

## NCL31010

# PoE Interface LED Driver, Visible Light Communication capable

## Product Overview

For complete documentation, see the data sheet.

The NCL31010 comprises all elements needed to design a connected and managed lighting system via Power-over-Ethernet, including capabilities for Visible Light Communication and Indoor Positioning. Certified to the IEEE802.3bt/at/af standards, over 90W of system power can be delivered.

The NCL31010 incorporates a high efficiency buck LED driver that supports both high-bandwidth analog and PWM dimming down to zero current. Two auxiliary DC-DC converters are included to power for example the system microcontroller and sensors. High accuracy metrology and diagnostics are included to measure input and output current and voltage, LED or system temperature, and DC-DC voltages and currents.

Additional devices in the NCL31000 family are:

- [NCL31000](#) – non-PoE version to accommodate other communication standards
- [NCL31001](#) - a reduced-feature version to enable multi-channel solutions

### Features

- IEEE802.3bt/at/af standard certified
- High efficiency buck LED driver (97%)
- Visible Light Communication capable (50kHz bandwidth)
- High accuracy metrology (+-1%) integrated
- Integrated 3.3V buck converter
- Adjustable 2.5 to 24V buck converter
- I2C or SPI serial interface

### Benefits

- Communication, system power, metrology and diagnostics all in one
- Deep dimming to zero with 0.1% accuracy
- Enables Indoor Positioning through VLC
- Low EMI design
- Protection against LED shorts, opens and over temperature
- Diagnostic functions to measure voltages and currents

### Applications

- Connected LED Lighting
- Visible Light Communication
- Indoor Positioning

### End Products

- Intelligent LED Luminaries
- Managed LED Lighting Systems
- Multi-channel LED Lighting

## Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Topology	V <sub>IN</sub> Min (V)	V <sub>IN</sub> Max (V)	V <sub>O</sub> Max (V)	I <sub>O</sub> Max (mA)	f <sub>sw</sub> Typ (kHz)	Package Type
NCL31010MNIT WG	3.9732		Active	Step-Down	35	57	-	3000	500	QFN-48
NCL31010MNST WG	3.9732		Active	Step-Down	35	57	-	3000	500	QFN-48