

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Electricity metering equipment – Dependability –
Part 32-1: Durability – Testing of the stability of metrological characteristics by
applying elevated temperature**

**Appareils de comptage de l'électricité – Sécurité de fonctionnement –
Partie 32-1: Durabilité – Contrôle de stabilité des caractéristiques métrologiques
en appliquant une température élevée**



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRICITY METERING EQUIPMENT –
DEPENDABILITY –****Part 32-1: Durability –
Testing of the stability of metrological characteristics
by applying elevated temperature**

FOREWORD

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International Standard IEC 62059-32-1 has been prepared by IEC technical committee 13: Electrical energy measurement, tariff- and load control.

The text of this standard is based on the following documents:

FDIS	RVD
13/1483/FDIS	13/1493/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of IEC 62059 series, under the general title *Electricity metering equipment – Dependability*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

Electricity meters are products designed for high reliability and durability to operate continuously for extended periods without supervision.

To manage metering assets effectively, it is important to have tools for predicting and estimating life characteristics of various types.

IEC 62059-41 provides methods for predicting the failure rate – assumed to be constant – of metering equipment, based on the parts stress method.

IEC 62059-31-1 provides a method for estimating life characteristics using accelerated reliability testing by operating the test specimens at elevated temperature and humidity. Future parts of IEC 62059-31 may be established to cover accelerated reliability testing, applying other stresses.

This standard, IEC 62059-32-1 provides a test method to evaluate one important aspect of durability, the stability of metrology characteristics, by operating a test specimen at the upper limit of the specified operating range of temperature, voltage and current for an extended period. Future parts of IEC 62059-32 may be established to cover other kinds of stress or other aspects of durability.

ELECTRICITY METERING EQUIPMENT – DEPENDABILITY –

Part 32-1: Durability – Testing of the stability of metrological characteristics by applying elevated temperature

1 Scope

The stability of metrological characteristics is one important aspect of durability.

This part of IEC 62059 specifies a method for testing the stability of metrological characteristics of electricity meters, by operating a test specimen at the upper limit of the specified operating range of temperature, voltage and current for an extended period.

Functional performance other than the accuracy of energy measurement is out of the scope of this standard.

Note, that from the results of this test, no conclusion can be drawn for the length of period during which the stability of the metrological characteristics will be maintained when the meter is operated under usual conditions.

This International Standard is applicable to all types of electricity meters in the scope of IEC TC 13.

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.

IEC 60068-2-2:2007, *Environmental testing – Part 2-2: Tests – Test B: Dry heat*

IEC 62052-11:2003, *Electricity metering equipment (AC) – General requirements, tests and test conditions – Part 11: Metering equipment*

IEC 62053-21:2003, *Electricity metering equipment (a.c.) – Particular requirements – Part 21: Static meters for active energy (classes 1 and 2)*

3 Terms and definitions

For the purposes of this document, the terms and definitions in IEC 62052-11 as well as the following apply.

3.1

durability

the ability of an item to perform a required function under given conditions of use and maintenance, until a limiting state is reached

NOTE A limiting state of an item may be characterized by the end of the useful life, unsuitability or any economic or technological reasons or other relevant factors.