

ULTRAHELI GAASIARVESTID KODUSEKS KASUTUSEKS

Ultrasonic domestic gas meters

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 14236:2018 sisaldab Euroopa standardi EN 14236:2018 ingliskeelset teksti.	This Estonian standard EVS-EN 14236:2018 consists of the English text of the European standard EN 14236:2018.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
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English Version

Ultrasonic domestic gas meters

Compteurs de gaz domestiques à ultrasons

Ultraschall-Haushaltsgaszähler

This European Standard was approved by CEN on 20 November 2017.

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European foreword

This document (EN 14236:2018) has been prepared by Technical Committee CEN/TC 237 “Gas meters”, the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by April 2019 and conflicting national standards shall be withdrawn at the latest by April 2019.

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 14236:2007.

Changes from previous editions include:

- conformity with the MID 2014/32/EU regarding declared errors of the same sign.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive 2014/32/EU.

For relationship with EU Directive 2014/32/EU, see informative Annex ZA, which is an integral part of this document.

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, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard specifies requirements and tests for the construction, performance and safety of class 1,0 and class 1,5 battery powered ultrasonic gas meters (hereinafter referred to as meters), having co-axial single pipe, or two pipe connections, used to measure volumes of distributed fuel gases of the second and/or third family, as given in EN 437, at maximum working pressures not exceeding 0,5 bar¹⁾ and maximum actual flow rates of up to 10 m³/h over a minimum ambient temperature range of -10 °C to +40 °C, and minimum gas temperature span of 40 K, for domestic applications. This European Standard applies to meters where the measuring element and the register(s) are enclosed in the same case.

This European Standard applies to meters with and without built-in temperature conversion, that are installed in locations with vibration and shocks of low significance and in

- closed locations (indoor or outdoor with protection as specified by the manufacturer) with condensing or with non-condensing humidity

or, if specified by the manufacturer,

- open locations (outdoor without any covering) with condensing humidity or with non-condensing humidity

and in locations with electromagnetic disturbances.

Unless otherwise stated, all pressures given in this European Standard are gauge pressures.

When more than one meter type is submitted for testing, then each meter type is required to be tested against this European Standard.

Clauses 1 to 15 and Annex C are for design and type testing only.

NOTE See Annex A for production requirements.

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 55032, *Electromagnetic compatibility of multimedia equipment - Emission Requirements (CISPR 32)*

EN 60068-2-5, *Environmental testing - Part 2: Tests - Test Sa: Simulated solar radiation at ground level (IEC 60068-2-5)*

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

EN 60079-0, *Explosive atmospheres - Part 0: Equipment - General requirements (IEC 60079-0)*

EN 60079-10, *(all parts), Explosive atmospheres - Part 10: Classification of areas (IEC 60079-10, all parts)*

1) 1 bar = 1 000 mbar = 10⁵ Pa.

EN 60079-11, *Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i" (IEC 60079-11)*

EN 60079-15, *Explosive atmospheres - Part 15: Equipment protection by type of protection "n" (IEC 60079-15)*

EN 60086-1, *Primary batteries - Part 1: General (IEC 60086-1)*

EN 60086-4, *Primary batteries - Part 4: Safety of lithium batteries (IEC 60086-4)*

EN 60529, *Degrees of protection provided by enclosures (IP Code) (IEC 60529)*

EN 60695-11-5, *Fire hazard testing - Part 11-5: Test flames - Needle-flame test method - Apparatus, confirmatory test arrangement and guidance (IEC 60695-11-5)*

EN 60695-11-10, *Fire hazard testing - Part 11-10: Test flames - 50 W horizontal and vertical flame test methods (IEC 60695-11-10)*

EN 60730-1:2000, *Automatic electrical controls for household and similar use - Part 1: General requirements (IEC 60730-1:1999)*

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

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)*

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

EN 61000-4-9, *Electromagnetic compatibility (EMC) - Part 4-9: Testing and measurement techniques — Impulse magnetic field immunity test (IEC 61000-4-9)*

EN 61000-6-1, *Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments (IEC 61000-6-1)*

EN 61000-6-2, *Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments (IEC 61000-6-2)*

EN 62056-21:2002, *Electricity metering - Data exchange for meter reading, tariff and load control - Part 21: Direct local data exchange (IEC 62056-21:2002)*

EN ISO 1518 (all parts), *Paints and varnishes - Determination of scratch resistance (ISO 1518)*

EN ISO 2409, *Paints and varnishes - Cross-cut test (ISO 2409)*

EN ISO 2812-1:2017, *Paints and varnishes - Determination of resistance to liquids - Part 1: Immersion in liquids other than water (ISO 2812-1:2017)*

EN ISO 4628-2:2016, *Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 2: Assessment of degree of blistering (ISO 4628-2:2016)*

EN ISO 4628-3:2016, *Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 3: Assessment of degree of rusting (ISO 4628-3:2016)*

EN ISO 4892-3, *Plastics - Methods of exposure to laboratory light sources - Part 3: Fluorescent UV lamps (ISO 4892-3)*

EN ISO 6270-1, *Paints and varnishes - Determination of resistance to humidity - Part 1: Condensation (single-sided exposure) (ISO 6270-1)*

EN ISO 6272-1, *Paints and varnishes - Rapid-deformation (impact resistance) tests - Part 1: Falling-weight test, large-area indenter (ISO 6272-1)*

EN ISO 9227, *Corrosion tests in artificial atmospheres - Salt spray tests (ISO 9227)*

ISO 834-1, *Fire-resistance tests - Elements of building construction - Part 1: General requirements*

ISO 7724-3, *Paints and varnishes - Colorimetry - Part 3: Calculation of colour differences*

ASTM D471, *Standard Test Method for Rubber Property - Effect of Liquids*

ASTM D1003, *Standard Test Method for Haze and Luminous Transmittance of Transparent Plastics*

3 Terms, definitions and symbols

3.1 Terms and definitions

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

3.1.1

actual flow rate

flow rate at the gas pressure and gas temperature conditions prevailing in the gas distribution line in which the meter is fitted, at the meter inlet

3.1.2

base conditions

fixed conditions to which a volume of gas is converted (i.e. base gas temperature 15 °C, base gas pressure 1 013,25 mbar)

3.1.3

contaminants

gas borne dust, vapour and other substances that could affect the operation of the meter

3.1.4

communications port

galvanic or optical serial data port

3.1.5

display

device (e.g. liquid crystal display) which shows the contents of a memory (e.g. registered volume or flags)