

ETX – Hundred Series

The ETX “Hundred Series” was specifically designed for the experimental aircraft market (models include the ETX680C, ETX680, ETX900, ETX1200). Only the ETX “Hundred Series” battery models are recommended for use as the primary aircraft battery (starter battery). All components associated with main electronic battery disconnect are redundant, plus there is built-in fault monitoring.

What is the pigtail wire on the battery for?

This is a very important feature designed for your safety!

The battery’s micro-controller monitors all failure modes, and reports failures with a built-in LED indicator and the pigtail wire out the side of the battery. The pigtail wire is for external fault monitoring. The external fault monitoring wire is connected to battery ground (internally) if a fault is present. This output can be connected to a 12V LED mounted on your instrument panel or to a general purpose contact input of an EFIS. The fault output has two states; slow flashing (5 second cycle time) or solid. The table below shows the most common fault conditions and possible causes.



A sustained fault can indicate a serious issue with the battery or vehicle charging system that requires immediate attention. Discontinue use until the issue is resolved and the battery no longer indicates a fault.

LED Light	Voltage	Possible Cause	Recommended Action
Continuous Flashing Light	Less than 13.2V	Battery over-discharged (due to faulty charging system)	Charge battery. Once charged, the light will stop flashing.
Continuous Flashing Light	Less than 13.2V	Weak or failing cell	Charge battery. If voltage drops below 13.2V within a few days, discontinue use.
Continuous Flashing Light	13.2V-14.6V	Weak or failing cell	Discontinue use. If in flight, this is not an immediate issue unless it is in conjunction with a charging system failure.
Continuous Flashing Light	Greater than 15.2V	Over-charging (due to faulty charging system)	If in flight, shutoff charging system immediately. Aircraft over-voltage protection is recommended (i.e. crowbar circuit)
Flashing Light (short periods)	13.2V – 14.6V	Cell to cell charge levels are not balanced	May come on briefly during periods of high current charging until the cells are automatically balanced. Try charging with a plugin charger, like an Optimate Lithium charger.
Solid Light	Any voltage	BMS electronic issue	Discontinue use. If in flight, this is not an immediate issue unless it is in conjunction with a charging system failure.
Solid Light that turns off	Any voltage	Short Circuit protection was activated	Nothing needs to be done.

For more details, like installation diagrams, see the User’s Manual on the website (www.earthxbatteries.com).