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

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

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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…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

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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.

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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…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 stardard 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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