POWER LINE COMMUNICATION (PLC) OVERVIEW

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Rezumat. *Comunicațiile prin curenți purtători nu sunt o noutate, aceştia fiind folosiți încă de acum câteva decenii în automatizarea instalațiilor de iluminat, însă comunicarea a fost realizată exclusiv în bandă îngustă şi cu o rată de transfer modestă.Articolul de față propune o vedere de ansamblu asupra progreselor făcute în acest domeniu prin implementarea de noi proiecte ce au ca bază această tehnologie de la automatizările minore din rețeaua de distribuție ce presupun o rată de transfer redusă până la aplicațiile moderne cum ar fi internetul în bandă largă sau conceptul de casă inteligentă.*

Abstract. *Power line Communications (PLC) – communications over the electricity distribution grid has become an interesting topic in recent years. Although this technology has been in use for special applications* for *several decades, such as street lighting, the communication is made exclusively in the narrowband range and transmission rates are low. In several European countries there exists an intensive interest to introduce Power Line Communication (PLC) network into operation for different purposes. These purposes represent different levels of traffic within the PLC network from a very weak level, when using the PLC network for some operational tasks of power distribution network up to very intensive traffic when using the PLC network for public access to Internet.*

Keywords: PLC, modulation

1. Introduction

One of the most important features of present data communication is its orientation on broadband services. At this time, the fast Internet access seems to be the most popular service but also other services, such as VoIP, Conferencing or Teleworking, are gradually expanding. To provide this services it can be chosen from several solutions,such as using the existing telephone lines through digital subscriber lines (xDSL) or cable distributions via cable modems (CATV), installing new optic fibres (PON), using wireless technologies (WLL, WLAN) or utilizing electrical power lines (PDSL, PLC).

The electrical power distribution grid offers a big potential for fast and reliable communication services. PLC technology is far behind recent leading access methods (fiber optics, CATV, WLAN) regarding transmission rates,

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