

Technology Offer

Standby power reduction device for electrical and smart connected devices

Summary

A South Korean SME has developed an automatic standby power cut-off technique for electrical appliances incl devices connected to Internet of things (IoT) when they are not in use. The company has more than 20 years of experience in energy control, monitoring and saving. License agreement, research agreement, and commercial agreement with technical assistance are offered to industry or academia, working in automatic power cut-off.

Creation Date	29 September 2016
Last Update	22 December 2016
Expiration Date	22 December 2017
Reference	TOKR20160929001
Profile link	http://een.ec.europa.eu/tools/services/PRO/Profile/Detail/943c5dc4-29a4-459b-a058-a18594916e39

Details

Description

The South Korean energy saving specialist was established in 1995 and has developed and produced various automatic control systems. The company provides energy-saving solutions to improve the energy efficiency of electronic appliances. Powering down appliances when not in use could potentially reduce at least 10% of the energy bill.

The system can be applied to conventional electronic devices as well as smart connected devices to eliminate wastage of electricity, even when the devices are in standby mode.

This technology is capable of controlling standby power of many types of electrical devices:

1. device with on/off switches. e.g. microwaves, computers, washing machines, TVs, air conditioners, industrial machines,
2. devices that are running 24 hours. e.g. refrigerators, hand dryers, bidet, electrical rice cooker, etc.
3. smart connected devices e.g. IoT devices that are connected based on the home or building automation system.

This technology can be applied to:

- (1) devices that consume electricity when they are not operational: e.g. microwaves, computers, washing machines, TVs, air conditioners, industrial machines
- (2) devices that are always on 24 hours: e.g. refrigerators, hand dryers, electrical rice cooker
- (3) smart connected devices: e.g. devices that are connected based on the home or building automation system

The company offers license agreement, commercial agreement with technical assistance and

research cooperation agreement. The Korean SME will implement the automatic standby power cut-off technique development, and the partner should participate in further development for commercialisation and provide the market feedback for improvement.

Advantages and Innovations

The technology can be installed as a modular add-on to existing applications. The attached image shows a block diagram that demonstrates how the product can be connected to manage power consumption.

The product automatically cuts electricity supply when appliances are not in use:

1. Eliminates standby power of electronic devices
2. Reducing overall electrical power consumption of appliances
3. Reduce standby power when connected IoT devices are not in use

The technology:

- Automatically cut standby power of all kind of home appliances
- Can be separately installed on most electronic devices
- Reduces CO2 emission
- Contributes to greener environment by significant reduction of greenhouse gas
- The company's IoT hardware platform would facilitate the proliferation of IoT technology without energy waste

Stage of Development

Available for demonstration

IPR Status

Patents granted

Profile Origin

Private (in-house) research

Keywords

Technology

01001001	Automation, Robotics Control Systems
01002003	Electronic engineering
01004008	ERP - Electronic Resources Planning

Market

03001006	Controllers
03001007	Circuit boards
03002	Batteries
03003	Power Supplies
03004003	Other electronics related equipment

NACE

D.35.1.1	Production of electricity
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Network Contact

Issuing Partner

Deltatech-Korea Ltd

Contact Person

Su Wan Cho

Phone Number

0082232782706

Email

suwancho93@dtk3.com

Open for EOI : **Yes**

Dissemination

Send to Sector Group

Intelligent Energy

Client

Type and Size of Organisation Behind the Profile

Industry SME 11-49

Year Established

0

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English

Client Country

South Korea

Partner Sought

Type and Role of Partner Sought

Type of partner sought

- SME, larger company, research organization, universities
- Technical corporation

Specific area of activity of partner

- Electronic and automatic standby power cut-off technique

Tasks to be performed by the partner sought

- Cooperation on further product development and the partner should have facilities for the production.

Type of Partnership Considered

License agreement

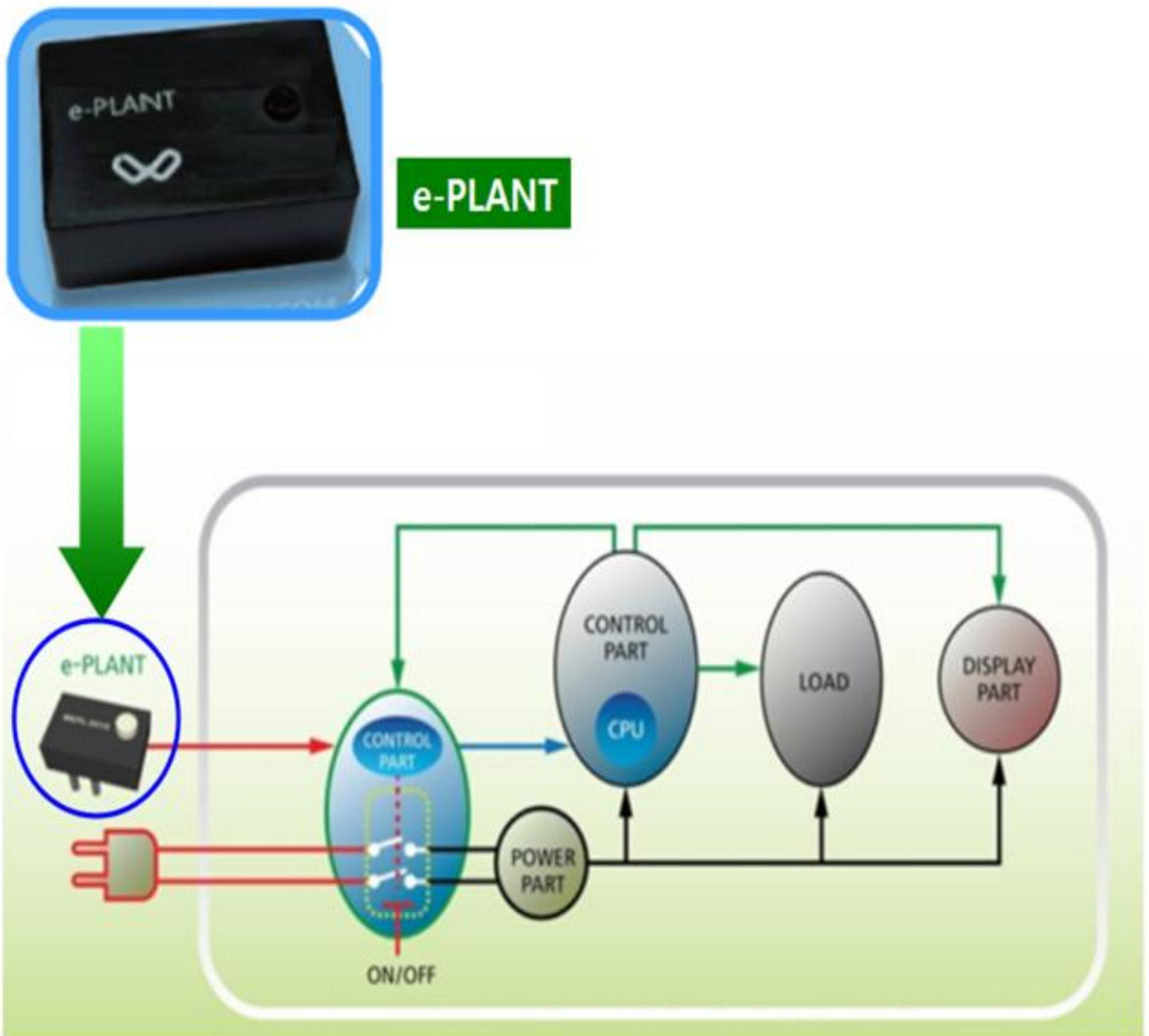
Commercial agreement with technical assistance

Research cooperation agreement

Attachments

e-PLANT.png






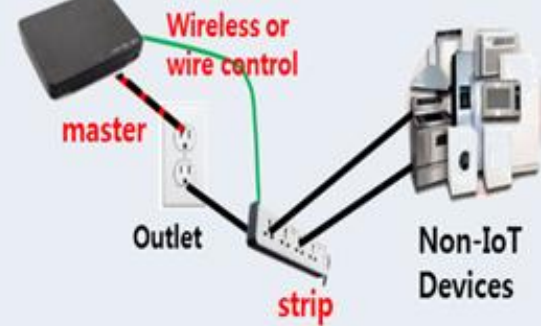
e-PLANT equipped product diagram



we-zero system.png

Conventional IoT System vs. The Suggested System

❖ When devices are in idle state

Application	Conventional IoT system ( ,  , etc.)		Suggested system	
IoT devices				
	● Network standby power	Waste	● Network standby power	Zero
	● Standby power of appliances	Waste	● Standby power of appliances	Zero
Non-IoT devices				
	● Network standby power	Waste	● Network standby power	Zero
	● Standby power of appliances	Zero	● Standby power of appliances	Zero
	● Standby power of smart-outlet	Waste	● Standby power of O-strip	Zero

1