

European Aviation Safety Agency

European Technical Standard Order

Subject: Flight Data Recorder Systems

1 - Applicability

This ETSO provides the requirements that flight data recorder (FDR) systems 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.

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 the applicable sections of EUROCAE document ED-112A, MOPS for Crash Protected Airborne Recorder Systems, dated September 2013, that pertain to the FDR type, except Chapters II-1 and II-6, and Sections 2-1.1 , 2-1.5 , 2-1.6, 2-1.11 , 2-1.12 , 2-3.1 , 2-5 , 3-1.1, 3-1.2, 3-1.3, 3-1.4, 3-1.5 , 3-1.7, Annex II-A, Annex II-B, and other ED-112A requirements related to aircraft-level equipment installation, test, and maintenance.

Table 1 lists FDR types and the ED-112A section and part containing the MPS for each type:

Table 1. Recorder MPS Requirements

Recorder Type	ED-112A Reference
Single function FDR	Section 2 and Part II
FDR function in a <u>deployable</u> recorder	Section 2, Section 3 and Part II
FDR function in a <u>combined</u> recorder	Section 2, Section 4, and Part II

Note: an FDR article may cover multiple types. An FDR may be a combined FDR and may also be deployable, in which case the applicable MOPS are Sections 2, 3, 4 and Part I, following the table above.

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**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 this failure condition.

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

4 - Marking**4.1 - General**

Marking is detailed in CS-ETSO, Subpart A, paragraph 1.2

4.2 - Specific**4.2.1 - Lettering Identification**

The equipment shall comply with the identification requirement in EUROCAE ED-112A, Section 2-1, paragraph 2-1.16.3.

5 - Availability of Referenced Document

See CS-ETSO, Subpart A, paragraph 3.