TECHNICAL SPECIFICATION

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Electricity metering data exchange - Part 4: Lower layer PLC profile using SMITP B-PSK modulation

This Technical Specification was approved by CENELEC on 2014-11-11.

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
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Foreword

This document (CLC/TS 50568-4:2015) has been prepared by CLC/TC 13, "Electrical energy measurement and control".

The following date is fixed:

- latest date by which the existence of this document has to be announced at national level (doa) 2015-07-24

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Meters and More Open Technologies
Brussels/Belgium
www.metersandmore.eu

Introduction

This Technical Specification is based on the results of the European OPEN Meter project, Topic Energy 2008.7.1.1, Project no.: 226369, www.openmeter.com.

According to the structure of the CLC/TS 50568 documentation, this document is positioned as highlighted in the following figure:

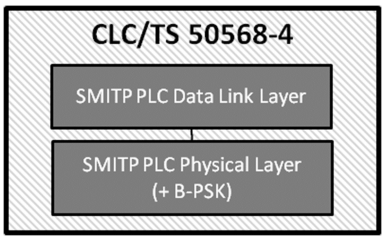

Figure 1 – Document structure of CLC/TS 50568-4

1 Scope

This Technical Specification specifies the characteristics of the profile related to Physical and Data Link Layers for communications on LV distribution network between a Concentrator (master node) and one or more slave nodes.

The following prescriptions are applied to groups of devices that communicate using low voltage network. Each section of the network is composed by one Concentrator (acting as the master of the section), and one or more primary nodes (A-Nodes). Every A-Node can optionally be associated to one secondary node (B-Node).

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 50065-1, *Signalling on low-voltage electrical installations in the frequency range 3 kHz to 148,5 kHz – Part 1: General requirements, frequency band and electromagnetic disturbances*

3 Terms, definitions, acronyms and notations

3.1 Terms and definitions

For the purpose of this document, the following terms and definitions apply:

3.1.1
concentrator section
identification code of the network managed by the concentrator

3.1.2
node subsection
identification code of the sub network within the network identified by concentrator section

3.1.3
node progressive
unique node ID within the node sub section

3.1.4
upper layers
every communication stack layer except PHY, MAC and LLC

3.2 Acronyms

For the purpose of this document, the following acronyms apply:

ACA: Absolute Communication Address
B-PSK: Binary Phase Shift Keying
CRC: Cyclic Redundancy Check
D-L: Data-Link
ECC: Encryption Coding Control
ECTL: Extended Control
HDLC: High-level data link control procedures
LLC: Logical Link Control
LSb: Least Significant bit
LSB: Least Significant Byte
LSDU: LLC Service Data Unit
LV: Low Voltage