



CONVENIENCE OUTLET WITH LED LOAD-METER INDICATOR

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Abstract

Safety and reliability are some of the major concerns in the context of electricity consumption. With the possible threat it can cause, an individual's awareness is an essential aspect that everyone must consider in order to lessen such electrically inflicted accidents. This research study led to its purpose of developing a device that displays the total connected load current on branch circuit by means of embedding Light Emitting Diode (LED) display on the cover plate of convenience outlets in order to provide load monitoring as well as exemplifying electrical safety. Specifically, it mainly focused on the determination of the accuracy, precision level, and significant difference on the readings of different types of electrical load connected among residential units. Experimental method was employed and Philippine Electrical Code (PEC) and standardized materials were used as bases for the ethical foundation and whole-conduct of the said study. Arithmetic mean, percentage error, frequency count and One-Way Analysis of Variance (One-Way ANOVA) were the statistical tools used. Moreover, results showed that the average percentage error of the device is 6.82% that is interpreted as highly accurate while the result of the frequency count yielded to a 100% degree level of precision. Lastly, the device revealed that there is no significant difference on the readings of different types of electrical residential load connected.

Keywords: Convenience Outlet, LED, Load-Meter.
