



# SLOVENSKI STANDARD

## SIST EN 2995-004:2009

01-junij-2009

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**Aeronavtika - Odklopniki, enopolni, temperaturno kompenzirani, nazivni tok od 1 A do 25 A - 004. del: S signalnim kontaktom - Standard za proizvod**

Aerospace series - Circuit breakers, single-pole, temperature compensated, rated current 1 A to 25 A - Part 004: With signal contact - Product standard

Luft- und Raumfahrt - Schutzschalter, einpolig, Temperaturkompensiert, Nennströme von 1 A bis 25 A - Teil 004: Mit Signalkontakt - Produktnorm

Série aérospatiale - Disjoncteurs unipolaires compensés en température, intensités nominales 1 A à 25 A - Partie 004 : Avec contact de signalisation - Norme de produit

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**Ta slovenski standard je istoveten z: EN 2995-004:2006**

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### **ICS:**

49.060 Štejni aparati in oprema za električno energijo  
Aerospace electric equipment and systems

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 2995-004**

August 2006

ICS 49.060

English Version

**Aerospace series - Circuit breakers, single-pole, temperature compensated, rated current 1 A to 25 A - Part 004: With signal contact - Product standard**

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This European Standard was approved by CEN on 5 June 2006.

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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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**Management Centre: rue de Stassart, 36 B-1050 Brussels**

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## Foreword

This European Standard (EN 2995-004:2006) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-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 ASD, 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 February 2007, and conflicting national standards shall be withdrawn at the latest by February 2007.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

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## EN 2995-004:2006 (E)

## 1 Scope

This standard specifies the characteristics of single-pole circuit breakers, temperature compensated with a rated current from 1 A to 25 A, used in aircraft on-board circuits at a temperature between – 55 °C and 125 °C and at an altitude of 22 000 m max.

These circuit breakers are operated by a push-pull type single push button (actuator), with delayed action "trip-free" tripping with a signal contact which is open when main contacts are closed, and inversely.

They will continue to function up to the short-circuit current.

## 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 2995-001, *Aerospace series – Circuit breakers, single-pole, temperature compensated, rated current 1 A to 25 A – Part 001: Technical specification.*

EN 3155-016, *Aerospace series – Electrical contacts used in elements of connection – Part 016: Contacts, electrical, male, type A, crimp, class S – Product standard.*

EN 6113, *Aerospace series – Circuit breaker, connecting and attachment hardware.* <sup>1)</sup>

TR 6083, *Aerospace series – Cut-outs for installation of electrical components.* <sup>2)</sup>

MIL-I-81969/1A, *Installing and removal tools, connector electrical contact, type III, class 2, composition C.* <sup>3)</sup>

MIL-I-81969/14C, *Installing and removal tools, connector electrical contact, type III, class 2, composition B.* <sup>3)</sup>

FED-STD-595B, *Colors used in Government Procurement.*

## 3 Dimensions and mass

### 3.1 Dimensional characteristics

The circuit breakers do not have to correspond to the pictorial illustration, only the dimensions given shall be adhered to.

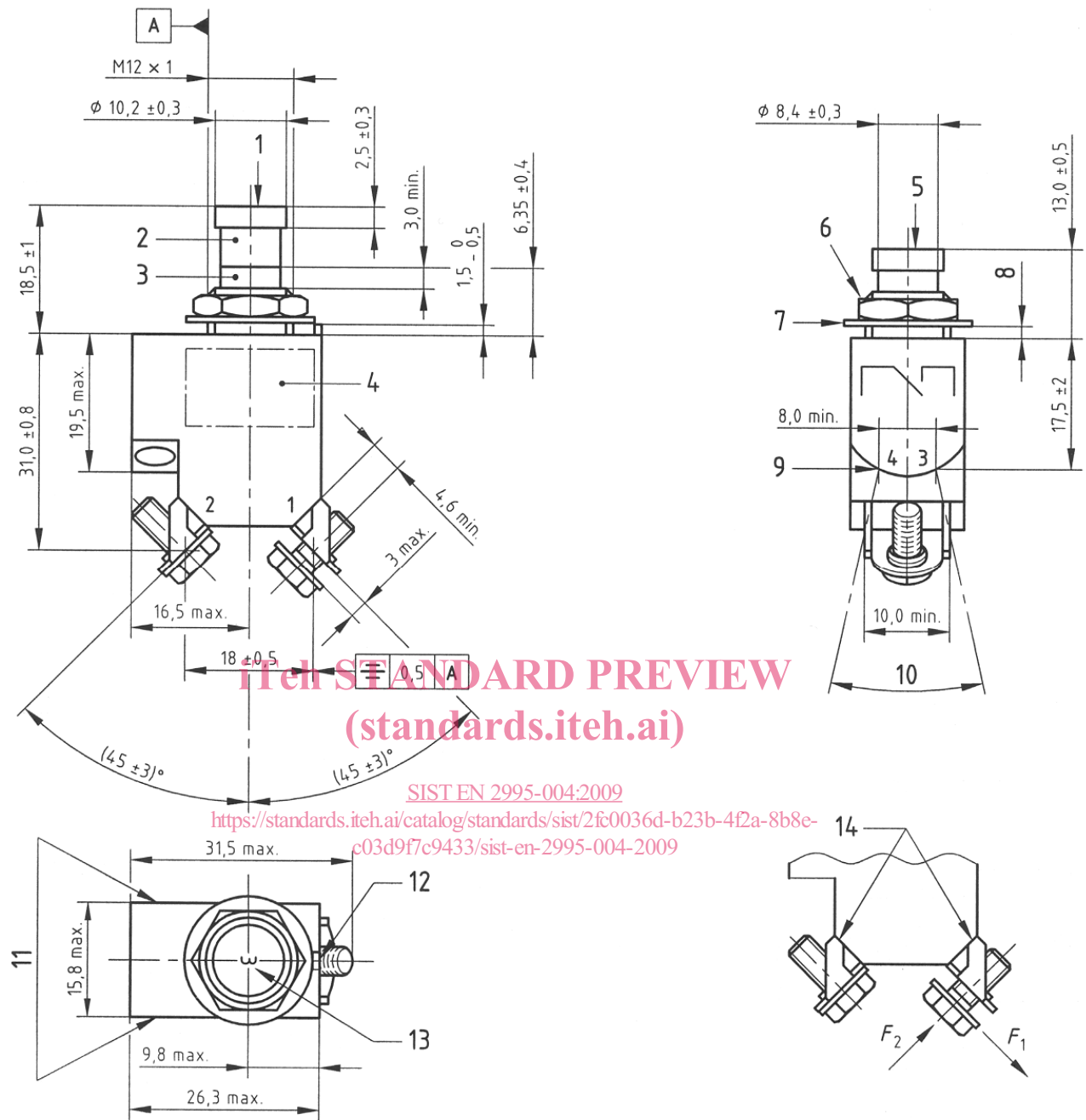
Dimensions are in millimetres.

See Figure 1.

1) Published as AECMA Prestandard at the date of publication of this standard.

2) Published as AECMA Technical Report at the date of publication of this standard.

3) Published by: Department of Defense (DOD), the Pentagon, Washington D.C. 20301 USA.



### Key

- |                                                    |                                                                            |
|----------------------------------------------------|----------------------------------------------------------------------------|
| 1 Push button released                             | 9 Gauge 20 connection pins according to EN3155-016M2018                    |
| 2 Green colour according to FED-STD-595B No. 34090 | 10 Indicative value $25^\circ$ (see Note)                                  |
| 3 White                                            | 11 Marking, see Clause 6.                                                  |
| 4 Marking area, see Clause 8.                      | 12 Positioning lug in accordance with the panel cut-out, as per TR6083C202 |
| 5 Push button pressed                              | 13 Rated current marking (white on green)                                  |
| 6 Attachment nut                                   | 14 Terminals shape free                                                    |
| 7 Lockwasher                                       |                                                                            |
| 8 1,0 to 3,0 max.                                  |                                                                            |

**F1** and **F2**: see EN 2995-001, Table 3.

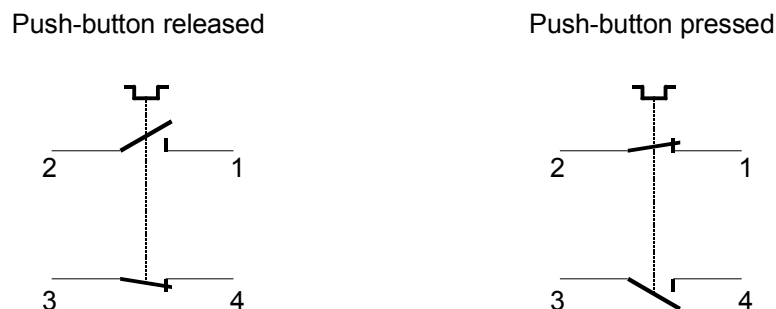
**NOTE** Tools noted in subclause 4.2.4 shall be applied without interfering with the terminal 2 connection. Even if the circuit breakers are grouped.

**Figure 1 — Configuration — Dimensions — Tolerances**

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## 3.2 Electrical diagram

See Figure 2.



## Terminal No.:

1 and 2: Main contacts

3 and 4: Signal contacts

Figure 2 — Electrical diagram

## 3.3 Mass

28 g max. (delivery code A including hardware).

## 3.4 Panel mounting

See EN 2995-001.

## 4 Characteristics

## 4.1 Material, surface treatment

See EN 2995-001.

## 4.2 Mechanical characteristics

## 4.2.1 Fasteners

See EN 6113.

## 4.2.2 Recommended tightening torque of attaching nut for installation

$(4,75 \pm 0,25)$  Nm

## 4.2.3 Recommended tightening torque of connection hardware for installation

$(1,6 \pm 0,1)$  Nm

## 4.2.4 Recommended tools for contacts of auxiliary contact insertion and extraction

- plastic MIL-I-81969/14-11;
- metallic MIL-I-81969/1-02.



#### 4.2.5 Resistance to vibrations

##### 4.2.5.1 Combined test: ambient temperature at 70 °C and vibrations

Sinusoidal: 10  $g_n$ , see EN 2995-001.

Random: 5,8  $g_n$ , see EN 2995-001.

Low frequencies: 10  $g_n$ , see EN 2995-001.

##### 4.2.5.2 Combined test: ambient temperature at 85 °C, altitude and vibrations

Sinusoidal: 3  $g_n$ , see EN 2995-001.

#### 4.2.6 Resistance to shocks

50  $g_n$ , see EN 2995-001.

#### 4.2.7 Mechanical endurance

See Table 6.

### 4.3 Environment characteristics

#### 4.3.1 Humidity

See EN 2995-001.

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#### 4.3.2 Corrosion

See EN 2995-001. <https://standards.iteh.ai/catalog/standards/sist/2fc0036d-b23b-4f2a-8b8e-c03d9f7c9433/sist-en-2995-004-2009>

#### 4.3.3 Contaminating liquids

See EN 2995-001.

#### 4.3.4 Overvoltage caused by lightning

See EN 2995-001.

### 4.4 Electrical characteristics

#### 4.4.1 Nominal voltages of main contacts

See Table 1.

**Table 1**

<b>Nominal voltages</b>	28 V d.c.
	26 V a.c., 360 Hz to 800 Hz
	115 V a.c., 360 Hz to 800 Hz