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Amendment 1

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

**Part 46:
Data link layer using HDLC protocol**

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FOREWORD

This amendment has been prepared by IEC technical committee 13: Equipment for electrical energy measurement and load control.

The text of this amendment is based on the following documents:

CDV	Report on voting
13/1376/FDIS	13/1401/RVD

Full information on the voting for the approval of this amendment can be found in the report on voting indicated in the above table.

The committee has decided that the contents of this amendment and the base publication 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- withdrawn,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.

INTRODUCTION

This 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.

Page 6

2 Normative references

Add the following reference:

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*

Amend the following references:

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

Page 7

3 Terms, definitions and abbreviations

Replace the sentence by the following:

For the purposes of this document, the definitions given in IEC 60050-300, IEC 62051 and IEC 62051-1 apply.

Page 8

4.3 Specification method

Delete, on page 9, in the fourth bullet point “(e.g. Physical_Connection_Type)”.

*Add a line break, below the Note, before the second sentence “The **protocol** specification.....” so that this sentence belongs to the three bullet points following.*

Replace, in the ninth bullet point “(User data subfield)” by “(Information field, User data subfield)”.

Page 14

5.2.2.2 DL-DISCONNECT.request

Replace, in the service primitive definition “User information” by “User_Information”.

Replace, in the paragraph following the service primitive definition, “User_information” by “User_Information”.

5.2.2.3 DL-DISCONNECT.indication

Replace, in the service primitive definition, “User Information” by “User_Information”.

Replace, on page 15, in the paragraph above “Use”, “User Information” by “User_Information”.

5.2.2.4 DL-DISCONNECT.response

Replace, on page 15, in the paragraph following the service primitive definition,

"The Destination_MSAP and Source_MSAP parameters specify the local and remote..."

by

"The Destination_MSAP and Source_MSAP parameters specify the remote and local..."

Page 17

DL-DATA.request

Replace, on page 18, in the first paragraph,

"The Source_LSAP and Destination_LSAP parameters specify the referenced data link..."

by

"The Destination_LSAP and Source_LSAP parameters specify the referenced data link..."

Replace, in the second paragraph,

"The Source_MSAP and Destination_MSAP parameters specify the local and remote..."

by

"The Destination_MSAP and Source_MSAP parameters specify the remote and local ..."

Page 18

5.2.3.3 DL-DATA.indication

Replace, in the last paragraph on page 18,

"The Source_LSAP and Destination_LSAP parameters specify the referenced data link..."

by

"The Destination_LSAP and Source_LSAP parameters specify the referenced data link..."

Replace, on page 19, in the first paragraph,

"The Source_MSAP and Destination_MSAP parameters specify the local and remote..."

by

"The Destination_MSAP and Source_MSAP parameters specify the local and remote..."

Page 19

5.2.3.4 DL-DATA.confirm

Replace, in the second paragraph following the service primitive definition,

“The Destination_MSAP and Source_MSAP parameters identify the remote and local...”

by

“The Destination_MSAP and Source_MSAP parameters specify the local and remote...”

Page 27

6.2.2.3 MA-DISCONNECT.indication

Replace, in the service primitive definition “User Information” by “User Information”.

Replace, on page 28, in the first line of the penultimate paragraph of “Service parameters” and in the penultimate line of the last paragraph of “Use”, “User Information” by “User_Information”.Page 28

6.2.2.4 MA-DISCONNECT.response

Replace, in the paragraph following the service primitive definition,

“The Destination_MSAP and Source_MSAP specify the local and remote...”

by

“The Destination_MSAP and Source_MSAP specify the remote and local ...”

Page 30

6.2.3.2 MA-DATA.request

Replace, on page 31, in the paragraph following the service primitive definition,

“The Source_MSAP and Destination_MSAP parameters specify the local and remote...”

by

“The Destination_MSAP and Source_MSAP parameters specify the remote and local ...”

Delete, in the last line of this sub-clause “and in Annex A”.

Page 31

6.2.3.3 MA-DATA.indication

Replace, in the paragraph following the service primitive definition,

“The Source_MSAP and Destination_MSAP parameters specify the local and remote...”

by

“The Destination_MSAP and Source_MSAP parameters specify the local and remote...”

Add the missing closing bracket at the end of this paragraph after “6.4.2.4”.

Page 32

6.2.3.4 MA-DATA.confirm

Replace, on page 32, in the paragraph following the service primitive definition,

“The Source_MSAP and Destination_MSAP parameters specify the local and remote...”

by

“The Destination_MSAP and Source_MSAP parameters specify the local and remote...”

Replace, in the same paragraph, the second sentence as follows:

“The Destination_MSAP shall be an individual address.”

Page 33

6.4.1 The MAC PDU and the HDLC frame

6.4.1.1 Overview

Replace, the first paragraph and the Note as follows:

The MAC sub-layer uses the HDLC frame format type 3 as defined in Clause H.4 of ISO/IEC 13239: 2002.

Page 34

6.4.1.3 Frame format field

Replace, in the second line of the first paragraph and in Figure 12, “Frame type” by “Format type”.

Page 37

6.4.2.3 Reserved special HDLC addresses

Delete, the last line of Table 3, “0x7F 0x3FFF ALL_STATION (Broadcast) Address”.

Page 38

6.4.2.5 Handling inopportune address lengths

Replace, on page 39, in Table 5, in the sixth row “CALLING _STATION” by “CALLING physical device”.

Add, a Note to Table 5:

NOTE The server may support more than one addressing scheme.

Page 40

6.4.3.3 Information transfer and command response

Replace, on page 40, the last paragraph of this subclause by:

“For data integrity reasons, in this profile, the default value of the maximum information field length – receive and maximum information field length – transmit HDLC parameters is 128 bytes. Other values may be negotiated at connection establishment time, see 6.4.4.4.3.2.

NOTE 1 In order to ensure a minimal performance, the master station should offer at least a max_info_field_length_receive of 128 bytes.

NOTE 2 The maximum value of the information field length is 2030 bytes.”

Page 42

6.4.3.10 Frame reject (FRMR) response

Replace, in the paragraph below the bullet points, “The secondary/combined station...” by “The secondary station...”.

Page 43

6.4.4.2.3 Invalid frame

Replace, on page 43, in the second line, “...that is shorter than four octets...” by “...that is shorter than seven octets...”.

Page 45

6.4.4.4.3.2 HDLC parameter negotiation during the connection phase

Add, on page 46, a new example after the existing example:

In case, when the maximum information field length – transmit and maximum information field length – receive parameters are represented on two bytes – this is the case when version 1 of the IEC HDLC setup class is used, see IEC 62056-62 – the group length will be 14_H (20 octets) and the parameter length of parameters 5 and 6 will be 02_H. An example is shown below:

81	80	14	05	02	00	80	06	02	00	80	07	04	00	00	00	01	08	04	00	00	00	01
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

Make, on page 47, in Table 8, the current NOTE to be NOTE 1 and add a second note:

NOTE 2 For reasons of communication efficiency, the value of the parameter maximum information field length-receive proposed by the primary station should be at least as big as the value of the parameter of the maximum information field length-transmit supported by the secondary station.

Page 48

6.4.4.4.3.4 Exchanging data

Change the third paragraph of this subclause, "Exchange of information frames", into a heading (using italic type) to the following paragraphs up to the end of the subclause.

Page 55

6.4.4.8 Handling the CALLING physical device address

Replace, at the end of the first paragraph, "6.4.5.7" by "6.4.4.7".

Page 57

6.4.4.10.3 Time-out 2: Inactivity time-out

Add, after the first paragraph, a new sentence:

The data link layer shall be disconnected.
