



SLOVENSKI STANDARD
SIST EN 61291-6-1:2008
01-december-2008

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Optical amplifiers - Part 6-1: Interfaces - Command set (IEC 61291-6-1:2008)

Lichtwellenleiter-Verstärker - Teil 6-1: Schnittstellen - Befehlssatz (IEC 61291-6-1:2008)

Amplificateurs optiques - Partie 6-1: Interfaces - Répertoire des commandes (IEC 61291-6-1:2008)

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Ta slovenski standard je istoveten z: EN 61291-6-1:2008

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ICS:

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 61291-6-1

September 2008

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English version

**Optical amplifiers -
Part 6-1: Interfaces -
Command set
(IEC 61291-6-1:2008)**

Amplificateurs optiques -
Partie 6-1: Interfaces -
Répertoire des commandes
(CEI 61291-6-1:2008)

Lichtwellenleiter-Verstärker -
Teil 6-1: Schnittstellen -
Befehlssatz
(IEC 61291-6-1:2008)

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This European Standard was approved by CENELEC on 2008-09-01. 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: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 86C/803/CDV, future edition 1 of IEC 61291-6-1, prepared by SC 86C, Fibre optic systems and active devices, of IEC TC 86, Fibre optics, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61291-6-1 on 2008-09-01.

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) 2009-06-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2011-09-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61291-6-1:2008 was approved by CENELEC as a European Standard without any modification.

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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>
ISO/IEC 8859-1	- ¹⁾	Information technology - 8-bit single-byte coded graphic character sets - Part 1: Latin alphabet No.1	-	-

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¹⁾ Undated reference.

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Optical amplifiers – **STANDARD PREVIEW**
Part 6-1: Interfaces – Command set
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Amplificateurs optiques –
Partie 6-1: Interfaces – Répertoire des commandes
SIST EN 61291-6-1:2008
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

OPTICAL AMPLIFIERS –

Part 6-1: Interfaces –
Command set

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 61291-6-1 has been prepared by subcommittee 86C: Fibre optic systems and active devices, of IEC technical committee 86: Fibre optics.

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

CDV	Report on voting
86C/803/CDV	86C/845/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 parts of the IEC 61291 series, published under the general title *Optical amplifiers* 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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INTRODUCTION

Optical amplifiers are being developed and commercially deployed with an increasing degree of sophistication and functionality. Often, information is sent to the optical amplifier, or requested from it, in order to determine signal conditions, operating parameters, and to adjust the operational aspects of the optical amplifier. Currently, no International Standard exists in this area, yet the need for a common set of command statements to/from optical amplifiers has emerged.

This part of IEC 61291 proposes a set of command strings useful in controlling optical amplifiers. It is based on an existing set of commands widely used across the industry today. The standardization of this command set will result in broader market use of advanced designs of optical amplifiers, typically controlled by microprocessors. These advanced amplifier designs are needed for next generation optical networks, requiring adaptive provisioning of optical paths and intelligent configuration/reconfiguration for provision of telecommunications services in a dynamic environment.

This standard addresses the structure and content of the command set to control optical amplifiers. It does not cover the physical or hardware interface which is assumed to exist for communication of this command set to the optical amplifier. The specification of a physical interface will be the subject of a separate standard yet to be developed.

With the rapidly evolving technology, it is envisioned that this standard will be amended with additional commands and functionality as technology evolves, and will be updated on a periodic basis, incorporating all previous amendments and additions.

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OPTICAL AMPLIFIERS –

Part 6-1: Interfaces – Command set

1 Scope

This part of IEC 61291 describes the optical amplifier command set (OACS) for use in communicating with and controlling intelligent optical amplifiers. These amplifiers can receive and possibly respond to such commands by using resident firmware or may be optical amplifiers controlled by a microprocessor.

This standard addresses the structure and content of the command set to control optical amplifiers. It does not cover the physical or hardware interface, which is assumed to exist for communication of this command set to the optical amplifier. The specification of a physical interface will be the subject of a separate Part to be developed in the IEC 61291-6 series.

The command set described in this standard is intended to enable a user or host to retrieve the amplifier module's status and/or adjust its settings.

This standard lists all of the commands currently defined and supported within the OACS framework. The commands described cover a wide range of applications, and not all commands will be applicable to every amplifier. To determine the supported commands on an OACS compliant amplifier, please refer to the product specification supplied by the manufacturer.

All OACS compliant amplifiers support the full set of “universal” OACS commands. Other commands, usually specific to a design or implementation, may support some or all of the “optional” commands.

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.

ISO/IEC 8859-1: *Information technology – 8-bit single-byte coded graphic character sets – Part 1: Latin alphabet No. 1*

3 Abbreviations

The following abbreviations are used in this standard:

ASCII	American standard character for information interchange
DC	dispersion compensator
EDFA	erbium doped fibre amplifier
OACS	optical amplifier command set
TEC	thermo-electric cooler
VOA	variable optical attenuator