
**Telecommunications and information
exchange between systems —
Unmanned aircraft area network
(UAAN) —**

**Part 3:
Physical and data link protocols for
control communication**

*Télécommunications et échange d'information entre systèmes —
Réseau de zone de drones (Unmanned aircraft area network -
UAAN) —*

*Partie 3: Protocoles de liaison de données et physiques pour la
communication de contrôle*





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Published in Switzerland

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Foreword

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This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 6, *Telecommunications and information exchange between systems*.

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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 and www.iec.ch/national-committees.

Introduction

Unmanned aircrafts (UAs) operating at low altitudes will provide a variety of commercial services in the near future. UAs that provide these services are distributed in the airspace. In low uncontrolled airspace, many people operate their own UAs without the assignment of communication channels from a central control centre.

This document describes control communication, which is a wireless distributed communication. Control communication allows control pairs of UA and controller distributed over the airspace to communicate with each other without serious interference. The channel used for control communication has a multi-channel structure, which enables UAs and controllers to independently use the communication link occupied by each other. A wireless distributed communication described by this document is intended to be used in licensed frequency bands.

The ISO/IEC 4005 series consists of the following four parts:

ISO/IEC 4005-1: To support various services for UAs, it describes a wireless distributed communication model and the requirements that this model shall satisfy.

ISO/IEC 4005-2: It describes communication in which all units involved in UA operation can broadcast or exchange information by sharing communication resources with each other.

ISO/IEC 4005-3 (this document): It describes the control communication for the controller to control the UA.

ISO/IEC 4005-4: It describes video communication for UAs to send video to a controller.

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Telecommunications and information exchange between systems — Unmanned aircraft area network (UAAN) —

Part 3: Physical and data link protocols for control communication

1 Scope

This document specifies communication protocols for the physical and data link layer for control communication, which is wireless distributed communication network for units related with unmanned aircrafts (UAs) in level II.

This document describes control communication, which is one-to-one communication between a UA and a controller.

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.

ISO/IEC 4005-1, *Telecommunications and information exchange between systems — Unmanned aircraft area network (UAAN) — Part 1: Communication model and requirements*

ISO/IEC 4005-2:2023, *Telecommunications and information exchange between systems — Unmanned aircraft area network (UAAN) — Part 2: Physical and data link protocols for shared communication*

ISO/IEC 4005-4, *Telecommunications and information exchange between systems — Unmanned aircraft area network (UAAN) — Part 4: Physical and data link protocols for video communication*

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