



SLOVENSKI STANDARD SIST EN 61988-3-2:2010

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Plasma display panels - Part 3-2: Electrical interface (IEC 61988-3-2:2009)

Plasmabildschirme - Teil 3-2: Schnittstelle - Elektrische Schnittstelle (IEC 61988-3-2:2009)

iTeh STANDARD PREVIEW

Panneaux d'affichage à plasma - (Partie 3-2: Interface électrique) (CEI 61988-3-2:2009)

Ta slovenski standard je istoveten z: **EN 61988-3-2:2009**
SIST EN 61988-3-2:2010
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EUROPEAN STANDARD
NORME EUROPÉENNE
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EN 61988-3-2

November 2009

ICS 31.260

English version

**Plasma display panels -
Part 3-2: Interface -
Electrical interface
(IEC 61988-3-2:2009)**

Panneaux d'affichage à plasma -
Partie 3-2: Interface -
Interface électrique
(CEI 61988-3-2:2009)

Plasmabildschirme -
Teil 3-2: Schnittstelle -
Elektrische Schnittstelle
(IEC 61988-3-2:2009)

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This European Standard was approved by CENELEC on 2009-09-01. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, 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 and the United Kingdom.

CENELEC

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

Central Secretariat: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 110/181/FDIS, future edition 1 of IEC 61988-3-2, prepared by IEC TC 110, Flat panel display devices, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61988-3-2 on 2009-09-01.

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) 2010-06-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2012-09-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61988-3-2:2009 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 Harmonized as EN 60068-1:1994 (not modified). |
| IEC 60107-1 | NOTE Harmonized as EN 60107-1:1997 (not modified). |

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Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

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 61988-1 | - ¹⁾ | Plasma display panels - Part 1: Terminology and letter symbols | EN 61988-1 | 2003 ²⁾ |
| IEC 61988-2-1 | - ¹⁾ | Plasma display panels - Part 2-1: Measuring methods - Optical | EN 61988-2-1 | 2002 ²⁾ |
| IEC 61988-2-2 | - ¹⁾ | Plasma display panels - Part 2-2: Measuring methods - Optoelectrical | EN 61988-2-2 | 2003 ²⁾ |
| ANSI TIA/ EIA-644-A | - ¹⁾ | Electrical Characteristics of Low Voltage Differential Signaling (LVDS) Interface Circuits | - | - |
| JEIDA-59 | 1999 | Digital Interface Standards for Monitor | - | - |

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¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

Plasma display panels – **STANDARD PREVIEW**
Part 3-2: Interface – Electrical interface
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Partie 3-2: Interface – Interface électrique
[SIST EN 61988-3-2:2010](https://standards.iteh.ai/catalog/standards/sist/8a950a93-57de-4479-b640-80a6f832828c/sist-en-61988-3-2-2010)
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

PLASMA DISPLAY PANELS –

Part 3-2: Interface –
Electrical interface

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.
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International Standard IEC 61988-3-2 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 |
| 110/181/FDIS | 110/190/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 61988 series, under the general title *Plasma display panels*, 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.

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PLASMA DISPLAY PANELS –

Part 3-2: Interface – Electrical interface

1 Scope

This part of IEC 61988 defines the electrical interface of digital video data signals, synchronization signals and functional signals between the image processing board of the PDP set and the control board of the PDP module, and defines the description of the pin assignment of the connectors.

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 61988-1, *Plasma display panels – Part 1: Terminology and letter symbols*

IEC 61988-2-1, *Plasma display panels – Part 2-1: Measuring methods – Optical*

IEC 61988-2-2, *Plasma display panels – Part 2-2: Measuring methods – Optoelectrical*

TIA/EIA-644A, *Electrical characteristics of low voltage differential signaling (LVDS) interface circuits*

[SIST EN 61988-3-2:2010](https://standards.iteh.ai/catalog/standards/sist/8a950a93-57de-4479-b640-80c6832928/sist-en-61988-3-2-2010)

[https://standards.iteh.ai/catalog/standards/sist/8a950a93-57de-4479-b640-](https://standards.iteh.ai/catalog/standards/sist/8a950a93-57de-4479-b640-80c6832928/sist-en-61988-3-2-2010)

JEIDA-59-1999, *Digital interface standards for monitor* (only available in English)

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 61988-1, IEC 60068-1 and IEC 60107-1 as well as the following apply.

3.1.1

image processing board

circuit board including A/D converter, scaler and video decoder, deinterlacing for image signal from input device such as TV-tuner, PC, DVD, etc.

3.2 Abbreviations

NOTE The following are acronyms for reference.

| | |
|------|--|
| TTL | Transistor-transistor logic |
| LVDS | Low voltage differential signalling |
| TMDS | Transition minimized differential signalling |
| HS | Horizontal synchronization |
| VS | Vertical synchronization |
| DE | Data enable |
| DCLK | Data clock |
| APC | Auto power control |

4 Electrical interface requirements

The electrical interface of PDP module is a power sequence and a digital interface of PDP module.

The power sequence of PDP module is power on- and off-sequence of all power supplies in and to PDP module. The power on- and off-sequence of PDP module shall be fully described in each relevant specification.

The digital signal interface is either an LVDS, a TTL or a TMDS interface, whose signal encodes the digital video data and function control signals.

Function control signal, which is the additional signal, except digital video signal, to control the functions such as APC, shall be fully described in each detail specification.

The interface configuration, input signal definition, pin assignment, input signal timing and power requirement shall be described in each detail specification.

5 Electrical interface of digital signal

5.1 Basic configuration

The basic configuration of electrical interface of digital signal is shown in Figure 1 as one of examples. Examples of LVDS, TTL and TMDS are explained in Annex A.

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