SLOVENSKI STANDARD
SIST EN 61334-4-33:2002

01-april-2002

[Not translated]

Distribution automation using distribution line carrier systems -- Part 4-33: Data communication protocols - Data link layer - Connection oriented protocol

Verteilungsautomatisierung mit Hilfe von Trägersystemen auf Verteilungsleitungen -- Teil 4-33: Datenkommunikationsprotokolle - Sicherungsschicht - Verbindungsorientiertes Protokoll

Automatisation de la distribution à l'aide de systèmes de communication à courants porteurs -- Partie 4-33: Protocoles de communication de données - Couche liaison de données - Protocole orienté connexion

Ta slovenski standard je istoveten z: EN 61334-4-33:1998

ICS:

29.240.20	Daljnovodi	Power transmission and distribution lines
33.200	Daljinsko krmiljenje, daljinske meritve (telemetrija)	Telecontrol. Telemetering

SIST EN 61334-4-33:2002 en

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61334-4-33

October 1998

ICS 29.240.20; 33.200

Descriptors: Electrical power, distribution automation, distribution line carrier systems, data communication protocols, data link layer, connection oriented protocol

English version

Distribution automation using distribution line carrier systems
Part 4-33: Data communication protocols
Data link layer - Connection oriented protocol
(IEC 61334-4-33:1998)

Automatisation de la distribution à l'aide de systèmes de communication à courants porteurs
Partie 4-33: Protocoles de communication de données
Couche liaison de données
Protocole orienté connexion
(CEI 61334-4-33:1998)

Verteilungsautomatisierung mit Hilfe von Trägersystemen auf Verteilungsleitungen
Teil 4-33: Datenkommunikationsprotokolle
Sicherungsschicht
Verbindungsorientiertes Protokoll
(IEC 61334-4-33:1998)

This European Standard was approved by CENELEC on 1998-10-01. 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, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, 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

Ref. No. EN 61334-4-33:1998 E

Foreword

The text of document 57/355/FDIS, future edition 1 of IEC 61334-4-33, 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 61334-4-33 on 1998-10-01.

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) 1999-07-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2001-07-01

This standard is to be used in conjunction with EN 61334-4-32:1996.

Annexes designated "normative" are part of the body of the standard.
In this standard, annex ZA is normative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61334-4-33:1998 was approved by CENELEC as a European Standard without any modification.

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.

Publication	Year	Title	EN/HD	Year
IEC 61334-4-32	1996	Distribution automation using distribution line carrier systems Part 4: Data communication protocols Section 32: Data link layer - Logical link control (LLC)	EN 61334-4-32	1996
ISO/IEC 4335	1993	Information technology Telecommunications and information exchange between systems - High-level data link control (HDLC) procedures Elements of procedures	-	-

NORME INTERNATIONALE

INTERNATIONAL STANDARD

CEI
IEC

61334-4-33

Première édition
First edition
1998-07

Automatisation de la distribution à l'aide de systèmes de communication à courants porteurs –

Partie 4-33: Protocoles de communication de données – Couche liaison de données – Protocole orienté connexion

Distribution automation using distribution line carrier systems –

Part 4-33: Data communication protocols – Data link layer – Connection oriented protocol

International Electrotechnical Commission 3, rue de Varembé Geneva, Switzerland
Telefax: +41 22 919 0300 e-mail: inmail@iec.ch IEC web site http: //www.iec.ch

Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE U

Pour prix, voir catalogue en vigueur
For price, see current catalogue

CONTENTS

Clause Page

Clause Page

INTERNATIONAL ELECTROTECHNICAL COMMISSION

DISTRIBUTION AUTOMATION USING DISTRIBUTION LINE CARRIER SYSTEMS –

Part 4-33: Data communication protocols – Data link layer – Connection oriented protocol

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 co-operation 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.

4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.

5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.

6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61334-4-33 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
57/355/FDIS	57/369/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.

This standard is to be used in conjunction with IEC 61334-4-32. It was established on the basis of the first edition (1996) of that standard.

INTRODUCTION

This part of IEC 61334 is closely related to IEC 61334-4-32 that refers to the connectionless mode LLC protocol as an example of the use of LLC services by the LLC user in the case of collapsed architecture (see 1.1 of IEC 61334-4-32). This standard shows how the basic LLC services are provided through a connection-oriented mode (CO) LLC protocol. The CO mode is mainly used for internode communications in networked implementations and for time-critical applications where the retry timer on transmission errors needs to be closely tied to each subnetwork link characteristics.

The main addition, while using the CO mode instead of connectionless, is in the provided quality of LLC service, in terms of reliability in message flow-controlled delivery and automatic retries on transmission error.

It should be noted that the LLC service primitives allow a connectionless, unacknowledged data transfer at the LLC user interface, with use of specific quality of service parameter values, saving the semantics of the services described in IEC 61334-4-32 so, in this standard, only the additional specifications or changes, needed when invoking the LLC CO protocol, are provided and, for the sake of clearness, they are reported using or recalling the same text structure as in IEC 61334-4-32.

Protocol data units of this standard are specified with orthogonal formats in respect of those in IEC 61334-4-32, so that both the sets of procedures can share the same link: the way to synchronize the use of the link by the two sets of procedures is outside the scope of this standard.

The LLC CO procedure allows bidirectional, full duplex data transfer services between a primary station and a number of secondary stations: nevertheless, the primary station role could be changed during the time and the way to manage that is outside the scope of this standard.

To improve the efficiency of the protocol, at system configuration level, it is possible to define two types of LLC-CO PDU formats according to the number of users of LLC-CO as indicated below:

LLC-CO Type 1: the LLC PDU format presents DSAP and SSAP fields because there are more than one LLC-CO user (figure 6).

LLC-CO Type 2: the LLC PDU format does not present DSAP and SSAP fields because there is only one LLC-CO user (figure 7).