

STN	Referenčné podmienky a postupy na skúšanie meracích prevodníkov pre priemyselné procesy Časť 3: Špecifické postupy pre meracie prevodníky teploty	STN EN IEC 62828-3 18 1078
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Reference conditions and procedures for testing industrial and process measurement transmitters - Part 3: Specific procedures for temperature transmitters

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. 01/19

Obsahuje: EN IEC 62828-3:2018, IEC 62828-3:2018

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EUROPEAN STANDARD

EN IEC 62828-3

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2018

ICS 17.200.20; 25.040.40

English Version

Reference conditions and procedures for testing industrial and
process measurement transmitters - Part 3: Specific procedures
for temperature transmitters
(IEC 62828-3:2018)

Conditions de référence et procédures pour l'essai des
transmetteurs de mesure industrielle et de processus -
Partie 3: Procédures spécifiques pour les transmetteurs de
température
(IEC 62828-3:2018)

Referenzbedingungen und Testmethoden für Industrie- und
Prozessmessgrößenumformer - Teil 3: Spezielle
Testmethoden für Temperaturmessumformer
(IEC 62828-3:2018)

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN IEC 62828-3:2018 (E)**European foreword**

The text of document 65B/1110A/FDIS, future edition 1 of IEC 62828-3, prepared by IEC/SC 65B "Measurement and control devices, of IEC Technical Committee 65: Industrial-process measurement, control and automation" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62828-3:2018.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2019-02-23
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2021-05-23

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In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60584-1:2013	NOTE	Harmonized as EN 60584-1:2013 (not modified).
IEC 60584-3:2007	NOTE	Harmonized as EN 60584-3:2008 (not modified).
IEC 60715	NOTE	Harmonized as EN 60715.
IEC 60751:2008	NOTE	Harmonized as EN 60751:2008 (not modified).
IEC 61152:1992	NOTE	Harmonized as EN 61152:1994 (modified).
IEC 61515:2016	NOTE	Harmonized as EN 61515:2016 (not modified).
IEC 61298 (series)	NOTE	Harmonized as EN 61298 (series).
IEC 61987-14:2016	NOTE	Harmonized as EN 61987-14:2016 (not modified).
IEC 62460:2008	NOTE	Harmonized as EN 62460:2008 (not modified).

Annex ZA
(normative)**Normative references to international publications
with their corresponding European publications**

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60584	series	Thermocouples	EN 60584	series
IEC 62828-1	2017	Reference conditions and procedures for testing industrial and process measurement transmitters – Part 1: General procedures for all types of transmitters	EN IEC 62828-1	2018



IEC 62828-3

Edition 1.0 2018-04

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Reference conditions and procedures for testing industrial and process measurement transmitters –
Part 3: Specific procedures for temperature transmitters**

**Conditions de référence et procédures pour l'essai des transmetteurs de mesure industrielle et de processus –
Partie 3: Procédures spécifiques pour les transmetteurs de température**

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IEC 62828-3

Edition 1.0 2018-04

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Reference conditions and procedures for testing industrial and process
measurement transmitters –
Part 3: Specific procedures for temperature transmitters**

**Conditions de référence et procédures pour l'essai des transmetteurs de mesure
industrielle et de processus –
Partie 3: Procédures spécifiques pour les transmetteurs de température**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**REFERENCE CONDITIONS AND PROCEDURES FOR TESTING
INDUSTRIAL AND PROCESS MEASUREMENT TRANSMITTERS –****Part 3: Specific procedures for temperature transmitters**

FOREWORD

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International Standard IEC 62828-3 has been prepared by Subcommittee 65B: Measurement and control devices, of IEC Technical Committee 65: Industrial-process measurement, control and automation.

The IEC 62828 series cancels and replaces the IEC 60770 series and proposes revisions for the IEC 61298 series.

In IEC 61298, all parts related to PMT's will be deleted, leaving all the requirements regarding all devices but PMT's.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
65B/1110A/FDIS	65B/1114/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62828 series, published under the general title *Reference conditions and procedures for testing industrial and process measurement transmitters*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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INTRODUCTION

Most of the current IEC standards on industrial and process measurement transmitters are rather old and were developed having in mind devices based on analogue technologies. Many industrial and process measurement transmitters are meanwhile evolved and are quite different from those analogue transmitters: they are often digital and include more functions and newer interfaces, both towards the computing section (mostly digital electronic) and towards the measuring section (mostly mechanical). Even if some standards dealing with digital process measurement transmitters already exist, they are not sufficient, since some aspects of the performance are not covered by appropriate test methods.

In addition, existing IEC test standards for industrial and process measurement transmitters are spread over many documents, so that for manufacturers and users it is difficult, impractical and time-consuming to identify and select all the standards to be applied to a device measuring a specific process quantity (pressure, temperature, flow, level, etc.).

To help manufacturers and users, it was decided to review, complete and reorganize the relevant IEC standards and to create a more suitable, effective and comprehensive standard series that provides in a systematic way all specifications and tests required for different industrial and process measurement transmitters.

To solve the issues mentioned above and to provide an added value for the stakeholders, the new standard series on industrial and process measurement transmitters covers the following main aspects:

- applicable normative references;
- specific terms and definitions;
- typical configurations and architectures for the various types of industrial and process measurement transmitters;
- hardware and software aspects;
- interfaces (to the process, to the operator, to the other measurement and control devices);
- physical, mechanical and electrical requirements and relevant tests; clear definition of the test categories: type tests, acceptance tests and routine tests;
- performance (its specification, tests and verification);
- environmental protection, hazardous areas application, functional safety, etc.;
- structure of the test report and of the technical documentation.

To cover in a systematic way all the topics to be addressed, the standard series is organized in several parts. At the moment of the publication of this document, the IEC 62828 series consists of the following parts:

- IEC 62828-1: General procedures for all types of transmitters
- IEC 62828-2: Specific procedures for pressure transmitters
- IEC 62828-3: Specific procedures for temperature transmitters
- IEC 62828-4: Specific procedures for level transmitters
- IEC 62828-5: Specific procedures for flow transmitters

In preparing the IEC 62828 series many test procedures were taken, with the necessary improvements, from the IEC 61298 series. As the actual IEC 61298 series is applicable to all process measurement and control devices, when the IEC 62828 series is completed the IEC 61298 series will be revised to harmonise it with the IEC 62828 series, taking out from its scope the industrial and process measurement transmitters. During the time when 61298 scope is being updated, the new series IEC 62828 takes precedence for industrial and process measurement transmitters.

When the IEC 62828 series is published, the IEC 60770 series will be withdrawn.

REFERENCE CONDITIONS AND PROCEDURES FOR TESTING INDUSTRIAL AND PROCESS MEASUREMENT TRANSMITTERS –

Part 3: Specific procedures for temperature transmitters

1 Scope

This part of IEC 62828 establishes specific procedures for testing temperature transmitters used in measuring and control systems for industrial process and for machinery control systems.

When the process measurement transmitter features the temperature transmitter separated from the sensing element (RTD, TC, etc.), the standard applies only to the temperature transmitter without the sensing element. In case of device where the sensing element is fully integrated with the temperature transmitter, the standard applies to the complete device.

For general test procedures, reference is made to IEC 62828-1, which is applicable to all types of industrial and process measurement transmitters (PMT).

NOTE In the industrial and process applications, to indicate the process measurement transmitters, it is common also to use the terms "industrial transmitters", or "process transmitters".

The sensing element itself (e.g., RTD, TC, etc.) as well as radiation thermometers are excluded from the scope of this document.

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.

IEC 60584 (all parts), *Thermocouples*

IEC 62828-1:2017, *Reference conditions and procedures for testing industrial and process measurement transmitters – Part 1: General procedures for all types of transmitters*

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