



DPC: 23 / 30478761 DC

**BSI Group Headquarters**

389 Chiswick High Road London W4 4AL

Tel: +44 (0)20 8996 9000

Fax: +44 (0)20 8996 7400

www.bsigroup.com

Date: 17 August 2023

Origin: International

**Latest date for receipt of comments: 4 October 2023**

Project No. 2023/01902

Responsible committee: GEL/65/2 Measurement and control devices

Interested committees:

Title: BS EN IEC 61298-1 Process measurement and control devices - General methods and procedures for evaluating performance

Part 1: General considerations

Please notify the secretary if you are aware of any keywords that might assist in classifying or identifying the standard or if the content of this standard

- i) has any issues related to 3rd party IPR, patent or copyright
- ii) affects other national standard(s)
- iii) requires additional national guidance or information

**WARNING: THIS IS A DRAFT AND MUST NOT BE REGARDED OR USED AS A BRITISH STANDARD.  
THIS DRAFT IS NOT CURRENT BEYOND 4 October 2023**

This draft is issued to allow comments from interested parties; all comments will be given consideration prior to publication. No acknowledgement will normally be sent. **See overleaf for information on the submission of comments.**

No copying is allowed, in any form, without prior written permission from BSI except as permitted under the Copyright, Designs and Patent Act 1988 or for circulation within a nominating organization for briefing purposes. Electronic circulation is limited to dissemination by e-mail within such an organization by committee members.

Further copies of this draft may be purchased from BSI Shop <http://shop.bsigroup.com> or from BSI Customer Services, Tel: +44(0) 20 8996 9001 or email [cservices@bsigroup.com](mailto:cservices@bsigroup.com). British, International and foreign standards are also available from BSI Customer Services.

Information on the co-operating organizations represented on the committees referenced above may be obtained from <http://standardsdevelopment.bsigroup.com>

Responsible Committee Secretary: Ms Charmaine Mukherjee (BSI)

Direct tel:

E-mail: [charmaine.mukherjee@bsigroup.com](mailto:charmaine.mukherjee@bsigroup.com)

## Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

## UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

## Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

## Template for comments and secretariat observations

|                  |                        |
|------------------|------------------------|
| Date: xx/xx/20xx | Document: ISO/DIS xxxx |
|------------------|------------------------|

| 1  | 2                                          | (3)                          | 4               | 5                                                                                                                                  | (6)                                                                      | 7                                                  |
|----|--------------------------------------------|------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|----------------------------------------------------|
| MB | Clause No./ Subclause No./Annex (e.g. 3.1) | Paragraph/Figure/ Table/Note | Type of comment | Commend (justification for change) by the MB                                                                                       | Proposed change by the MB                                                | Secretariat observations on each comment submitted |
|    | 3.1                                        | Definition 1                 | ed              | Definition is ambiguous and needs clarifying.                                                                                      | Amend to read '...so that the mains connector to which no connection...' |                                                    |
|    | 6.4                                        | Paragraph 2                  | te              | The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK. | Delete reference to UV photometer.                                       |                                                    |



PROJECT NUMBER:

**IEC 61298-1 ED3**

DATE OF CIRCULATION:

**2023-08-11**

CLOSING DATE FOR COMMENTS:

**2023-11-03**

SUPERSEDES DOCUMENTS:

**65B/1241/RR**

IEC SC 65B : MEASUREMENT AND CONTROL DEVICES

SECRETARIAT:

United States of America

SECRETARY:

Mr Wallie Zoller

OF INTEREST TO THE FOLLOWING COMMITTEES:

PROPOSED HORIZONTAL STANDARD:

☐

Other TC/SCs are requested to indicate their interest, if any, in this CD to the secretary.

FUNCTIONS CONCERNED:

☐ EMC

☐ ENVIRONMENT

☒ QUALITY ASSURANCE

☐ SAFETY

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Recipients of this document are invited to submit, with their comments, notification of any local regulations or technical reasons that may exist and should be considered should this proposal proceed, recognizing that failure to address such requirements could result in the need for new or existing "In Some Countries" clauses. (SEE [AC/22/2007](#) OR [NEW GUIDANCE DOC](#)).

TITLE:

**Process measurement and control devices - General methods and procedures for evaluating performance - Part 1: General considerations**

NOTE FROM TC/SC OFFICERS:

Copyright © 2023 International Electrotechnical Commission, IEC. All rights reserved. It is permitted to download this electronic file, to make a copy and to print out the content for the sole purpose of preparing National Committee positions. You may not copy or "mirror" the file or printed version of the document, or any part of it, for any other purpose without permission in writing from IEC.

# CONTENTS

|    |                                                                                 |    |
|----|---------------------------------------------------------------------------------|----|
| 1  |                                                                                 |    |
| 2  | FOREWORD.....                                                                   | 4  |
| 3  | INTRODUCTION.....                                                               | 6  |
| 4  | 1 Scope.....                                                                    | 7  |
| 5  | 2 Normative references .....                                                    | 7  |
| 6  | 3 Terms and definitions .....                                                   | 7  |
| 7  | 4 Test categories.....                                                          | 9  |
| 8  | 5 General criteria .....                                                        | 10 |
| 9  | 5.1 Realistic operating conditions.....                                         | 10 |
| 10 | 5.2 Economic aspects .....                                                      | 10 |
| 11 | 5.3 Replication of the tests and comparability of the results .....             | 10 |
| 12 | 5.3.1 Standardization of test methods .....                                     | 10 |
| 13 | 5.3.2 Influence factors.....                                                    | 10 |
| 14 | 5.3.3 Documentation of the test methods.....                                    | 10 |
| 15 | 5.4 Processing the results .....                                                | 10 |
| 16 | 5.5 Independence of the results of a test from the effects of other tests ..... | 11 |
| 17 | 6 General conditions for tests and samples .....                                | 11 |
| 18 | 6.1 Environmental test conditions.....                                          | 11 |
| 19 | 6.1.1 Recommended limits of ambient conditions for test measurements.....       | 11 |
| 20 | 6.2 Supply conditions .....                                                     | 11 |
| 21 | 6.2.1 Reference values.....                                                     | 11 |
| 22 | 6.2.2 Tolerances .....                                                          | 12 |
| 23 | 6.3 Load conditions .....                                                       | 12 |
| 24 | 6.4 Mounting position .....                                                     | 12 |
| 25 | 6.5 Externally induced vibrations.....                                          | 13 |
| 26 | 6.6 External mechanical constraints .....                                       | 13 |
| 27 | 6.7 Selection .....                                                             | 13 |
| 28 | 6.7.1 Criteria .....                                                            | 13 |
| 29 | 6.7.2 Selection procedures .....                                                | 13 |
| 30 | 6.8 Delivery of the devices .....                                               | 13 |
| 31 | 6.9 Identification and inspection .....                                         | 13 |
| 32 | 7 General testing procedures and precautions.....                               | 14 |
| 33 | 7.1 Test laboratory .....                                                       | 14 |
| 34 | 7.2 Preparation for the tests .....                                             | 14 |
| 35 | 7.3 Choice of reference measuring equipment.....                                | 14 |
| 36 | 7.3.1 Criteria .....                                                            | 14 |
| 37 | 7.3.2 Uncertainty of the measuring system .....                                 | 14 |
| 38 | 7.3.3 Traceability.....                                                         | 14 |
| 39 | 7.4 Input variable quality .....                                                | 15 |
| 40 | 7.5 Tapping.....                                                                | 15 |
| 41 | 7.6 Checking of calibration made as delivered.....                              | 15 |
| 42 | 7.7 Sequence of tests .....                                                     | 15 |
| 43 | 7.8 Interruption and duration of each series of measurements.....               | 15 |
| 44 | 7.9 Anomalies and failures during tests .....                                   | 15 |
| 45 | 7.9.1 General .....                                                             | 15 |
| 46 | 7.9.2 Procedures.....                                                           | 15 |
| 47 | 7.10 Re-start of a test .....                                                   | 16 |

|    |                                                                  |    |
|----|------------------------------------------------------------------|----|
| 48 | 7.11 Setting of adjustments .....                                | 16 |
| 49 | 7.12 Preconditioning .....                                       | 16 |
| 50 | 7.12.1 Criteria .....                                            | 16 |
| 51 | 7.12.2 Procedure.....                                            | 16 |
| 52 | 7.13 Calibration adjustments of lower range value and span ..... | 16 |
| 53 | 7.14 Constancy of the operating conditions and settings .....    | 16 |
| 54 | 7.15 Input/output variable relationships .....                   | 16 |
| 55 | 7.15.1 Criteria .....                                            | 16 |
| 56 | 7.15.2 Procedure.....                                            | 17 |
| 57 | 7.16 Error assessment .....                                      | 17 |
| 58 | 7.17 Symbols and units of measurement .....                      | 17 |
| 59 | 7.18 Test report and documentation .....                         | 17 |
| 60 |                                                                  |    |
| 61 |                                                                  |    |
| 62 |                                                                  |    |

# INTERNATIONAL ELECTROTECHNICAL COMMISSION

## PROCESS MEASUREMENT AND CONTROL DEVICES – GENERAL METHODS AND PROCEDURES FOR EVALUATING PERFORMANCE –

### Part 1: General considerations

#### FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with an IEC Publication.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61298-1 has been prepared by subcommittee 65B: Devices and process analysis, of IEC technical committee 65: Industrial-process measurement, control and automation.

This second edition cancels and replaces the first edition published in 1995 and constitutes a technical revision.

This edition is a general revision with respect to the previous edition and does not include any significant changes (see Introduction).