

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Process measurement and control devices – General methods and procedures for evaluating performance –
Part 4: Evaluation report content**

**Dispositifs de mesure et de commande de processus – Méthodes et procédures générales d'évaluation des performances –
Partie 4: Contenu du rapport d'évaluation**



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**PROCESS MEASUREMENT AND CONTROL DEVICES –
GENERAL METHODS AND PROCEDURES
FOR EVALUATING PERFORMANCE –****Part 4: Evaluation report content**

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.
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International Standard IEC 61298-4 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).

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

FDIS	Report on voting
65B/688/FDIS	65B/696/RVD

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

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

A list of all parts of the IEC 61298 series, under the general title *Process measurement and control devices – General methods and procedures for evaluating performance*, can be found on the IEC website.

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

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- withdrawn,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

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INTRODUCTION

This standard is not intended as a substitute for existing standards, but is rather intended as a reference document for any future standards developed within the IEC or other standards organizations, concerning the evaluation of process instrumentation. Any revision of existing standards should take this standard into account.

This common standardized basis should be utilized for the preparation of future relevant standards, as follows:

- any test method or procedure, already treated in this standard, should be specified and described in the new standard by referring to the corresponding clause of this standard. Consequently new editions of this standard are revised without any change in numbering and scope of each clause;
- any particular method or procedure, not covered by this standard, should be developed and specified in the new standard in accordance with the criteria, as far as they are applicable, stated in this standard;
- any conceptual or significant deviation from the content of this standard, should be clearly identified and justified if introduced in a new standard.

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

Part 4: Evaluation report content

1 Scope

This part of IEC 61298 specifies general methods and procedures for conducting tests, and reporting on the functional and performance characteristics of process measurement and control devices. The tests are applicable to any such devices characterized by their own specific input and output variables, and by the specific relationship (transfer function) between the inputs and outputs, and include analogue and digital devices. For devices that require special tests, this standard should be used, together with any product specific standard specifying special tests.

This standard specifies the content of the written report on the evaluation or tests on a process measurement or control device, and the results obtained.

It specifies the major items which should be included in the evaluation report, but it does not specify the exact format in which the contents should be presented. (This is left to the discretion of the test laboratory which prepares and issues the report.)

2 Normative references

[IEC 61298-4:2008](https://standards.iteh.ai/catalog/standards/sist/33fd3059-9da3-473e-9cb0-3a21c3e21d38/iec-61298-4-2008)

<https://standards.iteh.ai/catalog/standards/sist/33fd3059-9da3-473e-9cb0-3a21c3e21d38/iec-61298-4-2008>

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 60050 (all parts), *International Electrotechnical Vocabulary (IEV)*

IEC 60050-300, *International Electrotechnical Vocabulary (IEV) – Electrical and electronic measurements and measuring instruments (composed of Part 311, 312, 313 and 314)*

IEC 60050-351, *International Electrotechnical Vocabulary (IEV) – Part 351 : Control technology*

3 General considerations

3.1 Report coverage

One report shall refer to one evaluation on a subject device. If a second evaluation is made on the same device, then a separately numbered report shall be issued.

3.2 Report binding

Each copy of the report shall be bound with covers, so that the pages cannot become separated. No particular method of binding together the pages of the report is specified. This is left to the discretion of the test laboratory issuing the report.

3.3 Page numbering

Each page of the report shall be identified with a unique, sequential page number. It is a convention to regard the first page of text in the report as page 1, with subsequent pages numbered sequentially.

Page numbers shall be shown in the format "Page 'x' of 'y'", where 'x' is the specific page number and 'y' is the number of the last page of the report. The report number should be given also.

If a separate title page is placed at the front of the report, this is not usually included in the page numbering sequence.

3.4 Draft and final reports

It is sometimes desirable and advantageous to issue a preliminary, draft version of an evaluation report for comment prior to the issue of a formal, final version of the report.

Each page of draft reports shall be clearly identified as such, but need not be presented or bound exactly as the subsequent final report.

3.5 Abridged reports

At the discretion of the issuing authority, or the test laboratory, an abridged version of the report may be issued, complementary to the full report. If an abridged report is issued, it shall always include at least the introduction, major findings, and manufacturer's comments, exactly as presented in the full report. (standards.iteh.ai)

3.6 Units

SI units should be used throughout the report. When other units need to be used, the SI equivalent should be given in brackets alongside.

4 Report title

Each report title shall give all the following information:

- report number;
- date of issue;
- manufacturer's name, and country of manufacture;
- instrument type;
- model name or number.

The report number shall be a unique number, one of a series, which refers only to one report of one evaluation, or possibly a series of evaluations.

The manufacturer's name shall be the full name of the manufacturer company *at the time when the instrument was supplied for evaluation*. Any changes in name during the period of evaluation should be indicated in the introduction of the report.

The country of manufacture shall be where the device was finally assembled into a complete 'instrument'. This may not be the same as the country from which the instrument was supplied for evaluation. The correct status may need to be confirmed by the author of the report.

The instrument type shall be a brief, general description of function, application details and size or range.

Any further details about the equipment itself, or the range of tests applied, should be described in the introduction of the report.

5 Preliminary pages

5.1 Title page

This page shall include the full report title, as specified in Clause 4, plus the name of the test laboratory and the names(s) of the author(s).

The report shall identify the sponsor of the evaluation and any information regarding the use of any proprietary information contained.

Additional information about the laboratory compiling the report may be provided on this page at the discretion of the laboratory.

This page is not usually numbered.

5.2 Contents page

This page is not included in the sequence of page numbers for the text of the report.

5.3 Photograph of the equipment tested

This shall always be shown in Figure 1. It should preferably appear facing page 1 of the report.

It should be a photograph of the equipment actually tested with the covers on, three-quarter front view, if this is possible. If a photograph of the same type of equipment, provided by the manufacturer, is used, this should be stated.

A scale, or some other means to indicate the size of the equipment, shall be included in Figure 1.

6 First page of report

This page shall always contain the heading to the report and the introduction. It may also contain the first part of the "Major findings and comments" clause.

The heading to the report shall always contain at least the following information:

- title of the report (including manufacturer's name, type of device and model);
- author(s) names(s) and professional qualifications;
- name of evaluation laboratory;
- project number;
- sponsor(s) of the project;
- report number;
- date (month and year) of issue of the final report.

7 Report introduction

The introduction should not cover more than one page. The paragraphs indicated below should be included in this clause, using the standard wording shown in italic print, wherever relevant.

- Paragraph 1 – *"This report describes the evaluation of a... (instrument and model) manufactured by... (manufacturer's name). The instrument was a... (standard production/prototype/etc. model) manufactured in... (country of manufacture)"*.
- Paragraph 2 – *"The instrument was evaluated to a test programme drawn up by... (laboratory or sponsor) based on... (quote briefly the main relevant standards – do not give full references here – these will be given in subclause 14.1)"*.
- Paragraph 3 – Functional purpose of instrument tested. Give also, as appropriate, input span, output span, range, and whether adjustable or not.
- Paragraph 4 – The manufacturer's quoted indication of general performance.
- Paragraph 5 – A brief description of the principle of operation.
- Paragraph 6 – Primary application, intended environment, ancillary equipment, options available, special features, etc., power supply required, safety status (whether approved or not for use in flammable atmospheres).
- Paragraph 7 – *"The equipment was delivered on... and was evaluated over a period of... weeks/months from... (commencement date) until... (date of completion of tests)." If this period is unduly protracted the reason(s) for the delays should be briefly stated.*

8 Major findings and comments IEC 61298-4:2008 <https://standards.iteh.ai/catalog/standards/sist/33fd3059-9da3-473e-9cb0-0ef53d2627b1/iec-61298-4-2008>

Two sentences similar to the following examples shall appear immediately under the title.

"These findings are summarized here for ready reference, and to give an overview of the evaluation. For a complete assessment of the instrument, the report shall be read and considered as a whole."

"All errors and changes are expressed as a percentage of output span unless otherwise stated."

This clause should summarize and comment on the most significant findings from the evaluation. The comments should be brief and concise, and, for example, may be grouped under the following headings.

Manufacturer's performance specifications

Briefly comment if the manufacturer's specifications are not comprehensive.

Satisfactory performance features

State all the tests in which the results were satisfactory and within the manufacturer's relevant specification. If required, a summary of the results may be given.

Performance outside specification

State all the tests in which the results were not satisfactory, or outside the manufacturer's specification. A summary of the results should be given.

Aspects of unspecified performance

Summarize the results of tests for which there was no manufacturer's specification.

Unexpected events

Unexpected events observed during the evaluation, such as a fault, and the action taken, should be reported here. More detailed reference to this should be given in Clause 10. Give brief details of any repairs carried out, by whom, and how quickly. If essential, a detailed description can be included as an annex to the report.

Construction and maintenance

Give brief comments on the quality of materials, construction, workmanship, finishes, etc. State any production faults found during initial visual inspection, and during testing. If possible, state whether components were of assessed quality, and whether finishes stood up to humidity testing, corrosion testing, drop or shock testing, and ordinary handling. If appropriate, comment on any potential difficulties for maintenance.

Installation

State the method of installation and give any comments on the likely ease or difficulties and state the time likely to be taken.

Commissioning

Report whether or not any commissioning was necessary and, if so, the time taken, who did it and how easy it was, or whether any difficulties were experienced.

Safety

State the operator safety aspects (covers over live terminals, interlocks on doors, etc.). This paragraph should only be included when there is an unsafe feature to report.

Packaging

Comment on the adequacy, or otherwise, of the packaging for shipment. This paragraph should be included only when there is some deficiency to report.

Comments on documentation

Comment on the quality, adequacy and ease of use of the handbooks, manuals, spare parts list and other printed data and literature supplied automatically by the manufacturer, or on the request of the test laboratory. State the language in which the manuals are written and whether they are available in any other language.

9 Manufacturer's comments

When an evaluation report is to be distributed to organizations other than the manufacturer, the manufacturer should be invited to make comments on a draft copy of the relevant report. The manufacturer's written comments should be included in the final version of the report.

The manufacturer's comments should usually be restricted to one page, except under exceptional circumstances. They should relate directly to the results of the evaluation/testing as described in the report, and should not include any statements of a commercial or promotional nature.

Wherever possible, comments made by the manufacturer should be reproduced verbatim. The manufacturer's text should not be edited, except in the following circumstances: