



IEEE

IEC 62843

Edition 1.0 2013-01

INTERNATIONAL STANDARD

IEEE Std C37.94™

**Standard for N times 64 kilobit per second optical fiber interfaces between
teleprotection and multiplexer equipment**



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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

PRICE CODE

R

ICS 33.200

ISBN 978-2-83220-566-2

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STANDARD FOR N TIMES 64 KILOBIT PER SECOND OPTICAL FIBER INTERFACES BETWEEN TELEPROTECTION AND MULTIPLEXER EQUIPMENT

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International Standard IEC 62843/IEEE Std C37.94-2002 has been processed through IEC technical committee 57: Power systems management and associated information exchange, under the IEC/IEEE Dual Logo Agreement.

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

IEEE Std	FDIS	Report on voting
C37.94-2002	57/1258/FDIS	57/1290/RVD

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

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- replaced by a revised edition, or
- amended.

IEEE Standard for N Times 64 Kilobit Per Second Optical Fiber Interfaces Between Teleprotection and Multiplexer Equipment

Sponsor

Power System Relaying Committee
and
Power System Communications Committee
of the
IEEE Power Engineering Society

Approved 21 January 2003

American National Standards Institute

Approved 12 September 2002

IEEE-SA Standards Board

Abstract: An optical interface for use between teleprotection and digital multiplexer equipment that can operate at a data rate of N times 64 kilobit per second where $N = 1, 2, \dots, 12$ is described. Requirements for both physical connection and the communications timing are also included.

Keywords: alarm indication signal, bit error rate, cyclic redundancy check, loss of frame, loss of signal, multimode optical fiber, multiplexer, remote defect indication, teleprotection, unit interval

IEEE Introduction

(This introduction is not part of IEEE C37.94-2002, IEEE Standard for N times 64 Kilobit per Second Optical Fiber Interfaces between Teleprotection and Multiplexer Equipment.)

Existing interface standards between teleprotection equipment and multiplexers are electrical only. These low-energy signal interfaces are susceptible to intra-substation electromagnetic interference (EMI). The use of dedicated optical fibers for the intra-substation communication links between teleprotection equipment and multiplexers eliminates the data corruption common to electrical connections.

Standard for N Times 64 Kilobit Per Second Optical Fiber Interfaces Between Teleprotection and Multiplexer Equipment

1. Overview

1.1 Scope

This standard describes the interconnection details for N, where $N = 1, 2, \dots, 12$, times 64 kilobit per second connections of teleprotection equipment to digital multiplexers using optical fiber. Requirements for both physical connection and the communications timing are also included.

1.2 Purpose

The purpose of this standard is to allow the interconnection of different vendors' teleprotection equipment with different vendors' multiplexer equipment, without any restriction on the content of the N times 64 kilobit per second data using up to 2 km of 50 or 62.5 micrometer multimode optical fiber.

2. References

The following standard contains provisions, which through reference in this text constitute provisions of this standard. At the time of this publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of the IEC and ISO maintain registers of currently valid International Standards.

IEC-60874-10-1 (1997-06) Connectors for optical fibres and cables— Part 10-1: Detail specification for fibre optic connector type BFOC/2.5 terminated to multimode fibre type A1.¹

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