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## LCZG

# Zhaga® 18 Street Light Control Device

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The Zhaga® 18 Street Light Control Device is an advanced wireless remote control unit designed for LED street lights with Zhaga® Book 18 compatible connectors. Its plug-and-play installation enables easy setup across different street lighting modules.



Zhaga® 40                    Zhaga® 80

This device is robust enough to withstand outdoor conditions and integrates seamlessly with both existing lighting systems and third-party solutions. Open communication protocols, an open-source JavaScript data parser, and our proprietary Zenosmart Connect application prioritize cost-effective system integration.

"The control device communicates via LoRaWAN® and NB-IoT networks. It supports DALI, DALI-2, D4i, and 0–10 V analog interfaces for streetlight control. Its sleek and modern design is compatible with slim LED luminaires. Additionally, an optional GPS module is available to facilitate map positioning and ensure precise time synchronization.

## Measured and Monitored Parameters

- Lamp Operating Time
- Ambient Light
- Control Device Temperature
- D4i energy logs for each driver
- Lamp/Driver Faults
- Control Equipment Faults
- Control Device Tilt Angle and Impact Events
- GPS Position (optional)

## Control Device Features

- Controlling 4 DALI / DALI-2 drivers independently via measurements through the DALI driver
- "D4i energy logs reported for each driver
- Versatile, astronomical calendar-based dimming
- Time-based dimming profiles
- Automatic device time synchronization
- Light Intensity Sensor
- Remote control and configuration
- Multicast control and configuration
- Configuration via Zenosmart app (iOS & Android)
- GPS Positioning (optional)
- Simple push-and-twist lock mounting
- Autonomous and adaptive operation (once configured, it runs automatically)
- Real-time control and feedback
- RTC retains time after power failure
- Built-in tilt sensor
- Lightning/Surge Protection
- Digital input (DI) for external events (motion sensor, switch, photocell, etc.)
- Fully documented open communication protocol

# Technical Data

## Power Supply

| | |
|---|---|
| Power Source | 24 V DC or 100-240 V AC |
| Peak Power Consumption | 3 W (maximum) |
| Surge Protection | Built-in surge protection circuit |
| Current Protection | Built-in auto-reset overcurrent protection circuit |

| Communication | LoRaWAN® | NB-IoT |
|---|---|---|
| Network Interface | LoRaWAN® 1.0.4 Class C | 3 GPP LTE Release 14 Cat-NB1 & Cat-NB2 compliant |
| RF Frequency | 868 / 915 / 923 MHz | B3, B8, B20 (1710–1880, 880–960, 791–862 MHz) |
| Receiver Sensitivity | -137 dBm @ 125kHz BW SF12 | -108 dBm sensitivity (Cat-M1) for low band, -107 dBm for mid band |
| Transmitter Power | up to +22 dBm (depending on region) | up to +23 dBm |
| Network Security | Encrypted communication based on security keys (AES128-bit) | APN / VPN Support |
| GPS | GPS/GLONASS/BeiDou/QZSS (Optional) | GPS/GLONASS/BeiDou/QZSS |
| Firmware update (OTA) | via Bluetooth and LoRaWAN® | |
| Bluetooth | Supported (optional ) | |

## Interfaces

| | |
|---|---|
| DALI control and power supply | Controls up to 4 DALI ballasts with Internal 15V power supply |
| Analog output | 0-10 V or 1-10 V Analog output |
| Logical signal input (LSI) | 2 x 0-24V Logic signal input configurable alert, dim levels (analog/digital), etc. |

## Sensors

| | |
|---|---|
| Light sensor | Integrated, Configurable threshold |
| Tilt Sensor | 2-axis tilt sensor |

## Lamp Control

| | |
|---|---|
| Dimming range | 0%-100% (linear or logarithmic depending on 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-on time, and many others (Only for D4i Drivers) |
| Measurement accuracy | %0.5 for built in measurement circuit |

| Output Switch | Mechanical Contact Relay | Solid State Relay | Without Switching Output |
|---|---|---|---|
| Switching type | 5A (100.000 Operation) | 2A (With zero cross detection) | No any switching output |

## Timing

| | |
|---|---|
| Real Time Clock (RTC) | Yes, super capacitor backup (up to 15 days) |

## Environmental

| | |
|---|---|
| Ingress protection | IP67 (IEC 60529) |
| Operating temperature | -20ºC ... +60ºC |

## Mechanical

| | |
|---|---|
| Weight | 150 gr |
| Dimensions | 154 x 65 x 59 mm (6.06 x 2.56 x 2.32 in) |
| Body material | ABS |

## Compliance

| | |
|---|---|
| Standards | EN 61347-1, EN 61347-2-11, EN 300220, EN 62368, EN 301489, EN 62479, EN 50581 |
| Certifications | CE |

# Mechanical Dimensions

## Zhaga 40

37,3    Ø 50,25    Ø 44

## Zhaga 80

39,81    Ø 80    Ø 74,38
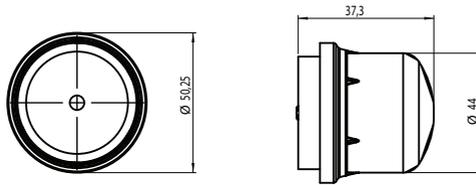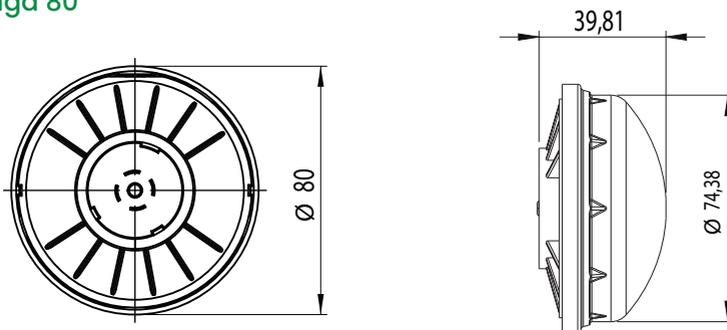
# Wiring Guide
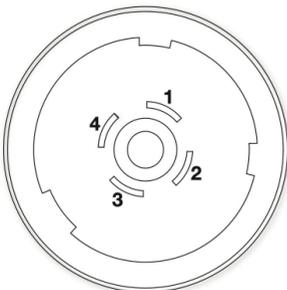
| PIN | Definition | Type |
|-----|------------|------|
| 1 | 24VDC | DC Power output |
| 2 | GND | DC Power output |
| 3 | NC | Float |
| 4 | 0-10V | Dim+ input |

Note：That is the pin definition of the front socket, and the docking party is the light controller (foolproof socket).

*All dimensions are given by mm.*

| Order Code | LCZG | 4 | L | 01 | A | B | X | 00 | 00 |
|---|---|---|---|---|---|---|---|---|---|
| **Body type and size** | | | | | | | | | |
| Zhaga 40 mm | | 4 | | | | | | | |
| Zhaga 80 mm | | 8 | | | | | | | |
| **Communication type** | | | | | | | | | |
| LoRaWAN | | | L | | | | | | |
| Nb-IoT | | | N | | | | | | |
| Bluetooth | | | B | | | | | | |
| Zigbee | | | Z | | | | | | |
| **Hardware version (1~n)** | | | | 01 | | | | | |
| **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 Multiregion (configurable via software) | | | | | T | | | | |
| LoRaWAN 915 Multiregion (configurable via software) | | | | | U | | | | |
| **Additional Bluetooth option** | | | | | | | | | |
| N/A | | | | | | X | | | |
| Bluetooth for quick configuration and OTA | | | | | | B | | | |
| **Control option** | | | | | | | | | |
| DALI-2 / DiiA (IEC 62386) / D4i | | | | | | | D | | |
| 0-10V Analog | | | | | | | A | | |
| **GPS option** | | | | | | | | | |
| N/A | | | | | | | | X | |
| GPS (included with NB-IoT) | | | | | | | | G | |
| **Sensor option** | | | | | | | | | |
| N/A (no sensor) | | | | | | | | | 00 |
| DIM | | | | | | | | | 01 |
| Light Sensor | | | | | | | | | 02 |
| PIR Sensor | | | | | | | | | 03 |
| Radar Sensor | | | | | | | | | 04 |

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

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