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| <b>STN</b> | <b>Priamo ohrievané termistory so záporným<br/>teplotným koeficientom<br/>Časť 1: Všeobecná špecifikácia<br/>Oprava AC</b> | <b>STN<br/>EN 60539-1/AC</b><br><br>35 8145 |
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Directly heated negative temperature coefficient thermistors - Part 1: Generic specification

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 01/18

Obsahuje: EN 60539-1:2016/AC Sep.:2017, IEC 60539-1:2016/COR1:2017

**126070**

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Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, 2018  
Podľa zákona č. 264/1999 Z. z. o technických požiadavkách na výrobky a o posudzovaní zhody a o zmene a doplnení niektorých zákonov v znení neskorších predpisov sa slovenská technická norma a časti slovenskej technickej normy môžu rozmnožovať alebo rozširovať len so súhlasom slovenského národného normalizačného orgánu.

EUROPEAN STANDARD

**EN 60539-1:2016/AC:2017-09**

NORME EUROPÉENNE

September 2017

EUROPÄISCHE NORM

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ICS 31.040.30

English Version

**Directly heated negative temperature coefficient thermistors -  
Part 1: Generic specification  
(IEC 60539-1:2016/COR1:2017)**

Thermistances à coefficient de température négatif à  
chauffage direct - Partie 1: Spécification générique  
(IEC 60539-1:2016/COR1:2017)

Direkt geheizte temperaturabhängige Widerstände mit  
negativem Temperaturkoeffizienten - Teil 1:  
Fachgrundspezifikation  
(IEC 60539-1:2016/COR1:2017)

This corrigendum becomes effective on 22 September 2017 for incorporation in the English language version of the EN.



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

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

### **Endorsement notice**

The text of the corrigendum IEC 60539-1:2016/COR1:2017 was approved by CENELEC as EN 60539-1:2016/AC:2017-09 without any modification.

INTERNATIONAL ELECTROTECHNICAL COMMISSION  
COMMISSION ÉLECTROTECHNIQUE INTERNATIONALEIEC 60539-1  
Edition 3.0 2016-04IEC 60539-1  
Édition 3.0 2016-04DIRECTLY HEATED NEGATIVE TEMPERATURE  
COEFFICIENT THERMISTORS –

Part 1: Generic specification

THERMISTANCES À COEFFICIENT DE  
TEMPÉRATURE  
NÉGATIF À CHAUFFAGE DIRECT –

Partie 1: Spécification générique

## CORRIGENDUM 1

Corrections to the French version appear after the English text.

Les corrections à la version française sont données après le texte anglais.

**5.12 Thermal time constant by ambient temperature change ( $\tau_a$ )**

*Replace with this new subclause 5.12:*

**5.12 Thermal time constant by ambient temperature change ( $\tau_a$ )****5.12.1 The hot to cold thermal time constant for ambient temperature change****5.12.1.1 General**

The method of test shall be as described below.

**5.12.1.2 Initial measurements**

The zero-power resistance shall be measured as prescribed in 5.6 at the temperature  $T_i$  followed by the same measurement at  $T_a$ . The temperature  $T_i$  is calculated as follows:

$$T_i = T_b - (T_b - T_a) \times 0,632$$

where

$T_b$  is (273,15 + 85) K, unless otherwise specified in the detail specification;

$T_a$  is (273,15 + 25) K, unless otherwise specified in the detail specification.

Measurements shall be recorded.

**5.12.1.3 Preconditioning**

The thermistor shall be immersed in a medium with a temperature  $T_b$  and allowed to reach the medium temperature.

#### 5.12.1.4 Test methods

The thermistor shall be transferred rapidly to a medium with a temperature  $T_a$ . The time it takes for the thermistor to reach the zero-power resistance at  $T_i$  shall be measured.

The resulting time is the thermal time constant by ambient temperature change.

#### 5.12.2 The cold to hot thermal time constant for ambient temperature change

##### 5.12.2.1 General

The method of test shall be as described below.

##### 5.12.2.2 Initial measurements

The zero-power resistance shall be measured as prescribed in 5.6 at the temperature  $T_i$  followed by the same measurement at  $T_a$ . The temperature  $T_i$  is calculated as follows:

$$T_i = T_a + (T_b - T_a) \times 0,632$$

where

$T_b$  is (273,15 + 85) K, unless otherwise specified in the detail specification;

$T_a$  is (273,15 + 25) K, unless otherwise specified in the detail specification.

Measurements shall be recorded.

##### 5.12.2.3 Preconditioning

The thermistor shall be immersed in a medium with a temperature  $T_a$  and allowed to reach the medium temperature.

##### 5.12.2.4 Test methods

The thermistor shall be transferred rapidly to a medium with a temperature  $T_b$ . The time it takes for the thermistor to reach the zero-power resistance at  $T_i$  shall be measured.

The resulting time is the thermal time constant by ambient temperature change.

#### 5.12.3 Final measurements and requirements

The thermal time constant by ambient temperature change shall be within the limits specified in the detail specification.

#### 5.12.4 Requirements

The medium used in 5.12.1.2, 5.12.1.3, 5.12.2.2 and 5.12.2.3, the temperature tolerance on  $T_a$  and  $T_b$ , air (flow rate) or liquid (flow rate and viscosity) shall be defined in the detail specification.

NOTE This method is not suitable for miniature thermistors because the change of temperature during transfer from the first to the second medium can lead to a considerable measuring error.