

Microcontrollers for Advanced Lighting Solutions



TI's MCU lighting solutions give designers efficient, flexible and scalable intelligent lighting management and control

Intelligent lighting is the ability to reduce the amount of light and/or energy used so that only the right amount of light is delivered exactly where it is needed. Digitally controlled lighting using microcontrollers (MCUs) allows developers to take advantage of the unique characteristics of LEDs and other

light sources to develop efficient, scalable and flexible designs for intelligent lighting. With digital control, designers can scale and easily adjust designs to multiple applications, maximizing reuse and decreasing design time. A digital approach also allows many hardware features, such as soft startup, delay

and PWM phase shifting, to be implemented in software, eliminating extra components, cost and complexity. TI's communications and control solutions are for both wired and wireless systems supporting a wide selection of communication standards.

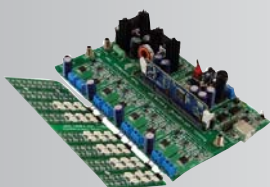
Texas Instruments offers a broad suite of microcontroller solutions for your LED and other lighting design and control needs as well as demonstration platforms and development kits. The table to the left is a sample of what is available now. For more information on these and new products throughout the year, visit www.ti.com/mculighting.

Solution/Protocol	Product	Tool/Kit	For more info
DALI	MSP430™ MCU	TPS62660 LED-338 EVM	www.ti.com/daliappnote
DMX512	MSP430 MCU/ Stellaris®	DMX512 apps note/Third-party design	www.ti.com/mculighting
Power line communication	C2000™ MCUs	TMDSPCKIT-V2	www.ti.com/mculighting
ZigBee® / 802.15.4	MSP430F54xxA	MSP430F5438 Experimenter's Board	www.ti.com/msp430f5438
6LoWPAN	CC430 (MSP430 MCU + Low-Power RF)	Third-party design	www.ti.com/mculighting
Digital power	Piccolo™ (C2000 MCU)	TMDSDCDGLEDKIT TMDSRGBLEDKIT	www.ti.com/led_devkit www.ti.com/rgb_led
Ethernet	Stellaris	Ethernet development and evaluation kits	www.ti.com/stellariskits
General-use MCU (user interface, system supervisor, etc.)	MSP430 MCU	Development and evaluation kits	www.ti.com/msp430

What's new:

Design cutting-edge lighting systems with Piccolo LED Lighting Developer's Kits

- Independent control of 8 LED strings
- Digitally controlled DC/DC power stages
- Open-source development through controlSUITE™ software



Piccolo DC/DC Lighting Kit

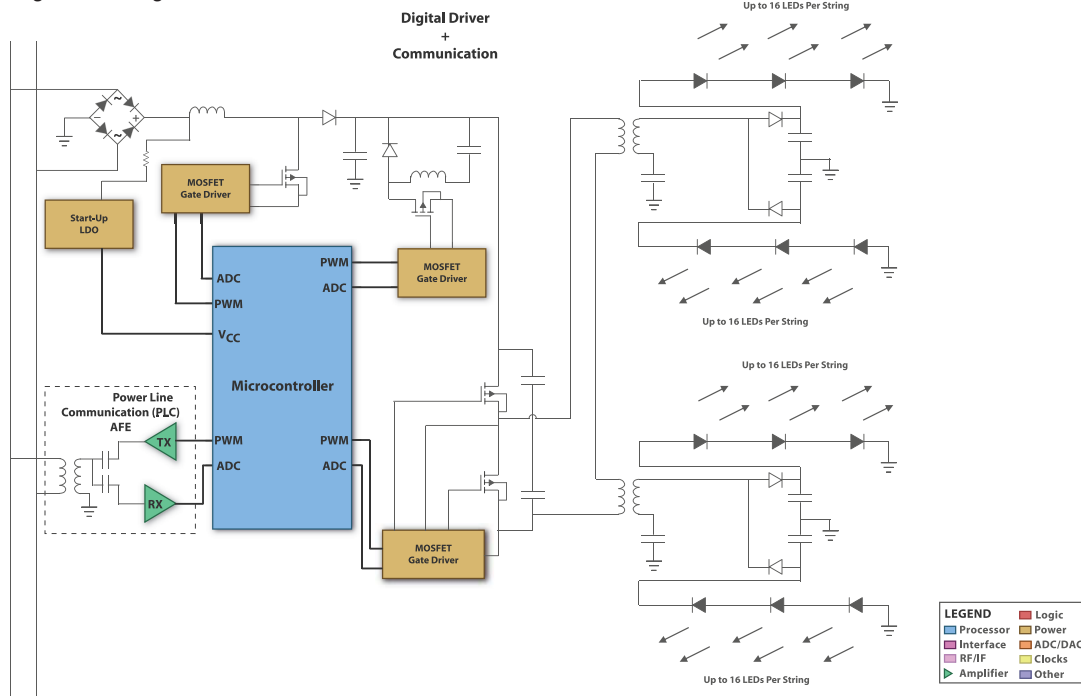


Piccolo Multi-DC/DC Color LED Kit

Key benefits

- Support for industry-standard communications: Power line communications (PLC), DALI, DMX512, ZigBee®, 6LoWPAN, and many others
- Design flexibility and scalability for maximum reuse of designs and cost management
- High-efficiency control of LEDs and other light sources
- Intelligent lighting management allows delivery of the right amount of light at the right time in the right place
- Power supply integration through digital power for an adaptable, full-system design with fewer components
- Accelerated development with extensive array of evaluation tools and kits

MCU Advanced Lighting: Multi-String LED Driver



▲ Digital control of LEDs using MCUs allows developers to take full advantage of the unique characteristics of LEDs. TI's C2000™ and Piccolo™ real-time MCUs can perform all power management functions needed in a lighting product, giving flexibility for regional products or quick design spins. MCUs have a low-cost adder for additional LED strings, a high-dimming ratio of greater than 20,000:1 and a high PWM-dimming frequency of >100KHz. Digital communications can be achieved via wired or wireless communications through a number of different communication standards including 6LoWPAN and power line communications. TI offers microcontroller solutions for all your LED lighting design and control needs, including demonstration platforms and development kits. Visit www.ti.com/led for more information.

TI Worldwide Technical Support

Internet

TI Semiconductor Product Information Center Home Page

support.ti.com

TI E2E™ Community Home Page

e2e.ti.com

Product Information Centers

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Brazil	Phone	0800-891-2616
Mexico	Phone	0800-670-7544
	Fax	+1(972) 927-6377
	Internet/Email	support.ti.com/sc/pic/americas.htm

Europe, Middle East, and Africa

Phone		
European Free Call	00800-ASK-TEXAS (00800 275 83927)	
International	+49 (0) 8161 80 2121	
Russian Support	+7 (4) 95 98 10 701	
Note:	The European Free Call (Toll Free) number is not active in all countries. If you have technical difficulty calling the free call number, please use the international number above.	
Fax	+49 (0) 8161 80 2045	
Internet	support.ti.com/sc/pic/euro.htm	

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Korea	080-551-2804
Malaysia	1-800-80-3973
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Philippines	1-800-765-7404
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