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General requirements for the payload interface of civil unmanned aircraft systems

Exigences générales relatives à l'interface de la charge utile des aéronefs sans pilote civils

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Contents

Page

Foreword ..... **iv**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Abbreviated terms **2**
5 Overall requirements **2**
5.1 General 2
5.2 Mechanical interface 2
5.2.1 Connection method 2
5.2.2 Interface installation and removal 3
5.2.3 Payload attachment and detachment 3
5.2.4 Mechanical strength 3
5.2.5 Mechanical life 3
5.3 Electrical interface 3
5.3.1 General 3
5.3.2 Contact materials 3
5.3.3 Connector 3
5.3.4 Anti-electric-shock structure 3
5.3.5 Electrical compatibility 3
5.3.6 Electromagnetic compatibility 4
5.4 Communication protocol 4
6 Detailed requirements **4**
6.1 Types of payload data 4
6.2 Types of communication interface 5
6.3 Payload interface requirements for different types of payloads 5
6.3.1 Photoelectric payload 5
6.3.2 Audio payload 6
6.3.3 Delivery payload 6
6.3.4 Trigger payload 6
6.3.5 Radar payload 6
Bibliography **8**

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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This document was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 16, *Unmanned aircraft systems*.

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General requirements for the payload interface of civil unmanned aircraft systems

1 Scope

This document specifies the composition, functional and performance requirements for a payload interface of civil unmanned aircraft systems (UAS), with the maximum take-off mass of 0,25 kg to 25 kg which relates to level II through IV according to ISO 21895.

This document is applicable to the design and manufacture of physically independent payload interfaces which connect an external payload to an unmanned aircraft (UA).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EIA/CEA-861, *A DTV Profile for Uncompressed High Speed Digital Interfaces*

IEEE 802.3, *IEEE Standard for Ethernet*

ISO 11898, *Road vehicles — Controller area network (CAN)*

ISO 21384-2, *Unmanned aircraft systems — Part 2: UAS components*

ISO 21384-4, *Unmanned aircraft systems — Part 4: Vocabulary*

USB 2.0, *The second major version of the Universal Serial Bus (USB) standard for interfacing computers and electronic devices*

USB 3.0, *The third major version of the Universal Serial Bus (USB) standard for interfacing computers and electronic devices*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 21384-4 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— IEC Electropedia: available at https://www.electropedia.org/

— ISO Online browsing platform: available at https://www.iso.org/obp

3.1
payload interface
mechanism which connects an unmanned aircraft (UA) and its payload, comprised of an aircraft part and a payload part, including mechanical, electrical and communication interfaces

3.2
locking mechanism
mechanism that keeps the payload part of the interface in proper position and prevents it from falling off when the payload is connected

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