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Information technology — Open Connectivity Foundation (OCF) Specification —

Part 15: OCF resource to EnOcean mapping specification

Technologies de l'information — Specification de la Fondation pour la connectivité ouverte (Fondation OCF) —

Partie 15: Spécification du mapping entre les ressources OCF et EnOcean



Reference number
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Contents

Page

Foreword ... ix
Introduction ... x
1 Scope ... 1
2 Normative references ... 1
3 Terms, definitions, symbols and abbreviated terms ... 2
3.1 Terms and definitions ... 2
3.2 Symbols and abbreviated terms ... 2
4 Document conventions and organization ... 3
4.1 Conventions ... 3
4.2 Notation ... 3
5 Theory of operation ... 4
5.1 Interworking approach ... 4
5.2 General ... 4
5.2.1 Value assignment ... 4
5.2.2 Property naming ... 4
5.2.3 Range ... 4
5.2.4 Arrays ... 4
5.2.5 Default mapping ... 4
5.2.6 Conditional mapping ... 4
5.2.7 Method invocation ... 5
6 EnOcean translation ... 5
6.1 Operational scenarios ... 5
6.1.1 Use case for enocean bridging ... 5
6.2 Requirements specific to enocean bridging function ... 6
6.2.1 Introduction ... 6
6.2.2 Exposing enocean devices to OCF clients ... 6
6.2.3 Protocol translation between enocean and OCF ... 12
7 Device type mapping ... 14
7.1 Introduction ... 14
7.2 EnOcean equipment profiles to OCF device types and OCF resource types ... 14
7.3 Telegram parameters ... 15
7.3.1 Push button ... 15
7.3.2 Rocker 1st action ... 15
7.3.3 Key card ... 15
7.3.4 Alert signals ... 16
7.3.5 Open/closed ... 16
7.3.6 Temperature ... 16
7.3.7 Barometer ... 16
7.3.8 Illumination ... 16
7.3.9 Humidity ... 16
7.3.10 PIR/occupancy ... 16
7.4 Indirect parameters through enocean equipment profile ... 16
7.4.1 Introduction ... 16
7.4.2 Range ... 16
7.4.3 Unit ... 17

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8 Detailed mapping APIs 17
8.1 Introduction 17
8.2 Barometric sensor EEP A5-05-01 17
8.2.1 Derived model 17
8.2.2 Property definition 17
8.2.3 Derived model definition 17
8.3 Key card switch, EEP F6-04-01 18
8.3.1 Derived model 18
8.3.2 Property definition 18
8.3.3 Derived model definition 18
8.4 Key card switch, EEP F6-04-02 19
8.4.1 Derived model 19
8.4.2 Property definition 19
8.4.3 Derived model definition 19
8.5 Light sensor EEP A5-06-01 20
8.5.1 Derived model 20
8.5.2 Property definition 20
8.5.3 Derived model definition 21
8.6 Light sensor EEP A5-06-02 21
8.6.1 Derived model 21
8.6.2 Property definition 21
8.6.3 Derived model definition 22
8.7 Light sensor EEP A5-06-03 22
8.7.1 Derived model 22
8.7.2 Property definition 22
8.7.3 Derived model definition 23
8.8 Light sensor EEP A5-06-04 23
8.8.1 Derived model 23
8.8.2 Property definition 23
8.8.3 Derived model definition 24
8.9 Light Sensor EEP A5-06-05 24
8.9.1 Derived model 24
8.9.2 Property definition 24
8.9.3 Derived model definition 25
8.10 Light, temperature and occupancy sensor EEP A5-08-01 25
8.10.1 Derived model 25
8.10.2 Property definition 25
8.10.3 Derived model definition 26
8.11 Light, temperature and occupancy sensor EEP A5-08-02 27
8.11.1 Derived model 27
8.11.2 Property definition 27
8.11.3 Derived model definition 27
8.12 Light, temperature and occupancy sensor EEP A5-08-03 28
8.12.1 Derived model 28
8.12.2 Property definition 28
8.12.3 Derived model definition 29
8.13 Liquid leakage detector (water) EEP F6-05-01 30
8.13.1 Derived model 30

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8.13.2 Property definition 30
8.13.3 Derived model definition 30
8.14 Occupancy sensor EEP A5-07-01 31
8.14.1 Derived model 31
8.14.2 Property definition 31
8.14.3 Derived model definition 31
8.15 Occupancy sensor EEP A5-07-02 32
8.15.1 Derived model 32
8.15.2 Property definition 32
8.15.3 Derived model definition 32
8.16 Occupancy sensor EEP A5-07-03 33
8.16.1 Derived model 33
8.16.2 Property definition 33
8.16.3 Derived model definition 33
8.17 Push button, EEP F6-01-01 34
8.17.1 Derived model 34
8.17.2 Property definition 34
8.17.3 Derived model definition 34
8.18 Rocker switch, 2 rocker EEP F6-02-01 35
8.18.1 Derived model 35
8.18.2 Property definition 35
8.18.3 Derived model definition 36
8.19 Rocker switch, 2 rocker EEP F6-02-02 36
8.19.1 Derived model 36
8.19.2 Property definition 36
8.19.3 Derived model definition 37
8.20 Rocker switch, 2 rocker EEP F6-02-03 38
8.20.1 Derived model 38
8.20.2 Property definition 38
8.20.3 Derived model definition 38
8.21 Rocker switch, 2 rocker EEP F6-02-04 39
8.21.1 Derived model 39
8.21.2 Property definition 39
8.21.3 Derived model definition 39
8.22 Rocker switch, 4 rocker EEP F6-03-01 41
8.22.1 Derived model 41
8.22.2 Property definition 41
8.22.3 Derived model definition 41
8.23 Rocker switch, 4 rocker EEP F6-03-02 42
8.23.1 Derived model 42
8.23.2 Property definition 42
8.23.3 Derived model definition 43
8.24 Single input contact EEP D5-00-01 44
8.24.1 Derived model 44
8.24.2 Property definition 44
8.24.3 Derived model definition 44
8.25 Smoke detector EEP F6-05-02 45
8.25.1 Derived model 45

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8.25.2 Property definition 45
8.25.3 Derived model definition 45
8.26 Temperature and humidity sensor EEP A5-04-01 46
8.26.1 Derived model 46
8.26.2 Property definition 46
8.26.3 Derived model definition 46
8.27 Temperature and humidity sensor EEP A5-04-02 47
8.27.1 Derived model 47
8.27.2 Property definition 47
8.27.3 Derived model definition 48
8.28 Temperature and humidity sensor EEP A5-04-03 48
8.28.1 Derived model 48
8.28.2 Property definition 48
8.28.3 Derived model definition 49
8.29 Temperature sensor EEP A5-02-01 50
8.29.1 Derived model 50
8.29.2 Property definition 50
8.29.3 Derived model definition 50
8.30 Temperature sensor EEP A5-02-02 51
8.30.1 Derived model 51
8.30.2 Property definition 51
8.30.3 Derived model definition 51
8.31 Temperature sensor EEP A5-02-03 52
8.31.1 Derived model 52
8.31.2 Property definition 52
8.31.3 Derived model definition 52
8.32 Temperature sensor EEP A5-02-04 53
8.32.1 Derived model 53
8.32.2 Property definition 53
8.32.3 Derived model definition 53
8.33 Temperature sensor EEP A5-02-05 54
8.33.1 Derived model 54
8.33.2 Property definition 54
8.33.3 Derived model definition 54
8.34 Temperature sensor EEP A5-02-06 55
8.34.1 Derived model 55
8.34.2 Property definition 55
8.34.3 Derived model definition 55
8.35 Temperature sensor EEP A5-02-07 56
8.35.1 Derived model 56
8.35.2 Property definition 56
8.35.3 Derived model definition 56
8.36 Temperature sensor EEP A5-02-08 57
8.36.1 Derived model 57
8.36.2 Property definition 57
8.36.3 Derived model definition 57
8.37 Temperature sensor EEP A5-02-09 58
8.37.1 Derived model 58

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8.37.2 Property definition 58
8.37.3 Derived model definition 58
8.38 Temperature sensor EEP A5-02-0A 59
8.38.1 Derived model 59
8.38.2 Property definition 59
8.38.3 Derived model definition 59
8.39 Temperature sensor EEP A5-02-0B 60
8.39.1 Derived model 60
8.39.2 Property definition 60
8.39.3 Derived model definition 60
8.40 Temperature sensor EEP A5-02-10 61
8.40.1 Derived model 61
8.40.2 Property definition 61
8.40.3 Derived model definition 61
8.41 Temperature sensor EEP A5-02-11 62
8.41.1 Derived model 62
8.41.2 Property definition 62
8.41.3 Derived model definition 62
8.42 Temperature sensor EEP A5-02-12 63
8.42.1 Derived model 63
8.42.2 Property definition 63
8.42.3 Derived model definition 63
8.43 Temperature sensor EEP A5-02-13 64
8.43.1 Derived model 64
8.43.2 Property definition 64
8.43.3 Derived model definition 64
8.44 Temperature sensor EEP A5-02-14 65
8.44.1 Derived model 65
8.44.2 Property definition 65
8.44.3 Derived model definition 65
8.45 Temperature sensor EEP A5-02-15 66
8.45.1 Derived model 66
8.45.2 Property definition 66
8.45.3 Derived model definition 66
8.46 Temperature sensor EEP A5-02-16 67
8.46.1 Derived model 67
8.46.2 Property definition 67
8.46.3 Derived model definition 67
8.47 Temperature sensor EEP A5-02-17 68
8.47.1 Derived model 68
8.47.2 Property definition 68
8.47.3 Derived model definition 68
8.48 Temperature sensor EEP A5-02-18 69
8.48.1 Derived model 69
8.48.2 Property definition 69
8.48.3 Derived model definition 69
8.49 Temperature sensor EEP A5-02-19 70
8.49.1 Derived model 70

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8.49.2 Property definition 70
8.49.3 Derived model definition 70
8.50 Temperature sensor EEP A5-02-1A 71
8.50.1 Derived model 71
8.50.2 Property definition 71
8.50.3 Derived model definition 71
8.51 Temperature sensor EEP A5-02-1B 72
8.51.1 Derived model 72
8.51.2 Property definition 72
8.51.3 Derived model definition 72
8.52 Temperature sensor EEP A5-02-20 73
8.52.1 Derived model 73
8.52.2 Property definition 73
8.52.3 Derived model definition 73
8.53 Temperature sensor EEP A5-02-30 74
8.53.1 Derived model 74
8.53.2 Property definition 74
8.53.3 Derived model definition 74

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of document should be noted (see www.iso.org/directives or www.iec.ch/members_experts/refdocs).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents) or the IEC list of patent declarations received (see patents.iec.ch).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html. In the IEC, see www.iec.ch/understanding-standards.

This document was prepared by the Open Connectivity Foundation (OCF) (as OCF Resource to EnOcean Mapping, version 2.2.0) and drafted in accordance with its editorial rules. It was adopted, under the JTC 1 PAS procedure, by Joint Technical Committee ISO/IEC JTC 1, *Information technology*.

A list of all parts in the ISO/IEC 30118 series can be found on the ISO and IEC websites.

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.

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Introduction

This document, and all the other parts associated with this document, were developed in response to worldwide demand for smart home focused Internet of Things (IoT) devices, such as appliances, door locks, security cameras, sensors, and actuators; these to be modelled and securely controlled, locally and remotely, over an IP network.

While some inter-device communication existed, no universal language had been developed for the IoT. Device makers instead had to choose between disparate frameworks, limiting their market share, or developing across multiple ecosystems, increasing their costs. The burden then falls on end users to determine whether the products they want are compatible with the ecosystem they bought into, or find ways to integrate their devices into their network, and try to solve interoperability issues on their own.

In addition to the smart home, IoT deployments in commercial environments are hampered by a lack of security. This issue can be avoided by having a secure IoT communication framework, which this standard solves.

The goal of these documents is then to connect the next 25 billion devices for the IoT, providing secure and reliable device discovery and connectivity across multiple OSs and platforms. There are multiple proposals and forums driving different approaches, but no single solution addresses the majority of key requirements. This document and the associated parts enable industry consolidation around a common, secure, interoperable approach.

ISO/IEC 30118 consists of eighteen parts, under the general title Information technology — Open Connectivity Foundation (OCF) Specification. The parts fall into logical groupings as described herein:

- Core framework
  - Part 1: Core Specification
  - Part 2: Security Specification
  - Part 13: Onboarding Tool Specification
- Bridging framework and bridges
  - Part 3: Bridging Specification
  - Part 6: Resource to Alljoyn Interface Mapping Specification
  - Part 8: OCF Resource to oneM2M Resource Mapping Specification
  - Part 14: OCF Resource to BLE Mapping Specification
  - Part 15: OCF Resource to EnOcean Mapping Specification
  - Part 16: OCF Resource to UPlus Mapping Specification
  - Part 17: OCF Resource to Zigbee Cluster Mapping Specification
  - Part 18: OCF Resource to Z-Wave Mapping Specification
- Resource and Device models
  - Part 4: Resource Type Specification
  - Part 5: Device Specification

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- Core framework extensions
  - Part 7: Wi-Fi Easy Setup Specification
  - Part 9: Core Optional Specification
- OCF Cloud
  - Part 10: Cloud API for Cloud Services Specification
  - Part 11: Device to Cloud Services Specification
  - Part 12: Cloud Security Specification

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Information technology — Open Connectivity Foundation (OCF) Specification —

Part 15:
OCF resource to EnOcean mapping specification

1 Scope

This document provides detailed mapping information between EnOcean defined EEPs and OCF defined Devices and Resources.

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 30118-1 Information technology -- Open Connectivity Foundation (OCF) Specification -- Part 1: Core specification
https://www.iso.org/standard/53238.html
Latest version available at: https://openconnectivity.org/specs/OCF_Core_Specification.pdf

ISO/IEC 30118-2 Information technology – Open Connectivity Foundation (OCF) Specification – Part 2: Security specification
https://www.iso.org/standard/74239.html
Latest version available at: https://openconnectivity.org/specs/OCF_Security_Specification.pdf

ISO/IEC 30118-3 Information technology – Open Connectivity Foundation (OCF) Specification – Part 3: Bridging specification
https://www.iso.org/standard/74240.html
Latest version available at: https://openconnectivity.org/specs/OCF_Bridging_Specification.pdf

ISO/IEC 30118-4 Information technology – Open Connectivity Foundation (OCF) Specification – Part 4: Resource Type specification
https://www.iso.org/standard/74241.html
Latest version available at: https://openconnectivity.org/specs/OCF_Resource_Type_Specification.pdf

ISO/IEC 30118-5 Information technology – Open Connectivity Foundation (OCF) Specification – Part 5: Device specification
https://www.iso.org/standard/79389.html
Latest version available at: https://openconnectivity.org/specs/OCF_Device_Specification.pdf

Derived Models for Interoperability between IoT Ecosystems, Stevens & Merriam, March 2016
https://www.iab.org/wp-content/IAB-uploads/2016/03/OCF-Derived-Models-for-Interoperability-Between-IoT-Ecosystems_v2-examples.pdf

IETF RFC 4122, *A Universally Unique IDentifier (UUID) URN Namespace*, July 2005
https://www.rfc-editor.org/info/rfc4122

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EnOcean Equipment Profiles (EEP) Version 2.6.8 https://www.enocean-alliance.org/wp-content/uploads/2018/02/EEP268_R3_Feb022018_public.pdf

3 Terms, definitions, symbols and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 30118-1, ISO/IEC 30118-2, and ISO/IEC 30118-3 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 http://www.electropedia.org/

3.1.1
EnOcean Device
Device with Sensors and/or Actuators which communicates over ERP and uses a well-defined EEP.

3.1.2
EnOcean Shadow Device
virtual copy of an *EnOcean Device* (3.1.1) which contains the last values that have been sent over ERP from the actual *EnOcean Device* (3.1.1).

3.1.3
EnOcean Bridge Platform
Platform which contains an ERP transceiver and can communicate over various OCF relevant protocols. It implements the EnOcean bridging function and the *EnOcean Shadow Device* (3.1.2) list which translates well-defined *EnOcean Devices* (3.1.1) to Virtual OCF Servers.

3.1.4
EnOcean Telegram
telegram which can be sent over ERP and contains different Parameters. It contains the byte-representation of actual values, a RORG and an Identifier. It may contain Teach-In Information.

3.1.5
EnOcean Teach-In Information
EEP of a real device to identify the type.

3.1.6

EnOcean Transceiver
Hardware to communicate bi-directional in the ERP.

3.2 Symbols and abbreviated terms

ERP EnOcean Radio Protocol

EEP EnOcean Equipment Profile

RORG Radio-Telegram types grouped Organizationally

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