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Communication systems for meters - Part 8: Adaptation layer

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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English Version

Communication systems for meters - Part 8: Adaptation layer

Systèmes de communication pour compteurs - Partie 8 : Couche adaptation

Kommunikationssysteme für Zähler - Teil 8: Anpassungsschicht

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European foreword

This document (EN 13757-8:2023) 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of an identical text or by endorsement, at the latest by March 2024, and conflicting national standards shall be withdrawn at the latest by March 2024.

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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 13757-3 contains detailed description of the application protocols especially the M-Bus Protocol. EN 13757-4 describes wireless communication (often called wireless M-Bus or wM-Bus). EN 13757-5 describes the wireless network used for repeating, relaying and routing for the different modes of EN 13757-4. EN 13757-7 describes 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.

The M-Bus protocol upper layers (Transport and Application) can be used with various lower layers (Network, Data Link and Physical) as described in EN 13757-1. Systems based on the M-Bus protocol stack are well established in the metering market in Europe. In parallel, other wireless communication networks known as LPWAN (Low Power Wide Area Networks) have been widely deployed and target metering applications as well. The OSI reference model enables the transport of M-Bus upper layers on top of LPWANs lower layers. To ensure a seamless transition of the legacy systems based on Wireless M-Bus to LPWAN, an M-Bus Adaptation Layer (MBAL), is needed to provide the necessary services and information to the upper layers via an adequate interface, to minimize the impact on their existing implementations.

1 Scope

This document describes the functionalities and specifies the requirements of an adaptation layer to be applied when transporting M-Bus upper layers using a wireless communication protocol other than wireless M-Bus. These alternative radio technologies developed outside CEN/TC 294 can be based on Internet Protocol or not and operate either in licensed or unlicensed frequency bands.

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 13757-1:2021, *Communication systems for meters — Part 1: Data exchange*

EN 13757-3, *Communication systems for meters — Part 3: Application protocols*

EN 13757-4:2019, *Communication systems for meters — Part 4: Wireless M-Bus communication*

EN 13757-5, *Communication systems for meters — Part 5: Wireless M-Bus relaying*

EN 13757-7:2018, *Communication systems for meters — Part 7: Transport and security services*