

ABSTRACT

In the Solar Power Plant one of the problems that is still manually is the performance measurement of module photovoltaics. The performance check of the photovoltaic module is done manually, namely by using a direct measurement method using a multimeter. By manually checking it requires a lot of time and labor. Based on these problems, a photovoltaic module detection device is made using XBee as a communication module. The performance detection device utilizes the readings of the sensors that get the voltage and current data in the PV module. The tool made is divided into three working points based on its main function, namely the receiving point as the receiver of performance data processing, the sending point one as a detector of performance data and sending performance data to the receiving point, and two sending points as a detector of performance data and sending performance data to the point receiver. The performance detection tool is made using Arduino UNO, XBee Pro S2C, current transformer sensor, voltage sensor, and 16x2 LCD. The power source for the detector comes from the power of the bank which is connected to the performance detector. The input from this device is the data current detected by the current transformer sensor and the voltage data detected by the voltage sensor. Performance data will then be converted into code that represents the performance data of the sender point one or two. Based on the results of testing this tool can obtain performance data and make the performance data of the initialization code before being sent to the receiver.

Key word : photovoltaic, performance, wireless, sensor