BS EN 50491-11:2015+A1:2020

BSI Standards Publication

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

bsi.

National foreword

This British Standard is the UK implementation of EN 50491-11:2015+A1:2020. It supersedes BS EN 50491-11:2015, which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to CENELEC text carry the number of the CENELEC amendment. For example, text altered by CENELEC amendment A1 is indicated by A1 A1.

The UK participation in its preparation was entrusted to Technical Committee IST/6/-/12, Home Electronic Systems.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Published by BSI Standards Limited 2020

ISBN 978 0 539 05136 0

ICS 97.120

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 June 2015.

Amendments/corrigenda issued since publication

Date	Text affected
30 April 2020	Implementation of CENELEC amendment A1:2020

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50491-11+A1

April 2020

ICS 97.120

English Version

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

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 client

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

This European Standard was approved by CENELEC on 2015-05-04. CENELEC 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 CENELEC 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 CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Ref. No. EN 50491-11:2015 E

Contents

Foreword

This document (EN 50491-11:2015) 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)	2016-05-04
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2018-05-04

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

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association.

EN 50491-11 is part of the EN 50491 series, *General requirements for Home and Building Electronic Systems (HBES) and Building Automation and Control Systems (BACS)*, which comprises the following parts:

- *Part 1: General*;
- *Part 2: Environmental conditions*;
- *Part 3: Electrical safety requirements*;
- *Part 4-1: General functional safety requirements for products intended to be integrated in Building Electronic Systems (HBES) and Building Automation and Control Systems (BACS)*;
- *Part 5-1: EMC requirements, conditions and test setup*;
- *Part 5-2: EMC requirements for HBES/BACS used in residential, commercial and light industry environment*;
- *Part 5-3: EMC requirements for HBES/BACS used in industry environment*;
- *Part 6-1: HBES installations — Installation and planning*;
- *Part 6-3: HBES installations — Assessment and definition of levels* [Technical Report CLC/TR 50491-6-3]*;*
- *Part 11: Smart Metering — Application Specification — Simple External Consumer Display* (the present document);
- *Part 12: Smart grid — Application specification — Interface and framework for customer* (currently at Enquiry stage).

Foreword to A1

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

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.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association.

Introduction

In March 2009, the European Commission issued a mandate M/441 for the standardization of smart metering functionalities and communication for usage in Europe for electricity, gas, heat and water applications to ensure interoperability of technologies and applications within a harmonized European market.

As a result, a Technical Report, CEN/CLC/ETSI TR 50572, *Functional Reference Architecture for Communications in Smart Metering Systems*, was published in December 2011.

As a consequence of this work and in line with the CEN/CLC/ETSI TR 50572 functional reference architecture, CLC/TC 205, responsible for Home and Building Electronic Systems, was entrusted with the task to formulate standards for the communication from the smart metering system towards the home.

1 Scope

This European Standard specifies a data model to abstract the metering world towards a simple external consumer display. The data model, as described by means of functional blocks contained in this European Standard, lays down the format of metering data accessible by a simple external consumer display. This data interface would be typically part of the meter communication functions and be accessed by a simple external consumer display via the H1 interface of the CEN/CLC/ETSI TR 50572 between the display and the meter communication functions.

The data interface specified in this document may also be accessed by the LNAP or NNAP through the C or M interface, after which the data could be accessed by HBES devices through the H2 and H3 interface.

In other words, in this way the same data model can be used both on the H1 as well as the H2 and H3 interface.

The document specifies neither the communication mechanisms used on the data interface, nor the applied data privacy and security mechanisms nor the ergonomics of the simple external consumer displays, where national regulations may apply.

The document does also not specify the communication protocol used between the meters and the meter communication functions. However, it takes into account the existing European standards like the EN 13757 series (in particular EN 13757-3:2013 and its Annex O) and the EN 62056 series for the definition of the data model.

2 Normative References

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 13757 (all parts), *Communication system for meters*

prEN 50491-12, *General requirements for Home and Building Electronic Systems (HBES) and Building Automation and Control Systems (BACS) — Part 12: Smart grid — Application specification — Interface and framework for customer*

CEN/CLC/ETSI TR 50572, *Functional Reference Architecture for Communications in Smart Metering Systems*

EN 62056 (all parts), *Electricity metering data exchange — The DLMS/COSEM suite (IEC 62056, all parts)*

ISO 4217, *Codes for the representation of currencies and funds*

ISO/IEC 8859-1, *Information technology — 8-bit single-byte coded graphic character sets — Part 1: Latin alphabet No. 1*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

3.1.1
meter
instrument for measuring, memorizing and displaying data related to the consumption of a commodity