IEC 61987-92

Edition 1.0 2018-06

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Industrial-process measurement and control – Data structures and elements in process equipment catalogues –
Part 92: Lists of properties (LOP) of measuring equipment for electronic data exchange – Aspect LOPs

Mesure et commande dans les processus industriels – Structures de données et éléments dans les catalogues d'équipements de processus –
Partie 92: Listes de propriétés (LOP) des équipements de mesure pour l'échange électronique de données – LOP d'aspect

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

ICS 25.040.40; 35.240.50

ISBN 978-2-8322-5761-6

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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Part 92: Lists of properties (LOP) of measuring equipment for electronic data exchange – Aspect LOPs

FOREWORD

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International Standard IEC 61987-92 has been prepared by subcommittee 65E: Devices and integration in enterprise systems, of IEC technical committee 65: Industrial-process measurement, control and automation.

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

FDIS	Report on voting
65E/587/FDIS	65E/596/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.

A list of all parts in the IEC 61987, published under the general title *Industrial-process measurement and control – Data structures and elements in process equipment catalogues*, can be found on the IEC website.

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- withdrawn,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

INTRODUCTION

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

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

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

This standard series proposes a method for standardization which will help both suppliers and users of measuring equipment to optimize workflows both within their own companies and in their exchanges with other companies. Depending on their role in the process, engineering firms may be considered here to be either users or suppliers.

The method specifies measuring equipment by means of blocks of properties. These blocks are compiled into lists of properties (LOPs), each of which describes a specific equipment (device) type. This standard series covers both properties that may be used in an inquiry or a proposal and detailed properties required for integration of the equipment in computer systems for other tasks.

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

IEC 61987-11 specifies the generic structure for operating and device lists of properties (OLOPs and DLOPs). It lays down the framework for further parts of IEC 61987 in which complete LOPs for device types measuring a given physical variable and using a particular measuring principle will be specified. The generic structure may also serve as a basis for the specification of LOPs for other industrial-process control instrument types such as control valves and signal processing equipment.

IEC 61987-12 to IEC 61987-16 specify the OLOPs and DLOPs for measuring equipment for flow, pressure, temperature, level and density measurement respectively. Whereas a DLOP describes a device itself, an OLOP describes the most important aspect of a device, namely the conditions and infrastructure to be found at the point of installation. Thus, it contains the ambient conditions and the technical requirements that the device must fulfil during operation.

IEC 61987-92 contains additional aspects that are common to all devices, for example, “Packaging and transportation”, “Calibration and test results” and “Device documents supplied”. The associated LOPs can accompany any DLOP as described in IEC 61987-11.

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

Part 92: Lists of properties (LOP) of measuring equipment for electronic data exchange – Aspect LOPs

1 Scope

This part of IEC 61987 provides LOPs describing aspects of equipment for industrial-process automation that is subject of this standard series.

The structures of the aspect LOPs correspond to the general structures defined in IEC 61987-11 and agree with the fundamentals for the construction of LOPs defined in IEC 61987-10.

Libraries of properties and of blocks used in the aspect LOPs are listed in Annex B and Annex C.

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 61355-1:2008, *Classification and designation of documents for plants, systems and equipment – Part 1: Rules and classification tables*

IEC 61360 (all parts), *Standard data element types with associated classification scheme for electric components*

IEC 61360, *IEC Comon Data Dictionary (IEC CDD),* available at https://cdd.iec.ch/

IEC 61987-10:2009, *Industrial-process measurement and control – Data structures and elements in process equipment catalogues – Part 10: Lists 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: Lists of properties (LOPs) of measuring equipment for electronic data exchange – Generic structures*

3 Terms and definitions

For the purposes of this document, the terms and definitions given 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 http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp