

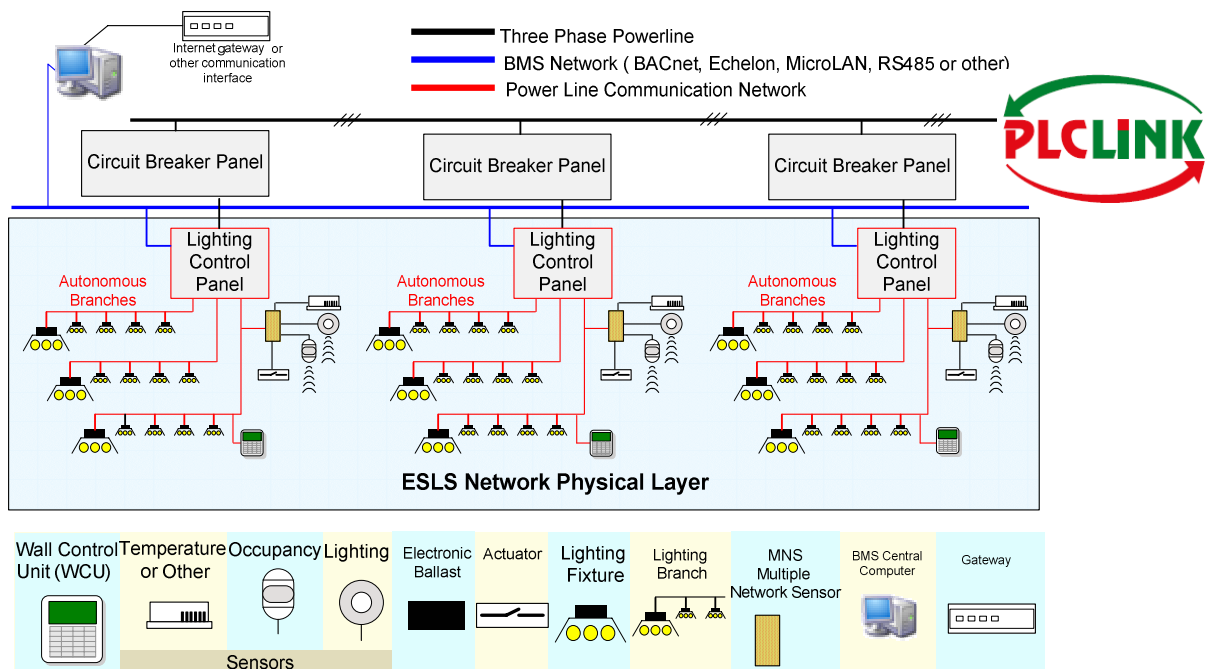
## Energy Saving Lighting Systems (ESLS) A Market Transforming Open Platform for Lighting Control Systems

### PRESS RELEASE

Nes Ziona, Israel, May 26, 2008; *Systel introduces the ESLS, an innovative patented open system platform enabling the industry to deploy premium energy saving building lighting control systems utilizing Systel's digital powerline communication (PLC) and overcome barriers to the penetration of efficient control systems. The ESLS sets a new level of system cost-effectiveness, allowing implementation of all energy saving strategies, including optimal automatic demand response while maintaining user comfort, with a typical retrofit payback of 2 years in commercial buildings and very short down time. The savings potential offered by Systel solution is between 50-70% of p.a costs*

*The core technology of the ESLS, designed by Systel, and its building blocks (Ballast, WCU, MNS, BRCU, etc.) is the single Systel IDC2000 power management IC controller with embedded proprietary 2-way powerline modem communicating with Systel's PLC-Link™ protocol, designed mainly for building control applications. The ESLS, based on a simple distributed architecture, uses the existing lighting branches which act as independent stand-alone control sub-systems without master control. The ESLS can be deployed to control an entire building lighting system, a single floor or a smaller area. When controlling an entire building the Lighting Control Panel (LCP) has an interface to the BMS providing interconnectivity between the stand-alone control sub-systems.*

### ESLS Open Platform Architecture



*For deployment of the ESLS Systel has developed complete commercial reference designs for all the essential building blocks, communication protocols, commissioning tools and control functions, including:*

- **Premium powerline multi-channel dimmable fluorescent electronic ballasts based on the IDC2040, the single ballast IC that provides ALL power control and communication interface functions. The reference designs, together with Systel's LEK ballast development kit, allow ballast OEMs to rapidly introduce digital-power-based ballasts with added value such as high power factor, configurable program start, cutoff cathodes combined with smooth cathode voltage change as a function of light level, addressability and individual control (dim, on/off) of a specific lamp in a fixture, field changeable ballast factor (BF) via powerline, association to any zone and**

many other inherent control features such as direct interoperability with light and occupancy sensors, wireless or IR interface.

- **MNS (Multiple Network Sensor), a ceiling-mounted box, based on the IDC2040.** The MNS is a global junction controller interfacing with sensors and communicating via PLC-Link™ protocol between ballasts, wall control, HVAC elements, blinds, performing all signal processing and logic control within associated zones. The MNS allows implementation of extremely low cost daylight and occupancy sensors which are hooked up via twisted wire. The MNS controls the ballasts in the room or desired zones, enabling the daylight harvesting self-calibrated closed control loop, ensuring stable illumination with maximum tapping of daylight and integration of any conceivable occupancy triggered scene, e.g. only one lamp switched on and dimmed to 2% in a fixture, to attain maximum savings and maintain occupant satisfaction. The MNS includes additional features such as command of blinds, 12-24VDC internal power supply to feed occupancy sensors, optional 1-10V or 4-20mA analog control outputs for HVA and integrates an IR receiver to allow the MNS to function as a WCU.
- **WCU (Wall Control Unit)** with full featured control functions (On/Off, dim, fade) from the panel or handheld IR via PLC-Link™ communication for all lights in a room including programming of up to 16 scenes, and allowing control of each separate fixture in the room.
- The **LCP** serves as the intercommunication bridge between lighting branch circuits using **BRCUs (Branch Remote Control Units)** and also integrates the single physical layer interface to any BMS bus (**CRCU**). Extendable up to 256 branches, each containing up to 256 addressable devices, the BMS is capable of directly interoperating with each ESLS network node, sending commands or getting status down to a single lamp or sensor in the system.
- In addition to the calibration-free daylight harvesting system, automatic software tools for mapping, ESLS device location, zone address assignment via PLC are some of the features enabled by the ESLS open platform, in addition to the advantage of low cost sensors and no extra control wiring, which eliminates barriers associated with traditional lighting system solutions.

The ESLS open platform allows OEMs to integrate different daylight harvesting methods, combined with blinds and occupancy control and deploy all other possible energy saving strategies. OEMs can develop different ballast models, based on the IDC2000 IC family including the multi-fixture topology offered by Systel, which will be compatible with the PLC-Link™ communication protocol.

The ESLS open platform allows energy management companies to upgrade their systems, and lighting industry experts to exploit their extensive knowledge, using Systel patents, ICs and support, to quickly develop unmatched sustainable designs and solutions.

**Availability:** The first **Beta Site** with a lighting control system based on the ESLS open platform is scheduled for **June 2008**, showcasing several ESLS certified components from different OEMs.

### **About Systel**

SYSTEL is a pioneer in the development of proprietary comprehensive SoC solutions for mixed-signal power control and management for the power electronics industry. Its first application in power electronics was in 1993 when it unveiled a true on-line high performance UPS system implementing unique control functions in logic engines. In 1992 a line of electronic ballasts was developed by the company and the first generation of its configurable SoC digital power management solution for lighting was unveiled in 1998. Systel holds 12 key patents and has more than 20 patent applications pending that range from core technology, power control functions and communication methods to power topologies and building control systems supported by digital control.

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For more information about the ESLS visit the company's website at <http://www.systelpower.com>