



Press Release

SYSTEL Announces Market-Transforming Ground-Breaking Single Chip Electronic Ballast Controllers Family for Innovative, Low Cost, High Performance Solutions

Nes Ziona, Israel – October 24, 2006 – SYSTEL, a mixed-signal semiconductor company that provides digital SoC power control and management controllers solutions for the power conversion industry announces the industry first IDC2000 SoC Mixed-Signal Power Controller IC's for lighting. These new ICs, types IDC2003E, IDC2040 and IDC2020 are now available for the market in sample quantities. The IDC2000 ICs family with unbeatable performances integrates 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 decrease the component count, and contribute 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 ICs by being able to create original new multi-lamp fixtures with no restriction on lamp types. The IDC2000 ICs 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 multi-channel topologies enabled by the IDC2000 ICs allow dimmable or non-dimmable multi-fixture ballast solutions (Systel central ballast approach), 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 closest 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 the sensors item. This, 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. The cost of sensors is cut by at least 50% when the IDC2000 is applied in multi network sensor device solutions. Using the PLC, optimal energy savings and load shedding from utilities will be ideally achieved in building control systems within two years' payback.

IDC20XX - Major Advantages for Dimming Electronic Ballasts:

- Low Cost / High Performance
- Shortest Time to Market
- Achieve Optimum Design in Days
- Code-free Configurability/Flexibility
- Remote Control Options (PLC, RF, DALI etc.)
- Common Hardware Platform
- Graphic User Interface Design Tools
- Drives any combination of lamp types
- Bridge power-switches dead-time protection
- Customizable Programmable Startup
- Individual Lamp Control/protection
- High Spec. Lamp Life Parameters
- Flexible Lamp Control
- Negligible flicker/high light quality
- Customized Dimming down to 0.1%
- Enables the customization of a variety of different dimming techniques.
- Multi-Channel/Multi-Fixture Ballast
- Support Different Power Topologies
- Emergency Operation
- Energy Savings / Load Shedding
- Enables variety of PFC methods
- Interfaces to any sensor
- Allows Infringement-free Design

Rafael Mogilner, President of SYSTEL announced: "These ICs set a new baseline of excellence, targeted at an entirely new range of lighting solutions. These ICs based on a new code-free configurable architecture created by Systel to overcome the barriers of digital implementation in power control which are slow system response, 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 designing their products and boost the industry with optimal energy savings solutions.

About Systel

SYSTEL is a pioneer in mixed-signal power and management developing propriety comprehensive digital based solutions. 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. The first generation of its digital power management solution for lighting was unveiled in 1998. Systel holds 8 key patents and has more than 15 patent 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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