

IEEE Standard for Performance of Low-Voltage Surge-Protective Devices (Secondary Arresters)

Sponsor

**Surge Protective Devices Committee
of the
Power Engineering Society**

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Abstract: Surge-protective devices designed for application on the low-voltage ac supply mains (1000 V rms and less, frequency between 48 Hz and 62 Hz) are covered.

Keywords: low voltage, secondary arresters, surge-protective devices

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Introduction

[This introduction is not a part of IEEE Std C62.34-1996, IEEE Standard for Performance of Low-Voltage Surge-Protective Devices (Secondary Arresters).]

Secondary arresters have been used since 1940 to protect the secondary winding of distribution transformers, kilowatt hour meters, and power equipment loads downstream from breakdown of insulation during lightning strikes. Performance criteria for secondary arresters are included in standards for performance of high-voltage arresters in IEEE Std C62.1-1989 and IEEE Std C62.11-1993.

With the proliferation of electronic equipment installed inside buildings, the emphasis has shifted away from protection of insulation on wiring devices to vulnerable electronic equipment.

The standards developers have attempted, as far as possible, to harmonize with relevant international standards.

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1. Scope

This standard applies to surge-protective devices designed for application on the low-voltage ac supply mains (1000 V rms and less, frequency between 48 Hz and 62 Hz). Low-voltage surge-protective devices (secondary arresters) are intended to be connected at locations between, and including, the secondary terminals of the distribution transformer and the main service entrance panel. Surge-protective devices limit transient overvoltages by diverting surge current and subsequently automatically interrupting the passage of follow current.

2. References

This standard shall be used in conjunction with the following publications. When the following standards are superseded by an approved revision, the revision shall apply.

ANSI C84.1-1995, Voltage Ratings for Electric Power Systems and Equipment (60 Hertz).¹

IEEE Std 4-1995, IEEE Standard Techniques for High-Voltage Testing (ANSI).²

C62.1-1989 (R1994) IEEE Standard for Gapped Silicon-Carbide Surge Arresters for AC Power Circuits (ANSI).

IEEE Std C62.11-1993, IEEE Standard for Metal-Oxide Surge Arresters for Alternating Current Power Circuits (ANSI).

IEEE Std C62.41-1991 (Reaff 1995), IEEE Recommended Practice on Surge Voltages in Low-Voltage AC Power Circuits (ANSI).

¹ANSI publications are available from the Sales Department, American National Standards Institute, 11 West 42nd Street, 13th Floor, New York, NY 10036, USA.

²IEEE publications are available from the Institute of Electrical and Electronics Engineers, 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855-1331, USA.