

The Thermo Scientific ECAT Lightning Test System (LTS) is a modular test platform, which tests to the lightning simulator requirements of RTCA DO-160 Section 22 E/F. The system is expandable to meet Boeing, Airbus, EUROCAE, SAE, and other standards.

## Thermo Scientific ECAT® Lightning Test System (LTS)

Modular lightning test system platform  
to test to avionic standards



### Models

- LTS-M: Metallic aircraft
- LTS-C: Composite aircraft
- LTS-MC: Metallic and Composite aircraft

### Options

- All models: Level 3, 4 or 5 tester
- All models: Waveforms 3H and 6H
- LTS-C: Waveform 5B

### When failure is not an option

With its fully-automated test operations, the Thermo Scientific ECAT Lightning Test System (LTS) yields reliable, repeatable and accurate test results to avionics lightning simulator requirements of RTCA DO 160E Section 22 E/F. It is easily expandable to meet Boeing, Airbus, EUROCAE and other requirements.

Building on the legacy of proven ECAT field-upgradeable modular technology, it features fast test set-up, intuitive programming, built-in voltage and current monitoring, and front panel and remote computer control. On-site calibration and field service is available worldwide.

### System description

The ECAT LTS is configured as 3 basic test systems, each of which is available as a Level 3, Level 4, or Level 5 tester. All test systems feature both single-stroke and multiple-stroke test capability.

Each system configuration provides test capabilities to Level 3 for pin injection, cable bundle, and single- and multiple-stroke testing. Each is expandable up to Level 5 for all waveforms, including Waveforms 3H and 6H for multi-burst testing, both of which can be added to any system configuration. All systems are upgradeable to higher levels at any time. Test systems for composite aircraft, which include Waveform 5B are also available.

All basic test systems include the LTS power unit, which requires a 190 - 230VAC, 47-63Hz, 3-phase 5-wire Wye 30A circuit.

**ECAT LTS-M: Waveforms for Metallic Aircraft**

**LTS-M-3 Lightning Test System for Metal Aircraft to Level 3**

ECAT Level 3 System Controller for avionics test systems  
Waveforms 1 and 4. Both single and multiple stroke test  
Waveform 2. Both single and multiple stroke test  
Waveform 3. Single-stroke, multiple-stroke and multi-burst test

**LTS-M-4 Lightning Test System for Metal Aircraft to Level 4**

ECAT Level 4 System Controller for avionics test systems  
Waveforms 1 and 4. Both single and multiple stroke test  
Waveform 2. Both single and multiple stroke test  
Waveform 3. Single-stroke, multiple-stroke and multi-burst test

**LTS-M-5 Lightning Test System for Metal Aircraft to Level 5**

ECAT Level 5 System Controller for avionics test systems  
Waveforms 1 and 4. Both single and multiple stroke test  
Waveform 2. Both single and multiple stroke test  
Waveform 3. Single-stroke, multiple-stroke and multi-burst test

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**ECAT LTS C: Waveforms for Composite Aircraft**

**LTS-C-3 Lightning Test System for Composite Aircraft to Level 3 (5A)**

ECAT Level 3 System Controller for avionics test systems  
Waveform 2. Both single and multiple stroke test  
Waveform 3. Single-stroke, multiple-stroke and multi-burst test  
Waveform 5A. Single-stroke and Multiple-stroke test  
D565-L3 can be substituted to add Waveform 5B

**LTS-C-4 Lightning Test System for Composite Aircraft to Level 4 (5A)**

ECAT Level 4 System Controller for avionics test systems  
Waveform 2. Both single and multiple stroke test  
Waveform 3. Single-stroke, multiple-stroke and multi-burst test  
Waveform 5A. Single-stroke and Multiple-stroke test  
D565-L4 can be substituted to add Waveform 5B

**LTS-C-5A Lightning Test System for Composite Aircraft to Level 5 (5A)**

ECAT Level 5 System Controller for avionics test systems  
Waveform 2. Both single and multiple stroke test  
Waveform 3. Single-stroke, multiple-stroke and multi-burst test  
Waveform 5A. Single-stroke and Multiple-stroke test capability

**LTS-C-5A/B Lightning Test System for Composite Aircraft to Level 5 (5A,5B)**

ECAT Level 5 System Controller for avionics test systems  
Waveform 2. Both single and multiple stroke test  
Waveform 3. Single-stroke, multiple-stroke and multi-burst test  
Waveform 5A and 5B: Single-stroke and multiple stroke test

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**ECAT LTS-MC: Waveforms for both Metallic and Composite Aircraft**

**LTS-MC-3 Lightning Test System for both Metal and Composite Aircraft to Level 3 (5A)**

ECAT Level 3 System Controller for avionics test systems  
Waveforms 1 and 4. Both single and multiple stroke test  
Waveform 2. Both single and multiple stroke test  
Waveform 3. Single-stroke, multiple-stroke and multi-burst test  
Waveform 5A. Single-stroke and Multiple-stroke test  
D565-L3 can be substituted to add Waveform 5B

**LTS-MC-4 Lightning Test System for both Metal and Composite Aircraft to Level 4 (5A)**

ECAT Level 4 System Controller for avionics test systems  
Waveforms 1 and 4. Both single and multiple stroke test  
Waveform 2. Both single and multiple stroke test  
Waveform 3. Single-stroke, multiple-stroke and multi-burst test  
Waveform 5A. Single-stroke and Multiple-stroke test  
D565-L4 can be substituted to add Waveform 5B

**LTS-MC-5A Lightning Test System for both Metal and Composite Aircraft to Level 5 (5A)**

ECAT Level 5 System Controller for avionics test systems  
Waveforms 1 and 4. Both single and multiple stroke test  
Waveform 2. Both single and multiple stroke test  
Waveform 3. Single-stroke, multiple-stroke and multi-burst test  
Waveform 5A. Both single and multiple stroke test

**LTS-MC-5A/B Lightning Test System for both Metal and Composite Aircraft to Level 5 (5A,5B)**

ECAT Level 5 System Controller for avionics test systems  
Waveforms 1 and 4. Both single and multiple stroke test  
Waveform 2. Both single and multiple stroke test  
Waveform 3. Single-stroke, multiple-stroke and multi-burst test  
Waveform 5A and 5B: Single-stroke and multiple stroke test

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