



## Press Release

### **SYSTEL Announces Market-Transforming Ground-Breaking Electronic Ballast Single Chips Family for Innovative, Low Cost, High Performance Solutions**

Nes Ziona, Israel – January 4, 2006 – SYSTEL, a mixed-signal semiconductor company that provides digital SoC power control and management controllers solutions for the power conversion industry announced the industry first IDC2000 SoC Mixed-Signal Power Controller IC's for lighting. These new IC's, types IDC2003E, IDC2040 and IDC2020 are now available for the market in samples quantity. The IDC2000 ICs family with unbeatable performances integrate all the functions of an electronic ballast into one single chip which includes a novel and robust embedded Power Line Carrier (PLC) communication modem and supports DC control as well a variety of wire serial interfaces like: DALI, microLan, DMX or RS485.

- The IDC2000 ICs, with non-volatile memory, are designed to develop innovative, high performance - *low cost* dimmable and non-dimmable electronic ballast *solutions*. *The IDC2000 will provide multi-lamp ballast for effective and smooth dimming solutions down to 0.1% including 'Full On-or-Off Control' for each separate lamp in a fixture, in order to achieve maximum energy savings. The configurable method of the IDC2000 ICs, allows the power engineer using the Systel PDK design tool, typically in only a few days, to develop and apply, in a fully protected environment, the most sophisticated control algorithms and/or the optimal topologies not achievable with existing technologies, by relying on his skills alone.*
- Fully configurable "programmable start-up" and high quality lamp life operating performances for each lamp type are achieved optimally to maximize lamp life and reduce lighting maintenance expense. Each lamp can be controlled and protected separately, thus extending its life and reducing maintenance cost.
- The ballast component reliability is dramatically improved, by the IDC2000 digital functions which are not subject to aging tolerances. More functions can be integrated which decreases the component count, and contributes to enhance the MTBF of the component and of the whole system. In principle, there is no need for component "select at test" and "select according to design spec" thus diminishing the need of precision of the passive component and further reducing the component cost of the end product.
- Ballast inventory held by ballast manufacturers or OEM's of one ballast model can be simply converted to a different model by reconfiguring the controller using SYSTEL PDK design tool. For example, a 2x58 ballast can be converted to a 2x36 ballast in only a fraction of a minute or change the BF or modified control parameters to match different lamp characteristics, even in the field, without any hardware change in the ballast.
- The industry will benefit from this new family of IC's by being able to create original new multi-lamp fixtures with *no restriction on lamp types*. The IDC2000 IC's family permits a single ballast to operate any combination of linear or compact fluorescent, LED or HID lamps, with each lamp individually controllable for full On-or-Off control or dimming to the lowest level determined by the design.



- The innovative topologies enabled by the IDC2000 ICs allow central ballast solutions dimmable or non-dimmable, in which each fixture is controlled separately and able to use different types of lamps and

located at different distances without affecting light quality at a price competing with simple regular ballasts.

In building automation these properties allow to use one ballast residing in a fixture to operate closets fixtures or to use a *ballast to operate up to eight fixtures* having different lamp types and where each fixture can be individually switched On or Off, or dimmed.

- An additional benefit of these ICs in building automation is the dramatic cost reduction that can be achieved in sensors item. This is after the ballast has the most significant weight in the installation budget. All the electronics needed by the sensors and the PLC modem are included in a single chip. Applying them for multi network sensor devices the cost of sensors are cut at least twice. Using the PLC, load shedding from utilities and energy savings will be ideally achieved in building control systems within two years payback.

#### **IDC20XX - Major Advantages for Dimming Electronic Ballasts:**

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| <ul style="list-style-type: none"><li>• Low Cost / High Performance</li><li>• Shortest Time to Market</li><li>• Achieve Optimum Design in Days</li><li>• Code-free Configurability/Flexibility</li><li>• Remote Control Options: (PLC, RF, DALI etc.)</li><li>• Common Hardware Platform</li><li>• Graphic User Interface Design Tools</li><li>• Drives any combination of lamp types</li><li>• Bridge power-switches dead-time protection</li><li>• Customizable Programmable Startup</li><li>• Individual Lamp Control/protection</li><li>• High Spec. Lamp Life Parameters</li></ul> | <ul style="list-style-type: none"><li>• Flexible Lamp Control</li><li>• Negligible flicker/high light quality</li><li>• Customized Dimming down to 0.1%</li><li>• Enables the customization of a variety of different dimming techniques.</li><li>• Multi-channel/Multi-Fixture Ballast</li><li>• Support Different Power Topologies</li><li>• Emergency Operation</li><li>• Energy Savings / Load Shedding</li><li>• Enables variety of PFC methods</li><li>• Interfaces to any sensor</li><li>• Allows Infringement-free Design</li></ul> |
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Rafael Mogilner, President of SYSTEL announced: "These ICs set a new baseline of excellence, targeted at an entirely new range of lighting solutions. These IC's based on a new code-free configurable architecture created by Systel to overcome the barriers of digital implementation in power control like extended latency; limited bandwidth and harder design by software configurability. The new concept involved in the IDC2000 family provides an incredible flexibility to the designers not seen before in the industry."

The Company believes that this new architecture will revolutionize the approach of engineers to design its products and boost the industry with optimal energy savings solutions.

#### **About Systel**

Systel is a pioneer in power control and management developing patented comprehensive digital based solutions. Its first application in power electronics was in 1993 when it unveiled a true on-line high performance UPS implementing unique control functions in logic engines. The first generation of its digital power management solution for lighting was unveiled in 1998. Systel holds 7 patents and has more than 17 patents applications pending that range from core technology and power control functions and communication methods to power topologies and systems supported by digital control.

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