



# SLOVENSKI STANDARD

## SIST EN 61334-4-61:1998

01-april-2002

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### [Not translated]

Distribution automation using distribution line carrier systems -- Part 4-61: Data communication protocols - Network layer - Connectionless protocol

Verteilungsautomatisierung mit Hilfe von Trägersystemen auf Verteilungsleitungen -- Teil 4-61: Datenkommunikationsprotokolle - Vermittlungsschicht - Verbindungsloses Protokoll

**iTeh STANDARD PREVIEW**

Automatisation de la distribution à l'aide de systèmes de communication à courants porteurs -- Partie 4-61: Protocoles de communication de données - Couche réseau - Protocole sans connexion

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**Ta slovenski standard je istoveten z: EN 61334-4-61:1998**

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### **ICS:**

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

**SIST EN 61334-4-61:1998**

**en**

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English version

**Distribution automation using distribution line carrier systems  
Part 4-61: Data communication protocols - Network layer  
Connectionless protocol  
(IEC 61334-4-61:1998)**

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

Partie 4-61: Protocoles de communication de données - Couche réseau - Protocole sans connexion  
(CEI 61334-4-61:1998)

Verteilungsautomatisierung mit Hilfe von Trägersystemen auf Verteilungsleitungen

Teil 4-61: Datenkommunikationsprotokolle Vermittlungsschicht  
Verbindungsloses Protokoll  
(IEC 61334-4-61:1998)

SIST EN 61334-4-61:1998

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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

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### Foreword

The text of document 57/356/FDIS, future edition 1 of IEC 61334-4-61, 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 61334-4-61 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

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.

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### Endorsement notice

The text of the International Standard IEC 61334-4-61:1998 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 61334-4-1	1996	Distribution automation using distribution line carrier systems Part 4: Data communication protocols Section 1: Reference model of the communication system	EN 61334-4-1	1996
IEC 61334-4-33	1998	Part 4-33: Data communication protocols Data link layer - Connection oriented protocol	EN 61334-4-33	1998
IEC 61334-4-41	1996	Section 41: Application protocols Distribution line message specification	EN 61334-4-41	1996
IEC 61334-4-42	1996	Section 42: Application protocols Application layer	EN 61334-4-42	1996
ISO/IEC 7498	series	Information technology - Open systems interconnection - Basic reference model	EN ISO/IEC 7498	series

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

**Partie 4-61:**

**Protocoles de communication de données –  
Couche réseau – Protocole sans connexion**

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

**Part 4-61:**

**Data communication protocols –  
Network layer – Connectionless protocol**

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International Electrotechnical Commission  
Международная Электротехническая Комиссия

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

**Part 4-61: Data communication protocols –  
Network layer – Connectionless 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.
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International Standard IEC 61334-4-61 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
57/356/FDIS	57/370/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.

## INTRODUCTION

This part of IEC 61334 is closely related to IEC 61334-4-1 that refers to a minimal three-layer architecture as an example of the use of an efficient communication architecture to build a communication system used for low-voltage DLC applications.

Nevertheless, the suggested layered architecture is open to support additional features which are to be implemented in the case of several subnetworks, as MV and LV networks, are used for DLC applications.

The basic three layer communication architecture provides communication among applications which are hosted by stations on one single line carrier link (e.g. an LV section), as in the example represented in figure 1: this set of stations is here defined as a "subnetwork".

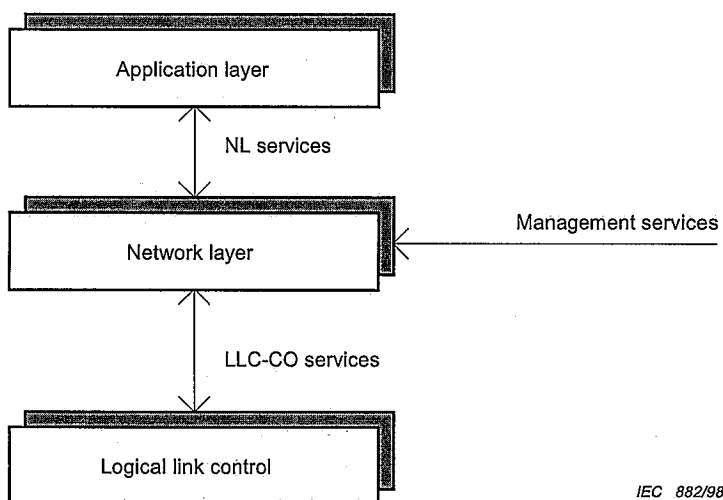
Furthermore, two subnetworks may be connected through an internetworking unit which hosts an application acting as gateway in case of communication between a client and a server running on stations that belong to different subnetworks (see figure 2).

Another approach is to define a network layer entity (N) supporting a routing function which provides the necessary address mapping between the two subnetworks (see figure 3).

In the example of figure 3, all the stations have to implement the network layer function: nevertheless, applications running on the same subnetwork may directly use the LLC services using a LSAP different from that assigned to the network layer entity, as defined in the following.

In the general case, a mixed approach may be useful and a number of subnetworks could be crossed by a message (see figure 4 for an application example).

A protocol at the network layer is to be used and the entity, implementing it, is located between the N-user and the LLC layers, as defined in the following architecture model.



This standard provides the N service definition and the N-protocol specification, with specific reference to the application of figure 4.

Network layer mapping functions to application layer are described in clause 6.

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