

An Approach to Face the Standby Power Problem

Embraco/EECON technology helps the cutoff of energy wasted by electronic equipment

According to IEC¹, standby mode is defined as “*the lowest power consumption mode which cannot be switched off (influenced) by the user and that may persist for an indefinite time when an appliance is connected to the main electricity supply and used in accordance with the manufacturer’s instructions... is usually a non-operational mode when compared to the intended use of the appliance’s primary function.*”

In a practical way, standby power is a wasted energy in the most part of electronic equipment like televisions, DVD players, home theaters, etc.. It is used only to maintain the remote control available anytime.

This energy implies in an additional cost on the consumer’s electricity bill. But the major issue is about the global effect: imagine all electronic equipment generating standby power in your city, in your country.

In Europe, the annual electricity consumption related to standby was estimated to be 47 billion kWh in 2005². This is more than the Greater London total consumption in the same year³.

In Brazil, it is estimated that the televisions in all homes spend around 1 billion kWh annually in standby mode⁴. Almost the double of the energy saved during the Brazilian daylight saving time⁵.

To offer a solution for this energy waste, EECON developed an easy and innovative way to cut off the standby power on electronic equipment at home: a small device that is connected between the electrical outlet and the equipment plug.

When the user turns off the equipment, the device automatically identifies the standby condition and cuts the energy supply, eliminating the losses. An infrared sensor monitors the remote control, re-establishing the energy when the equipment is turned on again. No additional switches or dedicated remote control are necessary.

The device has an electronic switch to cut the power supplied to the equipment, controlled by a software that monitors the power profile required from the load, capable to detect the standby mode.

The final product is planned to be available in the last quarter of 2009. The innovative concept to monitor the power and identify standby mode is being protected by patents worldwide.

EECON (Embraco Electronic Controls) is specialized in developing and manufacturing innovative electronic controls, and is a business unit of Embraco, the world leader in hermetic compressors for refrigeration.

Rafael Andrighetti
Marketing Specialist
rafael_andrighetti@embraco.com.br
EECON - Embraco Electronic Controls
Joinville, SC, Brazil

1 – Standard IEC 62301 Ed. 1.0, “Household Electrical Appliances – Measurement of Standby Power”, International Electrotechnical Commission.

2 – Commission Regulation (EC) No 1275/2008 of 17 December 2008 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for standby and off mode electric power consumption of electrical and electronic household and office equipment, Official Journal of the European Union, 18.12.2008.

3 – Greater London annual consumption in 2005 was 41.4 billion kWh, Regional and local authority electricity consumption statistics, Department of Energy and Climate Change, Publication URN 08/487c, December 2008.

4 – Conservative statistics, considering Brazilian homes with just one television, 5 W standby consumption, 18 hours standby time per day.

5 – Predicted savings during the 119 days of the Brazilian daylight saving time are 611 GWh, Table 3 – Quantification of Load Reductions Prediction due to Daylight Saving Time 2008-2009, Preliminary Results of 2008-2009 Daylight Saving Time Implementation, ONS – Operador Nacional do Sistema Elétrico.