

This is a preview - click here to buy the full publication



IEC 61747-3

Edition 3.0 2015-04

INTERNATIONAL STANDARD

**Liquid crystal display devices –
Part 3: Liquid crystal display (LCD) cells – Sectional specification**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 31.120

ISBN 978-2-8322-2570-7

Warning! Make sure that you obtained this publication from an authorized distributor.

CONTENTS

FOREWORD.....	3
1 Scope.....	5
2 Normative references	5
3 Terms and definitions	5
4 Quality assessment procedure.....	6
4.1 Primary stage of manufacture	6
4.2 Production process	6
4.3 Subcontracting.....	7
4.4 Structural similarity procedures.....	7
4.4.1 General	7
4.4.2 Structurally similar cells.....	7
4.4.3 Test-dependent criteria for structural similarity	7
4.5 Qualification approval procedure.....	8
4.6 Quality conformance test	8
4.6.1 General	8
4.6.2 Division into groups and subgroups	8
4.6.3 Groups and categories	9
4.6.4 Group A – Lot-by-lot tests.....	9
4.6.5 Group B – Lot-by-lot tests.....	9
4.6.6 Group C – Periodic tests.....	9
4.6.7 Group D – Periodic tests.....	9
4.6.8 Dimensions to be checked.....	9
4.6.9 Sampling requirements (fixed sampling sizes)	9
4.7 Capability approval procedure.....	9
4.8 Screening	9
4.9 Delayed deliveries	10
5 Test and measurement procedures.....	10
Table 1 – Test-dependent criteria for structural similarity	11
Table 2 – Qualification approval tests	12
Table 3 – Groups and categories of assessed quality	13
Table 4 – Group A – Lot-by-lot tests	13
Table 5 – Group B – Lot-by-lot tests	13
Table 6 – Group C – Periodic tests	13
Table 7 – Sampling requirements for group A tests.....	14
Table 8 – Sampling requirements for group B and C tests.....	15
Table 9 – Screening test item and conditions.....	15

INTERNATIONAL ELECTROTECHNICAL COMMISSION

LIQUID CRYSTAL DISPLAY DEVICES –

Part 3: Liquid crystal display (LCD) cells – Sectional specification

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61747-3 has been prepared by IEC technical committee 110: Electronic display devices.

This International Standard is a sectional specification for liquid crystal display cells. It is used in conjunction with IEC 61747-1-1:2014.

This third edition cancels and replaces the second edition, published in 2006. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) All the references to IECQ and QC were removed in accordance with ISO/IEC Directives Part 2, 6.7.1 and 6.7.2;

b) Updated normative references.

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

CDV	Report on voting
110/532/CDV	110/616/RVC

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 the parts in the IEC 61747 series, under the general title *Liquid crystal display devices*, can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

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.

A bilingual version of this publication may be issued at a later date.

LIQUID CRYSTAL DISPLAY DEVICES –

Part 3: Liquid crystal display (LCD) cells – Sectional specification

1 Scope

This part of IEC 61747 applies to liquid crystal cells of the segment type monochrome. It gives details of the quality assessment procedures, inspection requirements, screening sequences, sampling requirements and test and measurement procedures required for the assessment of liquid crystal display cells.

Instead of the qualification approval procedure, the capability approval procedure can be applied for all products manufactured in a defined process.

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 61747-1-1:2014, *Liquid crystal display devices – Part 1-1: Generic – Generic specification*

IEC 61747-10-1, *Liquid crystal display devices – Part 10-1: Environmental, endurance and mechanical test methods – Mechanical*

IEC 61747-10-2, *Liquid crystal display devices – Part 10-2: Environmental, endurance and mechanical test methods – Environmental and endurance*