SLOVENSKI STANDARD
SIST EN IEC 62343:2023

01-april-2023

Dinamični moduli - Splošna specifikacija (IEC 62343:2023)

Dynamic modules - Generic specification (IEC 62343:2023)

Dynamische Module - Allgemeines und Leitfaden (IEC 62343:2023)

Modules dynamiques - Généralités et lignes directrices (IEC 62343:2023)

Ta slovenski standard je istoveten z: **EN IEC 62343:2023**

ICS:

33.180.01	Sistemi z optičnimi vlakni na splošno	Fibre optic systems in general

SIST EN IEC 62343:2023 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 62343

February 2023

ICS 33.180.01; 33.180.99

Supersedes EN 62343:2017

English Version

Dynamic modules - Generic specification (IEC 62343:2023)

Modules dynamiques - Spécification générique (IEC 62343:2023)

Dynamische Module - Fachgrundspezifikation (IEC 62343:2023)

This European Standard was approved by CENELEC on 2023-02-10. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 86C/1803/CDV, future edition 3 of IEC 62343, 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 approved by CENELEC as EN IEC 62343:2023.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2023-11-10
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2026-02-10

This document supersedes EN 62343:2017 and all of its amendments and corrigenda (if any).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 62343:2023 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 standard indicated:

IEC 60825 (series)	NOTE	Approved as EN 60825 (series)
IEC 60876-1:2014	NOTE	Approved as EN 60876-1:2014 (not modified)
IEC 61000 (series)	NOTE	Approved as EN IEC 61000 (series)
IEC 61290 (series)	NOTE	Approved as EN 61290 (series)
IEC 61291 (series)	NOTE	Approved as EN 61291 (series)
IEC 61300 (series)	NOTE	Approved as EN 61300 (series)
IEC 61300-3-38	NOTE	Approved as EN 61300-3-38
IEC 61753 (series)	NOTE	Approved as EN 61753 (series)
IEC 62343 (series)	NOTE	Approved as EN IEC 62343 (series)
IEC 62343-1 (series)	NOTE	Approved as EN 62343-1 (series)
IEC 62343-2-1	NOTE	Approved as EN IEC 62343-2-1
IEC 62343-3 (series)	NOTE	Approved as EN IEC 62343-3 (series)
IEC 62343-3-1:2016	NOTE	Approved as EN 62343-3-1:2016 (not modified)
IEC 62343-3-2:2016	NOTE	Approved as EN 62343-3-2:2016 (not modified)

IEC 62343-3-3:2020	NOTE	Approved as EN IEC 62343-3-3:2020 (not modified)
IEC 62343-3-4:2018	NOTE	Approved as EN IEC 62343-3-4:2018 (not modified)
IEC 62343-4 (series)	NOTE	Approved as EN 62343-4 (series)
IEC 62343-4-1:2016	NOTE	Approved as EN 62343-4-1:2016 (not modified)
IEC 62343-5 (series)	NOTE	Approved as EN IEC 62343-5 (series)
IEC 62368 (series)	NOTE	Approved as EN IEC 62368 (series)

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60050-731	-	International Electrotechnical Vocabulary - Chapter 731: Optical fibre communication	-	-
IEC/TR 61931	-	Fibre optic - Terminology	-	-

IEC 62343

Edition 3.0 2023-01

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Dynamic modules – Generic specification

Modules dynamiques – Spécification générique

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CONTENTS

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DYNAMIC MODULES – GENERIC SPECIFICATION

FOREWORD

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IEC 62343 has been prepared by subcommittee 86C: Fibre optic systems and active devices, of IEC technical committee 86: Fibre optics. It is an International Standard.

This third edition cancels and replaces the second edition published in 2017. This edition constitutes a technical revision.

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

a) addition of terms and definitions for optical multicast switches (3.8);
b) revision of Clause 4, listing the requirements for standards in the IEC 62343 series;
c) addition of Clause 6 (Safety requirements).

The text of this International Standard is based on the following documents:

Draft	Report on voting
86C/1803/CDV	86C/1827/RVC

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts of the IEC 62343 series, published under the general title *Dynamic modules*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

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

INTRODUCTION

This document applies to dynamic devices as defined in IEC TS 62538. This document contains general guidance for the IEC 62343 series related to dynamic devices and definitions which apply to dynamic devices. The dynamic module (DM), or device, has two distinguishing characteristics: dynamic and module.

"Dynamic" highlights the functions of the products to include "tuning, varying, switching, configuring, and other continuous optimization," often accomplished by electronics, firmware, software or their combinations. The dynamic device usually has a certain level of intelligence to monitor or measure its configuration or settings and make decisions for necessary (optimization) actions. The behaviour of dynamic modules can be characterized by transient characteristics as the dynamic module undergoes tuning, switching, configuring, and other continuous optimization. Characterization of transient characteristics will be considered in individual dynamic module standards.

"Module" defines that products covered by this document are the integration of active and passive components (either or both), through interconnecting materials or devices. The controlling electronics can be inside or outside the optical package that contains all or most of the optical components and interconnection. The product can be a small printed wiring board (PWB) or child-board with mounted optical module, or it can be a small box (e.g., housing) with optical components and electronics enclosed. In the former case, it is more like an assembly (i.e., generally not packaged in a box or housing) than a module (i.e., generally packaged in a box or housing).

For historical reasons and convenience, a dynamic module or device is referred to as a dynamic module in the IEC 62343 series.

The number of dynamic modules and devices is rapidly growing as optical communications networks evolve. The following list provides some examples of the products covered by the IEC 62343 series. It should be noted that the list is not exhaustive and the products to be covered are not limited by the listed examples:

- channel gain equalizer;
- dynamic channel equalizer;
- dynamic gain tilt equalizer;
- dynamic slope equalizer;
- tuneable chromatic dispersion compensator;
- polarization mode dispersion compensator;
- reconfigurable optical add-drop multiplexer;
- switch with monitoring and controls;
- variable optical attenuator with monitoring and controls;
- optical channel monitor;
- wavelength selective switch;
- optical multicast switch.

The IEC 62343 series covers performance templates, performance standards, reliability qualification requirements, hardware and software interfaces, and related testing methods.

The structure of the IEC 62343 series, under the general title *Dynamic modules,* is as follows:

- IEC 62343-1 series Part 1: Performance standards
- IEC 62343-2 series Part 2: Reliability qualification
- IEC 62343-3 series Part 3: Performance specification templates
- IEC 62343-4 series Part 4: Software and hardware interface
- IEC 62343-5 series Part 5: Test methods
- IEC 62343-6 series Part 6: Design guidelines

A complete set of standards related to a dynamic module or device should include the following:

- optical performance standards;
- reliability qualification standards;
- optical performance specification templates;
- hardware and software interface standards;
- test methods;
- technical reports.

The safety standards related to dynamic modules are mostly optical power considerations, which are covered by the IEC 60825 series.

Only those dynamic modules for which standards are complete or in preparation are included in Clause 3. To reflect the rapidly growing market for dynamic modules, additional terms and definitions will be added in subsequent revisions as the series expands.

It should be noted that optical amplifiers could be regarded as dynamic modules. They are not included in the IEC 62343 series but are covered in their own series of IEC standards.