IEC 61987-100

Edition 1.0 2025-01

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

## Industrial-process measurement and control – Data structures and elements in process equipment catalogues – Part 100: Data base standard for process measurement, control and automation equipment

## Mesure et commande dans les processus industriels – Eléments et structures de données dans les catalogues d'équipements de processus – Partie 100: Norme de base de données des équipements de mesure,de commande et d'automation pour les processus



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

## Part 100: Data base standard for process measurement, control and automation equipment

## FOREWORD

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IEC 61987-100 has been prepared by subcommittee SC 65E: Devices and integration in enterprise systems, of IEC technical committee TC 65: Industrial-process measurement, control and automation. It is an International Standard.

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

| Draft | Report on voting |
|---|---|
| 65E/1089/CDV | 65E/1145/RVC |

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

The language used for the development of this International Standard is English.

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.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

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

- reconfirmed,
- withdrawn, or
- revised.

# INTRODUCTION

IEC common data dictionary (CDD – https://cdd.iec.ch) provides classifications and descriptions of products to enable unambitious electronic data exchange for e-commerce and business opportunities along the product life cycle.

Several IEC standards for classifying and describing products with classes and properties have been developed as database standards (DB standards) and published via IEC CDD, e.g. IEC 62683 and IEC 63213. Today, numerous parts of IEC 61987, which also classify and describe products with classes and properties, have already been created and published via IEC CDD.

With IEC 61987 DB, IEC responds to the rising market needs to support machine-sensible communication for e-commerce, engineering, maintenance and Smart Manufacturing.

The IEC CDD (common data dictionary) is an IEC-hosted system that includes a common repository with data dictionaries for all ISO and IEC industrial/technical related-domains and that complies with the data model for data dictionaries defined in IEC 61360-2/ISO 13584-42 with an enhancement of its modelling capability adopted from IEC 62656-1.

NOTE 1 Data dictionaries can include data from electrotechnical and non-electrotechnical domains.

NOTE 2 Content published in data dictionaries will become an ISO or IEC standard.

By using the dictionary, applications can interact and share data in an unambiguous way with clear semantic meaning.

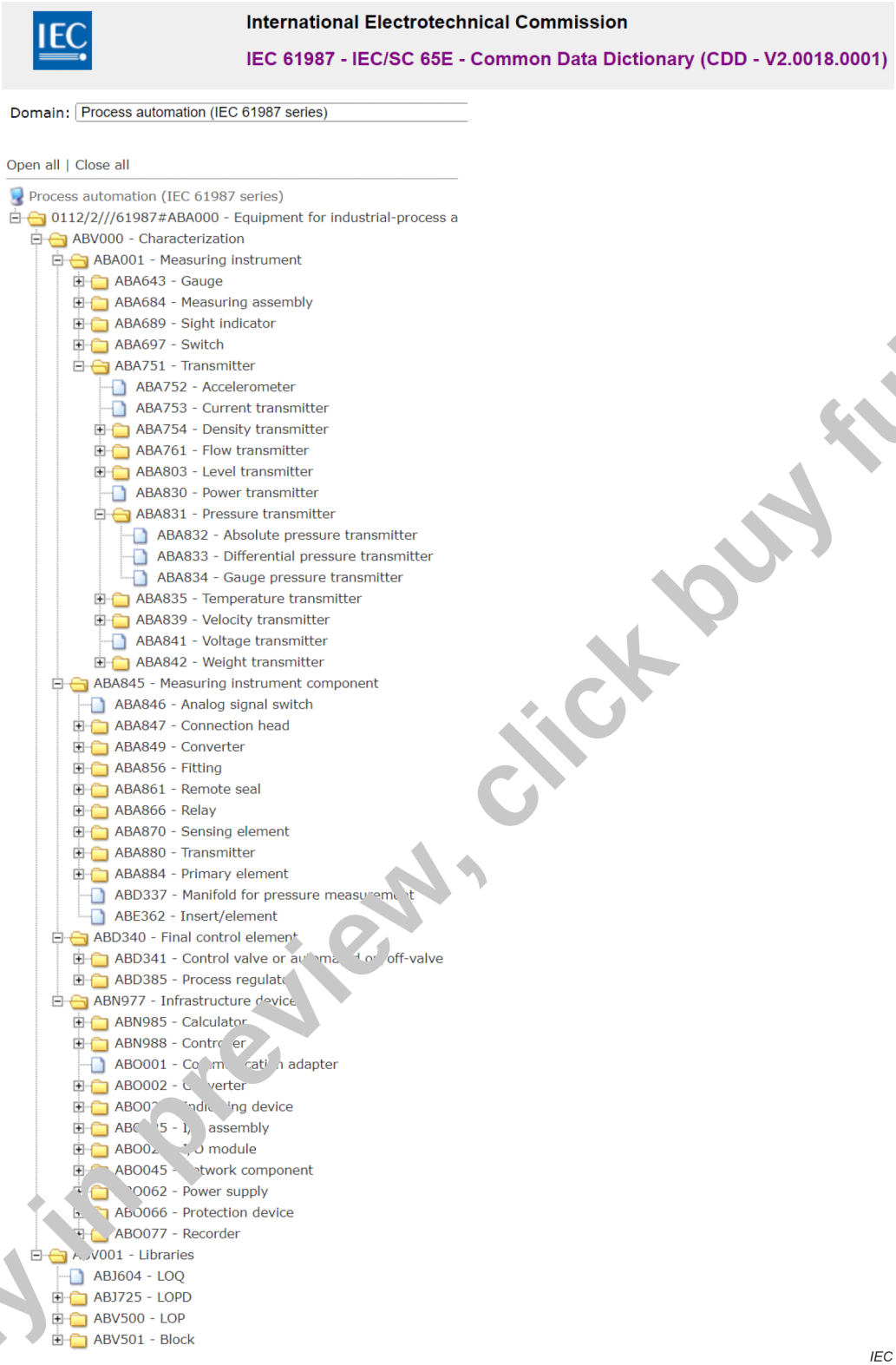


**Figure 1 – Screenshot of the current content of the IEC 61987 public domain**

The characterization, found in Figure 1, is an ontology of device classes that have already been developed and are being worked on in ongoing projects. All created property classes are summarized in the libraries. Further extensions of device classes will be found in the characterization tree.

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

## Part 100: Data base standard for process measurement, control and automation equipment

## 1 Scope

This part of the IEC 61987 series provides the semantics of the data needed for the area of process automation, the Industrial Internet of Things (IIoT), and smart manufacturing. Classification and description of products with classes and properties for future objects within the scope of TC 65 (Industrial-process measurement, control and automation) will be developed as IEC 61987 DB standard and published via IEC CDD data dictionary IEC 61987.

## 2 Normative references

There are no normative references in this document.

## 3 Terms, definitions and abbreviated terms

### 3.1 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology data bases 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

### 3.2 Abbreviated terms

IEC CDD IEC Common Data Dictionary available at https://cdd.iec.ch
DB data base
IIoT Industrial Internet of Things
LOP list of properties
LOPD list of dynamic properties
LOQ list of qualifiers

## 4 Development and maintenance of IEC 61987 data dictionary

### 4.1 Overview of the generic structures

Figure 2 shows the current state of development of the IEC 61987 domain in the IEC CDD.