

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

EESTI STANDARDI EESSÕNA

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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.

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Contents

Page

European foreword.....	4
Introduction	5
1 Scope.....	6
2 Normative references.....	6
3 Terms and definitions	6
4 Addressing.....	9
4.1 Overview	9
4.2 Network Address Mapping	10
4.2.1 General.....	10
4.2.2 IP-70.....	10
4.2.3 IP-100	11
4.3 Network Address Translation	13
4.4 Network Address Assignment with DHCP and ISI	13
4.5 Unique Node ID	14
4.6 Non-unique ID	14
5 Protocol Modes	15
6 Packet Format	15
6.1 CNP/IP-AN Packet Format.....	15
6.2 CNP/IP-CN Packet Format.....	20
6.2.1 General.....	20
6.2.2 CNP/IP-CN Protocol Version 0 Packet Format.....	20
6.2.3 CNP/IP-CN Protocol Version 1 Packet Format.....	20
6.2.4 CNP/IP-CN Protocol Version 2 Packet Format.....	21
7 Domain Configuration	23
8 Network Management Messages	23
8.1 General.....	23
8.2 Expanded Network Management Messages	24
8.2.1 General.....	24
8.2.2 Query Network Management Command Version and Capabilities (Code 1).....	24
8.2.3 Join OMA Domain (Code 7)	25
8.2.4 Query OMA Domain (Code 8).....	25
8.2.5 Query OMA Key (Code 9)	26
8.2.6 Update OMA Key (Code 10).....	27
8.2.7 Node NAT Announcement (Code 21).....	28
8.2.8 Subnet NAT Announcement (Code 22)	28
8.2.9 Set NAT Announcement Period (Code 23)	29
8.2.10 Query NAT Announcement Period (Code 24)	29
8.2.11 Query IP Address (Code 25)	30
8.3 ISI Network Management Messages	31
8.3.1 General.....	31
8.3.2 Domain Resource Usage (ISI Code 0)	31
8.3.3 Extended Domain Resource Usage (ISI Code 1)	32
8.3.4 Open Enrollment (ISI Code 2)	33

8.3.5	Extended Open Enrollment (ISI Code 3).....	34
8.3.6	Automatic Enrollment (ISI Code 4)	35
8.3.7	Extended Automatic Enrollment (ISI Code 5).....	36
8.3.8	Automatic Enrollment Reminder (ISI Code 6)	38
8.3.9	Extended Automatic Enrollment Reminder (ISI Code 7).....	39
8.3.10	Domain ID Request (ISI Code 8)	40
8.3.11	Domain ID Response (ISI Code 9)	41
8.3.12	Domain ID Confirmation (ISI Code 10)	42
8.3.13	Enrollment Cancellation (ISI Code 12).....	42
8.3.14	Enrollment Cancellation (ISI Code 12).....	43
8.3.15	Enrollment Confirmation (ISI Code 13).....	43
8.3.16	Enrollment Acceptance (ISI Code 14).....	44
8.3.17	Connection Deletion Request (ISI Code 15)	45
8.3.18	Connection Status Information (ISI Code 16).....	45
8.3.19	Control Request (ISI Code 17)	46
8.3.20	Control Response (ISI Code 18)	47
8.3.21	Connection Table Read Request (ISI Code 19)	47
8.3.22	Connection Table Read Success (ISI Code 20).....	48
8.3.23	Connection Table Read Failure (ISI Code 21).....	48
	Bibliography	49

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.

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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*

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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

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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*