

POWER LINE COMMUNICATION IN A DISTRIBUTION NETWORK: METHODOLOGY, DESIGN AND APPLICATION

POWER LINE COMMUNICATION IN A DISTRIBUTION NETWORK: METHODOLOGY, DESIGN AND APPLICATION

Tác giả: Nguyễn Hữu Hiếu,

Tóm tắt bằng tiếng Việt:

Currently, there are many methods of transmitting data which have been studied and employed in power system in order to acquire measuring parameters (power, voltage, etc) and to control electric devices in power system. The advantage of power-line communication is to utilize the existing infrastructure, but existing harmonics in power system have certain impacts on the accuracy of obtained information. This paper proposes a method of transmitting data on lines of distribution network. The paper utilizes a proper modulation method as well as proposes designs, especially filters, in order to minimize impacts of existing harmonics in power system on the accuracy of obtained information. Currently, there are many methods of transmitting data which have been studied and employed in power system in order to acquire measuring parameters (power, voltage, etc) and to control electric devices in power system. The advantage of power-line communication is to utilize the existing infrastructure, but existing harmonics in power system have certain impacts on the accuracy of obtained information.

Từ khóa: Power line communication; distribution network; carrier frequency; Frequency Shift Keying; modulation; electric frequency

Tóm tắt bằng tiếng Anh:

Recently, many methods of transmitting data have been studied and employed in power system in order to acquire measuring parameters (power, voltage, etc) and to control electric devices in power system. The advantage of power-line communication is to utilize the existing infrastructure, but existing harmonics in power system have certain impacts on the accuracy of obtained information. This paper proposes a method of transmitting data on lines of distribution network. The paper utilizes a proper modulation method as well as proposes designs, especially filters, to minimize impacts of existing harmonics in power system on the accuracy of obtained information.

Key words: Power line communication; distribution network; carrier frequency; Frequency Shift Keying; modulation; electric frequency