



SLOVENSKI STANDARD SIST EN 3841-100:2005

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Aeronavtika - Odklopniki - Preskusne metode - 100. del: Splošno

Aerospace series - Circuit breakers - Test methods - Part 100: General

Luft- und Raumfahrt - Schutzschalter - Prüfverfahren - Teil 100: Allgemeines

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Série aérospatiale - Disjoncteurs - Méthodes d'essais - Partie 100 : Généralités

Ta slovenski standard je istoveten z: EN 3841-100:2004

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Štejni odklopniki in sistemski opremljeni sistemi za letalsko električno opremo in sisteme

Aerospace electric equipment and systems

SIST EN 3841-100:2005

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 3841-100

December 2004

ICS 49.060

English version

**Aerospace series - Circuit breakers - Test methods - Part 100:
General**

Série aérospatiale - Disjoncteurs - Méthodes d'essais -
Partie 100 : Généralités

Luft- und Raumfahrt - Schutzschalter - Prüfverfahren - Teil
100: Allgemeines

This European Standard was approved by CEN on 10 September 2004.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of 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 United Kingdom.

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Contents		Page
Foreword		3
1	Scope	4
2	Normative references	4
3	Definitions	4
4	Conditions for test	4
5	List of test methods	5

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Foreword

This document (EN 3841-100:2004) 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 United Kingdom.

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1 Scope

This standard specifies the general conditions for test methods applicable to circuit breakers.

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.

IEC 50 (441), *International electrotechnical vocabulary – Chapter 441: Switchgear, controlgear and fuses*

3 Definitions

For the purposes of this standard, the definitions given in IEC 50 (441) apply.

4 Conditions for test

4.1 Environmental conditions

Unless stated otherwise, the following environmental conditions shall apply:

- ambient temperature $(23 \pm 5) ^\circ\text{C}$;
- atmospheric pressure 840 hPa to 1070 hPa;
- relative humidity $\leq 85 \%$.

4.2 Mounting conditions for mechanical tests

Mechanical tests shall be carried out with the circuit breakers mounted in their normal position on a metal plate with a minimum thickness of 2 mm.

4.3 Mounting conditions for thermal tests

For thermal tests the circuit breakers shall be mounted with the minimum distance between each other as specified in the product standard.

4.4 Connection requirements for electrical tests

For electrical tests the circuit breakers shall be connected to cables as shown in Table 1.

The cable shall be 0,5 m long.

Where several circuit breakers or the poles of multi-pole circuit breakers are connected in series, the connecting cables between the circuit breakers or poles shall be 0,5 m long.

The cable lugs used shall be compatible with the circuit breakers' terminals.

Table 1

Current rating A	Cross section mm ²	AWG ^a	EN code
Up to 1	0,6	20	2083-006
1,5 to 6	1	18	2083-010
7 to 10	1,2	16	2083-012
11 to 15	2	14	2083-020
16 to 20	3	12	2083-030
21 to 25	5	10	2083-050
26 to 40	5	10	2083-050
41 to 50	5	10	2083-050

^a AWG = American Wire Gage

5 List of test methods

See Table 2.

Table 2

EN 3841-	Test
	Physical test methods
201	Visual inspection
202	Dimensions and masses
	Electrical test methods
301	Voltage drop
302	Insulation resistance
303	Dielectric strength
304	Tripping points
305	Short-circuit performance
306	Service life
307	Performance with a locked tripping system
308	Lightning
	Environmental test methods
401	Sand and dust
402	Corrosion
403	Humidity
404	Explosion proofness
405	Fluid resistance
406	Flammability
407	Temperature variation
	Mechanical test methods
501	Actuator button travel
502	Operating forces
503	Strength of actuating components
504	Strength of mounting elements
505	Strength of main terminals
506	Vibration performance
507	Mechanical shocks
508	Centrifugal acceleration
509	Insertion and extraction forces of signal contacts terminals
510	Strength of signal contact terminals
511	Combined test: temperature, altitude and vibration