Liquid crystal display devices -- Part 10-1: Environmental, endurance and mechanical test methods – Mechanical

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 61747-10-1:2013 sisaldab Euroopa standardi EN 61747-10-1:2013 ingliskeelset teksti.	This Estonian standard EVS-EN 61747-10-1:2013 consists of the English text of the European standard EN 61747-10-1:2013.
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.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 04.10.2013.	Date of Availability of the European standard is 04.10.2013.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 31.120

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61747-10-1

October 2013

ICS 31.120

Supersedes EN 61747-5:1998 (partially)

English version

Liquid crystal display devices - Part 10-1: Environmental, endurance and mechanical test methods - Mechanical

(IEC 61747-10-1:2013)

Dispositifs d'affichage à cristaux liquides - Partie 10-1: Méthodes d'essais d'environnement, d'endurance et mécaniques - Essais mécaniques
(CEI 61747-10-1:2013)

Flüssigkristall-Anzeige-Bauelemente - Teil 10-1: Umwelt-, Lebensdauer- und mechanische Prüfverfahren - Mechanisch
(IEC 61747-10-1:2013)

CENELEC

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

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Ref. No. EN 61747-10-1:2013 E

Foreword

The text of document 110/395/CDV, future edition 1 of IEC 61747-10-1, prepared by IEC TC 110, "Electronic display devices" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61747-10-1:2013.

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)	2014-05-14
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2016-08-14

This document partially supersedes EN 61747-5:1998.

EN 61747-10-1:2013 supersedes Clauses 1 and 2 of EN 61747-5:1998.

NOTE It is intended that the other clauses of EN 61747-5:1998 will be replaced by new parts in the EN 61747 series. The details of the intended changes are given in Annex D of EN 61747-30-1:2012.

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 61747-10-1:2013 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 60068-1	NOTE	Harmonised as EN 60068-1.
IEC 61747 series	NOTE	Harmonised in EN 61747 series.
IEC 61747-5-3	NOTE	Harmonised as EN 61747-5-3.

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.

Publication	Year	Title	EN/HD	Year
IEC 60068	Series	Environmental testing	EN 60068	Series
IEC 60068-2-6	-	Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	-
IEC 60068-2-7	-	Environmental testing - Part 2: Tests. Test Ga: Acceleration, steady state	EN 60068-2-7	-
IEC 60068-2-20	-	Environmental testing - Part 2-20: Tests - Test T: Test methods for solderability and resistance to soldering heat of devices with leads	EN 60068-2-20	-
IEC 60068-2-21	-	Environmental testing - Part 2-21: Tests - Test U: Robustness of terminations and integral mounting devices	EN 60068-2-21	-
IEC 60068-2-27	-	Environmental testing - Part 2-27: Tests - Test Ea and guidance: Shock	EN 60068-2-27	-
IEC 60747	Series	Semiconductor devices	-	-
IEC 60748	Series	Semiconductor devices - Integrated circuits	-	-
IEC 60749-14	-	Semiconductor devices - Mechanical and climatic test methods - Part 14: Robustness of terminations (lead integrity)	EN 60749-14	-
IEC 61747-1	-	Liquid crystal and solid-state display devices - Part 1: Generic specification	EN 61747-1	-

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LIQUID CRYSTAL DISPLAY DEVICES –

Part 10-1: Environmental, endurance and mechanical test methods – Mechanical

1 Scope

This part of IEC 61747 lists test methods applicable to liquid crystal display devices. It takes into account, wherever possible, the mechanical robustness test methods as outlined in IEC 60068.

NOTE Devices include cells and modules.

The object of this standard is to establish uniform preferred test methods with preferred values for stress levels for judging the mechanical properties of liquid crystal display devices.

In case of contradiction between this standard and a relevant specification, it is the latter that should govern.

2 Normative references

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.

IEC 60068 (all parts), *Environmental testing*

IEC 60068-2-6, *Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)*

IEC 60068-2-7, *Basic environmental testing procedures – Part 2-7: Tests – Test Ga and guidance: Acceleration, steady state*

IEC 60068-2-20, *Environmental testing – Part 2-20: Tests – Test T: Test methods for solderability and resistance to soldering heat of devices with leads*

IEC 60068-2-21, *Environmental testing – Part 2-21: Tests – Test U: Robustness of terminations and integral mounting devices*

IEC 60068-2-27, *Environmental testing – Part 2-27: Tests – Test Ea and guidance: Shock*

IEC 60747 (all parts), *Semiconductor devices*

IEC 60748 (all parts), *Semiconductor devices – Integrated circuits*

IEC 60749-14, *Semiconductor devices – Mechanical and climatic test methods – Part 14: Robustness of terminations (lead integrity)*

IEC 61747-1, *Liquid crystal and solid-state display devices – Part 1: Generic specification*