

Soojusarvestid. Osa 4: Mudeli tüübikinnitus

Heat meters - Part 4: Pattern approval tests

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 1434-4:2007 sisaldab Euroopa standardi EN 1434-4:2007 ingliskeelset teksti. Käesolev dokument on jõustatud 30.03.2007 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 1434-4:2007 consists of the English text of the European standard EN 1434-4:2007. This document is endorsed on 30.03.2007 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.
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Käsitlusala: See Euroopa standard kehtib soojusarvestite kohta; nende seadmetega mõõdetakse seda soojushulka, mida soojusvahetustsüklis neelab või annab ära soojust edasikandev vedelik. Soojusarvesti näitab soojuse kogust ametlikult kehtivates ühikutes. See standard ei käsitle elektriohutuse nõudeid. Standardisse ei ole veel lülitatud pindmise temperatuurisensoriga arvesteid. Osa 4 määrab kindlaks mudeli tunnustused (tüübikinnituse).	Scope: This European Standard specifies pattern approval tests applies to heat meters, that is to instruments intended for measuring the heat which, in a heat-exchange circuit, is absorbed or given up by a liquid called the heat-conveying liquid. The heat meter indicates the quantity of heat in legal units. Electrical safety requirements are not covered by this European Standard. Pressure safety requirements are not covered by this European Standard. Surface mounted temperature sensors are not covered by this European Standard.
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ICS 17.200.10

Võtmesõnad: elektromagnetiline interferents, kasutusnõuded, katsed, metroloogia, mudeli tunnustus, mõõteriistad, mõõtmised, seadmete eristuskiri, soojusenergia arvestid, toimimiskatsed

English Version

Heat meters - Part 4: Pattern approval tests

Compteurs d'énergie thermique - Partie 4: Essais en vue
de l'approbation de modèle

Wärmezähler - Teil 4: Prüfungen für die Bauartzulassung

This European Standard was approved by CEN on 7 January 2007.

CEN 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 Management Centre or to any CEN member.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

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Foreword

This document (EN 1434-4:2007) has been prepared by Technical Committee CEN/TC 176 "Heat meters", the secretariat of which is held by DS.

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 August 2007, and conflicting national standards shall be withdrawn at the latest by August 2007.

This document supersedes EN 1434-4:1997.

The other parts are:

Part 1 - General requirements

Part 2 - Constructional requirements

Part 3 - Data exchange and interfaces

Part 5 - Initial verification tests

Part 6 - Installation, commissioning, operational monitoring and maintenance

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

1 Scope

This European Standard specifies pattern approval tests and applies to heat meters, that is to instruments intended for measuring the heat which, in a heat-exchange circuit, is absorbed (cooling) or given up (heating) by a liquid called the heat-conveying liquid. The heat meter indicates the quantity of heat in legal units.

Electrical safety requirements are not covered by this European Standard.

Pressure safety requirements are not covered by this European Standard.

Surface mounted temperature sensors are not covered by this European Standard.

2 Normative references

The following referenced documents are indispensable for the application 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.

ENV 13005, *Guide to the expression of uncertainty in measurement*

EN 1434-1:2007, *Heat meters — Part 1: General requirements*

EN 14154-3:2005, *Water meters — Part 3: Test methods and equipment*

EN 55022:, *Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement (CISPR 22:2005, modified)*

EN 60068-2-1, *Environmental testing — Part 2: Tests — Test A: Cold (IEC 60068-2-1:1990)*

EN 60068-2-2, *Basic environmental testing procedures — Part 2-2: Tests — Tests B: Dry heat (IEC 60068-2-2:1974 + IEC 60068-2-2A:1976)*

EN 60068-2-30, *Environmental testing — Part 2-30: Tests — Test Db: Damp heat, cyclic (12 h + 12 h cycle) (IEC 60068-2-30:2005)*

EN 60751:1995, *Industrial platinum resistance thermometer sensors (IEC 60751:1983 + A1:1986)*

EN 61000-4-2, *Electromagnetic compatibility (EMC) — Part 4: Testing and measurement techniques — Section 2: Electrostatic discharge immunity test — Basic EMC publication (IEC 61000-4-2:1995)*

EN 61000-4-3, *Electromagnetic compatibility (EMC) — Part 4-3: Testing and measurement techniques — Radiated, radio-frequency, electromagnetic field immunity test (IEC 61000-4-3:2006)*

EN 61000-4-4, *Electromagnetic compatibility (EMC) — Part 4-4: Testing and measurement techniques — Electrical fast transient/burst immunity test (IEC 61000-4-4:2004)*

EN 61000-4-5, *Electromagnetic compatibility (EMC) — Part 4: Testing and measurement techniques — Section 5: Surge immunity test (IEC 61000-4-5:1995)*

EN 61000-4-6:1996, *Electromagnetic compatibility (EMC) — Part 4-6: Testing and measurement techniques — Section 6: Immunity to conducted disturbances, induced by radio-frequency fields (IEC 61000-4-6:1996)*

EN 61000-4-8, *Electromagnetic compatibility (EMC) — Part 4: Testing and measurement techniques — Section 8: Power frequency magnetic field immunity test — Basic EMC publication (IEC 61000-4-8:1993)*

EN 61000-4-11, *Electromagnetic compatibility (EMC) — Part 4-11: Testing and measuring techniques — Voltage dips, short interruption and voltage variations immunity tests (IEC 61000-4-1:2004)*

ISO 4064-3:2005, *Measurement of water flow in fully charged closed conduits — Meters for cold potable water and hot water — Part 3: Test methods and equipment*

3 General

The procedure shall ascertain that the pattern conforms to the metrological requirements of this European Standard. In addition to the checking of the documentation (Clause 7) and the comparison of the pattern with the metrological requirements of this European Standard, the tests in Clause 6 shall be performed.

It is recommended to use a checklist as in Annex B to report in a standardised way the result of the comparison between the pattern under approval with the essential requirements of this European Standard.

4 Requirements

Under normal operating conditions, the error of heat meters or their sub-assemblies shall not exceed the maximum permissible error, MPE specified in EN 1434-1.

When heat meters or their sub-assemblies are exposed to disturbances, significant faults shall not occur.

5 Specification of operating conditions

5.1 Rated operating conditions

The rated operating conditions are those given in Table 1.

Table 1 — Rated operating conditions

Environmental class	A	B	C
Ambient temperature in °C	+ 5 to + 55	-25 to +55	+5 to +55
Relative humidity in %	< 93		
Mains supply voltage in V	195 V to 253 V		
Mains frequency	$f_{nom} \pm 2 \%$		
Battery voltage	The voltage of a battery in service under normal conditions		
Remote AC supply voltage	12 V to 36 V		
Remote DC supply voltage	12 V to 42 V		
Local external DC supply voltage	as specified by supplier		

5.2 Reference conditions

Range of ambient temperature: + 15 °C to + 35 °C

Range of relative humidity: 25 % to 75 %

Range of ambient air pressure: 86 kPa to 106 kPa