

~~ISO TC 20/SC 14~~

**ISO/FDIS 11892:2024(E)**

~~ISO/TC 20/SC 14~~

Secretariat: ~~ANSI/AIAA~~

~~Second edition~~

~~Date: 2024-03-2004-15~~

## Space systems — Subsystems or units to spacecraft interface control document

*Systèmes spatiaux — Document de contrôle des interfaces entre les sous-systèmes ou unités et le véhicule spatial*

iTeh Standards  
(<https://standards.iteh.ai>)  
Document Preview

ISO/FDIS 11892

<https://standards.iteh.ai/catalog/standards/iso/f0717a09-feb4-4088-884c-48623553a89c/iso-fdis-11892>

Copyright notice

~~This~~ FDIS stage

iTeh Standards  
(<https://standards.iteh.ai>)  
Document Preview

ISO/FDIS 11892

<https://standards.iteh.ai/catalog/standards/iso/f0717a09-feb4-4088-884c-48623553a89c/iso-fdis-11892>

© ISO document is a Draft International Standard and is copyright protected by ISO. Except as permitted under 2024

All rights reserved. Unless otherwise specified, or required in the applicable laws context of the user's country, neither its implementation, no part of this ISO draft nor any extract from its publication may be reproduced, stored in a retrieval system or transmitted or utilized otherwise in any form or by any means, electronic, or mechanical, including photocopying, recording or otherwise or posting on the internet or an intranet, without prior written permission being secured.

Requests for permission to reproduce should be addressed to. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Case postale 56 • CP 401 • Ch. de Blandonnet 8  
CH-1211 1214 Vernier, Geneva-20  
Tel: Phone: + 41 22 749 01 11

Fax + 41 22 749 09 47

E-mail: [copyright@iso.org](mailto:copyright@iso.org)  
Web Website: [www.iso.org](http://www.iso.org)

Reproduction may be subject to royalty payments or a licensing agreement.

Violators may be prosecuted.

Published in Switzerland

ISO/FDIS 11892

<https://standards.iteh.ai/catalog/standards/iso/f0717a09-feb4-4088-884c-48623553a89c/iso-fdis-11892>

**Contents—Page**

Foreword.....	v
1 Scope.....	1
2 Normative references.....	1
3 Terms, definitions and abbreviated terms.....	1
3.1 Terms and definitions .....	1
3.2 Abbreviated terms.....	4
4 Subsystem to spacecraft ICD .....	4
4.1 General.....	4
4.2 Cover sheet.....	6
4.2.1 Title and document number .....	6
4.2.2 Revision record.....	6
4.2.3 Table of contents.....	7
4.3 Applicability.....	7
4.4 List of units .....	7
4.5 Subsystem block diagram .....	7
4.6 Subsystem grounding diagram .....	7
4.7 Subsystem operational mode definition (if applicable) .....	8
4.8 Unit ICD (if applicable).....	8
4.9 Co-axial cable or waveguide ICD (if applicable) .....	8
4.10 Wire harness ICD (if applicable) .....	8
5 Unit ICD in detail .....	8
5.1 General.....	8
5.2 Cover sheet.....	9
5.2.1 Title and document number .....	9
5.2.2 Revision record.....	9
5.2.3 Table of contents.....	9
5.3 Interface data sheet (IDS) .....	10
5.4 Pin assignment table.....	14
5.5 Telemetry command list .....	14
5.6 Input/output circuits.....	15
5.7 Grounding diagram .....	15
5.8 Outline drawing.....	15
5.9 Three-dimensional CAD model (if applicable).....	16
5.10 Non-removal test items (if applicable) .....	16
5.11 Related technical documents (if applicable) .....	16
Bibliography .....	17

## 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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at [www.iso.org/patents](http://www.iso.org/patents). ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 14, *Space systems and operations*.

This second edition cancels and replaces the first edition (ISO 11892:2012), which has been technically revised.

The main change is as follows:

- ~~Removed clause removed Clause 6 "Verification"~~.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).



# Space systems — Subsystems or units to spacecraft interface control document

## 1 Scope

This document provides space system manufacturing organizations with the minimum interface related items and generic format for creating the interface control document (ICD) which subsystems or units suppliers prepare for spacecraft systems (SC) integrators.

In this document, ICD is not defined to contain descriptions regarding various properties of subsystems or units or tasks to be done by suppliers, i.e. performance, functions, endurance to launch mechanical environment, or quality assurance provisions. Such descriptions are presumed to be defined in other contractual documents such as technical specifications.

## 2 Normative references

There are no normative references in this document.

## 3 Terms, definitions and abbreviated terms

### 3.1 Terms and definitions

For the purposes of this document, the following terms and definitions 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>

#### 3.1.1

##### **subsystem**

assembly or group of electrical, thermal and/or mechanical *units* (3.1.3(3.1.3)) which is dedicated to specific functions of a spacecraft system (SC)

#### 3.1.2

##### **subsystem to spacecraft ICD**

subsystem to spacecraft interface control document

set of documents that defines and controls the electrical, thermal, and mechanical interface requirements between a *subsystem* (3.1.1(3.1.1)) and the spacecraft system (SC)

#### 3.1.3

##### **unit**

independently handled device at the lowest level of hardware assembly that works with specified complex electrical, thermal and/or mechanical functions

~~subsystem to spacecraft ICD~~

Note 1 to entry: Several units build up a *subsystem* (3.1.1(3.1.1)). A single unit may occasionally comprise a subsystem by itself.

**3.1.4**

**unit to spacecraft ICD**

unit to spacecraft interface control document

set of documents that defines and controls the electrical, thermal, and mechanical interface requirements between a *unit* (3.1.3(3.1.3)) and the spacecraft system (SC)

Note 1 to entry: [Figure 1](#) ~~Figure 1~~ illustrates the hierarchy of a space system and the ranges where various interface control documents are applicable.

iTeh Standards  
(<https://standards.iteh.ai>)  
Document Preview

ISO/FDIS 11892

<https://standards.iteh.ai/catalog/standards/iso/f0717a09-feb4-4088-884c-48623553a89c/iso-fdis-11892>



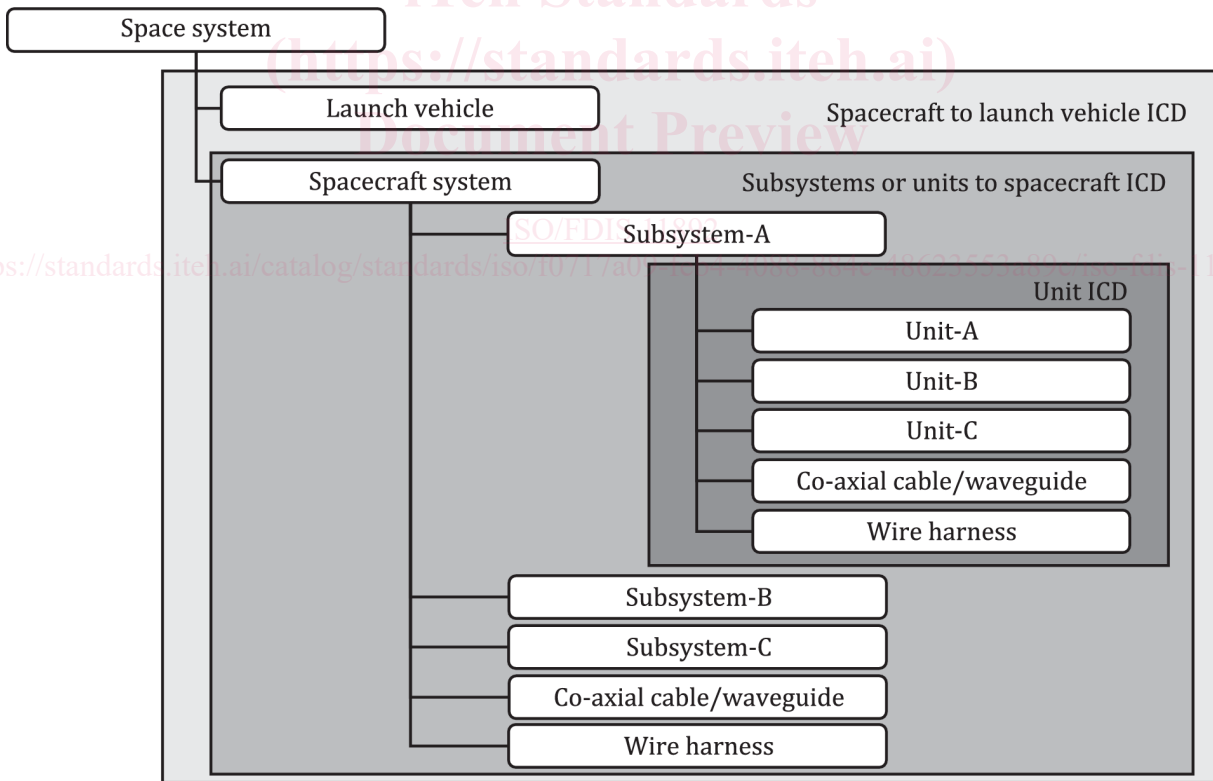
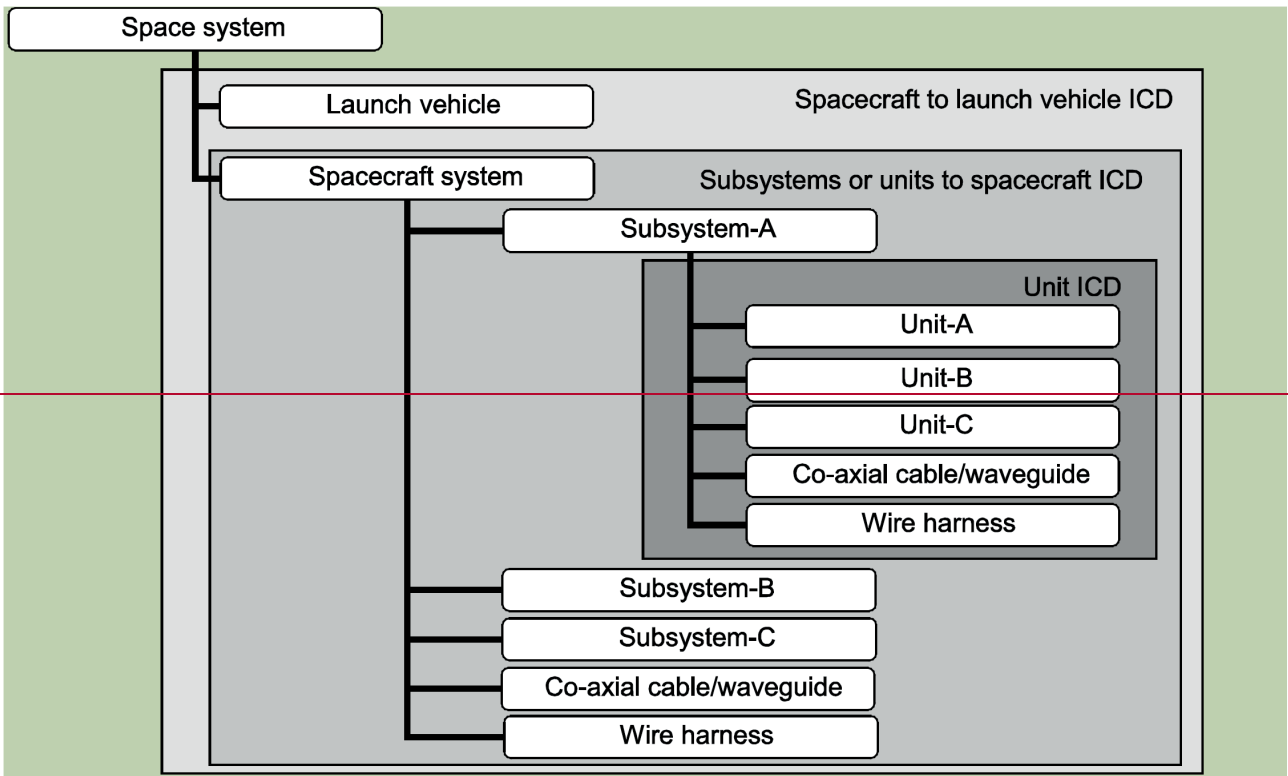


Figure 1 — Hierarchy of a space system and related interface control document (ICD)

### 3.2 Abbreviated terms

CAD	computer aided design
ICD	interface control document
IDS	interface data sheet
MOI	moment of inertia
RF	radio frequency
RLC	resistor (R), inductor (L), and capacitor (C)

## 4 Subsystem to spacecraft ICD

### 4.1 General

A subsystem ICD is a package constructed of sub-documents as shown in [Table 1](#). It shall contain configuration control information, subsystem definition diagrams, and if applicable, co-axial cable or waveguide or wire harness in the subsystem. An individual ICD of each unit in the subsystem is normally a separate document. However, it may be contained as part of the subsystem ICD.

Layered construction of a subsystem ICD package is illustrated in [Figure 2](#).

**Table 1 — Construction of subsystem to spacecraft ICD package**

No	Title	Description (Subclause)
1	Cover sheet (with title and document number, revision record and table of contents)	<a href="#">4.2.4.2</a>
2	Applicability	<a href="#">4.3.4.3</a>
3	List of units	<a href="#">4.4.4.4</a>
4	Subsystem block diagram	<a href="#">4.5.4.5</a>
5	Subsystem grounding diagram	<a href="#">4.6.4.6</a>
6	Subsystem operational mode definition (if applicable)	<a href="#">4.7.4.7</a>
7	Unit ICD (if applicable)	<a href="#">4.8.4.8</a>
8	Co-axial cable or waveguide ICD (if applicable)	<a href="#">4.9.4.9</a>
9	Wire harness ICD (if applicable)	<a href="#">4.10.4.10</a>