



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

GB/T 17215.647-2021

**Electricity metering data exchange - The DLMS/COSEM suite -
Part 47: DLMS/COSEM transport layer for IP networks**

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Standardization Administration**

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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 47 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: Communication configuration for accessing the DLMS/COSEM server via the COSEM Access Service (CAS) using Web Services;
- Part 97: Communication configuration based on TCP-UDP/IP network;

This document uses the translation method equivalent to IEC 62056-4-7:2015 "Electrical Measurement Data Exchange DLMS/COSEM Components No: 4-7

Section: DLMS/COSEM Transport Layer for IP-Based Networks":

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

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

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

The following editorial changes have been made to this document:

--- Standard name changed from Part 4-7 to Part 47:

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

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/

COSEM Components" 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 M-bus

The pattern follows the specification:

--- Part 75: Local network (LN) communication configuration for local data transfer: The purpose is to use the local network mode to follow

specification:

--- Part 76: HDLC-based connection-oriented three-layer communication configuration: A connection-oriented connection that aims to use HDLC

The specification that DLMS/COSEM three-layer mode follows:

--- Part 82: Mesh communication configuration for community networks: The purpose is to use the specifications that the wireless mesh mode follows:

--- Part 83: Community network PLCS-FSK communication configuration: The purpose is to use the specifications that the PLCS-FSK mode follows:

--- Part 84: Narrowband OFDMPRIMEPLC communication configuration for community networks: The purpose is to use OFDMPRIME

The specification that the PLC mode follows:

--- Part 85: Community network narrowband OFDMG3-PLC network communication configuration: The purpose is to use the OFDMG3-PLC mode

specifications to follow:

--- Part 86: Community network high-speed PLCISO /IEC 12139-1 configuration: The purpose is to use PLCISO /IEC 12139-1

The specification that the schema follows: