Home and Building Electronic Systems (HBES) - Part 6-2: IoT Semantic Ontology model description

EESTI STANDARDIMIS- JA AKREDITEERIMISKESKUS
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NATIONAL FOREWORD

See Eesti standard EVS-EN 50090-6-2:2025 sisaldab Euroopa standardi EN 50090-6-2:2025 ingliskeelset teksti.	This Estonian standard EVS-EN 50090-6-2:2025 consists of the English text of the European standard EN 50090-6-2:2025.
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 20.06.2025.	Date of Availability of the European standard is 20.06.2025.
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.

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English Version

Home and Building Electronic Systems (HBES) - Part 6-2: IoT Semantic Ontology model description

Systèmes électroniques pour les foyers domestiques et les bâtiments (HBES) - Partie 6-2: Description du modèle ontologie sémantique IoT

Elektrische Systemtechnik für Heim und Gebäude (ESHG) - Teil 6-2: Beschreibung des IoT semantischen Ontologiemodells

European Committee for Electrotechnical Standardization
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European foreword

This document (EN 50090-6-2:2025) has been prepared by CLC/TC 205 “Home and Building Electronic Systems (HBES)”.

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2026-06-30
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2028-06-30

This document supersedes EN 50090-6-2:2021 and all of its amendments and corrigenda (if any).

EN 50090-6-2:2025 includes the following significant technical changes with respect to EN 50090-6-2:2021:

— certain HBES concepts were split to have a better distinction between definitions and their types (e.g. datapoints and their types);

— improved linking between different concepts such as devices and application functions;

— copies of external ontology parts were removed from the HBES ontology and replaced by references.

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

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

1 Scope

This document defines the HBES Information Model and a corresponding data exchange format for the Home and Building HBES Open Communication System.

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 50090-1:2011, *Home and Building Electronic Systems (HBES) - Part 1: Standardization structure*

EN 50090–6-3:2023, *Home and Building Electronic Systems (HBES) - Part 6-3: 3rd Party HBES IoT API*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 50090-1:2011 and the following apply.

ISO and IEC maintain terminological 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
actuator
point performing an *actuation* (executed by a specific *procedure,* with an expected *result*) that changes an Installation state during Runtime

Note 1 to entry:

— The term Actuator can be mapped to sosa:Actuator in the SSN Ontology.

— The subject *actuation* can be mapped to sosa:Actuation in the SSN Ontology.

— The subject *procedure* can be mapped to sosa:Procedure in the SSN Ontology.

— The subject *result* can be mapped to sosa:Result in the SSN Ontology.

3.1.2
Application Function
use of a set of Functions to achieve the desired behaviour of a technical system, typically using a combination of devices exchanging information via their input and output Datapoints

Note 1 to entry: An Application Function may be split into several Functional Blocks with their input and output Datapoints that are logically connected to each other. The Functional Blocks may be located in one or more devices.

EXAMPLE Application Functions examples are “direct electrical heating”, “electrical heating with accumulators”, “warm water heating”, “fan coil air-conditioning” …

Note 2 to entry: The Application Function and Application are meant to be the same. Reason to introduce an alias term is to use a clear (understandable) reference from Application/ Application Function to the corresponding KIM class:ApplicationFunction or to the Function in the Management Client.