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Aerospace series - Circuit breakers - Test methods - Part 301: Voltage drop

Luft- und Raumfahrt - Schutzschalter - Prüfverfahren - Teil 301: Spannungsabfall

Série aérospatiale - Disjoncteurs - Méthodes d'essais - Partie 301 : Chute de tension

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Foreword

This document (EN 3841-301:2004) has been prepared by the European Association of Aerospace Manufacturers - Standardization (AECMA-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of AECMA, prior to its presentation to CEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2005, and conflicting national standards shall be withdrawn at the latest by June 2005.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This standard specifies a method of verifying the voltage drop of circuit breakers.

It shall be used together with EN 3841-100.

2 Normative references

The following referenced documents are indispensable for the application 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.

EN 3841-100, *Aerospace series – Circuit breakers – Test methods – Part 100: General*

3 Method

3.1 Main contacts at rated current test

3.1.1 Procedure

This measurement shall be carried out after the circuit breaker has carried its rated current for a minimum period of 30 min in order to achieve thermal stabilization.

The voltage drop shall be measured between the input and output terminal of each pole.

Six measurements, each interrupted by one manual break operation and one manual make operation, shall be carried out at each circuit breaker pole.

3.1.2 Requirement

The mean value of the six individual measurements shall not exceed the value specified in the product standard.

3.2 Main contacts at low current test

3.2.1 Procedure

Measurement of the voltage drop at low current shall be carried out on circuit breakers which have not been subjected to any previous electrical test.

The circuit breakers shall be loaded with the low current (d.c. only) specified in the product standard.

Measurements shall be carried out following a 1 min stabilization period.

The voltage drop shall be measured between the input and output terminal of each pole.

Six measurements shall be carried out at each circuit breaker pole. Each measurement shall be interrupted by one manual break operation and one manual make operation. With d.c. measurements the current direction shall be inverted after three measurements.

3.2.2 Requirement

The mean value of the six individual measurements shall not exceed the value indicated in the product standard.

3.3 Signal contacts

3.3.1 Procedure

The signal contacts shall be loaded with the currents and voltages indicated in the technical specification. After stabilization, the voltage drop shall be measured between input and output terminals.

Six measurements shall be taken with each contact. With d.c. measurements, the current direction shall be inverted after three measurements (when the signal contact is not polarized). Each measurement shall be interrupted by one manual break operation and one manual make operation.

3.3.2 Requirement

The mean value of the six individual measurements shall not exceed the value indicated in the product standard.