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Industriella temperaturgivare med motstånd av platina

Industrial platinum resistance thermometers and platinum temperature sensors

Som svensk standard gäller europastandarden EN 60751:2008. Den svenska standarden innehåller den officiella engelska språkversionen av EN 60751:2008.

Nationellt förord

Europastandarden EN 60751:2008

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 60751, Second edition, 2008 - Industrial platinum resistance thermometers and platinum temperature sensors**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS EN 60751, utgåva 1, 1996 och SS-EN 60751/A2, utgåva 1, 1996, gäller ej fr o m 2011-08-01.

Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a säkerhet, prestanda, dokumentation, utförande och skötsel av elprodukter, elanläggningar och metoder. Genom att utforma sådana standarder blir säkerhetskraven tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

SEK är Sveriges röst i standardiseringsarbetet inom elområdet

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Stora delar av arbetet sker internationellt

Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

Standardiseringsarbetet inom SEK är organiserat i referensgrupper bestående av ett antal tekniska kommittéer som speglar hur arbetet inom IEC och CENELEC är organiserat.

Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

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Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

SEK Svensk Elstandard

Box 1284
164 29 Kista
Tel 08-444 14 00
www.elstandard.se

English version

**Industrial platinum resistance thermometers
and platinum temperature sensors
(IEC 60751:2008)**

Thermomètres à résistance
de platine industriels
et capteurs thermométriques en platine
(CEI 60751:2008)

Industrielle
Platin-Widerstandsthermometer
und Platin-Sensoren
(IEC 60751:2008)

This European Standard was approved by CENELEC on 2008-08-01. CENELEC 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 Central Secretariat or to any CENELEC 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 CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 65B/664/FDIS, future edition 2 of IEC 60751, prepared by SC 65B, Devices & process analysis, of IEC TC 65, Industrial-process measurement, control and automation, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60751 on 2008-08-01.

This European Standard supersedes EN 60751:1995 + A2:1995.

The significant technical changes with respect to EN 60751:1995 are as follows:

While the temperature/resistance relationship in 4.2 remains unchanged, there are several changes in the other chapters. Most important are:

- tolerance classes follow a new scheme;
- tolerance acceptance test is included;
- hysteresis test is included;
- several changes in the individual tests;
- appendices are deleted.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2009-05-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2011-08-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60751:2008 was approved by CENELEC as a European Standard without any modification.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application 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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61152 (mod)	- ¹⁾	Dimensions of metal-sheathed thermometer elements	EN 61152	1994 ²⁾
IEC 61298-1	- ¹⁾	Process measurement and control devices - General methods and procedures for evaluating performance - Part 1: General considerations	EN 61298-1	1995 ²⁾

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

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INDUSTRIAL PLATINUM RESISTANCE THERMOMETERS AND PLATINUM TEMPERATURE SENSORS

1 Scope

This standard specifies the requirements and temperature/resistance relationship for industrial platinum resistance temperature sensors later referred to as "platinum resistors" or "resistors" and industrial platinum resistance thermometers later referred to as "thermometers" whose electrical resistance is a defined function of temperature.

The International Standard applies to platinum resistors whose temperature coefficient α , defined as

$$\alpha = \frac{R_{100} - R_0}{R_0 \cdot 100^\circ\text{C}}$$

is conventionally written as $\alpha = 3.851 \times 10^{-3} \text{ }^\circ\text{C}^{-1}$, where R_{100} is the resistance at $t = 100 \text{ }^\circ\text{C}$ and R_0 is the resistance at $t = 0 \text{ }^\circ\text{C}$.

Values of temperature in this standard are in terms of the International Temperature Scale of 1990, ITS-90. Temperatures in degrees Celsius are denoted by the symbol t , except in Table 1 where the full nomenclature $t_{90}/^\circ\text{C}$ is used.

The standard covers resistors or thermometers for all or part of the temperature range $-200 \text{ }^\circ\text{C}$ to $+850 \text{ }^\circ\text{C}$ with different tolerance classes, which may cover restricted temperature ranges.

For temperature/resistance relationships with uncertainties $<0,1 \text{ }^\circ\text{C}$, which are possible only for resistors or thermometers with exceptionally high stability and individual calibration, a more complex interpolation equation than is presented in this standard may be necessary. The specification of such equations is outside the scope of this standard.

2 Normative references

The following referenced documents are indispensable for the application 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:.

IEC 61152, *Dimensions of metal-sheathed thermometer elements*

IEC 61298-1, *Process Measurement and Control devices – General Methods and Procedures for Evaluating Performance – Part 1: General considerations*

■ [REDACTED]

[REDACTED]

■ [REDACTED]