



**SLOVENSKI STANDARD  
SIST EN 2592:2001**

**01-januar-2001**

**Aerospace series - Three-pole circuit breakers temperature compensated rated currents up to 25 A - Product standard**

Aerospace series - Three-pole circuit breakers temperature compensated rated currents up to 25 A - Product standard

Luft- und Raumfahrt - Temperaturkompensierte dreipolige Schutzschalter - Nennströme bis 25 A - Produktnorm

**ITeh STANDARD PREVIEW  
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Série aérospatiale - Disjoncteurs tripolaires compensés en température d'intensité nominale jusqu'a 25 A - Norme de produit

<https://standards.iteh.ai/catalog/standards/sist/cb8baa45-a70c-461f-9df7-8ef1d9ee8598/sist-en-2592-2001>

**Ta slovenski standard je istoveten z: EN 2592:1990**

**ICS:**

49.060 Štejni aparati in oprema za letalstvo in vesolje Aerospace electric equipment and systems

**SIST EN 2592:2001**

**en**

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EUROPEAN STANDARD  
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**EN 2592**

September 1990

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Key words : Aircraft industry, aircraft equipment, circuit breaker, manufacturing requirement, designation, marking

**English version**

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<https://standards.iteh.ai/catalog/standards/sist/ch8bce45-70c-461f9df7-8cfd9ee8-598e101a-2592-2001>  
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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Central Secretariat or to any CEN member.

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**CEN**

European Committee for Standardization  
 Comité Européen de Normalisation  
 Europäisches Komitee für Normung

**Central Secretariat : Rue Bréderode 2, B—1000 Bruxelles**

### Brief history

This European Standard has been prepared by the European Association of Aerospace Manufacturers (AECMA).

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

According to the Common CEN/CENELEC Rules, the following countries are bound to implement this European Standard : Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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## 1 Scope and field of application

This standard specifies the required characteristics for three-pole temperature compensated circuit breakers of current ratings from (0,5 to 25) A. These circuit breakers are operated by a single push-pull button with trip-free release, delayed tripping and are explosion proof. Their operation is ensured up to short circuit current. Their temperature range lies between  $-55\text{ }^{\circ}\text{C}$  and  $125\text{ }^{\circ}\text{C}$  for  $I_n \leq 15\text{ A}$  and between  $-55\text{ }^{\circ}\text{C}$  and  $90\text{ }^{\circ}\text{C}$  for  $I_n > 15\text{ A}$ , at an altitude  $Z = 22\ 000\text{ m}$  max.

This standard shall be used in conjunction with EN 2350.

## 2 References

- EN 2282 Aerospace series - Characteristics of aircraft electrical supplies <sup>1)</sup>  
 EN 2350 Aerospace series - Circuit breakers - Technical specification

## 3 Definitions and symbols

See EN 2350.

## 4 Required characteristics

### 4.1 Rated currents ( $I_n$ ) and voltage

See tables 1 and 2.

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 Table 1

Rated current ( $I_n$ ) A	0,5	1	2	2,5	3	5	7,5	10	15	20	25
Code	0A5	01A	02A	2A5	03A	05A	7A5	10A	15A	20A	25A
Rating range	Low					Middle			High		

Table 2

Voltage of aircraft electrical system	115/200 V alternating current, frequency 400 Hz
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When used on an aircraft electrical system of variable frequency, in compliance with EN 2282, the limit values (voltage and frequency) shall be specified.

<sup>1)</sup> Published as AECMA-standard at the date of publication of the present standard.

4.2 Dimensions, mounting, electrical connection

See figures 1, 2 and 3 (dimensions in mm).

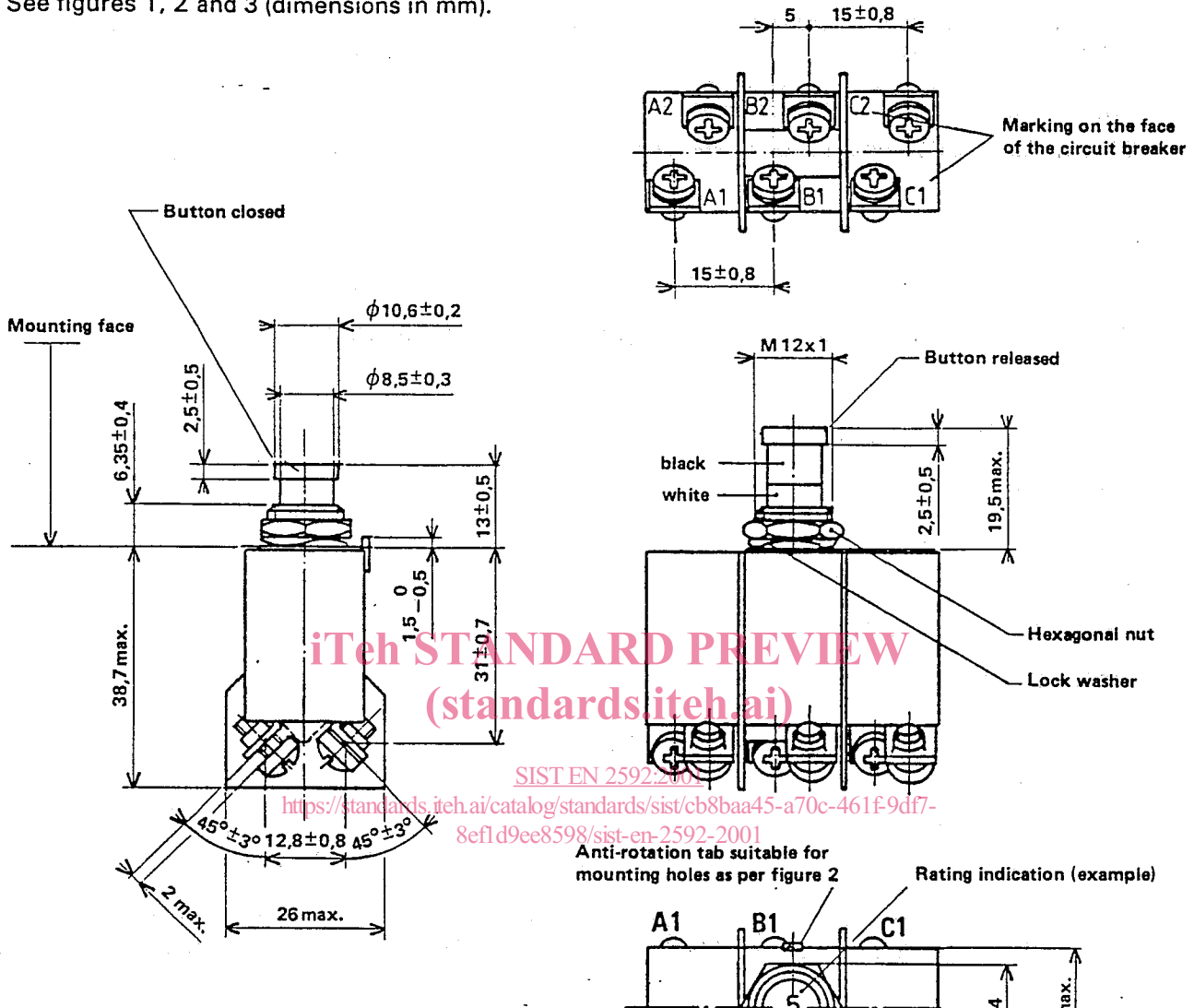


Figure 1 - Circuit breaker

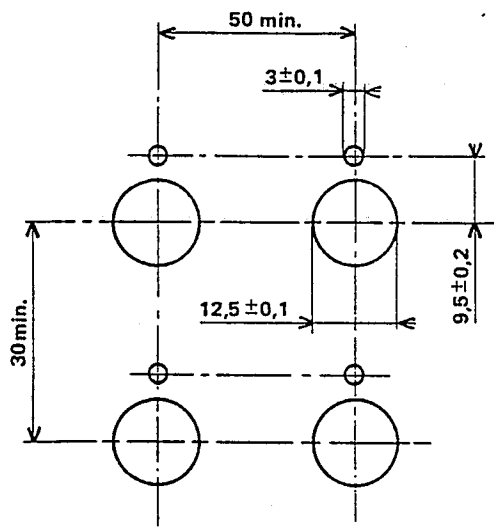


Figure 2 - Mounting panel  
Thickness between 1,5 and 3

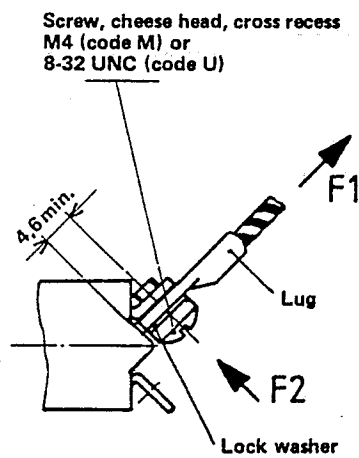


Figure 3 - Electrical connection

**4.3 Mass**

max. 65 g

**4.4 Mechanical characteristics**

See table 3.

**Table 3**

Characteristics				Requirements
Operating force		Closing force		8 N to 80 N
		Opening force		5 N to 30 N
Mechanical strength	Actuator button	Transverse load		110 N
		Longitudinal load	Push direction	110 N
			Pull direction	110 N
	Mounting	Tightening torque		5 Nm
		Run-down torque		1,5 Nm
	Electrical connection	Tightening torque		1,7 Nm
		Pull force		110 N along F1 See figure 3
		Push force		55 N along F2 See figure 3

## 4.5 Environmental characteristics

See table 4.

Table 4

Characteristics	Requirements
Vibrations	5 Hz to 20 Hz constant deflection 2 a = 2,5 mm
	20 Hz to 33 Hz constant acceleration 19,6 m/s <sup>2</sup> (≈ 2 g)
	33 Hz to 74 Hz constant acceleration 2 a = 0,9 mm
	74 Hz to 2000 Hz constant acceleration 98,1 m/s <sup>2</sup> (≈ 10 g)
Mechanical shock	490,5 m/s <sup>2</sup> (≈ 50 g) 11 ms
Centrifugal acceleration	166,8 m/s <sup>2</sup> (≈ 17 g)
Sand and dust	See EN 2350
Corrosion	See EN 2350
Humidity	See EN 2350 Category B : 10 cycles
Explosion proofness	$I_n$ (0,5 to 3) A, 1000 A prospective current $I_n > 3$ A, 2000 A prospective current Voltage 115/200 V, 400 Hz, three-pole load
Fluid contamination	See EN 2350



## 4.6 Electrical characteristics

See table 5.

Table 5

Characteristics		Requirements	
Voltage drop at rated current at low current		See table 6	
Insulation resistance		min. 100 M $\Omega$	
Dielectric strength	1500 V on ground t = (23 $\pm$ 5) °C (- 55 $\pm$ 5) °C (125 $\pm$ 5) °C	Leakage current $\leq$ 1 mA neither flash over nor damage	
	400 V at 22 000 m t = (23 $\pm$ 5) °C		
Tripping points		See table 7	
Overload tripping		See table 8	
Trip-free release		See table 8, only at 23 °C	
Minimum tripping points at maximum altitude of 22 000 m $\approx$ 4000 Pa*		No tripping	
Temperature	- 55 °C		100 % of $I_n$
	23 °C		100 % of $I_n$
	90 °C		80 % of $I_n$
	125 °C		80 % of $I_n$
Short circuit performance		See table 9	
Endurance under no-load and load conditions		See table 10	
Endurance under overload trip conditions		See table 11	
*) 100 Pa = 1 mbar			

Table 6

Rated current (A)	0,5	1	2	2,5	3	5	7,5	10	15	20	25
Max. voltage drop (V) at $I_n$	2,2	1,10	0,75	0,70	0,55	0,35	0,30	0,30	0,25	0,25	0,20
Max. voltage drop (mV) at low current 100 mA	400	100	25	13	10	8	4	2,5	2,5	2,5	2,5