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smart solutions

LCCB

Lighting Control Unit with Custom Box

Custom Box Lighting Controller

The Zenosmart LCCB Controller is a state-of-the-art wireless remote control unit specifically designed for road and street lighting, park and garden lighting, as well as indoor and outdoor lighting in buildings. Its compact housing allows for easy installation on any luminaire or pole, offering maximum installation flexibility.

Custom Box Lighting Controller

You can easily connect it to your luminaires with its 5-pin IP67 socket. This device is highly rugged for both indoor and outdoor environments. With LoRaWAN® and NB-IoT options, it seamlessly integrates with both your existing lighting system and third-party solutions. We offer open communication protocols, an open-source JavaScript codec, and our dedicated Zenosmart Connect application for convenient system optimization.

The controller can be connected to your system via LoRaWAN® and NB-IoT networks. Luminaires can be easily controlled through DALI, DALI-2, DALI-D4i, and 0–10 V analog interfaces. An optional comprehensive GPS module is available to provide map data and precise time synchronization.

Measured and Monitored Parameters

- Lamp on time
- Ambient light
- Controller temperature
- Forwards D4i energy registers for each driver
- Built-in measurement for A, V, W, Wh, WB, W Fund, and PF
- Lamp-on time, sag, and swell
- Lamp/driver fault and control gear faults
- Controller tilt action and collision event
- GPS position (Optional)

Controller Features

- Control up to 4 DALI / DALI-2 drivers independently or via 0-10V analog control
- Power measurement via DALI Driver or built-in circuit
- D4i Energy registers reported for each driver (only for D4i drivers)
- Versatile astronomical calendar-based dimming
- Time-based dimming profiles
- Automatic device time synchronization
- Light intensity sensor
- Remote control and configuration
- Multicast control and configuration
- Built-in overcurrent protection circuit with auto-reset
- Configuration via Zenosmart app (iOS & Android)
- GPS positioning (Optional)
- Autonomous and adaptive operation (configure and forget)
- Real-time control and feedback
- RTC to keep time after power loss
- Built-in tilt sensor
- Surge protection
- Digital input (LSI) for external events (motion sensor, switch, photocell, etc.)
- Fully Documented Open Communication Protocol

Technical Data

Supply	
Power supply	24 VDC or 100–240 VAC
Peak power consumption	3 W (Maximum)
Surge protection	Built-in surge protection circuit
Current protection	Built-in over current protection circuit with auto reset

Contact	LoRaWAN®	NB–IoT
Network Interface	LoRaWAN® 1.0.4 Class C	3GPP LTE Release 14 Cat–NB1 and Cat–NB2 compatible
RF frequency	868 / 915 / 923MHz	Cat–NB1/NB2: B3, B8, B20 1710–1880, 880–960, 791–862MHz
Rx sensitivity	–137 dBm @ 125 kHz BW SF12	–108 dBm sensitivity for low band (Cat–M1), –107 dBm for mid band
Tx power	Up to +22 dBm (depending on the region)	up to +23 dBm
Network security	Encrypted communication based on AES–128 bit security keys	APN / VPN
GPS	GPS/GLONASS/BeiDou/QZSS (Optional)	GPS/GLONASS/BeiDou/QZSS
Firmware update	Bluetooth and LoRaWAN®	
Bluetooth	Optional	

Interfaces	
DALI control and power supply	Controls up to 4 DALI ballasts with built-in 15V power supply
Analog output	0–10V or 1–10V Analog output
Logical signal input (LSI)	2 x 0–24V Logical Signal Input, configurable alerts, dimming levels (analog/digital), etc.

Sensors	
Light sensor	Integrated, configurable threshold
Tilt sensor	2-axis tilt sensor

LoRaWAN I NB-IoT I DALI-2 I D4i I TALQ

Technical Data

Lamp Control	
Dimming range	0%–100% (linear or logarithmic, depending on the control gear settings)
Control interface	DALI–2 / DiiA (IEC 62386) / D4i / 0–10 V / 1–10 V Analog

Metering	
Built in parameters	A, V, W, Wh, WB, W Fund, and PF, lamp–on time, sag and swell, (Non D4i Drivers)
D4i reported parameters	V, W, Wh, and PF, lamp operating time, and many other parameters (Only for D4i drivers)
Measurement accuracy	%0.5 built in measurement circuit

Output Switch	Mechanical Contact Relay	Solid–State Relay	Without Switched Output
Switching type	5A (100,000 Operations)	2A (with Zero cross Detection)	No any switched output

Timing	
Real time clock (RTC)	Yes, super capacitor backup (up to 15 days)

Environmental	
Input protection	IP67 (IEC 60529)
Operating temperature	–20 °C ... + 60 °C

Mechanical	
Weigh	150 gr
Dimensions	154 x 65 x 59 mm (6.06 x 2.56 x 2.32 in)
Body material	ABS

Compatibility	
Standards	EN 61347–1, EN 61347–2–11, EN 300220, EN 62368, EN3 01489, EN 62479, EN 50581
Certificates	CE

Mechanical Dimensions

153,54

58,48

66,52
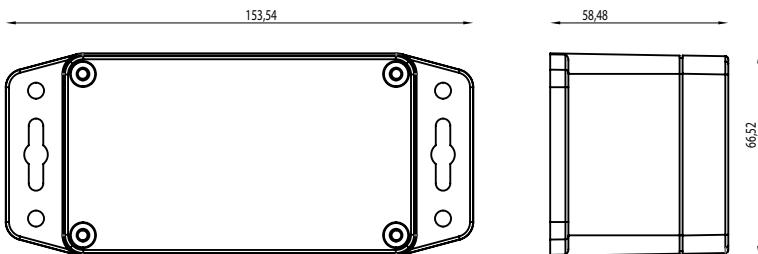
Cable Connection Guide

The Zenosmart LCCB Controller is available with various connection options. Options include direct PCB soldering with IP67 glands 5 pin IP67 connector sets. For more information, please contact our sales or customer service team.

5-Pin IP67 Socket   Conduit Connector

All dimensions are in millimeters (mm).

Order Code	LCCB	1	L	1	1	A	B	A	X	1	1	X
Housing Type and Size												
Custom Enclosure (SF212)		1										
Communication Type												
LoRaWAN			L									
Nb-IoT			N									
Bluetooth			B									
Zigbee			Z									
Hardware Version (1~n)				1								
Supply Voltage Type												
110-220VAC					1							
24VDC					2							
LoRaWAN Frequency												
Not Available						X						
LoRaWAN EU 868						A						
LoRaWAN AU 915						B						
LoRaWAN US 915						C						
LoRaWAN AS 923-1						D						
LoRaWAN AS 923-2						P						
LoRaWAN AS 923-3						Q						
LoRaWAN AS 923-4						R						
LoRaWAN 868 Multi-Region (configurable via software)						T						
LoRaWAN 915 Multi-Region (configurable via software)						U						
Additional Bluetooth Option												
Not Available							X					
Bluetooth for Quick Configuration and OTA							B					
Control Option												
DALI-2 / DiiA (IEC 62386) / D4i								D				
0-10V Analog								A				
GPS Option												
Not Available									X			
GPS (NB-IoT ile dahil)									G			
Relay Option												
Not Available										0		
Solid-State Relay										1		
Mechanical Contact Relay										2		
IP67 Conduit Connector											1	
IP67 5Pin Connector (Male-Female)											2	
Sensor Option												
Not Available												X
Energy Analyzer												A
Light Sensor												B
PIR Sensor												C
Radar Sensor												D

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smart solutions

Zenosmart intelligently enhances energy efficiency and sustainability with innovative, AI-powered, IoT-based solutions, making life easier.

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