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Irish Standard
I.S. EN 62056-8-6:2017

Electricity metering data exchange - The DLMS/COSEM suite - Part 8-6: High speed PLC ISO/IEC 12139-1 profile for neighbourhood networks

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EN 62056-8-6

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Échange des données de comptage de l'électricité - La suite DLMS/COSEM - Partie 8-6: Profil CPL ISO/IEC 12139-1 à grande vitesse pour les réseaux de voisinage (IEC 62056-8-6:2017)

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Publication	Year	Title	EN/HD	Year
IEC 62056-1-0	2014	Electricity metering data exchange - The DLMS/COSEM suite - Part 1-0: Smart metering standardisation framework	EN 62056-1-0	2015
IEC 62056-4-7	-	Electricity metering data exchange - The DLMS/COSEM suite -- Part 4-7: DLMS/COSEM transport layer for IP networks	EN 62056-4-7	-
IEC 62056-5-3	-	Electricity metering data exchange - The DLMS/COSEM suite - Part 5-3: DLMS/COSEM application layer	EN 62056-5-3	-
IEC 62056-6-1	-	Electricity metering data exchange - The DLMS/COSEM suite - Part 6-1: Object Identification System (OBIS)	EN 62056-6-1	-
IEC 62056-6-2	2016	Electricity metering data exchange - The DLMS/COSEM suite - Part 6-2: COSEM interface classes	EN 62056-6-2	2016
IEC 62056-7-6	-	Electricity metering data exchange - The DLMS/COSEM suite -- Part 7-6: The 3-layer, connection-oriented HDLC based communication profile	EN 62056-7-6	-
IEC 62056-9-7	-	Electricity metering data exchange - The DLMS/COSEM suite -- Part 9-7: Communication profile for TCP-UDP/IP networks	EN 62056-9-7	-
IEC 62056-46	-	Electricity metering - Data exchange for meter reading, tariff and load control -- Part 46: Data link layer using HDLC protocol	EN 62056-46	-
IEC/TS 62056-1-1	2016	Electricity metering data exchange - The DLMS/COSEM suite - Part 1-1: Template for DLMS/COSEM communication profile standards	-	-
ISO/IEC 12139-1	2009	Information technology - Telecommunications and information exchange between systems - Powerline communication (PLC) - High speed PLC medium access control (MAC) and physical layer (PHY) - Part 1: General requirements	-	-
ISO/IEC/IEEE 8802-3	2014	Standard for Ethernet	-	-
RFC 1144	-	Compressing TCP/IP Headers for Low-Speed Serial Links	-	-
RFC 2460	-	Internet Protocol, Version 6 (IPv6) Specification	-	-
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RFC 3095	-	RObust Header Compression (ROHC): Framework and four profiles: RTP, UDP, ESP, and uncompressed	-	-
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ELECTRICITY METERING DATA EXCHANGE – THE DLMS/COSEM SUITE –

Part 8-6: High speed PLC ISO/IEC 12139-1 profile for neighbourhood networks

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INTRODUCTION

As defined in IEC 62056-1-0, the IEC 62056 DLMS/COSEM suite provides specific communication profile standards for communication media relevant for smart metering.

Such communication profile standards specify how the COSEM data model and the DLMS/COSEM application layer can be used on the lower, communication media-specific protocol layers.

Communication profile standards refer to communication standards that are part of the IEC 62056 DLMS/COSEM suite or to any other open communication standard.

This document specifies the DLMS/COSEM profile for High Speed PLC (HS-PLC) technologies according to ISO/IEC 12139-1 for neighbourhood networks. The technology is based on Discrete Multi-Tone (DMT) modulation. It may be used in low voltage or on medium voltage distribution networks. The PHY rate of High Speed PLC is typically 24 Mbps, however the data throughput varies according to many aspects of low voltage or medium voltage power lines. Although High Speed PLC can be used both on low voltage and medium voltage networks, in this document HS-PLC on low voltage network is only considered.

When implementing advanced services based on DLMS/COSEM profiles such as complex tariff programs, data security measures, two-way consumption data exchange for demand response and so forth, the neighbourhood network may become a bottleneck. The HS-PLC technology minimizes such bottlenecks due to the high data rates available. Moreover, the HS-PLC technology can accommodate increased amounts of data thus it can additionally support other applications such as Internet of Things (IoT).

Using the high speed PLC technology specified in ISO/IEC 12139-1 may be subject to national regulations. However, this aspect is outside the Scope of this document.

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ELECTRICITY METERING DATA EXCHANGE – THE DLMS/COSEM SUITE –

Part 8-6: High speed PLC ISO/IEC 12139-1 profile for neighbourhood networks

1 Scope

This part of IEC 62056 specifies the DLMS/COSEM communication profile for ISO/IEC 12139-1 High speed PLC (HS-PLC) neighbourhood networks.

It uses the standard ISO/IEC 12139-1 established by ISO/IEC JTC1 SC06.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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IEC TS 62056-1-1:2016, *Electricity metering data exchange – The DLMS/COSEM suite – Part 1-1: Template for DLMS/COSEM communication profile standards*

IEC 62056-46, *Electricity metering – Data exchange for meter reading, tariff and load control – Part 46: Data link layer using HDLC protocol*

IEC 62056-4-7, *Electricity metering data exchange – The DLMS/COSEM suite – Part 4-7: DLMS/COSEM transport layer for IP networks*

IEC 62056-5-3, *Electricity metering data exchange – The DLMS/COSEM suite – Part 5-3: DLMS/COSEM application layer*

IEC 62056-6-1, *Electricity metering data exchange – The DLMS/COSEM suite – Part 6-1: Object Identification System (OBIS)*

IEC 62056-6-2:2016, *Electricity metering data exchange – The DLMS/COSEM suite – Part 6-2: COSEM interface classes*

IEC 62056-7-6, *Electricity metering data exchange – The DLMS/COSEM suite – Part 7-6: The 3-layer, connection-oriented HDLC based communication profile*

IEC 62056-9-7, *Electricity metering data exchange – The DLMS/COSEM suite – Part 9-7: Communication profile for TCP-UDP/IP networks*

ISO/IEC/IEEE 8802:2014*, Standard for Ethernet*

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