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TECHNICAL REPORT

Dynamic modules –
Part 6-12: Design guidelines – Survey results on performance specifications for 1 × N wavelength selective switches



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IEC TR 62343-6-12 has been prepared by subcommittee 86C: Fibre optic systems and active devices, of IEC technical committee 86: Fibre optics. It is a Technical report.

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

Draft	Report on voting
86C/1823/DTR	86C/1829/RVDTR

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 Technical Report 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/standardsdev/publications.

A list of all parts in 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- withdrawn,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

A wavelength selective switch (WSS) is a dynamic module (DM) which is predominantly used in reconfigurable optical add-drop multiplexers (ROADMs) in DWDM networks to switch a signal at a particular wavelength from a given input fibre to a selected output fibre. WSS modules can have multiple input ports and multiple output ports. Until recently, however, most commercial WSS modules were 1 × N (or N × 1) switches, with just a single input port and a plurality of output ports, or when operated in reverse, with a plurality of input ports and just a single output port. This document, therefore, focusses on the performance specifications for 1 × N WSS's.

DYNAMIC MODULES –

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1 Scope

This part of IEC 62343, which is a Technical Report, reports the results of a recently conducted survey on performance specifications for 1 × N wavelength selective switches. This information is intended to provide a framework for the preparation of performance specification standards for wavelength selective switches. The purpose of this document is to provide guidelines for performance values of the specification items listed in IEC 62343-3-3.

2 Normative references

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.

IEC 62343:2023, *Dynamic modules – General and guidance*

3 Terms and definitions

For the purpose of this document, the terms and definitions given in IEC 62343:2023 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

4 Survey results

4.1 Survey contents

The survey asked participants for proposals of specification values to be used in standardizing the performance characterization of 1 × N wavelength selective switches (WSSs), including but not limited to the items listed in the performance specification template of IEC 62343-3-3. The participants were encouraged to propose values for additional items to be standardized, so as to better characterize the performance of WSSs. It was not required for the respondent to be directly related to the production, development or application of WSSs.

4.2 Survey conditions

The survey was distributed to 18 companies, including suppliers and users of WSSs. It asked the participants to provide values for each specification item listed in the performance specification template of IEC 62343-3-3. The survey was conducted between October 2018 and January 2019.