

ICS 25.040
CCS N 10



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 20818.22-2023

**Industrial-process measurement and control - Data structures and
elements in process equipment catalogues - Part 22: Lists of properties
(LOPs) of valve body assemblies for electronic data exchange**

工业过程测量和控制 过程设备目录中的数据结构和元素 第22部分：阀体总成电
子数据交换用属性列表(LOPs)

(English Translation)

Issued on: December 28, 2023

Implemented on: July 1, 2024

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

Table of Contents

Preface

Introduction

1 Scope

2 Normative references

3 Terms and Definitions

4 General

4.1 Overview

4.2 Description of OLOP and DLOP

Appendix A (Normative) OLOP 3 for valve body assemblies and process pressure regulators

Appendix B (Normative) DLOP 4 for Valve Body Assembly and Process Pressure Regulator

B:1 Valve body assembly DLOP

B:2 Stop valve DLOP

B:3 Diaphragm/pinch valve DLOP

B:4 Gate valve DLOP

B:5 ball valve DLOP

B:6 butterfly valve DLOP

B:7 Eccentric plug valve DLOP

B:8 Plug valve DLOP

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents" Drafting:

This document is Part 22 of GB/T 20818 "Data structures and elements in catalogs of industrial process measurement and control process equipment":

GB/T 20818 has released the following parts:

---Part 1: Measuring equipment with analog and digital outputs;

---Part 10: Basic principles of List of Properties (LOPs) for electronic data exchange for industrial process measurement and control;

---Part 11: General structure of attribute lists (LOPs) for electronic data exchange of

measuring equipment;

---Part 12: List of attributes (LOPs) for electronic data exchange of flow measurement equipment;

---Part 13: List of properties (LOP) for electronic data exchange of pressure measuring equipment;

---Part 14: List of attributes for electronic data exchange of temperature measuring equipment (LOP);

---Part 15: List of attributes (LOPs) for electronic data exchange of level measuring equipment;

---Part 16: List of properties (LOPs) for electronic data exchange of density measuring equipment;

---Part 21: General structure of attribute list (LOP) for automatic valve electronic data exchange;

---Part 22: Valve body assembly attribute list (LOPs) for electronic data exchange:

This document is equivalent to the data structure and elements in IEC 61987-22:2015 "Industrial Process Measurement and Control Process Equipment Catalog" Part 22: Valve body assembly list of properties (LOPs) for electronic data exchange:

Please note that some content in this document may be subject to patents: The publisher of this document assumes no responsibility for identifying patents:

Introduction

Only when the information exchanged and the purpose of the information are clearly defined, the company, business systems, engineering tools, internal company data systems and Product data exchange between future control systems (electrical, measurement and control technology) can then proceed smoothly:

In the past, users would make various requirements to suppliers or manufacturers when purchasing equipment, and suppliers would describe these equipment according to their their own file formats, often using different terminology, structures and carriers (paper, databases, CD-ROMs, electronic catalogs, etc.): This situation and regulations Similar to some situations in the planning and development process, device information is often used in many different information technology systems:

There are many types of equipment, each with different attributes (including equipment attributes and operating attributes, etc.): In order to record the equipment at one time, it is important to plan and order the equipment:

As well as all necessary information in the later use process, all relevant parties should pay

attention to these elements, and the GB/T 20818 series of standards are specially formulated to deal with Description of equipment and standardization of exchanged information:

The GB/T 20818 series of standards proposes a standardization method that helps suppliers and users of measurement equipment optimize internal and Workflow between companies: Depending on the job or functional role in the process, engineering companies may be considered users or suppliers: This method passes Property blocks specify process control devices: These attribute blocks are combined into attribute lists, each of which describes a specific device (device) class:

type: This family of standards includes properties that can be used for querying or proposing and that are needed to integrate the device into a computer system to perform other tasks:

detailed attributes: The GB/T 20818 series of standards is intended to consist of the following parts:

---Part 1: Measuring equipment with analog and digital outputs: Designed for specification of process measurement equipment with analog and digital outputs the purpose of defining a general structure and product feature set is to provide guidance for the formulation of standards for different types of process measurement equipment:

---Part 10: Basic principles of List of Properties (LOPs) for electronic data exchange for industrial process measurement and control: Aiming to regulate Define the basic principles of the Operational Attribute List (OLOP) for electronic data exchange of measuring equipment and provide OLOP data Model:

---Part 11: Common structure of attribute lists (LOPs) for electronic data exchange of measuring equipment: Designed to specify the electrical characteristics of measuring equipment the general structure of the device attribute list (DLOP) used for subdata exchange, and several important details are provided:

---Part 12: List of properties (LOPs) for electronic data exchange of flow measurement equipment: Designed to specify electronic Operation attribute list (OLOP) and device attribute list (DLOP) are used for data exchange:

---Part 13: List of properties (LOP) for electronic data exchange of pressure measuring equipment: Designed to specify electronic numbers for pressure measuring equipment Operation attribute list (OLOP) and device attribute list (DLOP) are used for data exchange:

---Part 14: List of properties (LOP) for electronic data exchange of temperature measuring equipment: Designed to specify electronic numbers for temperature measuring equipment Operation attribute list (OLOP) and device attribute list (DLOP) are used for data exchange:

---Part 15: List of properties (LOPs) for electronic data exchange of level measuring

equipment: Aims to specify electronic Operation attribute list (OLOP) and device attribute list (DLOP) are used for data exchange:

---Part 16: List of properties (LOPs) for electronic data exchange of density measuring equipment: Designed to specify electronic Operation attribute list (OLOP) and device attribute list (DLOP) are used for data exchange:

---Part 21: General structure of attribute list (LOP) for electronic data exchange of automatic valves: Designed to specify electronic data for automatic valves A common structure used to exchange operation attribute lists (OLOPs) and device attribute lists (DLOPs):

---Part 22: Valve body assembly attribute list (LOPs) for electronic data exchange: Designed to provide for electronic data exchange for valve body assemblies Use the common structure of operation attribute list (OLOP) and device attribute list (DLOP):

This document covers valve body assemblies and process regulators: It provides a set of operational attribute columns for all types of valve body assemblies and process regulators Table(OLOP): This document also provides Device Properties Lists (DLOPs) for various types of valve body assemblies and process regulators: These DLOPs it can function in different ways in the computer systems of equipment manufacturers and suppliers, CAE systems or EPC systems: Book the OLOPs and DLOPs provided in the document comply with the regulations of GB/T 20818.10, GB/T 20818.21 and IEC 61987-11:

Industrial Process Measurement and Control Process Equipment Catalog Data Structures and Elements Part 22: Valve Body Assembly Lists of Properties (LOPs) for Electronic Data Interchange

1 Scope

This document specifies:

---Operating Attribute List (OLOP) used to describe the set of requirements and operating parameters of the valve body assembly and process regulator;

---Device Properties List (DLOP) used to describe different valve body assemblies and process regulators:

The structure of OLOP and DLOP conforms to the general structure defined in IEC 61987-11 and GB/T 20818.21-2020, and conforms to the basic principles for constructing LOP defined in GB/T 20818.10-2017: In addition, DLOP also complies with the definition in IEC 60534-7:

The attribute library and block library used by LOP in this document are listed in Appendix C and Appendix D respectively: