

Communication systems for meters - Part 3:  
Application protocols

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## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>See Eesti standard EVS-EN 13757-3:2025 sisaldab Euroopa standardi EN 13757-3:2025 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 02.04.2025.</p> <p>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN 13757-3:2025 consists of the English text of the European standard EN 13757-3:2025.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 02.04.2025.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
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ICS 33.200, 35.100.70, 35.240.99, 91.140.50

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EUROPEAN STANDARD

EN 13757-3

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2025

ICS 33.200; 35.100.70; 35.240.99; 91.140.50

Supersedes EN 13757-3:2018

English Version

## Communication systems for meters - Part 3: Application protocols

Systèmes de communication pour compteurs - Partie 3  
: Protocoles d'application

Kommunikationssysteme für Zähler - Teil 3:  
Anwendungsprotokolle

This European Standard was approved by CEN on 24 February 2025.

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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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## European foreword

This document (EN 13757-3:2025) has been prepared by Technical Committee CEN/TC 294 “Communication systems for meters”, the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by October 2025, and conflicting national standards shall be withdrawn at the latest by October 2025.

This document supersedes EN 13757-3:2018.

EN 13757-3:2025 includes the following significant technical changes with respect to EN 13757-3:2018:

- support of sensor devices and alarm devices in new subclause 6.5 and Table 13;
- change of device type codes for thermal energy meters (heat and cooling);
- addition of a new Table 14 - Bit field definition of “Installation conditions”;
- marking of unused VIF/VIFE in Table 10 and Table 12 as deprecated;
- extension of the coding of message application in Table 26;
- addition of alternative non-metric units in Annex C;
- revision of the clock synchronisation protocol in Clause E.3.

EN 13757 is currently composed with the following parts:

- *Communication systems for meters — Part 1: Data exchange;*
- *Communication systems for meters — Part 2: Wired M-Bus communication;*
- *Communication systems for meters — Part 3: Application protocols;*
- *Communication systems for meters — Part 4: Wireless M-Bus communication;*
- *Communication systems for meters — Part 5: Wireless M-Bus relaying;*
- *Communication systems for meters — Part 7: Transport and security services;*
- *Communication systems for meters — Part 8: Adaptation Layer;*
- *CEN/TR 17167, Communication systems for meters — Accompanying TR to EN 13757-2, -3 and -7, Examples and supplementary information.*

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

This document falls under Mandate EU M/441 “Standardisation mandate to CEN, CENELEC and ETSI in the field of measuring instruments for the development of an open architecture for utility meters involving communication protocols enabling interoperability” by providing the relevant definitions and

methods for meter data transmission on application layer level. The M/441 Mandate is driving significant development of standards in smart metering.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

## Introduction

This document belongs to the EN 13757 series, which covers communication systems for meters. EN 13757-1 contains generic descriptions and a communication protocol. EN 13757-2 contains a physical and a link layer for twisted pair based Meter-Bus (M-Bus). EN 13757-4 specifies wireless communication (often called wireless M-Bus or wM-Bus). EN 13757-5 specifies the wireless network used for repeating, relaying and routing for the different modes of EN 13757-4. EN 13757-7 specifies transport mechanism and security methods for data. The Technical Report CEN/TR 17167 contains informative annexes for EN 13757-2, EN 13757-3 and EN 13757-7.

These upper M-Bus protocol layers can be used with various Physical Layers and with Data Link Layers and Network Layers, which support the transmission of variable length binary transparent messages. Frequently, the Physical and Link Layers of EN 13757-2 (twisted pair) and EN 13757-4 (wireless) as well as EN 13757-5 (wireless with routing function) or the alternatives specified in EN 13757-1 are used. These upper M-Bus protocol layers have been optimized for minimum battery consumption of meters, especially for the case of wireless communication, to ensure long battery lifetimes of the meters. Secondly, it is optimized for minimum message length to minimize the wireless channel occupancy and hence the collision rate. Thirdly, it is optimized for minimum requirements towards the meter processor regarding requirements of RAM size, code length and computational power.

An overview of communication systems for meters is given in EN 13757-1, which also contains further definitions.

This document concentrates on the meter communication. The meter communicates with one (or occasionally several) fixed or mobile communication partners which again might be part of a private or public network. These further communication systems might use the same or other application layer protocols, security, privacy, authentication, and management methods.

To facilitate common communication systems for CEN meters (e.g. gas, water, thermal energy and heat cost allocators) and for electricity meters, in this document occasionally electricity meters are mentioned. All these references are for information only and are not standard requirements. The specification of communication standards for electricity meters (possibly by a reference to CEN standards) remains solely in the responsibility of CENELEC.

NOTE 1 CEN/TR 17167:2023, Annex C specifies how parts of this document and of EN 13757-2 and EN 13757-4 can be used to implement smart meter functionalities. Similar functionalities could also be implemented using other physical and link layers.

NOTE 2 For information on installation procedures and their integration in meter management systems, see CEN/TR 17167:2023, Annex D.

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 Image Transfer given in Annex I and which is claimed to be relevant for the following clause(s) of this document: Clause 15.

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## 1 Scope

This document specifies application services for communication systems for meters, sensors, and actuators, used to provide metering services.

This document specifies application protocols, especially the M-Bus application protocol.

This document is intended to be used with the lower layer specifications determined in the relevant parts of the EN 13757 series.

## 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 13757-2, *Communication systems for meters — Part 2: Wired M-Bus communication*

EN 13757-7:2025, *Communication systems for meters — Part 7: Transport and security services*

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

ISO/IEC 60559:2020, *Information technology — Microprocessor Systems — Floating-Point arithmetic*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <https://www.iso.org/obp/>

— IEC Electropedia: available at <https://www.electropedia.org/>

### 3.1

#### **byte**

octet of bits

### 3.2

#### **datagram**

unit of data transferred from source to destination

Note 1 to entry: In previous versions of EN 13757-3 datagram was called telegram.

### 3.3

#### **fragment**

datagram of a fragmented message

### 3.4

#### **final DIFE**

additional last DIFE with the value 00h that marks a storage number as a register number