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**Distribution automation using distribution line carrier systems - Part 4: Data communication protocols - Section 41: Application protocols - Distribution line message specification (IEC 1334-4-41:1996)**

Distribution automation using distribution line carrier systems -- Part 4: Data communication protocols -- Section 41: Application protocols - Distribution line message specification

Verteilungsautomatisierung mit Hilfe von Trägersystemen auf Verteilungsleitungen -- Teil 4: Datenkommunikationsprotokolle -- Hauptabschnitt 41 Anwendungsprotokolle - Verteilungsleitungs-Nachrichtenspezifikation

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Automatisation de la distribution à l'aide de systèmes de communication à courants porteurs -- Partie 4: Protocoles de communication de données -- Section 41: Protocoles d'application - Spécification des messages de ligne de distribution

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 NORME EUROPÉENNE  
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**EN 61334-4-41**

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English version

**Distribution automation using distribution line carrier systems**  
**Part 4: Data communication protocols**  
**Section 41: Application protocols**  
**Distribution line message specification**  
 (IEC 1334-4-41:1996)

Automatisation de la distribution à l'aide de systèmes de communication à courants porteurs  
 Partie 4: Protocoles de communication de données  
 Section 41: Protocoles d'application  
 Spécification des messages de ligne de distribution  
 (CEI 1334-4-41:1996)

Verteilungsautomatisierung mit Hilfe von Trägersystemen auf Verteilungsleitungen  
 Teil 4: Datenkommunikationsprotokolle  
 Hauptabschnitt 41:  
 Anwendungsprotokolle  
 Verteilungsleitungs-Nachrichtenspezifikation  
 (IEC 1334-4-41:1996)

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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.

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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 57/261/FDIS, future edition 1 of IEC 1334-4-41, prepared by IEC TC 57, Power system control and associated communications, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61334-4-41 on 1996-10-01.

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) 1997-07-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 1997-07-01

Annexes designated "normative" are part of the body of the standard.  
Annexes designated "informative" are given for information only.  
In this standard, annexes A and ZA are normative and annex B is informative.  
Annex ZA has been added by CENELEC.

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#### Endorsement notice

The text of the International Standard IEC 1334-4-41:1996 was approved by CENELEC as a European Standard without any modification.

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## 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 1334-4-42	1996	Distribution automation using distribution line carrier systems Part 4: Data communication protocols Section 42: Application protocols Application layer	EN 61334-4-42	1996
ISO 7498	1984	Information processing systems Open Systems Interconnection Basic Reference Model	EN 27498	1989
ISO 7498-3	1989	Part 3: Naming and addressing	-	-
ISO/TR 8509	1987	Information processing systems Open Systems Interconnection Service conventions	-	-
ISO 8649	1988	Information processing systems Open Systems Interconnection Service definition for the Association Control Service Element	-	-
ISO 8650	1988	Information processing systems Open Systems Interconnection Protocol specification for the Association Control Service Element	-	-
ISO 8824	1990	Information technology - Open Systems Interconnection - Specification of Abstract Syntax Notation One (ASN.1)	-	-
ISO 8825	1990	Information technology - Open Systems Interconnection - Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1)	-	-
ISO/IEC 9545	1994	Information technology - Open Systems Interconnection - Application Layer structure	-	-

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**Automatisation de la distribution à l'aide  
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**Partie 4:  
Protocoles de communication de données –  
Section 41: Protocoles d'application –  
Spécification des messages de ligne  
de distribution**

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**Distribution automation using  
distribution line carrier systems –**

**Part 4:  
Data communication protocols –  
Section 41: Application protocols –  
Distribution line message specification**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**DISTRIBUTION AUTOMATION USING  
DISTRIBUTION LINE CARRIER SYSTEMS –**

**Part 4 : Data communication protocols –  
Section 41: Application protocols –  
Distribution line message specification**

## FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international cooperation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters express as nearly as possible an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.
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- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 1334-4-41 has been prepared by IEC technical committee 57: Power system control and associated communications.

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

FDIS	Report on voting
57/261/FDIS	57/284/RVD

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

Annex A forms an integral part of this standard.

Annex B is for information only.

## INTRODUCTION

This specification defines the distribution line message specification (DLMS) within the OSI application layer in terms of:

- a) an abstract model defining the interaction between users of services;
- b) the externally visible functionality of implementations conforming to this specification, in the form of procedural requirements associated with the execution of service requests;
- c) the primitive actions and events of services;
- d) the parameter data associated with each primitive actions and events;
- e) the relationship between, and the valid sequences of, these actions and events.

The services defined in this specification are provided by the distribution line message specification protocol. They may be used by other application layer service elements or by other elements of the application process.

This specification does not specify individual implementations or products, nor does it constrain the implementation of entities and interfaces within a computer system. This specification specifies the externally visible functionality of implementations and the conformance requirements for such functionality.

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## DISTRIBUTION AUTOMATION USING DISTRIBUTION LINE CARRIER SYSTEMS –

### Part 4 : Data communication protocols – Section 41: Application protocols – Distribution line message specification

## 1 Scope

The scope of application of the specifications of the sections of part 4 is the communication through the so-called distribution line carrier technology (DLC) on both low and medium voltage distribution network. The application range based on telecommunication processes is wide and cannot be described exhaustively in this section; application examples are: control and monitoring of the distribution network, broadcasting of orders, control of user interfaces, public lighting, traffic lights supervision, automatic meter reading, etc.

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Extensions to other communication media are also allowed.

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The distribution line message specification (DLMS) is an application layer specification designed to support messaging communications to and from distribution devices in a computer integrated environment. This environment is referred in this specification as the distribution environment. This specification does not specify a complete set of services for remote programming of devices.

## 2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this section of IEC 1334-4. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this section of IEC 1334-4 are encouraged to investigate the possibility of applying the most recent editions of the normative documents listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC/FDIS 1334-4-42: *Distribution automation using distribution line carrier systems – Part 4: Data communication protocols – Section 42: Application protocols – Application layer*<sup>1</sup>

ISO 7498: 1984, *Information processing systems - Open Systems Interconnection - Basic Reference Model*

ISO/IEC 7498-3: 1989, *Information processing systems - Open Systems Interconnection - Basic Reference Model - Part 3 : Naming and addressing*

ISO/IEC/TR 8509: 1987, *Information processing systems - Open Systems Interconnection - Service conventions*

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ISO/IEC 8649: 1988, *Information processing systems - Open Systems Interconnection - Service definition for the Association Control Service Element*

ISO/IEC 8650: 1988, *Information processing systems - Open Systems Interconnection - Protocol specification for the Association Control Service Element*

ISO/IEC 8824: 1990, *Information technology - Open Systems Interconnection - Specification of Abstract Syntax Notation One (ASN.1)*

ISO/IEC 8825: 1990, *Information technology - Open Systems Interconnection - Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1)*

ISO/IEC 9545: 1994, *Information technology - Open Systems Interconnection - Application Layer structure*

<sup>1</sup> At present at the stage of Final Draft International Standard (57/265/FDIS).