

Svenska Elektriska Kommissionen, SEK

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Elmätare – Datakommunikation för avläsning av elmätare och för styrning av tariff och belastning – Del 21: Lokal dataöverföring

*Electricity metering –
Data exchange for meter reading, tariff and load control –
Part 21: Direct local data exchange*

Som svensk standard gäller europastandarden EN 62056-21:2002. Den svenska standarden innehåller den officiella engelska språkversionen av EN 62056-21:2002.

Nationellt förord

Europastandarden EN 62056-21:2002

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 62056-21, First edition, 2002 - Electricity metering - Data exchange for meter reading, tariff and load control - Part 21: Direct local data exchange**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare utgiven svensk standard SS-EN 61107, utgåva 2, 1996, gäller ej fr o m 2005-05-01.

Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a säkerhet, prestanda, dokumentation, utförande och skötsel av elprodukter, elanläggningar och metoder. Genom att utforma sådana standarder blir säkerhetskraven tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

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Stora delar av arbetet sker internationellt

Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

Standardiseringsarbetet inom SEK är organiserat i referensgrupper bestående av ett antal tekniska kommittéer som speglar hur arbetet inom IEC och CENELEC är organiserat.

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Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

SEK

Box 1284
164 29 Kista
Tel 08-444 14 00
www.sekom.se

English version

**Electricity metering -
Data exchange for meter reading, tariff and load control
Part 21: Direct local data exchange
(IEC 62056-21:2002)**

Equipements de mesure
de l'énergie électrique -
Echange des données pour la lecture
des compteurs, le contrôle des tarifs
et de la charge
Partie 21: Echange des données
directes en local
(CEI 62056-21:2002)

Messung der elektrischen Energie -
Zählerstandsübertragung,
Tarif- und Laststeuerung
Teil 21: Datenübertragung für festen
und mobilen Anschluss
(IEC 62056-21:2002)

This European Standard was approved by CENELEC on 2002-05-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 13/1271/FDIS, future edition 1 of IEC 62056-21, prepared by IEC TC 13, Equipment for electrical energy measurement and load control, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62056-21 on 2001-05-01.

This European Standard supersedes EN 61107:1996.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2003-02-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2005-05-01

The International Electrotechnical Commission (IEC) and CENELEC draw attention to the fact that it is claimed that compliance with this International Standard / European Standard may involve the use of a maintenance service concerning the stack of protocols on which the present standard IEC 62056-21 / EN 62056-21 is based.

The IEC and CENELEC take no position concerning the evidence, validity and scope of this maintenance service.

The providers of the maintenance service have assured the IEC that they are willing to provide services under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statements of the providers of the maintenance service are registered with the IEC. Information may be obtained :

Manufacturer's identification, item 12) of 6.3.2: from

The FLAG Association, UK
www.dlms.com/flag

Enhanced identification character, item 24) of 6.3.2: from

DLMS ¹⁾ User Association
Geneva / Switzerland
www.dlms.ch

Annexes designated "normative" are part of the body of the standard.

Annexes designated "informative" are given for information only.

In this standard, annexes A, B, E and ZA are normative and annexes C and D are informative.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 62056-21:2002 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 62056-61	NOTE	Harmonized as EN 62056-61:2002 (not modified).
IEC 62056-62	NOTE	Harmonized as EN 62056-62:2002 (not modified).

¹⁾ Device Language Message Specification

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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 62056-42	2002	Electricity metering - Data exchange for meter reading, tariff and load control Part 42: Physical layer services and procedures for connection-oriented asynchronous data exchange	EN 62056-42	2002
IEC 62056-46	2002	Part 46: Data link layer using HDLC protocol	EN 62056-46	2002
IEC 62056-53	2002	Part 53: COSEM application layer	EN 62056-53	2002
ISO/IEC 646	1991	Information technology - ISO 7-bit coded character set for information interchange	-	-
ISO/IEC 1155	1978	Information processing - Use of longitudinal parity to detect errors in information messages	-	-
ISO/IEC 1177	1985	Information processing - Character structure for start/stop and synchronous character-oriented transmission	-	-
ISO/IEC 1745	1975	Information processing - Basic mode control procedures for data communication systems	-	-

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ISO/IEC 7480	1991	Information technology - Telecommunications and information exchange between systems - Start/stop transmission signal quality at DTE/DCE interfaces	-	-
ITU-T Recommendation V.24	2000	List of definitions for interchange circuits between data terminal equipment (DTE) and data circuit-terminating equipment (DCE)	-	-
ITU-T Recommendation V.28	1993	Electrical characteristics for unbalanced double-current interchange circuits	-	-

CONTENTS

1	Scope.....	15
2	Normative references.....	15
3	Terms, definitions and abbreviations	17
3.1	Terms and definitions	17
3.2	Abbreviations.....	19
4	Physical properties	19
4.1	Electrical current loop interface.....	19
4.2	Electrical interface V.24/V.28	23
4.3	Optical interface	25
4.3.1	Construction of the reading head.....	25
4.3.2	Characteristic data of the magnet.....	25
4.3.3	Arrangement of components in the tariff device	29
4.3.4	Alignment	29
4.3.5	Optical characteristics.....	29
5	Character transmission	33
5.1	Type of transmission.....	33
5.2	Transmission speed.....	33
5.3	Signal quality	33
5.4	Character format	33
5.5	Character code	33
5.6	Character security	33
6	Data transmission protocol.....	35
6.1	General	35
6.2	Calculation of the block check character	35
6.3	Message definitions	37
6.3.1	Request message	37
6.3.2	Identification message	37
6.3.3	Acknowledgement/option select message	37
6.3.4	Data message (except in programming mode).....	37
6.3.5	Acknowledgement message.....	37
6.3.6	Repeat-request message	37
6.3.7	Programming command message	39
6.3.8	Programming command message using optional partial blocks.....	39
6.3.9	Data message (programming mode)	39
6.3.10	Data message (programming mode) using optional partial blocks	39
6.3.11	Error message (programming mode).....	39
6.3.12	Break message (programming mode).....	39
6.3.13	Block message (other protocols)	39
6.3.14	Explanations of message contents	41

6.4	Communication modes	47
6.4.1	Protocol mode A	47
6.4.2	Protocol mode B	49
6.4.3	Protocol mode C	53
6.4.4	Protocol mode D	61
6.4.5	Protocol mode E (other protocols)	61
6.4.6	Entering programming mode (unknown tariff device)	63
6.4.7	Partial block communication (optional, only in protocol mode C)	65
6.5	Syntax diagrams	71
6.5.1	Readout mode	73
6.5.2	Programming mode	75
6.6	Data set structure	77
Annex A (normative) Flow chart for direct local data exchange protocol, protocol mode C		81
Annex B (normative) Wake-up methods for battery-operated tariff devices		85
Annex C (informative) Formatted codes		89
Annex D (informative) Levels of access – system security		127
Annex E (normative) METERING HDLC protocol using protocol mode E for direct local data exchange		129
Bibliography		137
Index		139
Figure 1 – Circuit diagrams		23
Figure 2 – Construction of the reading head		25
Figure 3 – Characteristic data of the magnet		27
Figure 4 – View into optical port		29
Figure 5 – Test arrangement for the transmitter		31
Figure 6 – Test arrangement for the receiver		31
Figure 7 – Setting up a block check character (example according to ISO/IEC 1155)		35
Figure 8 – Diagram protocol mode A		47
Figure 9 – Transmission protocol for protocol mode A		49
Figure 10 – Diagram protocol mode B		51
Figure 11 – Transmission protocol for protocol mode B		51
Figure 12 – Diagram protocol mode C		55
Figure 13 – Transmission protocol for protocol mode C giving data readout without acknowledgement from the HHU		57
Figure 14 – Transmission protocol for protocol mode C giving data readout with confirmation of the suggested baud rate		57
Figure 15 – Transmission protocol for protocol mode C giving data readout with rejection of the suggested baud rate		59
Figure 16 – Transmission protocol for protocol mode C. Switching to programming mode with acceptance of the suggested baud rate		59

Figure 17 – Transmission protocol for protocol mode C. Switching to programming mode with rejection of the suggested baud rate.....	59
Figure 18 – Diagram protocol mode D	61
Figure 19 – Transmission protocol for protocol mode D	61
Figure 20 – Diagram for entering programming mode	63
Figure 21 – Example of a partial block unformatted read.....	67
Figure 22 – Example of a partial block formatted write	69
Figure 23 – Example of a partial block formatted write (with errors)	71
Figure 24 – Syntax diagrams – readout mode	73
Figure 25 – Syntax diagrams – programming mode – command.....	75
Figure 26 – Syntax diagram – programming mode – answer	77
Figure 27 – Data set structure	77
Figure A.1 – Flow chart for direct local data exchange protocol, protocol mode C.....	81
Figure B.1 – The start sequence for battery-operated devices.....	85
Figure B.2 – Diagram for the start sequence of battery-operated devices by fast wake-up mode	87
Figure C.1 – Example of channel types.....	91
Figure C.2 – Register coding diagram.....	97
Figure C.3 – Bit assignment for group data.....	111
Figure C.4 – Vector diagrams for quadrants I to IV	125
Figure E.1 – Entering protocol mode E (HDLC).....	129
Figure E.2 – Flow chart and switchover to METERING HDLC in protocol mode E	131
Figure E.3 – Physical layer primitives	133
Figure E.4 – Physical layer primitives, simplified example with one mode change only	133
Table 1 – Electrical interface	19
Table 2 – Read, Write and Execute commands	65

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

Part 21: Direct local data exchange

1 Scope

This part of IEC 62056 describes hardware and protocol specifications for local meter data exchange. In such systems, a hand-held unit (HHU) or a unit with equivalent functions is connected to a tariff device or a group of devices.

The connection can be permanent or disconnectable using an optical or electrical coupling. An electrical interface is proposed for use with a permanent connection, or when more than one tariff device needs to be read at one site. The optical coupler should be easily disconnectable to enable data collection via an HHU.

The protocol permits reading and programming of tariff devices. It is designed to be particularly suitable for the environment of electricity metering, especially as regards electrical isolation and data security. While the protocol is well-defined, its use and application are left to the user.

This standard is based on the reference model for communication in open systems. It is enhanced by further elements such as an optical interface, protocol controlled baud rate switchover, data transmission without acknowledgement of receipt. The protocol offers several modes for implementation in the tariff device. The HHU or equivalent unit acts as a master while the tariff device acts as a slave in protocol modes A to D. In protocol mode E, the HHU acts as a client and the tariff device acts as a server.

As several systems are in practical use already, particular care was taken to maintain compatibility with existing systems and/or system components and their relevant protocols.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60050-300:2001, *International Electrotechnical Vocabulary (IEV) – 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*