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Temperature recorders for the transport, storage and distribution of temperature sensitive goods - Tests, performance, suitability

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

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 01/19

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EN 12830

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ICS 17.200.20; 67.260

Supersedes EN 12830:1999

English Version

Temperature recorders for the transport, storage and distribution of temperature sensitive goods - Tests, performance, suitability

Enregistreurs de température pour le transport, le stockage et la distribution des marchandises thermosensibles - Essais, performance, aptitude à l'emploi

Temperaturregistriergeräte für den Transport, die Lagerung und die Verteilung von temperaturempfindlichen Produkten - Prüfungen, Leistung, Gebrauchstauglichkeit

This European Standard was approved by CEN on 2 March 2018.

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-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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 United Kingdom.

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

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European foreword

This document (EN 12830:2018) has been prepared by Technical Committee CEN/TC 423 “Means of measuring and/or recording temperature in the cold chain”, 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 February 2019 and conflicting national standards shall be withdrawn at the latest by February 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 12830:1999.

The standard has been completely revised and updated to the state of the art as follows:

— Scope was enlarged, i.e. location of sensors of the recorder with respect to types of usage are included now;

— Update of Clause 2 "Normative references";

— Update of Clause 3 "Terms and definitions";

— Clause 4 "Concepts" was added;

— Clause 5 "Requirements" was enlarged, i.e. subclause 5.3 "Protection of the data from manipulation" and 5.12 "Software verification levels" were added and furthermore Clause 5 has been updated, e.g. values for maximum relative timing error and response time ;

— New subclause 6.7 "Software test" and the related Annex A "Software testing" and Annex B "Manufacturer software test form" were added;

— New Annex D "Expected operation time and storage capacity" and Annex E "Required access to recorded data or functions" were added.

This European Standard is a document meeting the objectives of Directives:

— 92/1/EEC of January 13, 1992 of the Commission on the monitoring of temperatures in the means of transport, warehousing and storage of quick-frozen foodstuffs intended for human consumption;

— 93/43/EEC of June 14, 1993 of the Council of the hygiene of foodstuffs and in particular on “temperature control criteria”.

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 document specifies the technical and functional characteristics of temperature recorders for the transport, storage and distribution of temperature sensitive goods between −80 °C and +85 °C.

It specifies the test methods which allow the determination of the equipment's conformity, suitability and performance requirements.

It applies to the whole temperature recording system. The temperature sensor(s) may be integrated into the recorder or be remote from it [external sensor(s)].

It gives some requirements with regards to the location of sensors of the recorder with respect to types of usage such as transport, storage and distribution.

NOTE Examples for the transport, storage and distribution of temperature sensitive goods between −80 °C and +85 °C are chilled, frozen and deep frozen, quick frozen food, ice cream, fresh and hot food, pharmaceuticals, blood, organs, chemicals, biologicals, electronic and mechanical devices, flowers, plants, bulbs, raw materials and liquids, animals, art and furnishing.

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 13486, *Temperature recorders and thermometers for the transport, storage and distribution of chilled, frozen, deep-frozen/quick-frozen food and ice cream - Periodic verification*

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

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

EN 61000-6-3, *Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments (IEC 61000-6-3)*

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

ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*

ISO/IEC 27001, *Information technology - Security techniques - Information security management systems - Requirements*