



SLOVENSKI STANDARD

SIST EN 60546-2:1998

01-november-1998

Controllers with analogue signals for use in industrial-process control systems - Part 2: Guidance for inspection and routine testing (IEC 60546-2:1987)

Controllers with analogue signals for use in industrial-process control systems -- Part 2: Guidance for inspection and routine testing

Regler mit analogen Signalen für die Anwendung in Systemen der industriellen Prozeßtechnik -- Teil 2: Anleitung für die Abnahme- und Betriebsuntersuchung

Régulateurs à signaux analogiques utilisés pour les systèmes de conduite des processus industriels -- Partie 2: Guide pour les essais d'inspection et les essais individuels de série

<https://standards.iteh.ai/catalog/standards/sist/e0974010-8e90-420d-a18b-28e25e4d8552/sist-en-60546-2-1998>

Ta slovenski standard je istoveten z: **EN 60546-2:1993**

ICS:

25.040.40	Merjenje in krmiljenje industrijskih postopkov	Industrial process measurement and control
-----------	--	--

SIST EN 60546-2:1998

en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 60546-2:1998

<https://standards.iteh.ai/catalog/standards/sist/e0974010-8e90-420d-a18b-28e25e4d8552/sist-en-60546-2-1998>

UDC 621.3-51:681.5:620.1

Supersedes HD 530.2 S1:1989

Descriptors: Controller, controller with analogue signal, control system, inspection testing, routine testing, acceptance testing, testing after repair

ENGLISH VERSION

Controllers with analogue signals for use in industrial-process control systems
Part 2: Guidance for inspection and routine testing
(IEC 546-2:1987)

Régulateurs à signaux analogiques utilisés pour les systèmes de conduite des processus industriels
Deuxième partie: Guide pour les essais d'inspection et les essais individuels de série
(CEI 546-2:1987)

Regler mit analogen Signalen für die Anwendung in Systemen der industriellen Prozeßtechnik
Teil 2: Anleitung für die Abnahme- und Betriebsuntersuchung
(IEC 546-2:1987)

This European Standard was approved by CENELEC on 1993-03-09. 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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and 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

At the request of CENELEC Reporting Secretariat SR 65B, HD 530.2 S1:1989 (IEC 546-2:1987) was submitted to the CENELEC voting procedure for conversion into a European Standard.

The text of the International Standard was approved by CENELEC as EN 60546-2 on 9 March 1993.

The following dates were fixed:

- latest date of publication of an identical national standard (dop) 1994-03-01
- latest date of withdrawal of conflicting national standards (dow)

Annexes designated "normative" are part of the body of the standard. In this standard, annex ZA is normative.

ENDORSEMENT NOTICE

The text of the International Standard IEC 546-2:1987 was approved by CENELEC as a European Standard without any modification.

https://standards.iteh.ai/catalog/standards/sist/e09e4010-8e90-420d-a18b-28e25e4d0e52/sist-60546-2-1993
SIS EN 60546-2:1993
iteh STANDARD PREVIEW
(standards.iteh.ai)

ANNEX ZA (normative)

OTHER INTERNATIONAL PUBLICATIONS QUOTED IN THIS STANDARD
WITH THE REFERENCES OF THE RELEVANT EUROPEAN PUBLICATIONS

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

IEC Publication	Date	Title	EN/HD	Date
381*	-	Analogue signals for process control systems	-	-
382	1971	Analogue pneumatic signal for process control systems	-	-
410	1973	Sampling plans and procedures for inspection by attributes	-	-
546-1	1987	Controllers with analogue signals for use in industrial-process control systems - Part 1: Methods of evaluating the performance	EN 60546-1	1993

<https://standards.iteh.ai/catalog/standards/sist/e09740d0-8e90-420d-a18b-28e25e418552/sist-cn-60546-2-1998>

SIST EN 60546-2:1998

iTeh STANDARD PREVIEW
 (standards.iteh.ai)

* IEC 381-1:1982 is harmonized as HD 452.1 S1:1984

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 60546-2:1998

<https://standards.iteh.ai/catalog/standards/sist/e0974010-8e90-420d-a18b-28e25e4d8552/sist-en-60546-2-1998>

**NORME
INTERNATIONALE
INTERNATIONAL
STANDARD**

**CEI
IEC**

60546-2

Première édition
First edition
1987-12

**Régulateurs à signaux analogiques utilisés
pour les systèmes de conduite des processus
industriels**

**Deuxième partie:
Guide pour les essais d'inspection
et les essais individuels de série**

**Controllers with analogue signals
for use in industrial-process control systems**

**Part 2:
Guidance for inspection and routine testing**

© IEC 1987 Droits de reproduction réservés — Copyright - all rights reserved

Aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'éditeur.

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Electrotechnical Commission
Telefax: +41 22 919 0300

3, rue de Varembé Geneva, Switzerland
e-mail: inmail@iec.ch IEC web site <http://www.iec.ch>



Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE

G

*Pour prix, voir catalogue en vigueur
For price, see current catalogue*

INTERNATIONAL ELECTROTECHNICAL COMMISSION

CONTROLLERS WITH ANALOGUE SIGNALS FOR USE IN INDUSTRIAL-PROCESS CONTROL SYSTEMS

Part 2: Guidance for inspection and routine testing

FOREWORD

- 1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.
- 3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

iTeh STANDARD PREVIEW

(standards.iteh.ai)

PREFACE

This standard has been prepared by Sub-Committee 65B: Elements of Systems, of IEC Technical Committee No. 65: Industrial-process Measurement and Control.

The text of this standard is based on the following documents:

Six Months' Rule	Report on Voting
65B(CO)50	65B(CO)57

Full information on the voting for the approval of this standard can be found in the Voting Report indicated in the above table.

The following IEC publications are quoted in this standard:

Publications Nos.	381: Analogue Signals for Process Control Systems.
	382 (1971): Analogue Pneumatic Signal for Process Control Systems.
	410 (1973): Sampling Plans and Procedures for Inspection by Attributes.
	546-1 (1987): Controllers with Analogue Signals for Use in Industrial-process Control Systems. Part 1: Methods of Evaluating the Performance.

CONTROLLERS WITH ANALOGUE SIGNALS FOR USE IN INDUSTRIAL-PROCESS CONTROL SYSTEMS

Part 2: Guidance for inspection and routine testing

1. Scope

This standard applies to pneumatic and electrical industrial-process controllers using analogue signals which are in accordance with IEC Publications 381 and 382. The provisions of this standard are applicable in principle to controllers having different, but continuous signals.

2. Object

This standard is intended to provide technical guidance for inspection and routine testing of controllers, for instance, as acceptance tests or after repair. For a full evaluation, IEC Publication 546-1 should be used. Quantitative criteria for acceptable performance shall be established by agreement between manufacturer and user. The requirements of this standard shall be effective when agreed upon by the manufacturer and the user.

3. Sampling for test

If, by agreement between manufacturer and user, tests are to be performed on a sample lot, it is recommended that a sampling method such as presented in IEC Publication 410 be selected. When sampling is used, controllers to be tested may be chosen by the user's inspector.

4. Symbols and definitions (see IEC Publication 546-1, Sub-clause 3.1 for full list)

4.1 Symbols and definitions used in this standard

t = time

y = output signal (see Figure 1, page 10)

y_0 = output signal at time $t = 0$

x = measured value (see Figure 1)

w = set point value (see Figure 1)

X_p = proportional band

T_I = reset time

T_D = rate time

K_p = proportional action factor

K_I = integral action factor

K_D = derivative action factor

Proportional band, $X_p = \frac{100}{K_p}$, expressed in per cent.

Offset = steady-state deviation between measured value, x , and set point, w .