

# BRAZIL POWER LINE COMMUNICATION IN SMART GRID



Is Brazil ready for a smart grid power system? Decarbonization, Digitalization and Decentralization are considered the main key drivers for this power system transition and Brazil is no exception to this universal trend. A search of the literature revealed few studies which attempt to address the main challenges and opportunities towards a smart grid power system in Brazil.



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.



Are smart grids a barrier to development in Brazil? Although there have been some advances in the Brazilian regulatory structure, many gaps still stand as a barrier to the development of smart grids. Smart grids are expected to be at an intermediate level of development in Brazil by 2030 (Carvalho, 2015).



What is smart metering in Brazil? Smart metering is considered an emerging and under development technological system in Brazil. Currently, the use of smart metering in Brazil is restricted to pilot smart grid projects of specific distribution utilities. The deployment of smart meters is a fundamental step for the deployment of smart grids in Brazil.



What is a smart grid? The smart grid (SG) is a new and modern design for electric power systems (EPSs), leading to highly efficient, reliable, and safe electric power infrastructures. In addition, it provides a harmonious integration of renewable and alternative energy sources by means of modern communication technologies and automated control systems.

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What is a Smart Grid plc? Smart Grid applications and specifications based on communication requirements. 4.5. Power line communications for the Smart Grid PLC technology is a significant aspect of computer technology in general. It has the ability to monitor and control the entire industrial production process to guarantee that it runs smoothly.



In this context, this paper presents the development of a complete Smart Metering System which utilizes Power Line Communication (PLC) technology considering the standard PRIME ???



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<P>Communication has been used in the power grid for over a century; new concepts addressed by smart grid communication need to be clearly articulated. Fundamental physics has shown ???



This paper surveys power line communications (PLCs) in the context of Smart Grid. The specifications G3-PLC, PRIME, HomePlug Green PHY, and HomePlug AV2, and the standards IEEE 1901/1901.2 and ITU

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- a unique feature when PLCs are used for the Smart Grid. Index Terms??? Smart grid, power grid, distribution network, power line communication, power line channel, distributed control, cyber ???



Abstract: Power line communications (PLC) have been an active research area for many years and it is still the case, mainly because they present economic and technical natural advantages ???



Power line communications (PLCs) have recently absorbed interest in the smart grid since they offer communication capability in an easy and simple deployment. The main role of PLC ???



With the ongoing trends in the energy sector such as vehicular electrification and renewable energy, the Smart Grid (SG) is clearly playing a more and more important role in the electric power system industry. One ???



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 ???

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Eletrobras Distribution Companies" Parintins Smart Grid Project. Brazil's federal utility holding company Eletrobras is Latin America's largest electric utility. It is controlled by ???



This paper investigates the use of Power Line Communication (PLC) for Smart Grid (SG) realization. Smart Grid allows for a two-way communication of data, which helps in ???