



IEEE Standard for Separable Insulated Connector Systems for Power Distribution Systems Above 600 V

IEEE Power Engineering Society

Sponsored by the
Insulated Conductors Committee

386TM

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IEEE Standard for Separable Insulated Connector Systems for Power Distribution Systems Above 600 V

Sponsor

**Insulated Conductors Committee
of the
IEEE Power Engineering Society**

Approved 15 September 2006

IEEE-SA Standards Board

Abstract: Definitions, service conditions, ratings, interchangeable construction features, and tests are established for loadbreak and deadbreak separable insulated connector systems rated above 600 V and, 600 A or less, for use on power distribution systems.

Keywords: deadbreak connector, elbow connector, loadbreak connector, power distribution systems, separable conductor, separable insulated connector systems

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Introduction

This introduction is not part of IEEE Std 386-2006, IEEE Standard for Separable Insulated Connector Systems for Power Distribution Systems Above 600 V.

This standard was developed in response to a need created by the rapid expansion of underground distribution systems. A key element that allowed this expansion to become a reality is the separable insulated connector. This device provides for simple and inexpensive connection and switching to transformers and other equipment used in underground distribution.

When separable insulated connectors became available, the Institute of Electrical and Electronics Engineers (IEEE) and the National Electrical Manufacturers Association (NEMA) worked cooperatively to develop a document that defined the interfaces, ratings, and test conditions for the device. The success of that cooperative effort is apparent from both the vast number of these devices now in interchangeable use in the field and their enviable safety record.

This cooperative effort continues due to the ongoing upgrading and changing nature of these underground systems and products. The recent cooperative effort has been provided by the ANSI C119.2 Subcommittee and the IEEE Working Group on Separable Connectors under the auspices of the Insulated Conductors Committee of the IEEE Power Engineering Society.

This revision reflects the following major additions:

- Definitions of new and previously omitted connector components
- Overload current ratings for deadbreak connectors
- Optional color coding for 200 A loadbreak connectors
- Clarification of interchangeability requirements
- Bushing well stud torque withstand requirement
- Thermal cycle withstand test for non-elastomeric components
- Stacking dimensions for 200 A deadbreak and 600 A deadbreak connectors
- Test table reviewed to indicate sequence of tests
- Operating procedures for switching test expanded
- Trial-use guide for testing separable connector lubricants
- Operating interface ac withstand test for 200 A loadbreak connectors

For information on the application of separable connectors, refer to IEEE Std 1215™-2001 [B9].^a

^a The numbers in brackets correspond to those of the bibliography in Annex C.

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Frank M. Stepniak, Chair
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IEEE Standard for Separable Insulated Connector Systems for Power Distribution Systems Above 600 V

1. Scope

This standard establishes definitions, service conditions, ratings, interchangeable construction features, and tests for loadbreak and deadbreak separable insulated connector systems rated above 600 V, 600 A or less, for use on power distribution systems.

2. Normative references

The following referenced documents are indispensable for the application of this document. For undated references, the latest edition of the referenced document (including any amendments or corrigenda) applies.

ANSI C119.4, Electrical Connectors-Connectors for Use between Aluminum-to-Aluminum or Aluminum-to-Copper Bare Overhead Connectors.¹

ANSI/ASQC Z1.4, Sampling Procedures and Tables for Inspection by Attributes.

ASTM F467, Standard Specification for Nonferrous Nuts for General Use.²

IEEE Std 4™, IEEE Standard Techniques for High-Voltage Testing.^{3,4}

IEEE Std 592™, IEEE Standard for Exposed Semiconducting Shields on High-Voltage Cable Joints and Separable Insulated Connectors.

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² ASTM publications are available from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, USA (<http://www.astm.org/>).

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