

Industrial-process measurement and control - Data structures and elements in process equipment catalogues - Part 23: Lists of Properties (LOPs) of actuators for electronic data exchange

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 61987-23:2016 sisaldab Euroopa standardi EN 61987-23:2016 ingliskeelset teksti.	This Estonian standard EVS-EN 61987-23:2016 consists of the English text of the European standard EN 61987-23:2016.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 15.01.2016.	Date of Availability of the European standard is 15.01.2016.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 01.110, 25.040.40, 35.240.50

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:

Aru 10, 10317 Tallinn, Eesti; koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Aru 10, 10317 Tallinn, Estonia; homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

ICS 25.040.40; 01.110; 35.240.50

English Version

**Industrial-process measurement and control - Data structures
and elements in process equipment catalogues - Part 23: Lists of
Properties (LOPs) of actuators for electronic data exchange
(IEC 61987-23:2015)**

Mesure et commande dans les processus industriels -
Structures de données et éléments dans les catalogues
d'équipement de processus - Partie 23: Listes de propriétés
(LOP) des actionneurs pour l'échange électronique de
données
(IEC 61987-23:2015)

Industrielle Leittechnik - Datenstrukturen und -elemente in
Katalogen der Prozessleittechnik - Teil 23: Merkmalleisten
(ML) für Antriebe für den elektronischen Datenaustausch
(IEC 61987-23:2015)

This European Standard was approved by CENELEC on 2015-10-20. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

European foreword

The text of document 65B/998/FDIS, future edition 1 of IEC 61987-23, prepared by SC 65B "Measurement and control devices", of IEC/TC 65 "Industrial-process measurement, control and automation" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61987-23:2016.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2016-07-20
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2018-10-20

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 61987-23:2015 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60534-7	NOTE	Harmonized as EN 60534-7.
IEC 61360-2	NOTE	Harmonized as EN 61360-2.
IEC 61360-5	NOTE	Harmonized as EN 61360-5.
IEC 61987-1	NOTE	Harmonized as EN 61987-1.
IEC 60534-1	NOTE	Harmonized as EN 60534-1.

Annex ZA

(normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61360-1	-	Standard data elements types with associated classification scheme for electric items - Part 1: Definitions - Principles and methods	EN 61360-1	-
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	EN 61987-10	2009
IEC 61987-11	-	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	EN 61987-11	-
IEC 61987-21	2015	Industrial-process measurement and control - Data structures and elements in process equipment catalogues - Part 21: List of Properties (LOP) of automated valves for electronic data exchange - Generic structures	EN 61987-21	2016

CONTENTS

FOREWORD.....	3
INTRODUCTION.....	5
1 Scope.....	6
2 Normative references	6
3 Terms and definitions	6
4 General	7
4.1 Overview.....	7
4.2 Depiction of OLOP and DLOPs	7
Annex A (normative) Operating List of Properties for actuators	8
Annex B (normative) Device Lists of Properties for different types of valve actuators	9
B.1 Device LOP for pneumatic linear actuator	9
B.2 Device LOP for pneumatic rotary actuator	9
Annex C (normative) Property library	10
Annex D (normative) Block library for considered device types	11
Bibliography.....	12

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 have 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.

The IEC 61987 series proposes a method for standardization which will help both suppliers and users of process control 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 process control 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. The IEC 61987 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, while specifying a generic structure for measuring equipment, provides several important detail descriptions, such as the handling of composite devices that are also required for LOPs describing devices of other areas like the automated valves.

IEC 61987-21 specifies the generic structure for Operating and Device Lists of Properties (OLOPs and DLOPs) for automated valves. It lays down the framework for further parts of IEC 61987 in which complete LOPs for final control elements of different construction and functional 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.

This part of IEC 61789 concerns valve actuators. It provides an operating LOP for all types of valve actuators which can be used, for example, as a request for quotation for various purposes. The DLOPs for the range of valve actuators types provided in this standard can be used in very different ways in the computer systems of equipment manufacturers and suppliers, in Computer Aided Engineering (CAE) and similar systems of Engineering Procurement and Construction (EPC) contractors and other engineering companies and especially in the various plant maintenance systems of plant owners. The OLOP and the DLOPs provided correspond to the guidelines specified in IEC 61987-10, IEC 61987-11 and IEC 61987-21.