Open communication in building automation, controls and building management - Control Network Protocol - Part 7: Communication via internet protocols

EESTI STANDARDIKESKUS
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NATIONAL FOREWORD

See Eesti standard EVS-EN 14908-7:2019 sisaldab Euroopa standardi EN 14908-7:2019 ingliskeelset teksti.	This Estonian standard EVS-EN 14908-7:2019 consists of the English text of the European standard EN 14908-7:2019.
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.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 04.12.2019.	Date of Availability of the European standard is 04.12.2019.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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 14908-7

December 2019

ICS 35.240.67; 91.140.01; 97.120

English Version

Open communication in building automation, controls and building management - Control Network Protocol - Part 7: Communication via internet protocols

Réseau ouvert de communication de données pour l'automatisation, la régulation et la gestion technique du bâtiment - Protocole de contrôle du réseau - Partie 7 : Communication via les protocoles internet

Firmenneutrale Datenkommunikation für die Gebäudeautomation und Gebäudemanagement - Gebäude-Netzwerk-Protokoll - Teil 7: Kommunikation über Internetprotokolle

This European Standard was approved by CEN on 13 July 2019.

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 14908-7:2019) has been prepared by Technical Committee CEN/TC 247 “Buildings 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 June 2020 and conflicting national standards shall be withdrawn at the latest by June 2020.

This European Standard 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 standard covers the data communications used for management, automation/control and field functions. This European Standard is based on the American standards EIA/CEA-709.1-B Control Network Protocol Specification.

EN 14908-7 is part of a series of European Standards under the general title *Control Network Protocol (CNP)*, 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: Project Implementation Guideline*

— *Part 6: Application elements*

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 European Standard has been prepared to provide mechanisms through which various vendors of building automation, control, and building management systems may exchange information in a standardized way. It defines communication capabilities.

This European Standard is to be used by anyone involved in design, manufacture, engineering, installation and commissioning activities.

This European Standard has been made in response to the essential requirements of the Construction Products Regulation.

The European Committee for Standardization (CEN)] draws attention to the fact that it is claimed that compliance with this document may involve the use of a patent concerning Patent No. US 9521219 B2, “Systems, methods, and apparatuses using common addressing” and Patent No. US 8374104 B2, “Simple installation of devices on a network” which is claimed to be relevant for the following clauses of this document:

Clause 4 – Addressing

Clause 8 – Network Management Messages

CEN takes no position concerning the evidence, validity and scope of this patent right.

The holder of this patent right has assured CEN that he/she is willing to negotiate licences under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with CEN. Information may be obtained from:

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

1 Scope

This document specifies a communication protocol for networked control systems. The protocol provides peer-to-peer communication for networked control using web-services. The document describes services in layer 2 and layer 3.

The layer 2 (data link layer) specification also describes the MAC sub-layer interface to the physical layer. The physical layer provides a choice of transmission media. The layer 3 (network layer), as described in EN 14908-1, is integrated in UDP/IP communication using IPv4 and IPv6 protocols.

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

EN 14908-2, *Open Data Communication in Building Automation, Controls and Building Management - Control Network Protocol - Part 2: Twisted Pair Communication*

EN 14908-3, *Open Data Communication in Building Automation, Controls and Building Management - Control Network Protocol - Part 3: Power Line Channel*

EN 14908-4, *Open Data Communication in Building Automation, Controls and Building Management - Control Network Protocol - Part 4: IP Tunneling*

EN 14908-6, *Open Data Communication in Building Automation, Controls and Building Management - Control Network Protocol - Part 6: Application elements*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

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

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

NOTE For the purposes of this document, the following subclauses define the basic terminology employed throughout this document. Some of them are used as normal English terms and have the same meaning as in the context of the standard. However, for some terms, there are subtle differences. For example, in general, bridges do selective forwarding based on the layer 2 destination address. There are no layer 2 addresses in this standard protocol, so bridges forward all packets, as long as the domain address in the packet matches a domain of which the bridge is a member. Routers, in general, perform network address modification so that two protocols with the same transport layer but different network layers can be connected to form a single logical network. Routers of this standard may perform network address modification, but typically they only examine the network address fields and selectively forward packets based on the network layer address fields, and in some cases also do network address mapping or translation as described in *4.2 Network Address Mapping* and *4.3 Network Address Translation*