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BSI Standards Publication

Dynamic Modules

Part 6-11: Design guidelines – Software and hardware interface for optical multicast switches

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National foreword

This Published Document is the UK implementation of IEC TR 62343-6-11:2019.

The UK participation in its preparation was entrusted to Technical Committee GEL/86/3, Fibre optic systems and active devices.

A list of organizations represented on this committee can be obtained on request to its secretary.

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CONTENTS

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DYNAMIC MODULES –

Part 6-11: Design guidelines – Software and hardware interface for optical multicast switches

FOREWORD

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IEC 62343-6-11, which is a Technical Report, has been prepared by subcommittee 86C: Fibre optic systems and active devices, of IEC technical committee 86: Fibre optics.

The text of this Technical Report is based on the following documents:

Draft TR	Report on voting
86C/1604/DTR	86C/1612/RVDTR

Full information on the voting for the approval of this Technical Report can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

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 "http://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- withdrawn,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.

A bilingual version of this publication may be issued at a later date.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

An optical multicast switch (MCS) is a dynamic module that is mainly used in a reconfigurable optical add-drop multiplexer (ROADM) to realize a colourless, directionless and contentionless (CDC) function. The MCS functions as an optical switch and a non-wavelength dependent branching device. It is electrically controlled with software, which directs an input signal from one input port to the required output port. This document clarifies MCS software and hardware interfaces, which were investigated based on results from a survey by Dynamic Module Sub-Committee, Fibre Optic Standardization Committee, and OITDA (Optoelectronic Industry and Technology Development Association) in 2017. The questionnaire was sent to 24 appropriate companies all over the world via their representatives. Responses from six companies including three specific proposals for a specification were received.

DYNAMIC MODULES –

Part 6-11: Design guidelines – Software and hardware interface for optical multicast switches

1 Scope

This part of IEC 62343, which is a Technical Report, proposes a software and hardware interface for the optical multicast switch (MCS). This switch can be controlled by resident firmware within the interface that is intended to enable a user or host to retrieve the switch status and/or adjust relevant switch settings. The MCS is defined in IEC 62343-3-4. The technical information regarding MCS and its applications in dense wavelength division multiplexing (DWDM) systems is described in IEC TR 62343-6-4. The objective of this document is a proposal for a software and hardware interface standard of MCS.

2 Normative references

There are no normative references in this document.

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

There are no terms or definitions in this document.

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

3.2 Abbreviated terms

DWDM	dense wavelength division multiplexing
EEPROM	electrically erasable programmable read only memory
FPGA	field programmable gate array
I^2C	inter integrated circuit
LVTTL	low voltage transistor-transistor logic
MCS	optical multicast switch
MEMS	micro electro mechanical systems
MPU	microprocessor
O.C.	open collector
PLC	planar lightwave circuit
ROM	read only memory
SDRAM	synchronous dynamic random access memory
UART	universal asynchronous receiver transmitter