TECHNICAL REPORT

RAPPORT TECHNIQUE

TECHNISCHER REPORT

CEN/TR 13582

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English Version

Installation of thermal energy meters - Guidelines for the selection, installation and operation of thermal energy meters

Compteur d'énergie thermique Installation - Lignes directrices pour la sélection, l'installation et le fonctionnement des compteurs d'énergie thermique

Installation von thermischen Energiemessgeräten - Richtlinien für Auswahl, Installation und Betrieb von thermischen Energiemessgeräten

This Technical Report was approved by CEN on 11 August 2025. It has been drawn up by the Technical Committee CEN/TC 176.

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European foreword

This document (CEN/TR 13582:2025) has been prepared by Technical Committee CEN/TC 176 “Thermal energy meters” the secretariat of which is held by SIS.

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

This document supersedes CEN/TR 13582:2021.

This document includes the following significant technical changes with respect to CEN/TR 13582:2021:

— replacement of incorrect figures;

— editorial changes to the text.

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.

Introduction

Metering devices for thermal energy (heat and cooling meters) are only working correctly and consistently if the system design considers the minimum and maximum ratings for temperature, temperature difference and flow rate according to the approved ranges. The metering device is selected for the approved legal range and the application area. The thermal energy meter is installed according to the valid requirements. During commissioning the thermal energy meter is checked for both correct installation and full functionality and afterwards sealed against unauthorized opening.

According to EN 1434-6, harmonized against the Measuring Instruments Directive (MID) [1], a commissioning is obligatory to ensure that the metering device accurately measures the planned or predicted consumption.

Installing the metering devices or their sub-assemblies incorrectly (e.g. an incorrect combination of temperature sensors with non-approved pockets) does not guarantee the measuring accuracy. Hence, the measurement deviations can exceed the permissible error limits. National calibration laws state that the metering point operator ensures that the metering device is set up, connected, handled and maintained correctly to guarantee the measuring accuracy. Incorrect measurements result in bills that cannot be used in business transactions.

The metering point operator is in district heating networks responsible for a proper installation and commissioning of the metering devices. The metering point operator can also delegate this task to a service company. The building owner or the building owner's representative (e.g. a metering service company) is in sub metering applications responsible for a proper installation and commissioning of the metering devices.

The EN 1434 series of standards provide technical principles and practical advice in selecting, installing and commissioning of thermal energy meters. However, because a standard cannot cover all areas completely, this report will assist users of thermal energy meters.

1 Scope

The EN 1434 series of standards provide technical principles and practical advice in selecting, installing and commissioning of thermal energy meters. However, because a standard cannot cover all areas completely, this document assists users of thermal energy meters.

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 1434-1, *Thermal energy meters - Part 1: General requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1434-1 and the following 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
thermal energy meter
instrument intended for measuring the energy which in a heat-exchange circuit is absorbed (cooling) or given up (heating) by a liquid called the heat-conveying liquid

[SOURCE: EN 1434-1:2022]

3.2
water
domestic water

3.3
hot water
domestic hot water

3.4
fluid additive
fluid used to supplement a shortage of the heat transfer medium due to leaks

3.5
fluid
heat transfer medium in a district heating and/or district cooling system