Open Data Communication in Building Automation, Controls and Building Management - Control Network Protocol - Part 9: Wireless Communication in ISM bands

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 14908-9:2021 sisaldab Euroopa standardi EN 14908-9:2021 ingliskeelset teksti.	This Estonian standard EVS-EN 14908-9:2021 consists of the English text of the European standard EN 14908-9:2021.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 01.09.2021.	Date of Availability of the European standard is 01.09.2021.
Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 35.240.67, 91.140.01, 97.120

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 14908-9

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ICS 91.140.01; 97.120; 35.240.67

English Version

Open Data Communication in Building Automation, Controls and Building Management - Control Network Protocol - Part 9: Wireless Communication in ISM bands

Réseau ouvert de communication de données pour l'automatisation, la régulation et la gestion technique du bâtiment - Protocole de contrôle du réseau - Partie 9 : Communication sans fil dans les bandes ISM

Firmenneutrale Datenkommunikation für die Gebäudeautomation und Gebäudemanagement - Steuerungs-Netzwerk-Protokoll - Teil 9: Drahtlose Kommunikation im ISM Band

This European Standard was approved by CEN on 8 July 2021.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN 14908-9:2021) has been prepared by Technical Committee CEN/TC 247 “Building Automation, Controls and Building Management”, the secretariat of which is held by SNV.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2022, and conflicting national standards shall be withdrawn at the latest by March 2022.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document is part of a series of European Standards for open data transmission in building automation, control and in building management systems. The content of this document covers the data communications used for management, automation/control and field functions. This document is based on the American standards EIA/CEA-709.1-B Control Network Protocol Specification.

This document is part of a series of European Standards under the general title *Open Data Communication in Building Automation, Controls and Building Management — Control Network Protocol*, which comprises the following parts:

— *Part 1: Protocol Stack*

— *Part 2: Twisted Pair Communication*

— *Part 3: Power Line Channel Specification*

— *Part 4: IP-Communication*

— *Part 5: Implementation*

— *Part 6: Application elements*

— *Part 7: Communication via internet protocols*

— *Part 8: Communication using Broadband over Power Line Networks — with internet protocols*

— *Part 9: Wireless Communication in ISM bands* (this document)

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This document enables utilization of wireless communication in the general title *Control Network Protocol (CNP)* in the EN 14908 series. The wireless communication can provide fast and easy system deployment, robust, de-centralized and autonomous network operation for EN 14908 based applications.

Wireless communication is defined to operate in ISM bands, which are licensed exempt bands available either regionally or globally.

1 Scope

This document specifies an adaptation layer for the control network protocol (CNP), as described in EN 14908-1 to utilize wireless communication network. This document defines the services of the wireless communication provided to CNP layer for delivering data and commands towards and from sensors, actuators, etc. which are wirelessly connected as part of the EN 14908-1 network.

In addition, this document defines the requirements for the radio communication applicable for CNP layer operation.

For the radio communication different frequency bands can be utilized. Annex A defines requirement for operation in different frequency bands.

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.

EN 14908-1:2014, *Open Data Communication in Building Automation, Controls and Building Management - Control Network Protocol - Part 1: Protocol Stack*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 14908-1 and the following apply.

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

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

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

3.1
ISM RF radio layer
layer used for radio communications in ISM RF 14908-9 system

Note 1 to entry: Higher layers of the EN 14908-1 can access ISM RF radio layer based on interface defined in Clause 7.

3.2
RF gateway
entity which has a backhaul connection for data delivery to the wireline CNP network

Note 1 to entry: The RF gateway operates as sink of ISM RF radio network, providing a root of routing, which in multi-hop network RF nodes are directing traffic.

3.3
RF node
physical node capable of wireless communication that represents the highest degree of address resolvability on a wireless network