The Intelligent Energy Saving Power Strip

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An electrical circuit was designed and placed inside a power strip to save electricity . It saved electricity used by secondary appliances (which required primary appliances to function) that are mostly on standby. The device automatically switched secondary appliances off and on when the current sensor detected the power usage of the primary appliance. It intelligently did this by using a programmable computer module to measure, save and modify the highest and lowest ampere values of the primary appliance and worked out a threshold of a third above the lowest value, all which were constantly modified. This was the switching point of the relay for the secondary appliances. Step one was to determine current usages of typical household configurations of appliances. Then designed and developed an electrical circuit and program the computer module to be placed inside a power strip. The modified power strip's function was tested and compared to a regular power strip. The amount of energy saved was determined for different scenarios, i.e. entertainment and office setup. The results showed that appliances used electricity while on standby. The modified power strip was able to determine threshold values by which it could control the electricity to the secondary appliances. The results between the modified and a normal power strip (both powered the same appliances) proved that the modified power strip used significantly less electricity over a period of an hour of using the appliances. Three prototype models have been built and they successfully controlled the electricity used by secondary appliances.

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