EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

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

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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

Ref. No. EN 60539-1:2016/AC:2017-09 E

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 INTERNATIONALE

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IEC 60539-1
Edition 3.0 2016-04

DIRECTLY HEATED NEGATIVE TEMPERATURE COEFFICIENT THERMISTORS –

Part 1: Generic specification

IEC 60539-1
Édition 3.0 2016-04

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 (τ_a)

Replace with this new subclause 5.12:

5.12 Thermal time constant by ambient temperature change (τ_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.