

Distribution automation using distribution line carrier systems —

Part 4-61: Data communication protocols — Network layer — Connectionless protocol

The European Standard EN 61334-4-61:1998 has the status of a British Standard

ICS 29.240.99; 33.040.40; 35.100.30

National foreword

This British Standard is the English language version of EN 61334-4-61:1998. It is identical with IEC 61334-4-61:1998.

The UK participation in its preparation was entrusted to Technical Committee PEL/57, Power systems control and communications, which has the responsibility to:

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN title page, pages 2 to 26, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

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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)

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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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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.

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- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2001-07-01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

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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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”.

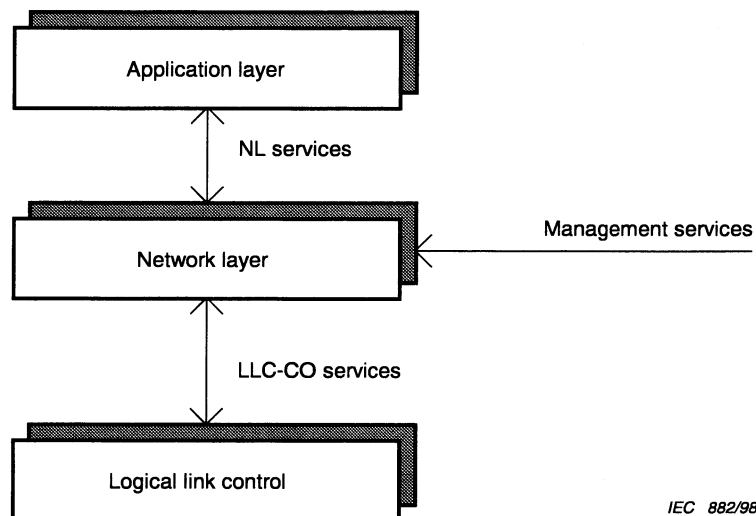
Furthermore, two subnetworks may be connected through an internetworking unit which hosts an application acting as gateway in case of communication between a client and a server running on stations that belong to different subnetworks (see Figure 2).

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.

