
**Prikazalniški elementi s tekočimi kristali in polprevodniki – 1. del: Generična
specifikacija – Dopolnilo A1 (IEC 61747-1:1998/A1:2003)**

Liquid crystal and solid-state display devices - Part 1: Generic specification –
Amendment A1 (IEC 61747-1:1998/A1:2003)

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[SIST EN 61747-1:2002/A1:2005
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3f895cd5f59f/sist-en-61747-1-2002-a1-2005](https://standards.iteh.ai/catalog/standards/sist/fa372105-aa9a-409e-b00f-3f895cd5f59f/sist-en-61747-1-2002-a1-2005)

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EUROPEAN STANDARD

EN 61747-1/A1

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2003

ICS 31.120

English version

Liquid crystal and solid-state display devices
Part 1: Generic specification
(IEC 61747-1:1998/A1:2003)

Dispositifs d'affichage à cristaux liquides
et à semiconducteurs
Partie 1: Spécification générique
(CEI 61747-1:1998/A1:2003)

Flüssigkristall- und Halbleiter-Anzeige-
Bauelemente
Teil 1: Fachgrundspezifikation
(IEC 61747-1:1998/A1:2003)

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This amendment A1 modifies the European Standard EN 61747-1:1999; it was approved by CENELEC on 2003-04-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 amendment 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, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 47C/288/FDIS, future amendment 1 to IEC 61747-1:1998, prepared by SC 47C, Flat panel display devices, of IEC TC 47, Semiconductor devices, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A1 to EN 61747-1:1999 on 2003-04-01.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2004-01-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2006-04-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annex ZA is normative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of amendment 1:2003 to the International Standard IEC 61747-1:1998 was approved by CENELEC as an amendment to the European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

ISO 9241-3

NOTE

Harmonized as EN 29241-3:1993 (not modified)

<https://standards.iteh.ai/catalog/standards/sist/fa372105-aa9a-409e-b00f-3f875cd5159f/sist-en-61747-1-2002-a1-2005>

Annex ZA
(normative)

**Normative references to international publications
with their corresponding European publications**

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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>
Add:				
IEC 61747-2-1	1998	Liquid crystal and solid-state display devices Part 2-1: Passive matrix monochrome LCD modules - Blank detail specification	EN 61747-2-1	2001
IEC 61747-3-1	1998	Part 3-1: Liquid crystal display (LCD) cells - Blank detail specification	EN 61747-3-1	1999
IEC 61747-4	1998	Part 4: Liquid crystal display modules and cells - Essential ratings and characteristics	EN 61747-4	1998

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EN 61747-1:2002/A1:2005
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NORME
INTERNATIONALE
INTERNATIONAL
STANDARD

CEI
IEC
61747-1

1998

AMENDEMENT 1
AMENDMENT 1
2003-03

Amendement 1

**Dispositifs d'affichage à cristaux liquides
et à semiconducteurs –**

Partie 1:
Spécification générique
(standards.iteh.ai)

Amendment 1 61747-1:2002/A1:2005
<https://standards.iteh.ai/catalog/standards/sist/fa372105-aa9a-409e-b00f-3609c4579844/iec-61747-1-2002-a1-2005>

**Liquid crystal and solid-state
display devices –**

Part 1:
Generic specification

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE

M

*Pour prix, voir catalogue en vigueur
For price, see current catalogue*

FOREWORD

This amendment has been prepared by subcommittee 47C: Flat panel display devices, of IEC technical committee 47: Semiconductor devices.

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

FDIS	Report on voting
47C/288/FDIS	47C/294/RVD

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

The committee has decided that the contents of the base publication and its amendments will remain unchanged until 2009. At this date, the publication will be

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

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[SIST EN 61747-1:2002/A1:2005](https://standards.iteh.ai/catalog/standards/sist/fa372105-aa9a-409e-b00f-3f895cd5f59f/sist-en-61747-1-2002-a1-2005)

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2 Normative references

Insert, on page 11, in the existing list, the following new references:

IEC 61747-2-1:1998, *Liquid crystal and solid-state display devices – Part 2-1: Passive matrix monochrome LCD modules – Blank detail specification*

IEC 61747-3-1:1998, *Liquid crystal and solid-state display devices – Part 3-1: Liquid crystal display (LCD) cells – Blank detail specification*

IEC 61747-4:1998, *Liquid crystal and solid-state display devices – Part 4: Liquid crystal display modules and cells – Essential ratings and characteristics*

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3 Terminology

3.1 Physical concepts

Add, after definition 3.1.26 on page 17, the following new definitions 3.1.27 to 3.1.36:

3.1.27**anti-ferroelectric liquid crystal****AFLC**

type of smectic liquid crystal having no macroscopic electrical polarization at zero external field

NOTE It has a paraelectric state with layers of alternating polarity of permanent dipoles without external electric field, and it transfers to a ferroelectric state of parallel alignment by applying electric field.

3.1.28**cell gap**

thickness of the liquid crystal layer between the two support plates

3.1.29**domain**

region having well-defined boundary in which liquid crystal molecules have the same director orientation

3.1.30**helical pitch**

chiral pitch

periodic distance needed for directors to rotate by 360° in a helically structured liquid crystal

3.1.31**polymer dispersed liquid crystal**

liquid crystal polymer composites within which there exists at least two different phases

3.1.32**phase transition**

phenomenon in which liquid crystal changes from one phase to another, e.g. from smectic to nematic, solid to smectic, or nematic to isotropic liquid

3.1.33**rubbing direction**

rubbing axis

direction/axis of rubbing the alignment layer in order to align liquid crystal molecules

3.1.34**super twisted nematic liquid crystal****STN**

nematic liquid crystal which possesses a twisted structure from 180° to 270° between the support plates

3.1.35**twisted nematic liquid crystal****TN**

nematic liquid crystal which possesses a twisted structure of around 90° between the support plates

3.1.36**voltage holding ratio**

ratio of holding voltage to the initially applied signal voltage at opposite facing electrodes in a liquid crystal cell