

SOOJUSARVESTID. OSA 1: ÜLDNÕUDED

Thermal energy meters - Part 1: General requirements

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 1434-1:2022 sisaldab Euroopa standardi EN 1434-1:2022 ingliskeelset teksti.	This Estonian standard EVS-EN 1434-1:2022 consists of the English text of the European standard EN 1434-1:2022.
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English Version

Thermal energy meters - Part 1: General requirements

Compteurs d'énergie thermique - Partie 1 :
Prescriptions générales

Thermische Energiemessgeräte - Teil 1: Allgemeine
Anforderungen

This European Standard was approved by CEN on 17 July 2022.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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European foreword

This document (EN 1434-1:2022) has been prepared by Technical Committee CEN/TC 176 “Thermal energy meters”, the secretariat of which is held by SIS.

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of an identical text or by endorsement, at the latest by March 2023, and conflicting national standards shall be withdrawn at the latest by March 2023.

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 EN 1434-1:2015+A1:2018.

EN 1434, *Thermal energy meters*, consists of the following parts:

- *Part 1: General requirements;*
- *Part 2: Constructional requirements;*
- *Part 3: Data exchange and interfaces¹;*
- *Part 4: Pattern approval tests;*
- *Part 5: Initial verification tests;*
- *Part 6: Installation, commissioning, operational monitoring and maintenance.*

In comparison with EN 1434-1:2015+A1:2018, the following changes have been made:

- the wording “flow straightener” has been changed to “flow conditioner” in the whole document;
- subclause 12.5 “Hints for disposal instructions” has been replaced by the enlarged, new subclause 12.5 “Information required when a thermal energy meter is taken out of service for recycling and/or disposal”.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s) / Regulation(s).

For relationship with EU Directive(s) / Regulation(s), see informative Annex ZA, which is an integral part of this document.

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.

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¹ EN 1434-3 is maintained by CEN/TC 294.

North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

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1 Scope

This document is applicable for the general requirements for thermal energy meters. Thermal energy meters are instruments 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. The thermal energy meter indicates the quantity of thermal energy in legal units.

This document covers meters for closed systems only, where the differential pressure over the thermal load is limited.

This document is not applicable to:

- electrical safety requirements;
- pressure safety requirements; and
- surface mounted temperature sensors.

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 1434-2:2022, *Thermal energy meters — Part 2: Constructional requirements*

EN 1434-4:2022, *Thermal energy meters — Part 4: Pattern approval tests*

EN 60751:2008, *Industrial platinum resistance thermometers and platinum temperature sensors (IEC 60751:2008)*

EN 61010-1:2010,² *Safety requirements for electrical equipment for measurement, control and laboratory use — Part 1: General requirements (IEC 61010-1:2010)*

3 Terms and definitions

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

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

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

3.1 response time

$\tau_{0,5}$

time interval between the instant when flow or temperature difference is subjected to a specified abrupt change and the instant when the response reaches 50 % of the step value

3.2 fast response meter

meter suitable for heat exchanging circuits with rapid dynamic variations in the exchanged heat

Note 1 to entry: See also Annex C.

² Document is impacted by /A1:2019 and /A1:2019/AC:2019-04.