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Electricity metering – Data exchange for meter reading, tariff and load control –

Part 46: Data link layer using HDLC protocol

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CONTENTS

FOREWORD	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references	7
3 Terms, definitions and abbreviations	8
4 Overview	9
4.1 The LLC sub-layer.....	9
4.2 The MAC sub-layer.....	9
4.3 Specification method	10
5 The LLC sub-layer.....	10
5.1 The role of the LLC sub-layer	10
5.2 Service specification for the LLC sub-layer.....	11
5.2.1 Setting up the Data Link Connection.....	11
5.2.2 Disconnecting the Data Link Connection.....	14
5.2.3 Data communication	18
5.3 Protocol specification for the LLC sub-layer.....	22
5.3.1 Overview	22
5.3.2 LLC protocol data unit (LPDU) structure	22
5.3.3 State transition tables for the LLC sub-layer	23
6 The MAC sub-layer.....	24
6.1 HDLC selections.....	24
6.2 Service specification for the MAC sub-layer.....	25
6.2.1 Setting up the MAC connection.....	25
6.2.2 Disconnecting the MAC connection.....	28
6.2.3 Data communication	33
6.3 Physical layer services used by the MAC sub-layer	35
6.3.1 Overview	35
6.3.2 Setting up a physical link.....	36
6.3.3 Disconnecting the physical link.....	36
6.3.4 Data communication	36
6.4 Protocol specification for the MAC sub-layer	36
6.4.1 The MAC PDU and the HDLC frame	36
6.4.2 MAC addressing	38
6.4.3 Command and response frames	42
6.4.4 Elements of the procedures	45
6.4.5 State transition diagram for the server MAC sub-layer	60
Annex A (informative) FCS calculation.....	62
Annex B (informative) Data model and protocol	65
Annex C (informative) Data link layer management services	66

Figure 1 – Data Link (LLC) services for setting up the Data Link Connection	11
Figure 2 – Data Link (LLC) services for disconnecting the Data Link Connection	15
Figure 3 – Data link layer data communication services	19
Figure 4 – The ISO/IEC 8802-2 LLC protocol data unit format.....	22
Figure 5 – The used LLC protocol data unit format.....	22
Figure 6 – MAC sub-layer services for setting up the MAC (DL) connection at the client and server sides	25
Figure 7 – MAC sub-layer services for disconnecting the MAC (DL) connection at the client and server sides	29
Figure 8 – MAC sub-layer data communication services	33
Figure 9 – Physical layer services used by the MAC sub-layer.....	36
Figure 10 – MAC sub-layer frame format (HDLC frame format type 3).....	36
Figure 11 – Multiple frames	37
Figure 12 – The frame format field	37
Figure 13 – MSC for long MSDU transfer in a transparent manner	54
Figure 14 – Example configuration to illustrate broadcasting.....	55
Figure 15 – Sending out a pending UI frame with a .response data	56
Figure 16 – Sending out a pending UI frame with a response to a RR frame	57
Figure 17 – Sending out a pending UI frame on receipt of an empty UI frame	57
Figure 18 – State transition diagram for the server MAC sub-layer.....	61
Figure B.1 – The three-step approach of COSEM	65
Figure C.1 – Layer management services	66
Table 1 – State transition table of the client side LLC sub-layer	23
Table 2 – State transition table of the server side LLC sub-layer.....	24
Table 3 – Table of reserved client addresses	40
Table 4 – Table of reserved server addresses	40
Table 5 – Handling inopportune address lengths.....	42
Table 6 – Command and response frames	42
Table 7 – Control field format.....	43
Table 8 – Example for parameter negotiation values with the SNRM/UA frames	50
Table 9 – Summary of MAC Addresses for the example.....	55
Table 10 – Broadcast UI frame handling	55

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTRICITY METERING – DATA EXCHANGE FOR METER READING, TARIFF AND LOAD CONTROL –

Part 46: Data link layer using HDLC protocol

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¹ Device Language Message Specification.

International Standard IEC 62056-46 has been prepared by IEC technical committee 13: Equipment for electrical energy measurement and load control.

This consolidated version of IEC 62056 consists of the first edition (2002) [documents 13/1267/FDIS and 13/1273/RVD] and its amendment 1 (2006) [documents 13/1376/FDIS and 13/1401/RVD].

The technical content is therefore identical to the base edition and its amendment and has been prepared for user convenience.

It bears the edition number 1.1.

A vertical line in the margin shows where the base publication has been modified by amendment 1.

Annexes A, B and C are for information only.

The committee has decided that the contents of the base publication and its amendments will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

INTRODUCTION (to amendment 1)

The amendment takes into account that in the third edition of ISO/IEC 13239, frame type 3 has been added as Annex H.4, as requested by IEC TC 13 WG 14, and that second editions of some parts of the IEC 62056 series are under preparation.

It specifies now that a secondary station may use more than one addressing scheme.

It contains some changes concerning the negotiation of the maximum information length field HDLC parameter for better efficiency.

References have been updated and some editorial errors have also been corrected.

ELECTRICITY METERING – DATA EXCHANGE FOR METER READING, TARIFF AND LOAD CONTROL –

Part 46: Data link layer using HDLC protocol

1 Scope

This part of IEC 62056 specifies the data link layer for connection-oriented, HDLC-based, asynchronous communication profile.

In order to ensure a coherent data link layer service specification for both connection-oriented and connectionless operation modes, the data link layer is divided into two sub-layers: the Logical Link Control (LLC) sub-layer and the Medium Access Control (MAC) sub-layer.

This specification supports the following communication environments:

- point-to-point and point-to-multipoint configurations;
- dedicated and switched data transmission facilities;
- half-duplex and full-duplex connections;
- asynchronous start/stop transmission, with 1 start bit, 8 data bits, no parity, 1 stop bit.

Two special procedures are also defined:

- transferring of separately received Service User layer PDU parts from the server to the client in a transparent manner. The server side Service user layer can give its PDU to the data link layer in fragments and the data link layer can hide this fragmentation from the client;
- event reporting, by sending UI frames from the secondary station to the primary station.

Annex B gives an explanation of the role of data models and protocols in electricity meter data exchange.

2 Normative references

The following referenced documents are indispensable for the application 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.

IEC 60050-300:2001, *International Electrotechnical Vocabulary – Electrical and electronic measurements and measuring instruments – Part 311: General terms relating to measurements – Part 312: General terms relating to electrical measurements – Part 313: Types of electrical measuring instruments – Part 314: Specific terms according to the type of instrument*

IEC/TR 62051:1999, *Electricity metering – Glossary of terms*

IEC 62051-1:2004, *Electricity metering – Data exchange for meter reading, tariff and load control – Glossary of Terms – Part 1, Terms related to data exchange with metering equipment using DLMS/COSEM*

IEC 62056-42, *Electricity metering – Data exchange for meter reading, tariff and load control – Part 42: Physical layer services and procedures for connection oriented asynchronous data exchange* ¹⁾

IEC 62056-53:2006, *Electricity metering – Data exchange for meter reading, tariff and load control – Part 53: COSEM Application layer*

IEC 62056-61:2006, *Electricity metering – Data exchange for meter reading, tariff and load control – Part 61: OBIS Object identification system*

IEC 62056-62:2006, *Electricity metering – Data exchange for meter reading, tariff and load control – Part 62: Interface classes*

ISO/IEC 8802-2:1998, *Information technology – Telecommunications and information exchange between systems – Local and metropolitan area networks – Specific requirements – Part 2: Logical link control*

ISO/IEC 13239:2002, *Information technology – Telecommunications and information exchange between systems – High-level data link control (HDLC) procedures*

¹⁾ To be published.