

ETD 07 (26310) WC
November 2024
IS 16463 (Part 12): 2024
IEC 61643-12: 2020

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BUREAU OF INDIAN STANDARDS
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Draft Indian Standard

Low-voltage surge protective devices
Part 12 Surge Protective Devices Connected to Low-Voltage Power Systems –
Selection and application principles

(First Revision)

ICS 29.240.10

Low Voltage Switchgear and Controlgear
Sectional Committee, ETD 07

Last date of receipt of comments:
27-January-2025

NATIONAL FOREWORD

This draft Indian Standard (First Revision) which is identical with IEC 61643-12:2020 “Low-voltage surge protective devices – Part 12: Surge protective devices connected to low-voltage power systems – Selection and application principles” issued by the International Electrotechnical Commission (IEC) will be adopted by the Bureau of Indian Standards on the recommendation of the Low Voltage Switchgear and Controlgear Sectional Committee and approval of the Electrotechnical Division Council.

This standard was first published in 2017 and was identical with IEC 61643-12: 2008. This revision has now been undertaken to align this standard with the latest international practices. This edition includes the following significant technical changes with respect to the previous edition:

- Scope: Deleted reference to 1 500 V dc
- Added or revised some definitions
- Added new clause 4 on Need for protection
- Added new information on disconnecting devices
- Revised Characteristics of SPD
- Revised List of parameters for SPD selection
- Added new information on Measured Limiting Voltage
- Added or revised some Annexes

The text of IEC Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain terminologies and conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words ‘International Standard’ appear referring to this standard, they should be read as ‘Indian Standard’.
- b) Comma (,) has been used as a decimal marker, while in Indian Standards the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to International Standards for which Indian Standards also exists. The corresponding Indian Standards, which are to be substituted, are listed below along with their degree of equivalence for the editions indicated:

<i>International Standard</i>	<i>Corresponding Indian Standard</i>	<i>Degree of Equivalence</i>
IEC 60529, Degrees of protection provided by enclosures (IP Code)	IS/IEC 60529 : 2001 Degrees of protection provided by enclosures (IP Code)	Identical With IEC 60529-20001
IEC 60664-1:2007, Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests	IS 15382 (Part 1) : 2022 / IEC 60664-1:2020 Insulation Coordination for Equipment Within Low-Voltage Systems Part 1 Principles Requirements and Tests	Identical With IEC 60664-1:2020
IEC 61000-4-5, Electromagnetic compatibility (EMC) – Part 4-5: Testing and measurement techniques – Surge immunity test	IS 14700 (Part 4/Sec 5) : 2019 / IEC 61000-4-5 : 2017 Electromagnetic compatibility (EMC): Part 4 testing and measurement techniques: Sec 5 surge immunity test (<i>First Revision</i>)	Identical With IEC 61000-4-5 : 2017
IEC 61643-11:2011, Low-voltage surge protective devices – Part 11: Surge protective devices connected to low-voltage power systems – Requirements and test methods	IS 16463 (Part 11) : 2016 / IEC 61643-11 : 2011 Low - Voltage surge protective devices: Part 11 surge protective devices connected to low - Voltage power systems - Requirements and test methods	Identical with IEC 61643-11 : 2011
IEC 62305-1:2010, Protection against lightning – Part 1: General principles	IS/IEC 62305-1 : 2010 Protection against lightning: Part 1 general principles	Identical with IEC 62305-1:2010
IEC 62305-2, Protection against lightning – Part 2: Risk management	IS/IEC 62305-2: 2010 Protection against lightning: Part 2 risk management	Identical with IEC 62305-2:2010
IEC 62305-4, Protection against lightning – Part 4: Electrical and electronic systems within Structures	IS/IEC 62305-4: 2010 Protection against lightning: Part 4 electrical and electronic systems within stuctures	Identical with IEC 62305-4:2010
IEC 62475:2010, High-current test techniques – Definitions and requirements for test currents and measuring systems	IS 16828 : 2018/ IEC 62475 : 2010 High - Current Test Techniques - Definitions and Requirements for Test Currents and Measuring Systems	Identical with IEC IEC 62475:2010

The technical committee has reviewed the provisions of the following international standards referred in this adopted standard and decided that they are acceptable for use in conjunction with this standard.

<i>International Standard</i>	<i>Title</i>
IEC 60364-4-44:2007	Low-voltage electrical installations – Part 4-44: Protection for safety – Protection against voltage disturbances and electromagnetic disturbances
IEC 60364-5-53	Low-voltage electrical installations – Part 5-53: Selection and erection of electrical equipment – Devices for protection for safety, isolation, switching, control and monitoring
IEC 61643-32	Low-voltage surge protective devices – Part 32: Surge protective devices connected to the d.c. side of photovoltaic installations – Selection and application principles

Only the English language text has been retained while adopting it in this Indian Standard, and as such, the page numbers given here are not the same as in the IEC Publication.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated expressing the result of a test or analysis shall be rounded off in accordance with IS 2: 2022 ‘Rules for rounding of numerical values (*second revision*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Note: The technical content of the document is not available on website. For details, please refer the corresponding IEC 61643-12:2020 or kindly contact:

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