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NORME INTERNATIONALE

Components for low-voltage surge protective devices – Part 351: Performance requirements and test methods for telecommunications and signalling network surge isolation transformers (SIT)

Composants pour parafoudres basse tension – Partie 351: Exigences de performance et méthodes d'essai pour les transformateurs d'isolement contre les surtensions dans les réseaux de signalisation et de télécommunications

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COMPONENTS FOR LOW-VOLTAGE SURGE PROTECTIVE DEVICES –

Part 351: Performance requirements and test methods for telecommunications and signalling network surge isolation transformers (SIT)

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International Standard IEC 61643-351 has been prepared by subcommittee 37B: Specific components for surge arresters and surge protective devices, of IEC technical committee 37: Surge arresters.

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

FDIS	Report on voting
37B/155/FDIS	37B/156/RVD

Full information on the voting for the approval of this International Standard 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 61643 series, published under the general title *Components for low-voltage surge protective devices*, can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

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- withdrawn,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.

INTRODUCTION

This part of IEC 61643 covers surge isolation transformers whose rated impulse withstand voltage coordinates with the expected surge environment of the installation. This type of surge protective component, SPC, isolates and attenuates transient voltages in conjunction with current diverting components (e.g. GDT, MOV, etc.) or surge protective devices (SPDs). It can be used in SPDs.

COMPONENTS FOR LOW-VOLTAGE SURGE PROTECTION –

Part 351: Performance requirements and test methods for telecommunications and signalling network surge isolation transformers (SIT)

1 Scope

Surge isolation transformers (SITs) are used for signal transformer applications with signal levels up to 400 V peak to peak. SITs are transformers, with or without an internal-winding screen, with a rated impulse withstand voltage greater than the peak voltage of the expected common-mode surge environment. SITs are applicable to components for surge protection against indirect and direct effects of lightning or other transient overvoltage. SITs are used to mitigate the onward propagation of common-mode voltage surges. This part of IEC 61643 defines test circuits and test methods for determining and verifying the SIT surge parameters. Preferred performance values for key parameters are given.

This part of IEC 61643 does not cover SIT operation under differential-mode lightning surge conditions.

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 60721-3-3, *Classification of environmental conditions – Part 3: Classification of groups of environmental parameters and their severities – Section 3: Stationary use at weatherprotected locations*

IEC TR 60664-2-1:2011, *Insulation coordination for equipment within low-voltage systems – Part 2-1: Application guide – Explanation of the application of the IEC 60664 series, dimensioning examples and dielectric testing*

3 Terms, definitions, symbols, abbreviations and acronyms

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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- IEC Electropedia: available at http://www.electropedia.org/
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3.1.1
surge isolation transformer
SIT
isolation transformer which has high impulse withstand voltage with/without electric screen between input and output windings