



**SLOVENSKI STANDARD**  
**oSIST prEN IEC 61987-41:2024**  
**01-april-2024**

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**IEC 61987, 41 del: Generične strukture seznama lastnosti (LOP) merilnih naprav tehnologije procesnega analizatorja (PAT) za elektronsko izmenjavo podatkov**

IEC 61987, part 41: Generic structures of list of properties (LOP) of process analyzer technology (PAT) measuring devices for electronic data exchange

IEC 61987, partie 41: Structures génériques de la liste des propriétés (LOP) des appareils de mesure de la technologie des analyseurs de processus (PAT, Process Analyzer Technology) pour l'échange électronique de données

**Ta slovenski standard je istoveten z: prEN IEC 61987-41:2024**

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## COMMITTEE DRAFT FOR VOTE (CDV)

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SECRETARIAT: United States of America	SECRETARY: Mr Donald (Bob) Lattimer
OF INTEREST TO THE FOLLOWING COMMITTEES:	PROPOSED HORIZONTAL STANDARD: <input type="checkbox"/> Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.
FUNCTIONS CONCERNED: <input type="checkbox"/> EMC <input type="checkbox"/> ENVIRONMENT <input type="checkbox"/> QUALITY ASSURANCE <input type="checkbox"/> SAFETY	
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### TITLE:

**IEC 61987, Part 41: Generic structures of List of Properties (LOP) of Process Analyzer Technology (PAT) measuring devices for electronic data exchange**

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## CONTENTS

1		
2		
3	FOREWORD .....	3
4	INTRODUCTION .....	5
5	1 Scope .....	7
6	2 Normative references .....	7
7	3 Terms and definitions .....	7
8	3.1 Dynamic property .....	8
9	3.2 List of Properties for Dynamic Data (LOPD) .....	8
10	4 General .....	8
11	4.1 Characterization scheme .....	8
12	4.2 OLOP, DLOP and LOPD .....	8
13	4.3 Cardinality and polymorphism .....	9
14	5 Operating List of Properties (OLOP) .....	10
15	5.1 Generic block structure .....	10
16	5.2 Project data .....	10
17	5.2.1 Composition of sample material/component .....	10
18	5.3 Material data .....	<b>Error! Bookmark not defined.</b>
19	5.4 Sampling .....	<b>Error! Bookmark not defined.</b>
20	5.5 Limiting conditions .....	<b>Error! Bookmark not defined.</b>
21	5.6 Supply .....	<b>Error! Bookmark not defined.</b>
22	5.6.1 Electrical supply .....	<b>Error! Bookmark not defined.</b>
23	5.6.2 Auxiliary media .....	<b>Error! Bookmark not defined.</b>
24	5.7 Return point .....	<b>Error! Bookmark not defined.</b>
25	6 Device List of Properties (DLOP) .....	12
26	6.1 Basic structure .....	12
27	6.1.1 General .....	12
28	6.1.2 Generic block structure .....	12
29	6.1.3 Relationship to IEC 61987-1 .....	14
30	7 LOPD with dynamic properties for condition monitoring .....	14
31	7.1 General .....	14
32	7.2 Measurement variables .....	15
33	7.3 Setpoint variables .....	<b>Error! Bookmark not defined.</b>
34	7.4 General device variables/status .....	15
35	7.5 Specific device variables/status/condition monitoring .....	15
36	7.6 General device parameters .....	15
37	7.7 General functions .....	15
38	8 Additional aspects .....	15
39	Annex A (informative) Device Type Dictionary – Classification of process analysers .....	16
40	Bibliography .....	20
41		
42	Figure 1 – Characterization of process analysers .....	8
43	Figure 2 – Assignment of OLOP and DLOPs for process analysers .....	9
44		
45	Table 1 – Generic block structure of an OLOP for process analyser .....	10
46	Table 2 – Generic block structure of a DLOP .....	13

47	Table 3 – Generic block structure of a LOPD .....	15
48	Table A.1 – Classification scheme for process analysers .....	16
49		

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**INDUSTRIAL-PROCESS MEASUREMENT AND CONTROL – DATA  
STRUCTURES AND ELEMENTS IN PROCESS EQUIPMENT CATALOGUES –****Part 41: Lists of Properties (LOPs) of process analysers for electronic  
data exchange – Generic structures**

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This edition includes the following significant technical changes with respect to the previous edition:

a) ...;

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

FDIS	Report on voting
XX/XX/FDIS	XX/XX/RVD

103

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

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

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

- 110 • reconfirmed,
- 111 • withdrawn,
- 112 • replaced by a revised edition, or
- 113 • amended.

114

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

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## INTRODUCTION

121 The exchange of product data between companies, business systems, engineering tools, data  
122 systems within companies and, in the future, control systems (electrical, measuring and control  
123 technology) can run smoothly only when both the information to be exchanged and the use of  
124 this information has been clearly defined.

125 Prior to this standard, requirements on process control devices and systems were specified by  
126 customers in various ways when suppliers or manufacturers were asked to quote for suitable  
127 equipment. The suppliers in their turn described the devices according to their own  
128 documentation schemes, often using different terms, structures and media (paper, databases,  
129 CDs, e-catalogues, etc.). The situation was similar in the planning and development process,  
130 with device information frequently being duplicated in a number of different information  
131 technology (IT) systems.

132 Any method that is capable of recording all existing information only once during the planning  
133 and ordering process and making it available for further processing, gives all parties involved  
134 an opportunity to concentrate on the essentials. A precondition for this is the standardization of  
135 both the descriptions of the objects and the exchange of information.

136 The IEC 61987 series proposes a method for standardization which will help both suppliers and  
137 users of process control equipment to optimize workflows both within their own companies and  
138 in their exchanges with other companies. Depending on their role in the process, engineering  
139 firms can be considered here to be either users or suppliers.

140 The method specifies process control equipment by means of blocks of properties. These blocks  
141 are compiled into lists of properties (LOPs), each of which describes a specific equipment  
142 (device) type. The IEC 61987 series covers both properties that can be used in an inquiry or a  
143 proposal and detailed properties required for integration of the equipment in computer systems  
144 for other tasks.

145 IEC 61987-10 defines structure elements for constructing lists of properties for electrical and  
146 process control equipment in order to facilitate automatic data exchange between any two  
147 computer systems in any possible workflow, for example, engineering, maintenance or  
148 purchasing workflow and to allow both the customers and the suppliers of the equipment to  
149 optimize their processes and workflows. IEC 61987-10 also provides the data model for  
150 assembling the LOPs.

151 IEC 61987-11 while specifying a generic structure for measuring equipment provides several  
152 important detail descriptions, such as the handling of composite devices, that are also required  
153 for LOPs describing process analysers.

154 IEC 61987-41 specifies the generic structure for operating and device lists of properties (OLOPs  
155 and DLOPs) for process analysers. Process analysers are installed directly in the plants of the  
156 process industry and in control rooms specially set up for PAT (analyser houses or analyser  
157 shelters). Part 41 provides also generic structures for List of Properties for Dynamic Data  
158 (LOPD) for process analysers. This LOPD can be used, for example, for the description of  
159 dynamic data for condition monitoring.

160 Note: Depending upon industry sector, process analysers are also known as Process Analyser Technology (PAT)  
161 devices

162 The entire IEC 61987 series provides the semantic of data needed for the area of the Industrial  
163 Internet of Things (IIOT) and Smart Manufacturing. The sub-series 4x focuses on condition  
164 monitoring information for process analysers. Part 41 lays down the framework for further parts  
165 of IEC 61987 in which complete LOPs for process analysers of different construction and  
166 functional principle will be specified.



167 Annex A contains a characterisation of process analysers. This is a tree of relationships  
168 between different device types. Starting at the root “equipment for industrial-process  
169 automation”, it lists various types of process analyser. This characterisation is used in the  
170 “Process automation” Domain of the IEC Common Data Dictionary (CDD).

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# INDUSTRIAL-PROCESS MEASUREMENT AND CONTROL – DATA STRUCTURES AND ELEMENTS IN PROCESS EQUIPMENT CATALOGUES –

## Part 41: Lists of Properties (LOPs) of Process Analysers for electronic data exchange – Generic structures

### 1 Scope

This part of IEC 61987 provides

- a characterization for the integration of process analysers in the Common Data Dictionary (CDD);
- generic structures for operating lists of properties (OLOP) and device lists of properties (DLOP) of measuring equipment in conformance with IEC 61987-10.
- generic structures for Dynamic Data, which are needed e.g. for condition monitoring of process analysers

The generic structures for the OLOP and DLOP contain the most important blocks for process analysers. Blocks pertaining to a specific equipment type will be described in the corresponding part of the IEC 61987 standard series. Similarly, equipment properties are not part of this part of IEC 61987. Thus, OLOP, DLOPs and LOPDs for selected process analyser families are to be found in the standards IEC 61987-4x.

### 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 61987-1:2006, *Industrial-process measurement and control – Data structures and elements in process equipment catalogues – Part 1: Measuring equipment with analogue and digital output*

IEC 61987-10, *Industrial-process measurement and control – Data structures and elements in process equipment catalogues – Part 10: List of Properties (LOPs) for Industrial-Process Measurement and Control for Electronic Data Exchange – Fundamentals*

IEC 61987-11:2016, *Industrial-process measurement and control – Data structures and elements in process equipment catalogues – Part 11: List of Properties (LOP) of measuring equipment for electronic data exchange – Generic structures*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions in IEC 61987-10 and IEC 61987-11 apply.

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

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp/ui>