



SLOVENSKI STANDARD
oSIST prEN IEC 63270-2:2026
01-september-2026

**Oprema in sistemi za industrijsko avtomatizacijo - 2. del: Metode preverjanja
algoritmov**

Industrial automation equipment and systems - Part 2: Algorithm verification methods

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ICS:

25.040.01	Sistemi za avtomatizacijo v industriji na splošno	Industrial automation systems in general
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65E/1222/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

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OF INTEREST TO THE FOLLOWING COMMITTEES:

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TITLE:

Industrial automation equipment and systems – Part 2: Algorithm Verification Methods

PROPOSED STABILITY DATE: 2031

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**PREDICTIVE MAINTENANCE OF INDUSTRIAL AUTOMATION EQUIPMENT
AND SYSTEMS – PART 2: ALGORITHM VERIFICATION METHODS****FOREWORD**

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

FDIS	Report on voting
XX/XX/FDIS	XX/XX/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.

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,

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- 127 • withdrawn,
128 • replaced by a revised edition, or
129 • amended.

130

131 The National Committees are requested to note that for this document the stability date
132 is 20XX..

133 THIS TEXT IS INCLUDED FOR THE INFORMATION OF THE NATIONAL COMMITTEES AND WILL BE DELETED
134 AT THE PUBLICATION STAGE.

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INTRODUCTION

138 The use of predictive maintenance has increased in many industries as it has evolved into the
139 predominant method of operation and maintenance services. Algorithms are at the core of
140 effective implementation of predictive maintenance. Moreover, there is an urgent need for a
141 standardized measurement system to evaluate the accuracy, effectiveness, and applicability of
142 the predictive maintenance algorithm in a scientific and reasonable manner.

143 Predictive maintenance is a new equipment operation and maintenance model for equipment
144 or components in various industries. It uses new-generation information technology in
145 conjunction with vibration, image, current, vocal print, and other signal analysis for condition
146 monitoring, fault diagnosis, remaining life prediction, developing operation and maintenance
147 decision plans, and arranging reasonable maintenance activities. By using the standard test
148 verification indications and procedures used in industry, a general algorithm verification system
149 is developed in this document with condition monitoring, fault diagnosis, life prediction, and
150 other predictive maintenance algorithms as objects. This standard can provide support for its
151 application in different industries after issuance and implementation.

152 Generally, the practitioners of predictive maintenance are divided into equipment users,
153 equipment manufacturers, and solution suppliers. This document can be used by the
154 aforementioned practitioners as a reference manual and verification basis, as well as an
155 important supporting material for the procurement and acceptance of equipment. It can also be
156 used as a basis for equipment manufacturers and solution suppliers to explain the advantages
157 of the technical solutions for predictive maintenance that they provide.
158

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PREDICTIVE MAINTENANCE OF INDUSTRIAL AUTOMATION EQUIPMENT AND SYSTEMS – PART 2: ALGORITHM VERIFICATION METHODS

1. Scope

This document specifies the classification, the verification process, test indicators, test methods, the verification index system, and the verification data requirements for predictive maintenance.

This document applies to the test verification of condition monitoring, fault diagnosis, life prediction, and other algorithms in predictive maintenance.

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 63270-1:2025: Predictive maintenance of industrial automation equipment and systems — Part 1: General requirements

3. Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

1 IEC Electropedia: available at <http://www.electropedia.org/>

2 ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1 Terms, definitions, and abbreviated terms

3.1.1 condition monitoring

Recording and verification of technical entity status for maintenance purposes.

[SOURCE: IEC 63270-1, 3.1.3]

3.1.2 Fault Diagnosis

Examine the symptoms and symptom complexes in order to determine the nature (type, condition, and degree) of the fault or failure.

3.1.3 Predictive Maintenance

It is a form of preventive maintenance that is carried out continuously or at predetermined intervals governed by observed conditions in order to monitor, diagnose, or trend the condition indicators of a structure, system, or component. Results indicate functional capacity for the present and the future, or the nature and timing of planned maintenance.

[SOURCE: IEC 62342:2007, 3.14, modified – notes have been deleted]

3.1.4 Confidence Level

Quality criteria represent the accuracy degree of the diagnosis or prediction.

Note 1: It is expressed as a percentage.

Note 2: A computational or weighted verification system may compute this value, which is basically a number that represents the cumulative impact of the error source on the ultimate reliability or confidence in the accuracy of the output result. Abbreviated terms.