

ABSTRAK

Energi yang dibutuhkan dalam kehidupan sehari-hari adalah energi daya listrik. Daya listrik dalam proses penyalurannya digunakan media pengantar kabel tembaga. Perkembangan teknologi transmisi daya saat ini mengedepankan kemudahan dan penghematan media penyalur daya seperti kabel tembaga.

Teknologi transfer daya yang sedang dikembangkan pada saat ini yaitu transfer daya nirkabel. Teknologi ini merupakan suatu teknologi transmisi daya yang memiliki konsep menghantarkan atau mengirimkan energi tanpa menggunakan kabel penghantar.

Pada penelitian ini penulis merancang rangkaian driver transfer daya nirkabel yang dapat mentransmisikan daya melalui rangkaian kumparan pemancar dan kumparan penerima. Hasil penelitian menunjukkan bahwa rancangan prototipe driver transfer daya nirkabel yang dibuat dapat menghasilkan output tegangan terbesar 11.2 volt dan arus 0.2 mA. Transmisi daya terbesar berhasil ditransmisikan melalui kumparan koil jumlah 16 lilitan dan jarak kumparan koil 0-1 cm dengan besaran tegangan diterima 3.50 volt dan daya sebesar 0.07 watt. Pada rangkaian driver dan kumparan koil ini diuji dengan jarak kumparan 1-15 cm. Hasil dari perancangan driver transfer daya nirkabel ini, daya listrik berhasil disalurkan tanpa menggunakan media kabel.

Kata Kunci : Daya Listrik, Transfer Daya Nirkabel, Driver WPT



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ABSTRACT

One of human needs in everyday is needed of electric power. Electrical power in the process of distribution is used as a medium for conveying copper cables. Along with technological developments, power transfer technology has been developed which can increase practicality, avoid damage to devices and save on electrical power transmission materials such as copper wires.

Currently, Power transfer technology that being developed is wireless power transfer. This technology is a transmission technology that has the concept of delivering or sending energy without using of conductor cables.

Authors designed a driver of wireless power transfer circuit as that can transmit electricity through a series of coils. Therefore, the authors produced a wireless power transfer driver prototype design with the largest output voltage is 11.2 volts and current is 0.2 mA. The largest power transmission was successfully transmitted through the coil 16 coils and the coil spacing of 0-1 cm with an accepted voltage is 3.50 volts and a power is 0.07 watts. The driver and coil circuits are tested with a coil distance of 1-15 cm. The result of designing this wireless power transfer driver is that electric power is successfully distributed without the use of cable media.

Keywords: *Electrical Power, Wireless Power Transfer, Driver WPT*

