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Draft Indian Standard

**Low-Voltage Surge Protective Devices –
Part 31: Requirements and Test Methods for SPDs for Photovoltaic
Installations**

ICS 29.240.01; 29.240.10

Surge Arrester Sectional
Committee, ETD 30

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20 October 2025

NATIONAL FOREWORD

This draft Indian Standard which is identical with IEC 61643-31:2018 “Low-voltage surge protective devices – Part 31: Requirements and test methods for SPDs for photovoltaic installations” issued by the International Electrotechnical Commission (IEC) will be adopted by the Bureau of Indian Standards on the recommendation of the Power Systems Relays Sectional Committee and approval of the Electrotechnical Division Council.

This standard addresses safety and performance tests for surge protective devices (SPDs) to be installed on the DC side of Photovoltaic installations to protect against induced and direct lightning effects.

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>
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IEC 60060-1:2010, High-voltage test techniques – Part 1: General definitions and test requirements	IS 2071 (Part 1): 2016 IEC 60060-1: 2010, High - Voltage test techniques: Part 1 general definitions and test requirements (<i>Third Revision</i>)	Identical
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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 61643-31: 2018 or kindly contact:

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IEC 60068-2-78:2012, Environmental testing – Part 2-78: Tests – Test Cab: Damp heat, steady state	IS 9000 (Part 4): 2020 IEC 60068-2-78: 2012, Environmental Testing Part 4 Tests - Test Cab: Damp Heat, Steady State (Second Revision)	Identical
IEC 60529, Degrees of protection provided by enclosures (IP Code)	IS/IEC 60529: 2001, Degrees of protection provided by enclosures (IP Code)	Identical
IEC 60664-1:2007, Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests	IS 15382 (Part 1): 2014 IEC 60664-1: 2007, Insulation coordination for equipment within low - Voltage systems: Part 1 principles, requirements and tests (First Revision) (Withdrawn)	Identical
IEC 61000-6-3, Electromagnetic compatibility (EMC) – Part 6-3: Generic standards – Emission standard for residential, commercial and light-industrial environments	IS 14700 (Part 6/Sec 3): 2018 IEC 61000-6-3: 2011, Electromagnetic Compatibility (EMC) - Part 6 Generic Standards - Sec 3: Emission Standards for Residential, Commercial and Light-Industrial Environments (First Revision)	Identical
IEC 61180-1, High-voltage test techniques for low-voltage equipment – Part 1: Definitions, test and procedure requirements	IS 16826: 2018 IEC 61180: 2016, High - Voltage Test Techniques for Low-Voltage Equipment - Definitions, Test and Procedure Requirements, Test Equipment	Identical
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
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

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