

Akutoitelise hädavalgustuse automaatsed kontrollisüsteemid

Automatic test systems for battery powered emergency escape lighting

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 62034:2012 sisaldab Euroopa standardi EN 62034:2012 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 31.05.2012 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 11.05.2012.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 62034:2012 consists of the English text of the European standard EN 62034:2012.

This standard is ratified with the order of Estonian Centre for Standardisation dated 31.05.2012 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 11.05.2012.

The standard is available from Estonian standardisation organisation.

ICS 29.140.50

akumulaatortoide, automaatkatsetus, automaatkontroll, hädavalgustus, väljapääs

Standardite reprodutseerimis- ja levitamiseõigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonilisse süsteemi või edastamine ükskõik millises vormis või millisel teel on keelatud ilma Eesti Standardikeskuse poolt antud kirjaliku loata.

Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:
Aru 10 Tallinn 10317 Eesti; www.evs.ee; Telefon: 605 5050; E-post: info@evs.ee

Right to reproduce and distribute belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without permission in writing from Estonian Centre for Standardisation.

If you have any questions about standards copyright, please contact Estonian Centre for Standardisation:
Aru str 10 Tallinn 10317 Estonia; www.evs.ee; Phone: 605 5050; E-mail: info@evs.ee

Automatic test systems for battery powered emergency escape lighting
(IEC 62034:2012)

Systèmes automatiques d'essai pour
éclairage de sécurité sur batteries
(CEI 62034:2012)

Automatische Prüfsysteme für
batteriebetriebene Sicherheitsbeleuchtung
für Rettungswege
(IEC 62034:2012)

This European Standard was approved by CENELEC on 2012-03-28. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre 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, Turkey and the United Kingdom.

CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 34D/1040/FDIS, future edition 2 of IEC 62034, prepared by SC 34D, "Luminaires", of IEC TC 34, "Lamps and related equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62034:2012.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2012-12-28
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-03-28

This document supersedes EN 62034:2006.

The main changes with respect to EN 62034:2006 are the improvement of the understanding of the requirements in the various clauses and the compliance requirements listed below and the updating of the normative references.

4.2 Monitoring of the timing circuit

4.3 Functional requirements

4.3.1 The automatic test system (ATS)

4.4.2 Intercommunications failure

4.4.4 Component failures

4.4.7 Software failure

5.1 Functional test

5.2 Duration test

6.2.2 Timing accuracy

6.3.2.2 Testing alternate luminaires

6.3.3.4 Limited duration test

7.1 General

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

Endorsement notice

The text of the International Standard IEC 62034:2012 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 61347-2-7	NOTE Harmonized as EN 61347-2-7.
IEC 61347-2-11	NOTE Harmonized as EN 61347-2-11.

Annex ZA

(normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60073	-	Basic and safety principles for man-machine interface, marking and identification - Coding principles for indicators and actuators	EN 60073	-
IEC 60598-1	-	Luminaires - Part 1: General requirements and tests	EN 60598-1	-
IEC 60598-2-22	-	Luminaires - Part 2-22: Particular requirements - Luminaires for emergency lighting	EN 60598-2-22	-
IEC 61347-1	-	Lamp controlgear - Part 1: General and safety requirements	EN 61347-1	-
IEC 61547	-	Equipment for general lighting purposes - EMC immunity requirements	EN 61547	-

CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope	7
2 Normative references	7
3 Terms and definitions	7
4 Requirements	9
4.1 Safety, construction and installation instructions.....	9
4.2 Monitoring of the timing circuit	9
4.3 Functional requirements	9
4.3.1 The automatic test system (ATS).....	9
4.3.2 Emergency battery supply	10
4.3.3 Lamps tested in the emergency mode.....	10
4.3.4 Maintained luminaires tested in emergency mode and in normal mains condition	10
4.4 System integrity.....	10
4.4.1 Protection against system part failures and faults	10
4.4.2 Intercommunications failure.....	11
4.4.3 System interconnection	11
4.4.4 Component failures.....	11
4.4.5 System parts compatibility.....	11
4.4.6 Electromagnetic immunity of the ATS	12
4.4.7 Software failure.....	12
4.5 Test of emergency lamp(s).....	12
5 Test duration and interval	13
5.1 Functional test.....	13
5.2 Duration test.....	13
6 Protection of a building during the periods of test and subsequent recharge of the emergency lighting system.....	14
6.1 General.....	14
6.2 Accuracy and protection of timing periods	14
6.2.1 General	14
6.2.2 Timing accuracy.....	14
6.2.3 Protection of timing function	14
6.3 Requirements for premises that may be occupied during test and recharge periods.....	15
6.3.1 General	15
6.3.2 Testing of self-contained luminaires	15
6.3.3 Test of centrally powered systems.....	16
6.3.4 Automatic test recording facilities	17
7 Indication and recording of results of tests that the equipment has to perform	17
7.1 General.....	17
7.2 Indication	18
7.3 Recording.....	18
Annex A (informative) Examples of typical automatic test systems	19
Annex B (normative) Classification of ATS types	24
Annex C (informative) Example of guidance for the use of ATS systems	25

Bibliography	26
Figure A.1 – Stand-alone, self-contained luminaire with automatic test facilities	19
Figure A.2 – Direct connection between luminaires and remote panel	20
Figure A.3 – Alternative system where luminaire's connection is marshalled by a connection box for transmission to remote indicators and control panel	21
Figure A.4 – Direct connection between luminaires and remote panel	22
Table A.1 – Standards conformity guide	20
Table A.2 – Standards conformity guide	22
Table A.3 – Standards conformity guide	23
Table B.1 – Minimum function according to the ATS type	24
Table C.1 – Suitable ATS systems for different occupancy of premises	25

This document is a preview generated by EVS

INTRODUCTION

Emergency lighting systems are a safety related product; their correct performance can only be assured by systematic testing and maintenance. Conventional techniques for testing are reliant upon manual testing procedures, and are highly susceptible to neglect. These limitations of conventional techniques can be overcome by automating the testing process. It is essential that automatic testing systems for emergency luminaires schedule tests reliably, and provide timely notification of failures or degradation of performance.

Automatic test systems (ATS) will still require manual intervention to correct faults when they are identified, and procedures should be put in place for such intervention. These systems provide information to assist users to manage risk on their premises.

Automatic test systems for emergency escape lighting assist the operator of the building by showing the results of tests that will have been made at prescribed intervals, without disrupting any other electrical services. It is essential that the notification of failures or reduction in performance be given at the earliest opportunity to enable the emergency escape system to be restored to full operation.

The automatic test system will provide those responsible for an emergency lighting installation with information to enable them to ensure that the installed luminaires operate correctly when required.

The automatic test system may be part of a building management system (BMS) for making the emergency lighting tests; this standard would only apply to the emergency lighting testing part of a BMS.

A visual check of system components and indicators should be included in the routine of safety staff. This check should be made regularly to ensure that the emergency luminaire is present and intact, with lamps and indicators working and visible i.e. not obscured, covered or painted.

AUTOMATIC TEST SYSTEMS FOR BATTERY POWERED EMERGENCY ESCAPE LIGHTING

1 Scope

This International Standard specifies the basic performance and safety requirements for individual products and components that are incorporated into automatic test systems for use with emergency lighting systems on supply voltages not exceeding 1 000 V.

This standard also specifies the required functionality of a complete automatic test system for an emergency lighting system.

This standard is applicable to testing systems consisting of a number of emergency lighting self-contained luminaires or a central battery with associated emergency lighting luminaires.

NOTE Manual test facilities that rely on manual initiation and/or visual inspection of the lamp condition are outside the scope of this 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.

IEC 60073, *Basic and safety principles for man-machine interface, marking and identification – Coding principles for indicators and actuators*

IEC 60598-1, *Luminaires – Part 1: General requirements and tests*

IEC 60598-2-22, *Luminaires – Part 2-22: Particular requirements – Luminaires for emergency lighting*

IEC 61347-1, *Lamp control gear – Part 1: General and safety requirements*

IEC 61547, *Equipment for general lighting purposes – EMC immunity requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60598-2-22 as well as the following apply.

3.1

automatic test system

ATS

automated test system that may be manually initiated, consisting of parts (such as timers, current detectors, light detectors, changeover switches) which, when connected together, make a system that can carry out the routine testing requirements of emergency lighting luminaires, and indicate the test results