

ABSTRACT

Load that are used by electricity customers rather than just a pure resistance, there is also a form of inductor loads or capacitive. Examples of inductive loads such as fans, air conditioners, and others. Use the load can lead to decline in value of power factor load, causing power loss. Power losses are not utilized by the load, but electricity customers still have to pay the power consumption. This can be solved by improving the power factor. But to be able to fix it must be known in advance the value of power factor of electrical load usage.

This tool uses DCS-01 Delta Current Sensing for detecting the flow of electricity and turn it into a voltage, voltage divider circuit to reduce voltage from PLN, the microcontroller ATMEGA8535 for calculation, and the LCD to display the measurement results.

This tool can measure and display the magnitude of $\cos \phi$ digitally as a result of the use of an electrical load. In addition, this tool can also measure and display the magnitude of current and voltage used by an electrical load.

Key words: $\cos \phi$, DCS-01 Delta Current Sensing, ATMEGA8535, voltage divider circuit, and LCD