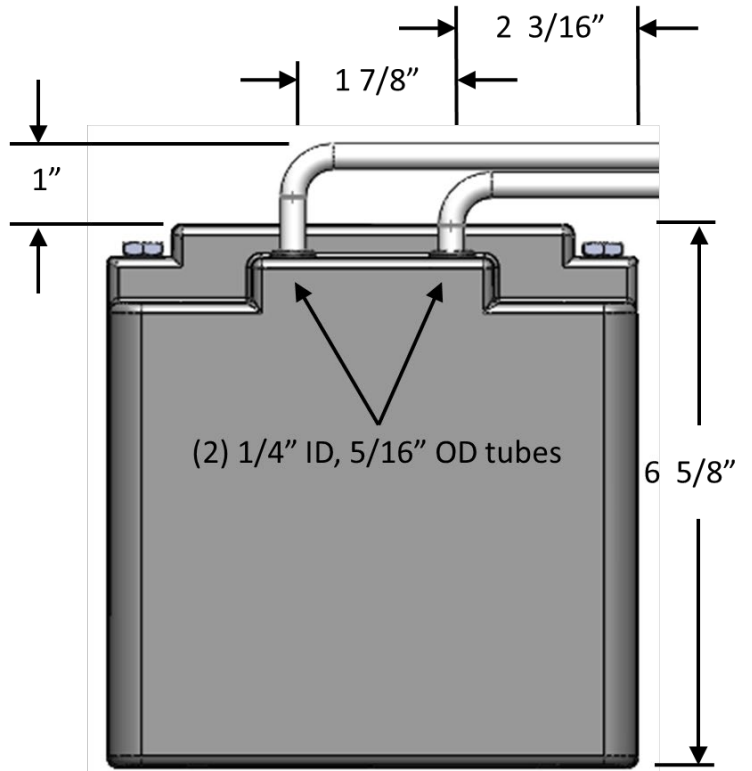
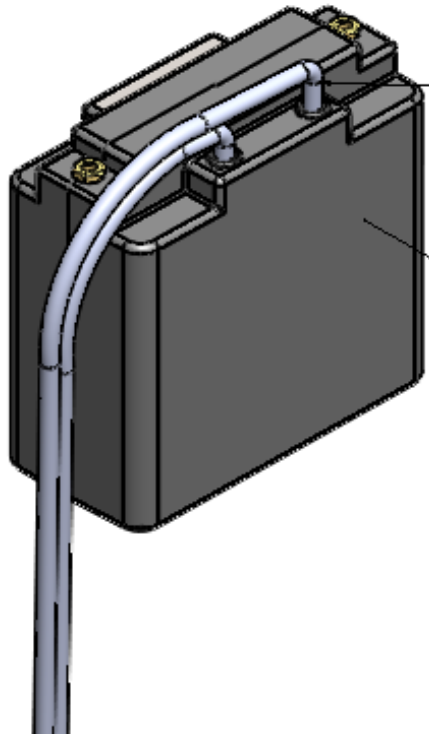




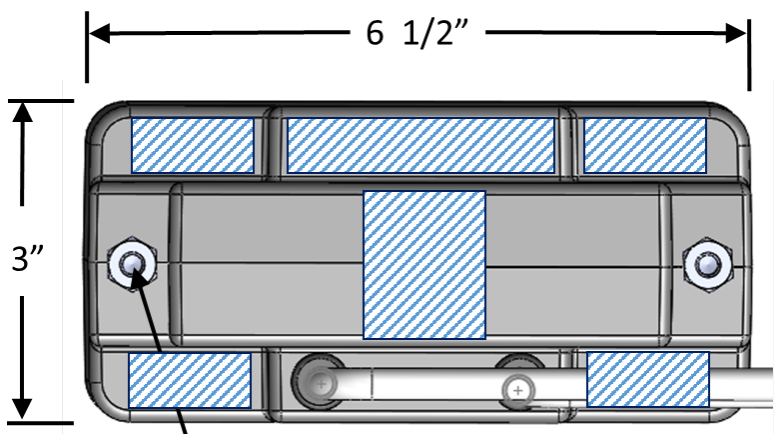
**Top Level Assembly**

The ETX900-TSO is a Class A lithium battery of energy category 3 (<200Wh), venting category B (venting through designed provisions only).

Back View



Top View



6mm Phillips Hex Head Screw

Acceptable battery hold down positions





Item #	Quantity	Part #	Description
1	1	ETX900-TSO	15.6 Ah Battery
2	2 (ship loose)	5670K17	90 Deg Tube Fitting

### Notes

- The ETX900-TSO meets the TSO-C179b standards
- This product is manufactured under FAA TSOA quality system requirements.
- Reference documents: 180319 ETX900-TSO Acceptance Test Procedure (ATP)
- Components of this installation meet the applicable flammability requirements of §§ 23/25/27/29.853, 23/25/27/29.863, and 25.869.
- The conditions and test required for TSO approval of this article are minimum performance standards. Those installing this article either on or within a specific type or class of aircraft must determine that the article installation conditions are within the TSO standards. The article may be installed only according to 14 CFR part 43 or the applicable airworthiness requirements
- Refer to documents 180407 Installation & Maintenance Manual (IMM), and 180426 Instructions for Continued Airworthiness (ICA), for installation and limitation details.

### Specifications

Voltage	13.2 V
Capacity (1C, 1hour rate at 23 °C)	15.6Ah @ 1C rate (See below)
Capacity vs Temperature	25 °C = 15.6Ah 0°C = 15.3Ah -30°C = 15.0Ah
Self-Discharge Rate	<3%/month @ 25°C
Peak Power (I <sub>pp</sub> ), 23/-18 °C	800 / 390 amps
Rated Power (I <sub>pr</sub> ), 23/-18 °C	600 / 365 amps
Max Continuous Discharge Amps (30min, discharging 100% of capacity)	31A
Standard Charge Voltage	13.9 - 14.6 V
Recommended Charger/Maintainer Amps	.8 - 20A
Max Charge Amps	80A (from aircraft charging system)
Life (Charge cycles)	4000 cycles @ 1C discharge rate, 25°C (20% depth of discharge) 2000 cycles @10C discharge rate, 25°C (80% depth of discharge)
Life (Years)	6 Years
Weight	5.4lb
Dimensions	6.5in (L) x 3in (W) x 6.6in (H) 166mm(L)x78mm(W)x168mm(H)
Environmental Rating (resistance to water intrusion)	IP 66 (wash down with a high-pressure washer)
Operating Temperature (short term)	-30 °C to +60 °C (+65 °C)





Storage & Ground Survival Temp	-45 °C to +70 °C
Short Term Ground Survival Temp	85 °C (30 minutes)
Maximum Altitude	25,000 Ft
Shelf Life	1 year (without charging)
FAA Standard Order	TSO-C179b
Design Assurance Level (DAL)	C (major)
Flammability Rating (case and vent tube)	14CFR 25.853 (a)

**TSO Label Info**

The TSO label contains the following information:

- Battery Classification: Rechargeable Lithium Battery
- ETX900-TSO Rev { }
- TSO-C179b-CLASS A-3B
- Serial #:
- Date of Manufacture:
- BMS Part # and Revision:
- Firmware Revision:

Note: the x's in serial number field of the label are as follows, first three characters are year and month (i.e. 18A, where A is January, B is February, etc.) and the last five are a sequential number.

Below is the graphic design.

