
Splošne zahteve za stanovanjske in stavbne elektronske sisteme (HBES) in sisteme za avtomatizacijo in krmiljenje stavb (BACS) - 11. del: Inteligentno merjenje - Aplikacijske specifikacije - Preprost zunanji prikazovalnik za uporabnika - Dopolnilo A1

General requirements for Home and Building Electronic Systems (HBES) and Building Automation and Control Systems (BACS) - Part 11: Smart Metering - Application Specifications - Simple External Consumer Display

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Allgemeine Anforderungen an die Elektrische Systemtechnik für Heim und Gebäude (ESHG) und an Systeme der Gebäudeautomation (GA) - Teil 11: Smart Metering - Applikationsbeschreibung - Einfache externe Verbrauchsanzeige

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Exigences générales pour systèmes électroniques pour les foyers domestiques et les bâtiments (HBES) et pour systèmes de gestion technique du bâtiment (SGTB) - Partie 11: Comptage intelligent - Spécifications d'application - Affichage simple et externe du

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ICS:

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97.120	Avtomatske krmilne naprave za dom	Automatic controls for household use

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This amendment A1 modifies the European Standard EN 50491-11:2015; it was approved by CENELEC on 2020-01-09. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
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European foreword

This document (EN 50491-11:2015/A1:2020) 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) 2020-10-10
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2023-04-10

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1 Addition of Annex A

Add the following Annex A:

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Annex A (informative)

Cross reference mapping EN 50491-11 and COSEM/OBIS

A.1 Introduction

This annex provides a cross reference mapping between the data interface specified in this document and the COSEM object class_IDs/OBIS codes.

A.2 Generic data points: MDC Generic Meter (M_GENERICM)

Most of these data points are the same as the electricity data points. See there.

Datapoint	Description	Datapoint Type	COSEM object class_id, OBIS code, attribute_id	Remark
CurrentConsumption	Accumulated metering value. Type of value to be interpreted according to the Metering DeviceType data point.	DPT_MeteringValue	class_id: OBIS code: attribute_id:	
ReliabilityOfMeteringData	Indicates whether metering data are up-to-date or outdated.	DPT_Bool	class_id: OBIS code: attribute_id:	
HistoryStorageNumbers	Array of storage numbers for history values	DPT_Value_1_Ucount[n]	class_id: OBIS code: attribute_id:	
HistoryDate	Array of date/time information for history values	DPT_DateTime[n]	class_id: OBIS code: attribute_id:	
HistoryConsumption	Array of volume consumption history values	DPT_MeteringValue[n]	class_id: OBIS code: attribute_id:	
RxSequenceCounter	Sequence counter generated locally by the receiver and incremented each time a metering message is received. This property is used for consistency checking	DPT_Value_1_Ucount	class_id: OBIS code: attribute_id:	

RxReceptionTime	Time stamp generated locally by the receiver each time a metering message is received	DPT_DateTime	class_id: OBIS code: attribute_id:	
Manufacturer	Mmanufacturer code	DPT_Value_2_Ucount	class_id: OBIS code: attribute_id:	
IdentificationNumber	Mapping 8 Digit BCD > unsigned long integer	DPT_Value_4_Ucount	class_id: OBIS code: attribute_id:	
VersionNumber	Version of the device, structure is manufacturer specific	DPT_Value_1_Ucount	class_id: OBIS code: attribute_id:	
MeteringDeviceType	Metering Device Type Supported values in M_GENERICM are: 0: Other Medium 1: Oil 5: Steam 255: void Medium	DPT_Metering_DeviceType	class_id: OBIS code: attribute_id:	
FabricationNumber	Mapping 8 Digit BCD > unsigned long integer	DPT_Value_4_Ucount	class_id: OBIS code: attribute_id:	
AccessNumber	Consecutive message number that is generated by the metering device	DPT_Value_1_Ucount	class_id: OBIS code: attribute_id:	
DeviceStatus	Combined Status/Error-code (bitset)	DPT_Value_1_Ucount	class_id: OBIS code: attribute_id:	
OperatingTime	Duration of meter accumulation	DPT_LongDeltaTimeSec	class_id: OBIS code: attribute_id:	
OnTime	Duration of Meter power up	DPT_LongDeltaTimeSec	class_id: OBIS code: attribute_id:	

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CurrentDate	Date and time of the meter	DPT_DateTime	class_id: OBIS code: attribute_id:	
ErrorDate	Date and time of Error event	DPT_DateTime	class_id: OBIS code: attribute_id:	
ErrorConsumption	value of volume consumption at the moment when an error occurred	DPT_MeteringValue	class_id: OBIS code: attribute_id:	
ReliabilityOfMeteringData	Indicates whether metering data are up-to-date or outdated.	DPT_Bool	class_id: OBIS code: attribute_id:	
AveragingDuration	Measuring time for current min/max value generation (integration time)	DPT_LongDeltaTimeSec	class_id: OBIS code: attribute_id:	
Metering Raw Data	raw data of Metering telegram	DPT_Value_1_Ucount [n]	class_id: OBIS code: attribute_id:	
UserText	Additional text information to the metering device, which can be entered by the installer during commissioning	DPT_VarString_8859-1	class_id: OBIS code: attribute_id:	
MeterReplacement	Indicates that the connected meter is replaced. This datapoint shall be set automatically by the Data interface and has to be reset manually by the installer/service technician	DPT_Bool	class_id: OBIS code: attribute_id:	
MeterReplacementCounter	Indicates the number of meter replacements. The counter shall be incremented automatically each time a meter is replaced. The Datapoint is (normally) read only.	DPT_Value_1_Ucount	class_id: OBIS code: attribute_id:	
Currency	Indicates the currency applicable for the costs and credit communicated by the server to the client (e.g. data interface to the display)	DPT_Currency	class_id: OBIS code: attribute_id:	

Accumulated Cost	Indicates the accumulated costs of the energy consumption (negative values would allow encoding profit)	DPT_Cost	class_id: OBIS code: attribute_id:	
Current Credit	Indicates the current credit level (negative values would allow encoding debit)	DPT_Credit	class_id: OBIS code: attribute_id:	
Mode	Indicates the current mode of the meter	DPT_Meter_Mode	class_id: OBIS code: attribute_id:	
Battery Status	Indicates the current status of the battery in the meter	DPT_Battery_State	class_id: 3 OBIS code: 0–0:96.6.1.255 attribute_id: 2	In COSEM / OBIS there are many battery related objects. See EN 62056-6-1:2017 Table 8: <ul style="list-style-type: none"> - Battery use time counter; - <u>Battery charge display (with D = 6 E = 1)</u>; - Date of next battery change; - Battery voltage; - Battery initial capacity; - Battery installation date and time; - Battery estimated remaining use time

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A.3 Electricity data points: MDC Electricity Meter (M_ELECM)

Datapoint	Description	Datapoint Type	COSEM object class_id, OBIS code, attribute_id	Remark
CurrentEnergyConsumption	Accumulated active energy import value	DPT_ActiveEnergy	class_id: 3 OBIS code: 1–0:1.8.0.255 attribute_id: 2, value attribute_id: 3, scaler_unit	In COSEM / OBIS, per phase values are also available: C = 1: All phases C = 21: Phase 1 C = 41: Phase 2 C = 61: Phase 3
CurrentEnergyProduction	Accumulated active energy export value	DPT_ActiveEnergy	class_id: 3 OBIS code: 1–0:2.8.0.255 attribute_id: 2, value attribute_id: 3, scaler_unit	In COSEM / OBIS per phase values are also available: C = 2: All phases C = 22: Phase 1 C = 42: Phase 2 C = 62: Phase 3
CurrentReactiveEnergy	Current reactive Energy	DPT_MeteringValue	class_id: 3 OBIS code: 1–0:3.8.0.255 Reactive power + attribute_id: 2, value	In COSEM / OBIS per phase and per quadrant are also available. For details see EN 62056-6-1:2017 Table 13 and Figure 1.

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Datapoint	Description	Datapoint Type	COSEM object class_id, OBIS code, attribute_id	Remark
			attribute_id: 3, scaler_unit class_id: 3 OBIS code: 1-0:4.8.0.255 Reactive power – attribute_id: 2, value attribute_id: 3, scaler_unit	
BreakerState	Describing the status of the breaker: Energy supply is closed or open or released.	DPT_Meter_BreakerValue_State	class_id: 70, Disconnect control OBIS code: 0-0:96.3.10.255 attribute_id: 2, output_state	See: - EN 62056-6-1:2017 Table 8; - EN IEC 62056-6-2:2018 5.4.8.
ReliabilityOfMeteringData	Indicates whether metering data are up-to-date or outdated.	DPT_Bool	class_id: OBIS code: attribute_id: 2, output state	This information cannot be provided by the meter. This is information the display shall provide to the home automation network if experiencing problems obtaining the data from the metering infrastructure.
CurrentEnergyConsumptionTariff1 to 16	Accumulated active energy import value Tariff 1 to 16	DPT_MeteringValue[n]	class_id: 3 OBIS code: 1-0:1.8.1...16.255 attribute_id: 2, value attribute_id: 3, scaler_unit	In OBIS value group E is used to identify tariffs. See EN 62056-6-1:2017 Table 15. The usage of each tariff (e.g. day, night etc.) is left to project specific companion specifications. Per phase values are also available, see above.
CurrentEnergyProductionTariff1 to 16	Accumulated active energy export value Tariff 1 to 16	DPT_MeteringValue[n]	class_id: 3 OBIS code: 1-0:2.8.1...16.255 attribute_id: 2, value attribute_id: 3, scaler_unit	In OBIS value group E is used to identify tariffs. See EN 62056-6-1:2017 Table 15. The usage of each tariff (e.g. day, night etc.) is left to project specific companion specifications. Per phase values are also available, see above.
HistoryEnergyConsumptionTariff1 to f16	Array of energy consumption history values Tariff1 to 16	DPT_MeteringValue[n]	class_id: 3 OBIS code: 1-0:1.8.1...16.101...125 attribute_id: 2, value attribute_id: 3, scaler_unit	Historical values may be held by Register objects or by Profile generic objects. See EN IEC 62056-6-2:2018, 6.2.2. Here, the Register objects are used. Value group F = 101...125 identifies the past 1...past 25 historical values relative to the current one. It is also possible to use identification of historical values relative to the current billing period counter. Per phase values are also available, see above.
HistoryEnergyProduction	Array of energy production	DPT_MeteringValue[n]	class_id: 3	See above.

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Tariff1 to 16	history values Tariff1 to 16		OBIS code: 1-0:2.8.1...16.101...125 attribute_id: 2, value attribute_id: 3, scaler_unit	
CurrentActivePowerConsumption	Current measured power consumption	DPT_Power	class_id: 3 OBIS code: 1-0:1.4.0.255 attribute_id: 2, value attribute_id: 3, scaler_unit	This data point represents power (not energy). Per phase values are also available. See EN 62056-6-1:2017, Table 14.
CurrentActivePowerProduction	Current measured power production	DPT_Power	class_id: 3 OBIS code: 1-0:2.4.0.255 attribute_id: 2, value attribute_id: 3, scaler_unit	See above.
CurrentTariff	Current tariff register value	DPT_Tariff	class_id: 1 OBIS code: 0-0-96.14.0...15.2555 attribute_id: 2, value	Value group E identifies the active tariff. E = 15 carries the name of register with the lowest tariff (default tariff register). See EN 62056-6-1:2017, Table 8.

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Power Threshold Status	Status of the active Power import	DPT_Power_Threshold Status	class_id: 3 OBIS code: attribute_id:	DLMS/COSEM allows displaying / logging minimum and maximum values, there are objects for: - Under limit threshold; - Under limit occurrence counter; - Under limit duration; - Under limit magnitude. - Over limit threshold; - Over limit occurrence counter; - Over limit duration; - Over limit magnitude. See EN 62056-6-1:2017, Table 14.
Power Threshold Value	Value of the current power threshold	DPT_MeteringValue	class_id: 3 OBIS code: 1-0:1.35.255 attribute_id: 2, value	see: - EN IEC 62056-6-2:2018. 6.3.9 and - EN 62056-6-1:2017. Table 14: D = 35: Over limit threshold
HistoryStorageNumbers	Array of storage numbers for history values	DPT_Value_1_Ucount [n]	class_id: 1 OBIS code: 0-0:0.1.0.255 attribute_id: 2, value	See EN 62056-6-1:2017, Table 8.
HistoryDate	Array of date/time information for history values	DPT_DateTime [n]	class_id: 1/A1:2020 OBIS code: 1-0:1.2.VZ-VZ-n-890b- attribute_id: 2, value	VZ is the billing period counter. See EN IEC 62056-6-2:2018, 6.2.2.
RxSequenceCounter	Sequence counter generated locally by the receiver and incremented each time a metering message is received. This data point shall be used for consistency checking.	DPT_Value_1_Ucount	class_id: OBIS code: attribute_id:	This is data the display stores, as a result of the reception of metering data. In the case of the RxSequenceCounter, the data point is incremented with each metering message that is received. In the case of RxReceptionTime, this data point keeps the time when the metering message was received. This data cannot be modelled on the meter side.
RxReceptionTime	Time stamp generated locally by the receiver each time a metering message is received	DPT_DateTime	class_id: OBIS code: attribute_id:	See above.
Manufacturer	manufacturer code	DPT_Value_2_Ucount	class_id: 1 OBIS code: 0-b:96.1.0...9.255 attribute_id: 2, value	In COSEM / OBIS, ten objects are available identified with value group E. Their use shall be specified in project specific companion specifications. See EN 62056-6-1:2017, Table 8.
IdentificationNumber	Mapping 8 Digit BCD to unsigned long integer	DPT_Value_4_Ucount	As above.	As above.