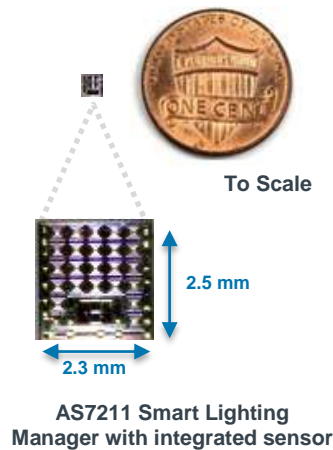


AS7211

Smart Lighting Manager auto-dims luminaires in response to daylight – Network enabled

General Description



AS7211 is a networking-enabled Smart Lighting Manager with an embedded digital ambient light sensor (ALS). This provides single-device, closed-loop and automatic adjustment of the brightness of florescent and LED lamps and luminaires to maintain constant lux in response to available daylight. The photopic response of the AS7211's ALS, combined with an embedded infra-red (IR) blocking filter, allows an accurate approximation of the human eye response to visible light. This results in highly accurate lux readings even in the presence of high-IR sources such as sunlight or nearby incandescent fixtures. For streamlined system integration, luminaire control is through a network connection, or by direct connection to 0-10V dimmers, with control outputs that include direct PWM to LED drivers or analog 0-10V to standard dimming ballasts. Access to the simple text-based Smart Lighting Command Set is enabled by inclusion of a serial UART interface, which allows easy integration to standard network clients. The block diagrams of this device are shown in "[AS7211 Block Diagrams](#)" on page 2.

Key Benefits & Features

Benefits	Features
Automatic daylighting with photopic responsivity	Approximates human eye response to daylight and rejects IR content of ambient light for high accuracy lighting control
Automatic lumen maintenance over temperature and time	Tracks ambient lux, adjusting luminaire output for constant lux resulting in automatic lumen maintenance
Direct serial interface for connection to standard networks	Simple UART interface for connection to network hardware clients for protocols such as Bluetooth, WiFi and ZigBee
Simple lamp or luminaire configuration and commissioning using defined command set	Smart Lighting Command Set (SLCS) uses simple text-based commands to control and configure a wide variety of functions
Compatible with standard dimmer controls and occupancy sensors	Directly interfaces to 0-10V dimmer controls and standard occupancy sensors
Directly interfaces to LED driver via PWM	Built-in PWM generator to dim LED lamps and luminaires, 12-bit resolution for precise dimming down to 1%
Directly interfaces to ballast via 0-10V	0-10V analog output for control of conventional dimming ballasts in florescent and LED lamps
Small package, wide operating range	20-pin balls WLCSP package 2.3 x 2.5 x 0.4mm, -40°C to +105°C

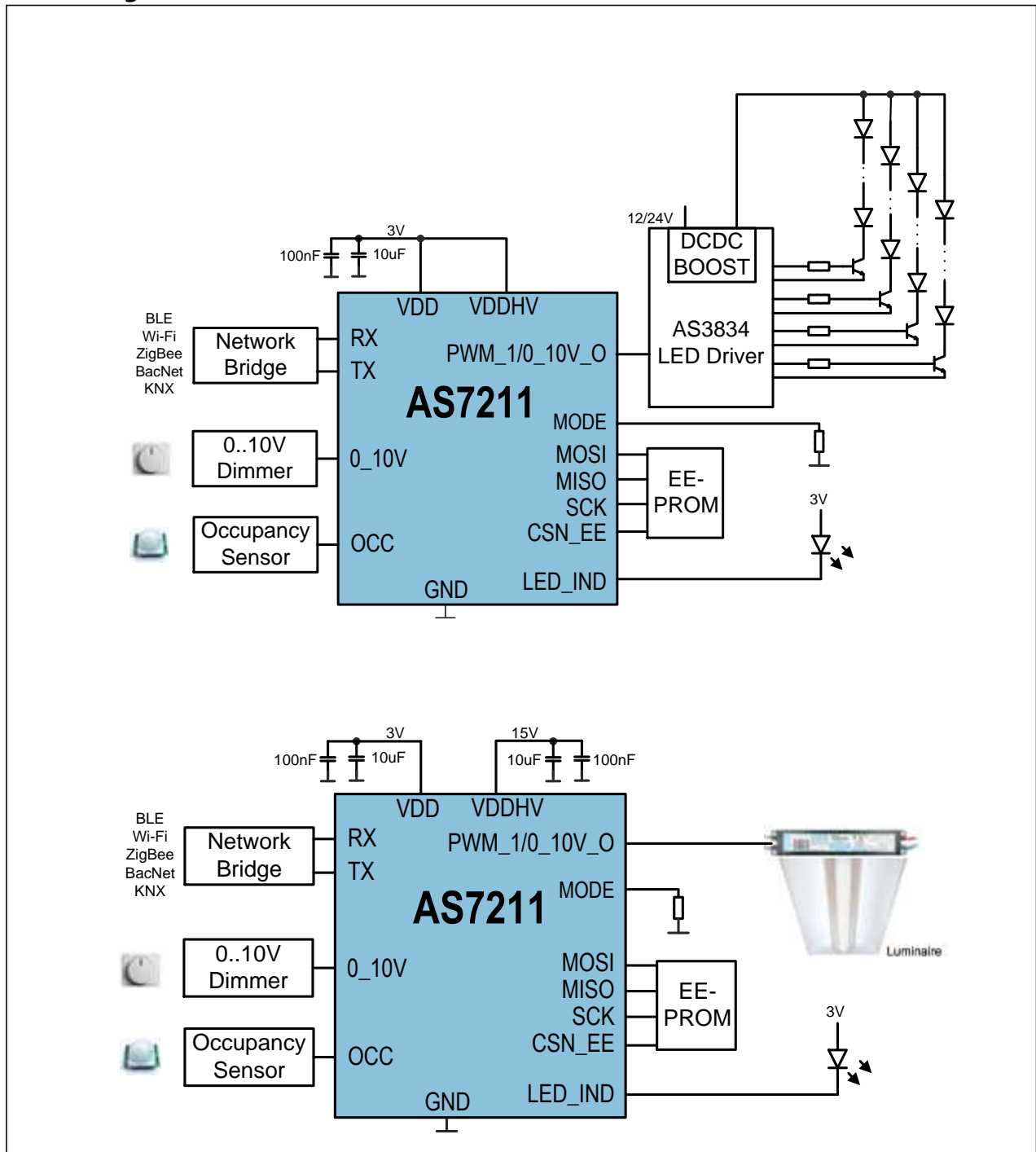
Applications

Sense ambient light, dim and maintain brightness of luminaires and lamps in local loop control, automatic lumen maintenance, flexible network connectivity and simple control of luminaires and lamps.

- LED and florescent luminaires, troffers, high-bays
- Track-head and downlights
- LED and florescent replacement lamps

Block Diagrams

The functional blocks of the AS7211 are shown below:



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