



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

GB/T 17215.691-2021

**Electricity metering data exchange - The DLMS/COSEM suite -
Part 91: Communication profile using web-services to access a
DLMS/COSEM server via a COSEM Access Service (CAS)**

Issued on: December 31, 2021

Implemented on: July 1, 2022

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

Table of Contents

foreword

Introduction

1 Scope

2 Normative references

foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for Standardization Work Part 1: Structure and Drafting Rules of Standardization Documents"

drafted:

This document is part 91 of GB/T 17215:6 "Electrical Measurement Data Exchange DLMS/COSEM Components": GB/T 17215 "Post

"galvanoelectric measurement equipment" is divided into several parts, GB/T 17215:6 "electrical measurement data exchange DLMS/COSEM components" has been released to

Lower part:

- Part 10: Standardization framework for intelligent measurement;
- Part 11: Templates for DLMS/COSEM communication configuration standards;
- Part 31: Local area network use based on twisted pair carrier signal;
- Part 46: Data link layer using HDLC protocol;
- Part 47: DLMS/COSEM transport layer based on IP network;
- Part 53: DLMS/COSEM application layer;
- Part 61: Object Identification System (OBIS);
- Part 62: COSEM interface class;
- Part 73: Wired and wireless M-Bus communication configuration for local and community networks;
- Part 76: HDLC-based connection-oriented three-layer communication configuration;
- Part 91: Access to DLMS/COSEM server communication via COSEM Access Service (CAS) using Web Services

configure;

--- Part 97: Communication configuration based on TCP-UDP/IP network:

This document uses the translation method equivalent to IEC TS62056-9-1:2016 "Electrical Measurement Data Exchange DLMS/COSEM Components No:

Part 9-1: Communication Configuration for Accessing DLMS/COSEM Server via COSEM Access Service (CAS) using Web Services":

The Chinese documents that have a consistent correspondence with the international documents normatively cited in this document are as follows:

---GB/T 7408-2005 Data Elements and Interchange Format Information Exchange Date and Time Representation (ISO 8601:2000, IDT);

---GB/T 17215:610-2018 Electrical Measurement Data Exchange DLMS/COSEM Components Part 10: Smart Measurement Standards

Standardization framework (IEC 62056-1-0:2014, IDT);

---GB/T 17215:653-2018 Electrical Measurement Data Exchange DLMS/COSEM Components Part 53: DLMS/CO-

SEM application layer (IEC 62056-5-3:2017, IDT);

---GB/T 17215:661-2018 Electrical Measurement Data Exchange DLMS/COSEM Components Part 61: Object Identification System

System (OBIS) (IEC 62056-6-1:2017, IDT);

---GB/T 17215:662-2018 Electrical measurement data exchange DLMS/COSEM components Part 62: COSEM connection

Class (IEC 62056-6-2:2017, IDT);

---DL/T 1080:1-2016 Power Enterprise Application Integrated Distribution Management System Interface Part 1: Interface System and Overall

Requirements (IEC 61968-1:2012, IDT);

---DL/T 1080:100-2018 Power Enterprise Application Integrated Distribution Management System Interface Part 100: Implementation Framework

(IEC 61968-100:2013, IDT):

The following editorial changes have been made to this document:

--- Standard name was changed from Part 9-1 to Part 91;

--- Add (extract some abbreviations) some definitions (see 3:1:1, 3:1:2, 3:1:3, 3:1:4);

--- Add some abbreviations (see 3:2);

--- Modify IEC 61968-1:2012 in the normative references to IEC 61968-1;

--- Moved normative references to ISO 8601 from References to Chapter 2:

Please note that some content of this document may be patented: The issuing agency of this document assumes no responsibility for identifying patents:

Introduction

At present, energy saving, emission reduction, low carbon, environmental protection and the establishment of a sustainable society have become a global consensus: Countries actively build regional capacity

Energy management system to promote efficient and scientific utilization of energy: On this basis, IEC /TC57, TC13 and EN/TC294 jointly established

The transmission protocol of DLMS/COSEM energy measurement system is proposed, in which the electric energy part is completed by IEC 62056, and the non-electricity part is completed by IEC 62056:

EN13757 to complete: Countries around the world have successively converted IEC 62056 into their own national standards: To establish a globally unified, open interoperability

do: In my country, IEC 62056-XY is equivalently converted into GB/T 17215:6XY:

GB/T 17215 "Alternating Current Measurement Equipment" is divided into several parts, GB/T 17215:6 "Electrical Measurement Data Exchange DLMS/

The COSEM Component" is intended to consist of the following 25 parts:

--- Part 10: Smart measurement standardization framework: The purpose is to understand this series of standard architecture, interoperability, information security, etc:

information:

--- Part 11: DLMS/COSEM communication configuration standard template: The purpose is to establish the communication configuration standard to follow

template:

--- Part 31: Local area network use based on twisted pair carrier signal: A local area network designed to use twisted pair carrier signals to comply with

specification:

--- Part 41: Data exchange using wide area network: Public switched telephone network (PSTN) with LINK protocol: The purpose is to use

Specification to be followed by the public switched telephone network with the LINK protocol:

--- Part 42: Physical layer service process for connection-oriented asynchronous data exchange: The purpose is for objects that use asynchronous data exchange

The specification that the management layer connection process follows:

--- Part 46: The data link layer using the HDLC protocol: The purpose is to follow the data using the HDLC asynchronous communication protocol set

Specification of the link layer:

--- Part 47: DLMS/COSEM transport layer based on IP network: The purpose is to use DLMS/IP network

The specification followed by the COSEM transport layer:

--- Part 51: Application layer protocols: The purpose is to give the communication architecture between the transport layer and the metering device described in DL/T 790:441

application layer:

--- Part 52: Communication protocol management Distribution Line Message Specification (DLMS) server: The purpose is to provide IEC 62056-3-1,

The protocol management DLMS server of IEC 62056-4-1 and IEC 62056-5-1 is consistent with and different from DL/T 790:441:

--- Part 53: DLMS/COSEM application layer: The purpose is to give the application of DLMS/COSEM client and server

Layer structure, services and protocols:

--- Part 58: Smart Message Language (SML): The purpose is to give the construction of SML based on XML syntax for use in TCP/IP

Internet language:

--- Part 61: Object Identification System (OBIS): The purpose is to specify a unique identifier for data in electrical measuring equipment:

--- Part 62: COSEM interface class: The purpose is to specify the instrument model and construct the instrument function in the form of interface class:

--- Part 69: Common Information Model Message Set (IEC 61968-9) and DLMS/COSEM (IEC 62056) data model and protocol

Mapping between sessions: The purpose is to exchange information with the master station ERP, and give the mapping between CIM and DLMS/COSEM:

--- Part 73: Wired and wireless M-Bus communication configuration for local and community networks: The purpose is to use wired and wireless