

Power line communication systems for power utility applications - Part 1: Planning of analogue and digital power line carrier systems operating over EHV/HV/MV electricity grids (IEC 62488-1:2012)

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English version

**Power line communication systems for power utility applications -
Part 1: Planning of analogue and digital power line carrier systems
operating over EHV/HV/MV electricity grids
(IEC 62488-1:2012)**

Systèmes de communication sur lignes
d'énergie pour les applications des
compagnies d'électricité -
Partie 1: Conception des systèmes à
courants porteurs de lignes d'énergie
analogiques et numériques fonctionnant
sur des réseaux d'électricité EHT/HT/MT
(CEI 62488-1:2012)

Systeme zur Kommunikation über
Hochspannungsleitungen für
Anwendungen der elektrischen
Energieversorgung -
Teil 1: Planung von Systemen zur
analogen und digitalen
Nachrichtenübertragung über
Hochspannungsleitungen
(IEC 62488-1:2012)

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 57/1279/FDIS, future edition 1 of IEC 62488-1, prepared by IEC/TC 57 "Power systems management and associated information exchange" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62488-1:2013.

The following dates are fixed:

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- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2016-01-03

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

CISPR 22:2008	NOTE Harmonised as EN 55022:2010 (modified).
IEC 60038:2009	NOTE Harmonised as EN 60038:2011 (modified).
IEC 60044-1:1996	NOTE Harmonised as EN 60044-1:1999 (modified).
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IEC 60255-22-1:2007	NOTE Harmonised as EN 60255-22-1:2008 (not modified).
IEC 60255-151:2009	NOTE Harmonised as EN 60255-151:2009 (not modified).
IEC 60358-1:2012	NOTE Harmonised as EN 60358-1:2012 (not modified).
IEC 60721-3-1:1987 + A1:1991	NOTE Harmonised as EN 60721-3-1:1993 (not modified).
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IEC 60870-5-104	NOTE Harmonised as EN 60870-5-104.
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IEC 61000-4-2	NOTE Harmonised as EN 61000-4-2.
IEC 61000-4-3	NOTE Harmonised as EN 61000-4-3.
IEC 61000-4-4	NOTE Harmonised as EN 61000-4-4.
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POWER LINE COMMUNICATION SYSTEMS FOR POWER UTILITY APPLICATIONS –

Part 1: Planning of analogue and digital power line carrier systems operating over EHV/HV/MV electricity grids

1 Scope

This part of IEC 62488 applies to the planning of analogue and digital power line carrier systems operating over EHV/HV/MV electricity grids. The object of this standard is to establish the planning of the services and performance parameters for the operational requirements to transmit and receive data efficiently over Power Networks.

The transmission media used by the different electricity supply industries will include analogue and digital systems together with more common communication services including national telecommunications authorities, radio links and fibre optic networks and satellite networks. With the developments in communication infrastructures over the last two decades and the ability of devices connected in the electricity communications network to internally and externally communicate, there is a variety of architectures to use in the electricity distribution network to provide efficient seamless communications.

These series of standards for the planning of power line carrier systems will also be an integral part of the development of the overall architecture, standard IEC 61850 developed within IEC TC57 which provides the fundamental architecture for the formation of the smart grid.

2 Terms, definitions and abbreviations

2.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

NOTE Other terms used in this standard and not defined in this clause have the meaning attributed to them according to the International Electrotechnical Vocabulary (IEV).

2.1.1

amplitude modulation

AM

modulation technique in which information is transmitted through amplitude variation of a carrier wave

2.1.2

analogue interface

interface dedicated to the processing of voiceband analogue signals

2.1.3

anomaly

small discrepancy between the actually received and the desired data

Note 1 to entry: The occurrence of a single anomaly does not cause interruptions of the applications using the transmitted data.