

საქართველოს სტანდარტი

ელექტრული აპარატურა წვადი აირების, მომწამვლელი აირებისა და
ჟანგბადით აღმოჩენისა და გაზომვისათვის - მოთხოვნები და გამოცდები
აპარატურის პროგრამისა ან/და ციფრული ტექნოლოგიებისათვის

საქართველოს სტანდარტებისა და მეტროლოგიის
ეროვნული სააგენტო
თბილისი

სსტ ენ 50271:2010/2015

საინფორმაციო მონაცემები

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3 პირველად

4 რეგისტრირებულია საქართველოს სტანდარტებისა და მეტროლოგიის ეროვნული სააგენტოს რეესტრში: 2015 წლის 27 მარტი №268-1.3-7022

აკრძალულია ამ სტანდარტის გადაცემა მესამე პირებისათვის ან/და მისი სხვა ფორმით გავრცელება

**Electrical apparatus for the detection and measurement of combustible gases, toxic gases or oxygen -
Requirements and tests for apparatus using software and/or digital technologies**

Appareils électriques de détection
et de mesure des gaz combustibles,
des gaz toxiques ou de l'oxygène -
Exigences et essais pour les appareils
utilisant un logiciel et/ou des technologies
numériques

Elektrische Geräte für die Detektion
und Messung von brennbaren Gasen,
giftigen Gasen oder Sauerstoff -
Anforderungen und Prüfungen
für Warngeräte, die Software
und/oder Digitaltechnik nutzen

This European Standard was approved by CENELEC on 2010-06-01. CENELEC 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 Central Secretariat or to any CENELEC 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 CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

This European Standard was prepared by SC 31-9, Electrical apparatus for the detection and measurement of combustible gases to be used in industrial and commercial potentially explosive atmospheres, of Technical Committee CENELEC TC 31, Electrical apparatus for potentially explosive atmospheres. It was submitted to the formal vote and approved by CENELEC as EN 50271 on 2010-06-01.

This document supersedes EN 50271:2001.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

The State of the Art is included in Annex ZY “*Significant changes between this European Standard and EN 50271:2001*”.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2011-06-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2013-06-01

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and covers essential requirements of EC Directive 94/9/EC. See Annex ZZ.

Contents

Introduction	- 4 -
1 Scope	- 5 -
2 Normative references	- 5 -
3 Terms and definitions	- 7 -
4 Design principles	- 8 -
4.1 Basic requirements	- 8 -
4.2 Displays	- 10 -
4.3 Software	- 10 -
4.4 Hardware	- 19 -
4.5 Digital data transmission between components of apparatus	- 19 -
4.6 Test routines	- 20 -
4.7 Instruction manual	- 21 -
4.8 Additional requirements for compliance with SIL 1	- 22 -
5 Test of the digital unit	- 22 -
5.1 General	- 22 -
5.2 Verification of functional concept	- 23 -
5.3 Performance test	- 23 -
Annex A (normative) Hardware-software integration test	- 25 -
A.1 Functional testing/Black-box testing	- 25 -
A.2 Equivalence class test with boundary value analysis	- 25 -
Annex ZY (informative) Significant changes between this European Standard and EN 50271:2001	- 27 -
Annex ZZ (informative) Coverage of Essential Requirements of EC Directives	- 28 -
 Figure	
Figure 1 – Model of the software development process	- 12 -

Introduction

This European Standard specifies minimum requirements for functional safety of gas detection apparatus using software and/or digital technologies and defines criteria for reliability and avoidance of faults. Functional safety is that part of the overall safety which is related to the measures within the gas detection apparatus to avoid or to handle failures in such a manner that the safety function will be assured.

Gas detection apparatus will fail to function if dangerous failures occur. The aim of this European Standard is to reduce the risk of dangerous equipment failures to levels appropriate to typical applications of such apparatus.

Failure to function will also occur if such apparatus are not selected, installed or maintained in an appropriate manner. In some applications failures of this type will dominate the functional safety achieved. Users of gas detection apparatus will therefore need to ensure that selection, installation and maintenance of such apparatus are carried out appropriately. Guidance for the selection, installation, use and maintenance of gas detection apparatus are set out in EN 60079-29-2 and EN 45544-4, respectively.

This European Standard does not include requirements for operational availability which will need to be considered separately.

Regarding the requirements for the software development process, this European Standard specifies a practical approach to comply with the requirements of EN 61508-3 for SIL 1 without using this generic standard.

It is recommended to apply this European Standard for apparatus used for safety applications with SIL-requirement 1 instead of EN 50402 because EN 50402 is designed for the assessment of more complex gas detection systems with SIL-requirements greater than 1. However, the technical requirements of EN 50271 and EN 50402 are the same for SIL 1.