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Organic light emitting diode displays - Part 1-2: Terminology and letter symbols (IEC 62341-1-2:2007)

Anzeigen mit organischen Leuchtdioden - Teil 1-2: Begriffe und Buchstabensymbole (IEC 62341-1-2:2007)

Afficheurs à diodes électroluminescentes organiques - Partie 1-2: Terminologie et symboles littéraux (CEI 62341-1-2:2007)

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Organic light emitting diode displays - Part 1-2: Terminology and letter symbols

(IEC 62341-1-2:2007)

Afficheurs à diodes électroluminescentes organiques -
Partie 1-2: Terminologie et symboles littéraux
(CEI 62341-1-2:2007)

Anzeigen mit organischen Leuchtdioden -
Teil 1-2: Begriffe und Buchstabensymbole
(IEC 62341-1-2:2007)

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CENELEC

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

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Foreword

The text of document 110/125/FDIS, future edition 1 of IEC 62341-1-2, prepared by IEC TC 110, Flat panel display devices, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62341-1-2 on 2009-12-01.

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)	2010-09-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2012-12-01

Endorsement notice

The text of the International Standard IEC 62341-1-2:2007 was approved by CENELEC as a European Standard without any modification.

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

IEC 60027 NOTE Harmonized in EN 60027 series (not modified).

IEC 62341-1-2

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Organic light emitting diode displays –
Part 1-2: Terminology and letter symbols

Afficheurs à diodes électroluminescentes organiques –
Partie 1-2: Terminologie et symboles littéraux

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ORGANIC LIGHT EMITTING DIODE DISPLAYS –

Part 1-2: Terminology and letter symbols

FOREWORD

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International Standard IEC 62341-1-2 has been prepared by IEC technical committee 110: Flat panel display devices.

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

FDIS	Report on voting
110/125/FDIS	110/132/RVD

Full information on the voting for the approval on 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 62341 series, under the general title *Organic light emitting diode displays*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result 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.

ORGANIC LIGHT EMITTING DIODE DISPLAYS –

Part 1-2: Terminology and letter symbols

1 Scope

This part of IEC 62341 gives preferred terms, their definitions and symbols for organic light emitting diode (OLED) displays; with the object of using the same terminology when publications are prepared in different countries.

2 Terms and definitions

For purposes of this document, the following terms and definitions apply.

2.1 Classification of terms

Terms for organic light emitting diode (OLED) displays are classified as follows.

a) Fundamental terms
b) Terms related to physical properties
c) Terms related to constructive elements
d) Terms related to performances and specifications
e) Terms related to production process

2.2 Fundamental terms

2.2.1
active matrix (addressed) driving
matrix driving method in which each pixel or subpixel has at least one active switching (e.g. diode or transistor) and storage element

2.2.2
addressing method
method of selecting each pixel or subpixel for activation

2.2.3
alphanumeric display
display that is able to show a limited set of characters comprising at least letters and Arabic numerals

2.2.4
area-colour display
display in which the display panel is partitioned into several parts, each one shows a colour different from each other

2.2.5
bottom emission
device structure, in which almost all light emitted passes through a substrate on which organic electroluminescent layers are made

2.2.6
bottom emission display
display using bottom emission structure

2.2.7
constant-current driving
driving method where a constant current is applied to each pixel or subpixel

2.2.8
constant-voltage driving
driving method where a constant voltage is applied to each pixel or subpixel

2.2.9
display with a bright background
display showing dark images on a bright background

2.2.10
display with a dark background
display showing bright images on a dark background

2.2.11
doping method
method of adding a small quantity of different material to host material

NOTE This method is used in order to improve device characteristics or to change the emission spectrum.

2.2.12
driving method
specific method for activating each pixel or subpixel

2.2.13
dual emission display
display in which light is emitted from both sides (top and bottom) of a substrate on which organic electroluminescent layers are made

2.2.14
emissive display
display with pixels or subpixels that emit light

2.2.15
flexible display
display that is mechanically flexible

2.2.16
full-colour display
display capable of showing at least 3 primary colours, the colour gamut of which includes a white area (e.g. containing D50, D65, D75) and having at least 64 grey scale per primary

2.2.17
matrix display
display consisting of regularly arranged pixels and/or subpixels, e.g. arranged in rows and columns

2.2.18
molecular organic light emitting diode display
organic light emitting diode display composed of organic (small) molecules

2.2.19
monochrome display
display capable of reproducing only one colour

2.2.20
multi-colour display
display other than monochrome display and full-colour display

2.2.21
multiplex driving
driving method of time-share driving in which one common electrode is addressed to more than two pixels or subpixels

2.2.22
organic electroluminescence
OEL
emission from organic materials by recombination of negatively and positively charged carriers when forward electric bias is applied

2.2.23
organic electroluminescent display
OEL display
display showing visual information using organic electroluminescence

2.2.24
organic light emitting diode
OLED
light emitting diode in which light is emitted from organic materials

2.2.25
organic light emitting diode display
OLED display
display incorporating organic light emitting diodes

2.2.26
organic light emitting diode display module
organic light emitting diode display panel, its driving electronics and optical films if used in the device design

2.2.27
organic light emitting diode (display) panel
display panel of an organic light emitting diode display without external drivers

2.2.28
passive matrix addressing
matrix driving method in which each pixel or subpixel is addressed directly by applied signals on the addressing and data lines

2.2.29
polymer organic light emitting diode
light emitting diode in which light is emitted from polymeric materials

NOTE The term “polymer light emitting diode” is sometimes used.

2.2.30
segment display
display with symbols built-up by fixed patterns and segments

2.2.31
standard atmospheric condition
standard conditions of atmosphere for tests and measurements

NOTE Generic term of "standard reference atmosphere", "standard atmospheres for referee" and "standard atmospheric conditions for measurements and tests".

2.2.32
standard light source
light source that approximates a defined illuminant, such as CIE illuminant A and D65

2.2.33
standard reference atmosphere
reference atmospheric conditions used for standardizing the data measured under different atmospheric conditions

2.2.34
standard test condition
all of conditions of the environment for tests and measurements

2.2.35
static driving
method of driving in which all pixels are activated simultaneously and constantly

2.2.36
top emission
device structure, in which almost all light emitted (toward) outside from a (top) side, where OLED device is formed on, of a substrate

2.2.37
top emission display
display using top emission structure

2.2.38
transparent display
display in which the display area is visibly transparent

2.2.39
zone-colour display

NOTE See area-colour display.

2.3 Terms related to physical properties

2.3.1
charge carrier density
density of mobile electrons and/or holes in a material

NOTE Expressed in cm^{-3}.

2.3.2
crystallization temperature
temperature at which material changes into crystalline state when it is cooled from liquid state, molten state or solution form

NOTE In case of amorphous material, the temperature at which material changes into partly or wholly crystalline state.

2.3.3
electroluminescence spectrum
spectral distribution of the light emitted by the process of electroluminescence