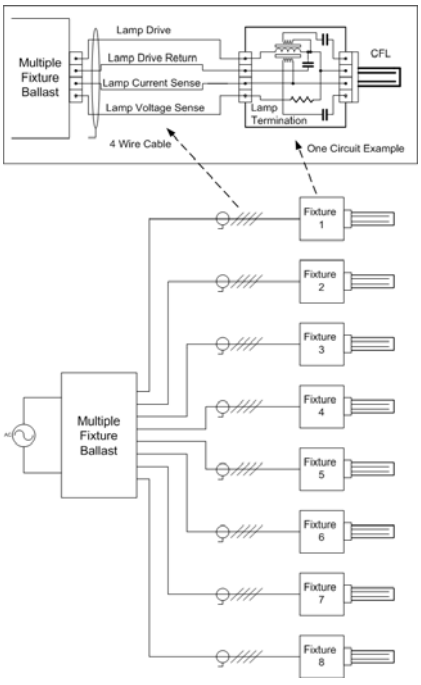
IDC2080

LIGHTING BALLAST ASIC
11 CHANNELS – Up to 8 FIXTURES

The IDC2000 is a powerful digital SoC controller for lighting and building control that integrates all the functions of a high performance networkable electronic ballast into one single chip. This controller comprises all the control and protection functions of the ballast and lamps including an embedded power line carrier modem. Additional optional communication interfaces provided by the IDC2000 are: microLan, RS485, I2C, DC control, etc. for wired remote control and local control like RF (radio frequency) and IR (infrared). It also provides interfaces for occupancy and lighting sensors, other digital and analog control I/Os. The configuration capability of this controller eliminates the need to tune the circuit by selection of passive components.

The ASIC also can be used to provide the functions required by the master and local remote controls in building control systems.



Multi Fixture Ballast Drives 8 CFL 26W While Drawing 200W from Line and Dissipating ~20W

• Under 1W Consumption at Stand-by

IDC2000 provides solutions with major advantages for electronic ballasts:

- **Low Cost / High Performance**
- **Short Time to Market**
- **Code-free Configurability/Flexibility**
- **Remote Control Options (PLC, RF, etc.)**
- **Common Hardware Platform**
- **GUI Design Tools Available**
- **Individual Lamp Protection**
- **Drives any combination of lamp types**
- **Individual Lamp Control**
- **High Spec. Lamp Life Parameters**
- **Flexible Lamp Control**
- **Customized Dimming to 1%**
- **Multi-Lamp/Multi-Fixture Ballast**
- **Emergency Operation**
- **Energy Savings / Load Shedding**
- **Power Factor Correction**
- **Interfaces to any sensor**
- **Allows Infringement - Free Design**

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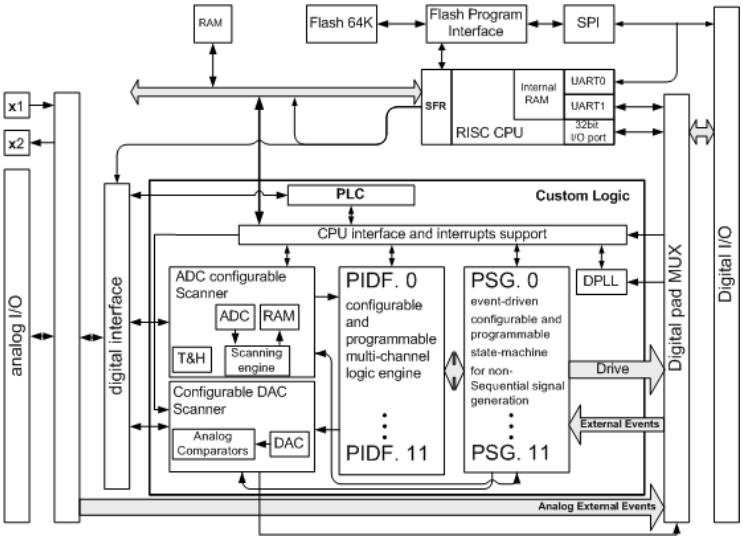
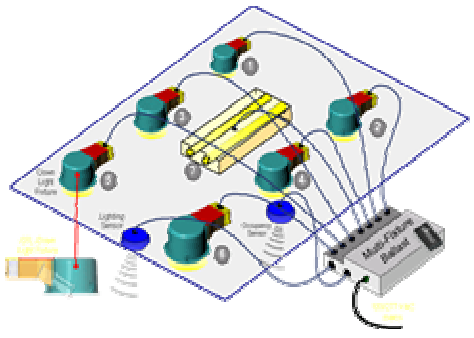
General specifications

Function	IDC2080
PSG Clock Frequency	192MHz
PSG switching signal resolution	5.3nS
Average PSG signal resolution by dithering	0.17nS
PSG pulse duration– Max # of bits	12
Minimum Pulse Width	26.5nS
Maximum Pulse Width	22.2mS
Minimum Control Calculation Updating Time	500nS
Control Functions	By PIDF logic engines
Minimum Total Control Latency	700nS
PSG - # of states per cycle	Configurable, up to 16 states
PSG /modulation control method	Flexible Sequence - PWM, FM, or any combination
PSG pulse sequence structure	Configurable On-the-Fly

Function	IDC2080
PSG pulse sequence	Responding to external and/ or internal events
Number of PSGs outputs	11 + 11 complementary PSG outputs or software controlled
Number of analog inputs	24+ 3 internal (for temp. and VDD measurement)
Digital I/O	52 (10 schmidt-trigger inputs)
Analog input resolution	10Bit
Analog input sample - effective rate	up to 12MHz flexible sharing its time resources between inputs by priorities
PSG frequency	1500kHz/12 Bit 3000kHz/11 Bit
Current Mode Control	Yes
Power Factor Correction	Configurable

IDC2080 Block Diagram





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