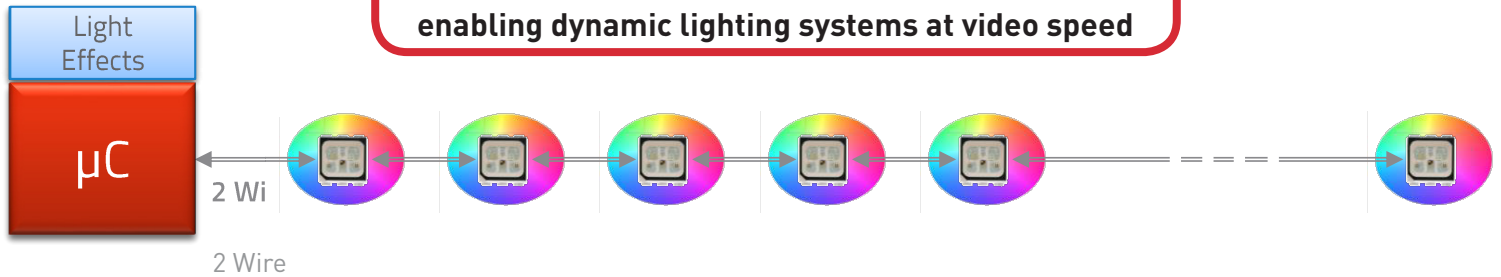


Smart LED Control with ISELED and Microchip

ISELED is a technology for smart LEDs,
easy to design, at lowest total cost,
enabling dynamic lighting systems at video speed



Until now, ISELED smart LED drivers have only been available for purchase integrated in an LED module. The INLC10AQ (previously denoted as INLC100Q16) is the first standalone driver available that enables manufacturers to custom design their own choice of external LED strips.

Different to the conventional approach using standard RGB modules, ISELED significantly simplifies color design and connectivity at lowest system costs due to fully calibrated LEDs and no binning necessary. With ISELED and its software protocol, up to 4079 LEDs can be connected and individually controlled.

Key Features of Inova's ISELED are:

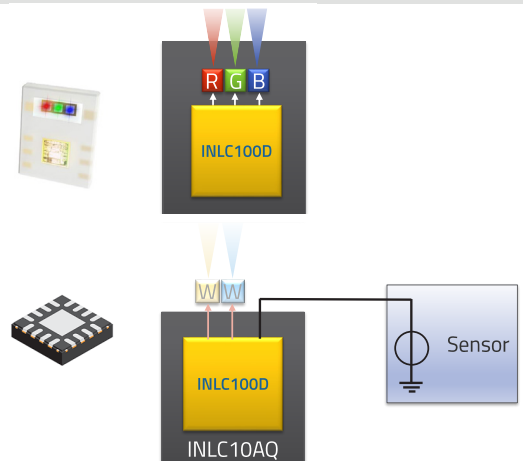
- ◆ Embedded clock reduces the wiring effort
- ◆ Maximized robustness against EMC disturbances
- ◆ Single-ended communication with the microcontroller is automatically recognized
- ◆ No power consumption when there is no data communication.
- ◆ As only changes in color are transmitted, with no refresh required, this minimizes communication bandwidth
- ◆ Optional CRC protection detects communication errors
- ◆ The half-duplex, bidirectional communication enables diagnostic data reads.

Integrated RGB modules

- ◆ Dominant: „smart RGB“
- ◆ Osram: „RGB package with Inova IC“

Controller chip for external LEDs sensors

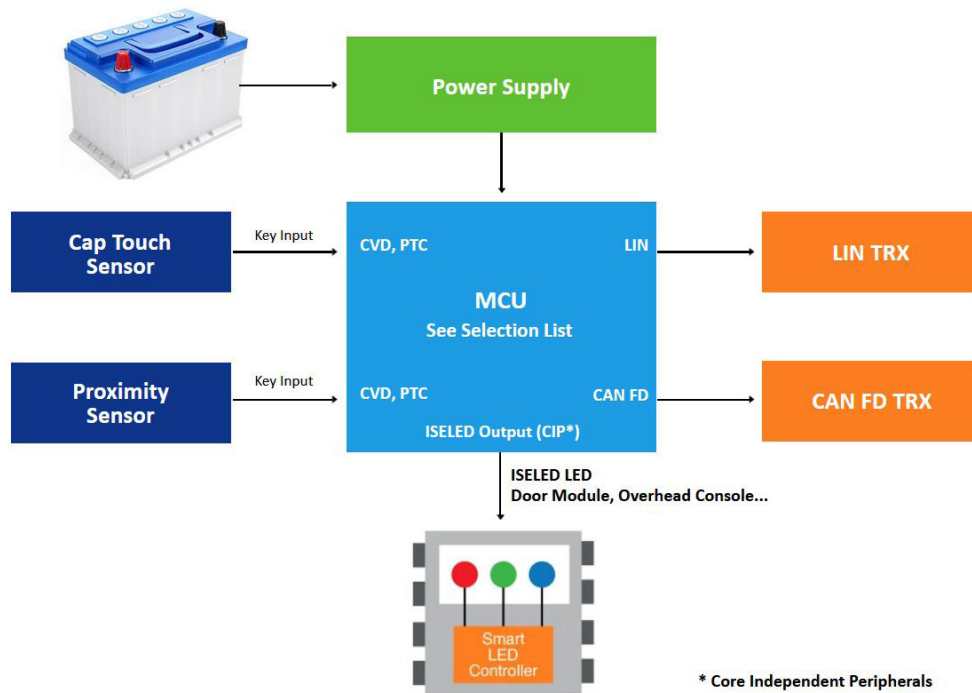
- ◆ Inova: „INLC10AQ“
- ◆ Diagnostic feature to detect pad voltage can be used for sensor systems (l.g. photodiode, motion sensor...)
- ◆ Working on a demonstrator



ISELED Microcontroller + Total System Solutions

Microchip's solution offers:

- ◆ Optimum selection of the MCU most suitable for the application
- ◆ Enables client's adding dynamic lighting effects with innovation
- ◆ MPLAB Code Configurator – ISELED CIP per Mouse Click
- ◆ Development Tools Demoboard as Easy Click On Option, GUI, App Note, Library, Video



This solution enables you to connect up to 4,079 ISELED LEDs via a differential bus at a speed of 2 Mbps and control them with a single external MCU. A special protocol ensures coordination of the individual hardware and software components used by the system, guaranteeing optimum integration of the smart LEDs and the MCU. You can also implement and mix design block sets including a Local Interconnect Network (LIN), a bootloader, capacitive touch sliders and capacitive proximity sensors for flexibility in creating your designs.

Microchip has a wide variety of 8-bit to 32-bit MCUs especially for ISELED. From low Power to high-performance applications. With Microchip's wide portfolio it's easy to provide everything surrounding the microcontroller. Power Management, Touch and Interfaces like CAN and LIN can be provided.

Development Tools (ISELED Board upon request):

- ◆ 8 Bit MCU Dev Tool e.g. PIC18F25K42
 - Curiosity HPC Board DM126136
- ◆ 32Bit LIN Dev Tool ATSAMD21
 - ATSAMD21-XPRO Board (P/N: ATSAMD21-XPRO)
 - ATMBUSADAPTER-XPRO Board (P/N: ATMBUSADAPTER-XPRO)
- ◆ 32Bit CAN Dev Tool ATSAMC21
 - ATSAMC21-XPRO Board (P/N: ATSAMC21-XPRO)
 - ATMBUSADAPTER-XPRO Board (P/N: ATMBUSADAPTER-XPRO)

