SLOVENSKI STANDARD
SIST EN 4839-003:2018

01-december-2018

Aeronavtika - Obločni dušilni odklopniki, tripolni, temperaturno kompenzirani, za naznačene toke od 3 A do 25 A, 115/200 V izmenična napetost, 400 Hz konstantna frekvenca - 003. del: Brez pomožnih kontaktov - Standard za proizvod

Aerospace series - Arc Fault Circuit breakers, three-pole, temperature compensated, rated currents 3 A to 25 A, 115/200 V a.c. 400 Hz constant frequency - Part 003: Without auxiliary contacts - Product standard

Luft- und Raumfahrt - Schutzschalter, lichtbogen (überschlags)sensitiv, dreipolig, temperaturkompensiert, Nennströme von 3 A bis 25 A, 115/200 V a.c. 400 Hz Konstantfrequenz - Teil 003: Ohne Signalkontakt - Produktnorm

Série aérospatiale - Disjoncteurs tripolaires à détection d’arc, compensés en température, intensités nominales 3 A á 25 A, 115/200 V c.a. 400 Hz fréquence fixe - Partie 003 : Sans contacts auxiliaires - Norme de produit

Ta slovenski standard je istoveten z: **EN 4839-003:2018**

ICS:

49.060	Letalska in vesoljska električna oprema in sistemi	Aerospace electric equipment and systems

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EUROPEAN STANDARD

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English Version

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This European Standard was approved by CEN on 8 February 2018.

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

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European foreword

This document (EN 4839-003:2018) 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of an identical text or by endorsement, at the latest by April,2019 and conflicting national standards shall be withdrawn at the latest by April,2019.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN 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, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

1 Scope

This European Standard specifies the required characteristics for three-pole, arc fault circuit breakers, rated currents from 3 A to 25 A, switching capacity 65 I_n, for use in aircraft electrical systems. Their operating temperatures are between – 40 °C to 85 °C at a maximum altitude of Z = 15 000 m. The thermal protection is temperature compensated and operates between – 55 °C and 125 °C.

These arc fault circuit breakers are operated by a push-pull type single pushbutton (actuator), with delayed action "trip-free" tripping.

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

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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*

EN 3841-305, *Aerospace series — Circuit breakers — Test Methods — Part 305: Short-circuit performance*

EN 4839-001, *Aerospace series — Arc fault circuit breakers, three-pole, temperature compensated, rated current from 3 A to 25 A, 115 V a.c. 400 Hz constant frequency — Part 001: Technical specification*

EN 6113, *Aerospace series — Circuit breaker, connecting and attachment hardware*

TR 6083, *Aerospace series — Cut-outs for installation of electrical components* 1)

FED-STD-595B, *Colours used in Government Procurement*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 3841-100 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

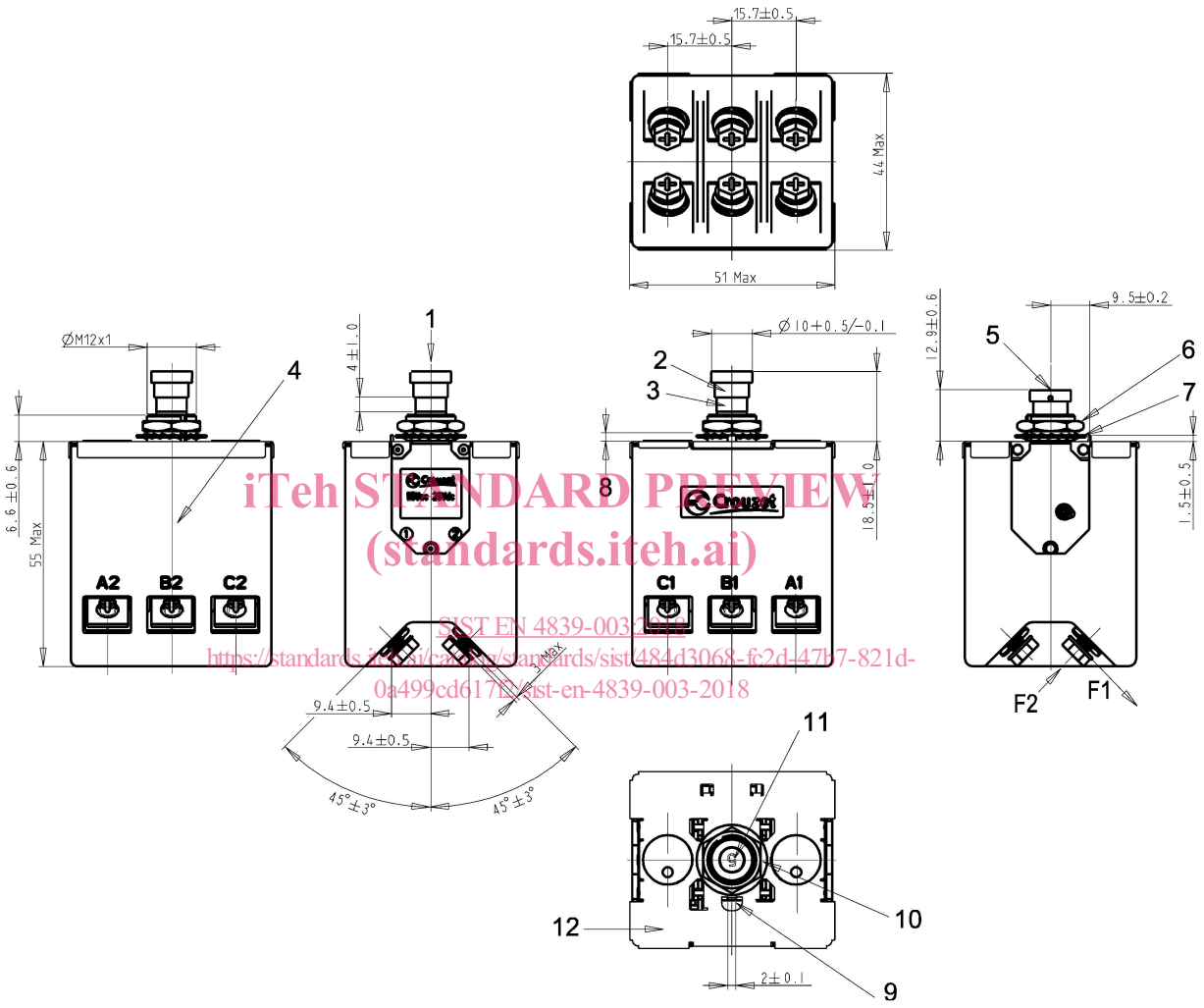
1) Published as ASD-STAN Technical Report at the date of publication of this standard by Aerospace and Defense industries Association of European-Standardization (ASD-STAN) (www.asd-stan.org)

4 Dimension and mass

4.1 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.



Key

1 Push button released
2 Black colour according to FED-STD-595B
3 White
4 Marking area, see Clause 9.
5 Push button pressed
6 Attachment nut
7 Lockwasher
8 1,0 to 3,0 max.
9 Positioning lug in accordance with the panel cut-out, as per TR 6083C202.
10 LED indicator AlInGap 592 nm Amber colour 0,65 mm diameter
11 Rated current marking (white on black)
12 Neutral via panel

F1 and F2: see EN 4839-001, Table 3.

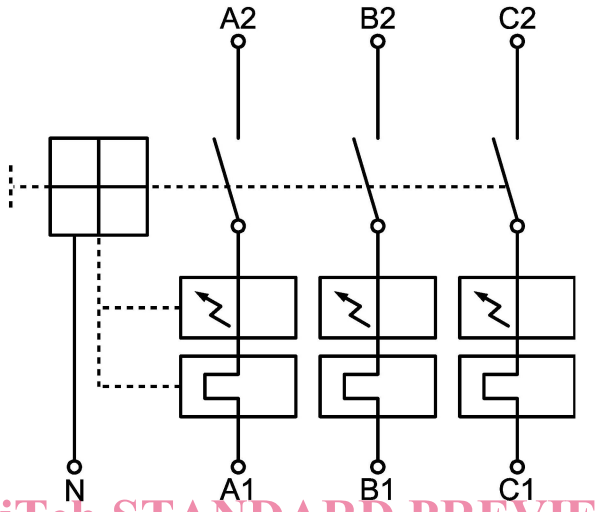
Figure 1 — Configuration – Dimensions – Tolerances

4.2 Electrical diagram

See Figure2.

Push button released: CB is open.

Push button pressed: CB is closed.



Key

1 Supply
2 Load
3 Neutral via metallic front plate (see Figure 1)

Figure 2 — Electrical diagram

4.3 Mass

170 g max. (including mounting hardware).

4.4 Panel mounting

Panel cut-out : The panel cut-out is in accordance with the designation TR 6083C202

Spacing : 60 mm horizontal and 45 mm vertical from the centre of the mounting holes

Panel thickness : 1 mm to 3 mm

The metallic front plate of the breaker (mark J on Figure 1) is an electrical connection to neutral. For this purpose the panel mounting means must ensure a good electrical continuity to neutral.

5 Characteristics

5.1 Material, surface treatment

See EN 4839-001.

5.2 Mechanical characteristics

5.2.1 Fasteners

See EN 6113.

5.2.2 Recommended tightening torque of attaching nut for installation

(4,0 ± 0,25) N.m.

5.2.3 Recommended tightening torque of connection hardware for installation

(1,6 ± 0,1) N.m.

5.2.4 Resistance to vibrations

5.2.4.1 Combined test: ambient temperature at 70 °C and vibrations

Sinusoidal: 10 g-PK, see EN 4839-001.

Random: 5,8 Grms, see EN 4839-001.

Low frequencies: 10 g-PK, see EN 4839-001.

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

Sinusoidal: 3 g-PK, see EN 4839-001.

5.2.5 Resistance to shocks

50 g-PK, see EN 4839-001.

5.2.6 Mechanical endurance

See Table 6.

5.3 Environment characteristics

5.3.1 Humidity

See EN 4839-001.

5.3.2 Corrosion

See EN 4839-001.

5.3.3 Contaminating liquids

See EN 4839-001.

5.3.4 Susceptibility towards electrical perturbations

See EN 4839-001.