

European Aviation Safety Agency

European Technical Standard Order

Subject: Recorder Independent Power Supply

1 - Applicability

This ETSO provides the requirements which recorder independent power supplies (RIPs) that are designed and manufactured on or after the date of this ETSO must meet in order to be identified with the applicable ETSO marking.

ETSOs that may be used in conjunction with this ETSO are those covering:

- rechargeable lithium cells and lithium batteries;
- digital flight data recorders;
- cockpit voice recorders;
- data link recorders;
- cockpit image recorders.

2 - Procedures

2.1 - General

Applicable procedures are detailed in CS-ETSO, Subpart A.

2.2 - Specific

None.

3 - Technical Conditions

3.1 - Basic

3.1.1 - Minimum Performance Standard

Standards set forth in Sections 5-2, 5-3, 5-4 and 5-5 of EUROCAE ED-112A, MOPS for Crash Protected Airborne Recorder Systems, dated September 2013, with the following changes:

- in paragraph 5-2.1.1:
 - ‘b. The intent of the RIPS is to allow for continued operation for 10 or more minutes applied in all cases when aircraft power to the recorder is removed.’
- in paragraph 5-2.2:
 - the following sentence ‘The RIPS shall detect and report any internal failures, if maintenance is required, and of any conditions affecting the ability of the RIPS to perform its intended function.’ shall be replaced by
 - ‘The RIPS shall detect and report internal failures, whether maintenance is required, and any conditions affecting the ability of the RIPS to perform its intended function.’
- in paragraph 5-3.2.1:

‘The backup time shall be at least 9 minutes and not exceed 30 minutes’.

Other ED-112A requirements related to installation, flight testing, and aircraft maintenance are excluded from this ETSO.

3.1.2 - Environmental Standard

See CS-ETSO, Subpart A, paragraph 2.1.

3.1.3 - Software

See CS-ETSO, Subpart A, paragraph 2.2.

3.1.4 - Airborne Electronic Hardware

See CS-ETSO, Subpart A, paragraph 2.3.

3.2 - Specific

The applicant shall declare the rated performance of the equipment associated to the time of recording (Output power, rated capacity, as applicable ...).

If any battery is used in the RIPS, it must meet the requirements of the applicable ETSO related to the battery type or any other battery standards acceptable to EASA.

3.2.1 - Failure Condition Classification

See CS-ETSO, Subpart A, paragraph 2.4.

Failure of the function defined in paragraph 3.1.1 of this ETSO is a minor failure condition.

Loss of the function defined in paragraph 3.1.1 of this ETSO is a minor failure condition.

The applicant must develop the system to at least the development assurance level commensurate with these failure conditions.

Note: The failure classification is driven by the use of recorders in accident investigations.

4 - Marking

4.1 - General

Marking as detailed in CS-ETSO, Subpart A, paragraph 1.2.

4.2 - Specific

None.

5 - Availability of Referenced Document

See CS-ETSO, Subpart A, paragraph 3.