



# SLOVENSKI STANDARD

## SIST EN 2593-001:2015

01-marec-2015

---

### Aeronavtika - Vtičnice za elektromagnetne vtične dvopolne in štiripolne releje za 10 A - 001. del: Tehnične specifikacije

Aerospace series - Bases for 10 A electromagnetic plug-in relays, two and four poles double thrown - Part 001: Technical specification

Luft- und Raumfahrt - Steckfassung für elektromagnetische Relais 10 A, steckbar, zwei- und vierpolig - Teil 001: Technische Lieferbedingungen

Série aérospatiale - Socles pour relais électromagnétiques 10 A, embrochables, deux et quatre pôles inverseurs - Partie 001: Spécification technique

<https://standards.iteh.ai/catalog/standards/sist/24b57d9-a05e-45cf-bba1-139a67875781/sist-en-2593-001-2015>

Ta slovenski standard je istoveten z: **EN 2593-001:2014**

---

#### **ICS:**

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

**SIST EN 2593-001:2015**

**en,fr,de**

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN 2593-001:2015

<https://standards.iteh.ai/catalog/standards/sist/24b57d9-a05e-45cf-bba1-139a67875781/sist-en-2593-001-2015>

EUROPEAN STANDARD

EN 2593-001

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2014

ICS 49.060

English Version

## Aerospace series - Bases for 10 A electromagnetic plug-in relays, two and four poles double thrown - Part 001: Technical specification

Série aérospatiale - Socles pour relais électromagnétiques  
10 A, embrochables, deux et quatre pôles inverseurs -  
Partie 001: Spécification technique

Luft- und Raumfahrt - Fassungen für steckbare,  
elektromagnetische Relais, 10 A, zwei- und vierpolige  
Wechselschalter - Teil 001: Technische Lieferbedingungen

This European Standard was approved by CEN on 22 November 2014.

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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

## Contents

	Page
Foreword.....	3
Introduction .....	4
1 Scope .....	4
2 Normative references .....	4
3 Terms and definitions .....	5
4 Design .....	5
5 Description .....	6
6 Definition drawings and mass.....	7
7 Qualification tests.....	7
8 Quality assurance .....	9
9 Designation and marking.....	12
10 Delivery conditions.....	12
11 Packaging.....	12
12 Storage.....	12

[SIST EN 2593-001:2015](https://standards.iteh.ai/catalog/standards/sist/24b57d9-a05e-45cf-bba1-139a67875781/sist-en-2593-001-2015)  
<https://standards.iteh.ai/catalog/standards/sist/24b57d9-a05e-45cf-bba1-139a67875781/sist-en-2593-001-2015>

## Foreword

This document (EN 2593-001:2014) 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 June 2015, and conflicting national standards shall be withdrawn at the latest by June 2015.

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

iteh STANDARD PREVIEW  
(standards.iteh.ai)

[SIST EN 2593-001:2015](https://standards.iteh.ai/catalog/standards/sist/24b57d9-a05e-45cf-bba1-139a67875781/sist-en-2593-001-2015)

<https://standards.iteh.ai/catalog/standards/sist/24b57d9-a05e-45cf-bba1-139a67875781/sist-en-2593-001-2015>

## Introduction

The relay bases defined by this standard are derived from MIL-S-12883/40 and MIL-S-12883/41, latest issue.

## 1 Scope

This European Standard specifies the characteristics, installation and mounting dimensions for plug-in relay bases for use with two and four poles double throw relays in accordance with EN 2548-001.

Relay bases in accordance with this standard shall be used at ambient temperatures between  $-70\text{ }^{\circ}\text{C}$  and  $125\text{ }^{\circ}\text{C}$  and at altitudes up to 25 000 m.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 2349 (all parts), *Aerospace series — Requirements and test procedures for switching devices* <sup>1)</sup>

EN 2548-001, *Aerospace series — Relays, electromagnetic, 10 A (resistive load), with or without suppressor, plug-in type, two and four poles double throw — Part 001: Technical specification* <sup>2)</sup>

EN 2593-003, *Aerospace series — Bases for 10 A electromagnetic plug-in relays, two and four poles double throw — Part 003: According to EN 2548-003 — Base with non-captive fixation stud, metric — Dimensions — Product standard* <sup>2)</sup>

EN 2593-004, *Aerospace series — Bases for 10 A electromagnetic plug-in relays, two and four poles double throw — Part 004: According to EN 2548-004 — Base with melded-in fixation stud, unified — Dimensions — Product standard* <sup>2)</sup>

EN 2593-005, *Aerospace series — Bases for 10 A electromagnetic plug-in relays, two and four poles double throw — Part 005: According to EN 2548-005 — Base with melded-in fixation stud, metric — Dimensions — Product standard* <sup>2)</sup>

EN 3155-017, *Aerospace series — Electrical contacts used in elements of connection — Part 017: Contacts, electrical, relay base, female, type A, crimp, class P — Product standard*

MIL-S-12883/40, *Socket, plug-in electronic components, socket for MIL-R-6106 and MIL-R-83726 relays, square pattern* <sup>3)</sup>

MIL-S-12883/41, *Socket, plug-in electronic components, socket for MIL-R-6106 relays* <sup>3)</sup>

<sup>1)</sup> Published as ASD-STAN Prestandard at the date of publication of this standard by Aerospace and Defence Industries Association of Europe-Standardization (ASD-STAN) ([www.asd-stan.org](http://www.asd-stan.org)).

<sup>2)</sup> In preparation at the date of publication of this standard.

<sup>3)</sup> Published as DoD National (US) Mil. Department of Defense (<http://www.defenselink.mil/>).

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 2349-100 apply.

## 4 Design

### 4.1 General

The construction of the relay bases shall be such, that the associated components, under any circumstances, cannot be separated during its normal operational life.

The retaining clip shall ensure a correct and permanent holding of the crimp contacts.

### 4.2 Dimensions

See EN 2593-003, EN 2593-004 and EN 2593-005.

### 4.3 Crimp contacts for electrical connections

See product standards.

### 4.4 Cables

See product standards.

### 4.5 Mechanical characteristics

#### 4.5.1 General

See product standards. <https://standards.iteh.ai/catalog/standards/sist/24b57d9-a05e-45cf-bba1-139a67875781/sist-en-2593-001-2015>

#### 4.5.2 Mounting torque (hardware)

See product standards.

#### 4.5.3 Mass (including crimp contact and hardware)

See product standards.

#### 4.5.4 Insertion force

See product standards.

#### 4.5.5 Extraction force

See product standards.

### 4.6 Sealing plug

#### 4.6.1 General

See product standards.

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN 2593-001:2015](https://standards.iteh.ai/catalog/standards/sist/24b57d9-a05e-45cf-bba1-139a67875781/sist-en-2593-001-2015)

**EN 2593-001:2014 (E)****4.6.2 Configurations**

See product standards.

**4.6.3 Dimensions**

See product standards.

**4.6.4 Quantities**

See product standards.

**4.7 Insertion and extraction tools****4.7.1 General**

See product standards.

**4.7.2 Plastic tool**

See product standards.

**4.7.3 Metal tool**

See product standards.

**4.8 Metal parts**

All metal parts used shall meet the requirements of EN 2349-100.

The materials of the hardware (nuts and lock-washers) shall be non-magnetic corrosion resistance steel.

**5 Description****5.1 Materials/Features**

The relay base assembly consists of:

- socket body: the material shall be a thermoplast, non-flammable, according to EN 2349-100 and this specification;
- sealing rubber: the material shall be silicon rubber, non-flammable, according to EN 2349-100 and this specification. The sealing rubber shall seal wires with external diameters as shown in the product standard;
- crimp contacts: in accordance with EN 3155-017. The crimp contacts shall be selected to accommodate cables as defined in 4.3. The finish of the crimp contacts shall be: gold-plated — Thickness: 1,27 µm min.

**5.2 Interface seal**

The relay and base interface shall be sealed by a silicon rubber. The rubber prevents any environmental influence such as fluids between:

- relay and base;
- base and wiring.



The rubber shall provide an additional electrical isolation between relay terminals and housing.

The hardness of the rubber shall not cause any damage or mechanical deformations when tightening the relay on its base.

The silicon rubber shall be a part of the plug-in relays in accordance with EN 2548-001.

### 5.3 Polarizing holes

#### 5.3.1 Two-pole bases

The relay bases shall be provided with polarizing holes to accept the polarizing pins used on the two-pole relays only. The shape of the polarizing holes shall accept the polarizing pins used on the 28 V d.c. and 115 V a.c. coil relays of EN 2548-001.

The purpose of the polarizing pins and holes is to prevent installation of 28 V d.c. or 115 V a.c. coil relays into the non-mating relay base.

The polarizing pin shall ensure the correct installation of the relay to its base.

#### 5.3.2 Four-pole bases

The keying of the four-pole d.c. and a.c. coil relay bases shall be provided by different coil terminal positions.

They shall also ensure installation of relay on its base in one position only.

On a four-pole version this fool proofing shall be ensured by the contact pins position.

## 6 Definition drawings and mass

For the dimensions and mechanical characteristics, reference is made to the product standards.

## 7 Qualification tests

The relay bases shall meet the applicable requirements of EN 2349-100 as shown in Table 1. The qualification test shall be performed together with the mating relay.