Power line communication in smart grid Zimbabwe

Can power line communication (PLC) be used for smart grid applications?
This paper investigates the use of Power Line Communication (PLC) for Smart Grid (SG) applications. Firstly, an overview is done to define the characteristics of PLC and PLC-based SG applications are addressed to define the compatibility of PLC.

What are smart grid objectives?
Smart Grid objectives include the integration of intermittent renewable energy sources into the electricity supply chain, securing reliable electricity delivery, and using the existing electrical infrastructure more efficiently. This paper surveys power line communications (PLCs) in the context of Smart Grid.

How Westfalen Weser & PPC can improve smart grid performance?
Tests show that fast and efficient smart grids can be handled with a the combination of Westfalen Weser, PPC and Cisco technologies, resulting in increased reliability in the power grid and decreased costs for the installation of the system . 11.5. High-speed narrowband PLC in smart grid landscape pilot project

Can power line modems be evaluated in a smart grid test platform?
Van Tichelen P, Ectors D, Weyen D, Stevens M. Power line modem evaluation possibilities in a smart grid test platform. In: Proceedings of the IEEE International Symposium on Power Line Communications and its Applications (ISPLC), 2011. 3-6 April 2011, vol., no., p. 199-203. Aluminium power cable.

What is plc based smart grid technology?
PLC based smart grid technologies/solutions are propelling for renewable energy applications in for DC-DC conversion based distributed power system. Fig. 46. The solar energy grid integration system integrated with advanced distribution-power system (DPS) . Active and reactive power management to ensure power quality.

Can Narrowband power line be used as communication technology?
Cataliotti A, Cosentino V, Cara DD, Russotto P, Tine G. On the use of narrow band power line as communication technology for medium and low voltage smart grids. In: Proceedings of the IEEE Instrumentation and Measurement Technology. 2012, p. 619-623 Yingjie Sun, Pratt T. Narrowband PLC SIMO-Based Interference Suppression With Zero-Forcing.

In an electrical power system smart grid is a network that renewable energy sources along with smart devices. Communication capabilities of the conventional grid can be improved by the ...

This paper investigates the use of Power Line Communication (PLC) for Smart Grid (SG) applications. Firstly, an overview is done to define the characteristics of PLC and PLC-based SG applications are addressed to define the compatibility of PLC. Then, the advantages and disadvantages of PLC for SG applications are

analyzed to improve the issues ...

Power line communication (PLC) is a natural communications technology for smart grids, as it uses the existing power cables. This chapter presents that the medium-voltage (MV) networks, fibers are rarely included in the power cabling. ... comprising MV and LV segments. It presents an overview of the more recently developed standards for PLC ...

Power line communication, that is, using the electricity infrastructure for data transmission, is experiencing a renaissance in the context of Smart Grid . Smart Grid objectives include the ...

Power line communication (PLC) is an important interconnection technology for the smart grid, but the robustness of PLC transmission is faced with a great challenge due to strong non-Gaussian noise and interference. In ...

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The notion of Automatic Meter Reading (AMR) and Automatic Meter Infrastructures (AMI) are the enabling technologies for the so-called Smart Grid concept. Power Line Communication (PLC), a wired communication technology, has definitely become the underlying technology at the heart of many of the standards dedicated to electric energy ...

The topology of in-home power line communication (PLC) networks varies frequently, which makes traditional routing algorithms failure. To solve this problem, an end-to ...

Smart metering with two-way communications provides the critical foundation for establishing a smart grid. Advanced metering infrastructure (AMI) systems employ a wide range of communications technologies, including radio frequency (RF) mesh, power line communications (PLC), and cellular.

The design of the Smart Grid requires solving a complex problem of combined sensing, communications and control and, thus, the problem of choosing a networking technology cannot be addressed without also taking into consideration requirements related to sensor networking and distributed control. These requirements are today still somewhat undefined so ...

Advanced Smart Grid Applications: Power line communication plays a vital role in enabling smart grid functionalities such as demand response, grid monitoring, and distributed energy resource management. ... Narrow Band Power Line Communications for Smart Grid Applications," in IEEE P1901.2/D0.08.00, May, 2013, vol., no., pp.1-336, 13 June 2013.

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Keywords: Power line communication, smart grid, noise, attenuation, clipping, equalizer INTRODUCTION Smart Grids (SGs), a big technological innovation, have the potential to ...

Keywords-- Power line communications, Smart grid, Amplitude shift keying, Frequency shift keying, phase shift keying. I. INTRODUCTION Growing costs of conventional energy with finite resources, Greenhouse Gas (GHG) emissions, climate change issues, security, and reliability of the electric power system have brought many concerns, thus interests ...

PDF | Power Line Communication (PLC) is an emerging technology that utilizes existing electrical power infrastructure for data transmission. ... instance, in smart grid implementations, PLC can be ...

Power line communication (PLC) is a natural communications technology for smart grids, as it uses the existing power cables. This chapter presents that the medium& #x2010;voltage (MV) ...

Power line communications (PLC) reuse existing infrastructures (i.e. power lines) whose primary purpose is the delivery of AC (50 Hz or 60 Hz) or DC electric power, for the purpose of data ...

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