IEC 61643-21

Edition 1.1 2009-04

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Low voltage surge protective devices – Part 21: Surge protective devices connected to telecommunications and signalling networks – Performance requirements and testing methods

Parafoudres basse tension – Partie 21: Parafoudres connectés aux réseaux de signaux et de télécommunications – Prescriptions de fonctionnement et méthodes d'essais

IEC 61643-21:2000+A1:2008

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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE
CODE PRIX CS

ICS 29.240; 29.240.10

ISBN 2-8318-9836-6

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

LOW VOLTAGE SURGE PROTECTIVE DEVICES –

Part 21: Surge protective devices connected to telecommunications and signalling networks – Performance requirements and testing methods

FOREWORD

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International Standard IEC 61643-21 has been prepared by subcommittee 37A: Low-voltage surge protective devices, of IEC technical committee 37: Surge arresters.

This consolidated version of IEC 61643-21 consists of the first edition (2000) [documents 37A/101/FDIS and 37A/104/RVD], its amendment 1 (2008) [documents 37A/200/FDIS and 37A/201/RVD] and its corrigendum of March 2001.

The technical content is therefore identical to the base edition and its amendment and has been prepared for user convenience.

It bears the edition number 1.1.

A vertical line in the margin shows where the base publication has been modified by amendment 1.

The committee has decided that the contents of the base publication and its amendments will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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- withdrawn,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

INTRODUCTION

The purpose of this International Standard is to identify the requirements for Surge Protective Devices (SPDs) used in protecting telecommunication and signalling systems, for example, low-voltage data, voice, and alarm circuits. All of these systems may be exposed to the effects of lightning and power line faults, either through direct contact or induction. These effects may subject the system to overvoltages or overcurrents or both, whose levels are sufficiently high to harm the system. SPDs are intended to provide protection against overvoltages and overcurrents caused by lightning and power line faults. This standard describes tests and requirements which establish methods for testing SPDs and determining their performance.

The SPDs addressed in this International Standard may contain overvoltage protection components only, or a combination of overvoltage and overcurrent protection components. Protection devices containing overcurrent protection components only are not within the coverage of this standard. However, devices with only overcurrent protection components are covered in annex A.

An SPD may comprise several overvoltage and overcurrent protection components. All SPDs are tested on a "black box" basis, i.e., the number of terminals of the SPD determines the testing procedure, not the number of components in the SPD. The SPD configurations are described in 1.2. In the case of multiple line SPDs, each line may be tested independently of the others, but there may also be a need to test all lines simultaneously.

This standard covers a wide range of testing conditions and requirements; the use of some of these is at the discretion of the user. How the requirements of this standard relate to the different types of SPD is described in 1.3. Whilst this is a performance standard and certain capabilities are demanded of the SPDs, failure rates and their interpretation are left to the user. Selection and application principles are covered in IEC 61643-22.

If the SPD is known to be a single component device, it has to meet the requirements of the relevant standard as well as those in this standard.