



## BLE wireless lighting control, Casambi-ready

eldoLED Quality of Light, wireless lighting control through Casambi, and Bluetooth Low Energy (BLE) beaconing from one digitally integrated BLE radio-LED driver package! The radio's LEDcode2 connection allows for easy, 2-wire digital integration with eldoLED LED drivers in a luminaire system. The radio - LED driver combination enables seamless integration in a Casambi BLE lighting control flood network.

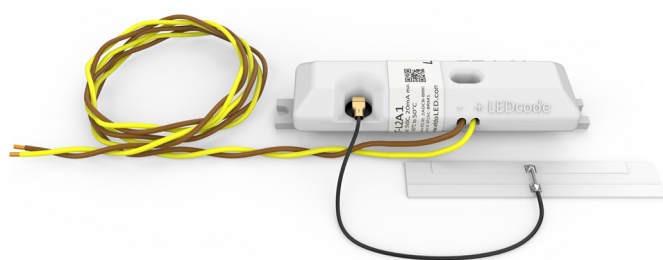
Integration and certification is easy thanks to the 2-wire, lowvoltage LEDcode2 connection.

## Product offering



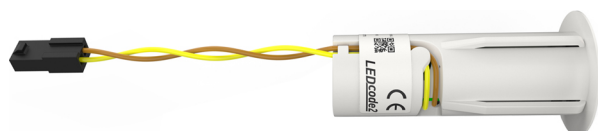
|              |                                  |
|--------------|----------------------------------|
| Product name | LEDcode BLE radio, Casambi-ready |
|--------------|----------------------------------|

|                   |         |
|-------------------|---------|
| Part number (P/N) | BT-L1C1 |
|-------------------|---------|



|              |                                                       |
|--------------|-------------------------------------------------------|
| Product name | LEDcode BLE radio, Casambi-ready, with remote antenna |
|--------------|-------------------------------------------------------|

|                   |         |
|-------------------|---------|
| Part number (P/N) | BT-L2C1 |
|-------------------|---------|



|              |                                                |
|--------------|------------------------------------------------|
| Product name | LEDcode BLE radio, Casambi-ready, through-hole |
|--------------|------------------------------------------------|

|                   |         |
|-------------------|---------|
| Part number (P/N) | BT-S1C1 |
|-------------------|---------|

## LEDcode BLE radio, Casambi-ready

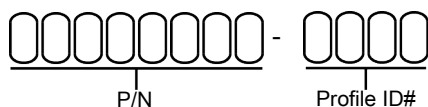
### Features & benefits

|                  |                                                                                                                              |
|------------------|------------------------------------------------------------------------------------------------------------------------------|
| Wireless control | Control your light with Bluetooth                                                                                            |
| Network stack    | Casambi                                                                                                                      |
| Firmware stack   | The BLE radio hardware is capable of running the Casambi stack, including support for OTA firmware updates                   |
| IoT and Sensing  | Hardware is capable of running Casambi supported beaconing and seamless integration into a Casambi lighting - sensor network |

### Warranty

|                 |                                              |
|-----------------|----------------------------------------------|
| Warranty period | <a href="#">General Terms and Conditions</a> |
|-----------------|----------------------------------------------|

### Order number configurator



|              |                                                                                                                                                                                                                                                                                                                                                     |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| P/N          | Part number of product                                                                                                                                                                                                                                                                                                                              |
| Profile ID#: | <p>Casambi fixture ID*</p> <p>Profile ID 5400: One channel dimming of intensity</p> <p>Profile ID 5402: Two channel dimming of intensity</p> <p>Profile ID 5403: LightShape Tunable White, two channel control for dimming and CCT (in Kelvin)</p> <p>Profile ID 5405: LightShape Tunable White, two channel control for dimming and CCT (as %)</p> |

### Input control characteristics

|                  |                                                                              |
|------------------|------------------------------------------------------------------------------|
| Control channels | 1 SOLOdrive & ECOdrive, 2 DUALdrive & Lightshape                             |
| Protocol         | LEDcode2                                                                     |
| Dimming range    | <p>100% - 0.1% for SOLOdrive and DUALdrive</p> <p>100% - 1% for ECOdrive</p> |

LEDcode BLE radio, Casambi-ready

Output control characteristics

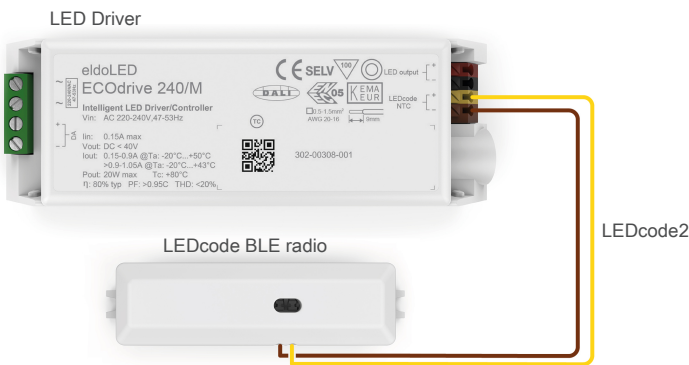
|                                 |                                                                                           |
|---------------------------------|-------------------------------------------------------------------------------------------|
| Protocol                        | Bluetooth Low Energy 4.0                                                                  |
| BLE operating range             | Line of sight <25 meter<br>Transmit power and environment will influence the actual range |
| Approved remote antenna BT-L2C1 | Pulse: W3525B                                                                             |

Wireless control

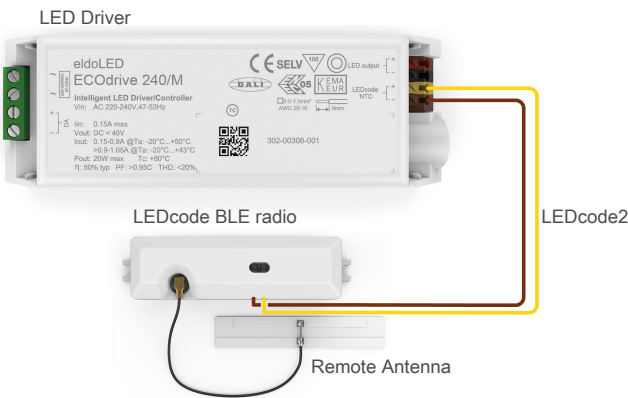
The Casambi app can be downloaded and installed from the Apple App Store for iOS devices or from the Google Play Store for Android devices

Wiring specifications LEDcode BLE radio (with remote antenna)

Wiring diagram BT-L1C1



Wiring diagram BT-L2C1



|                         |                                             |
|-------------------------|---------------------------------------------|
| Wire type               | solid copper, twisted brown and yellow wire |
| Wire core cross section | 0.52 mm <sup>2</sup> +/-0.01mm; AWG 20      |
| Wire length             | 600 +/- 10 mm                               |
| Wire strip length       | 6.5 +/- 0.5 mm                              |

LEDcode BLE radio, Casambi-ready

Wiring specifications BLE radio LEDcode cable

Wiring diagram BT-S1C1



|                         |                                             |
|-------------------------|---------------------------------------------|
| Wire type               | solid copper, twisted brown and yellow wire |
| Wire core cross section | 0.33 mm <sup>2</sup> +/-0.01mm; AWG 22      |
| Connector type          | Molex 43640-0201 female                     |
| Wire length             | 100 +/- 10 mm                               |
| Wire strip length       | 6.5 +/- 0.5 mm                              |

Wiring specifications LED driver cable

|                         |                                                |
|-------------------------|------------------------------------------------|
| Wire type               | stranded copper, twisted brown and yellow wire |
| Wire core cross section | 0.52 mm <sup>2</sup> +/-0.01mm; AWG 20         |
| Connector type          | Molex 43645 male                               |
| Wire length             | 500 +/- 10 mm                                  |
| Cable end               | Crimped-on end terminals                       |

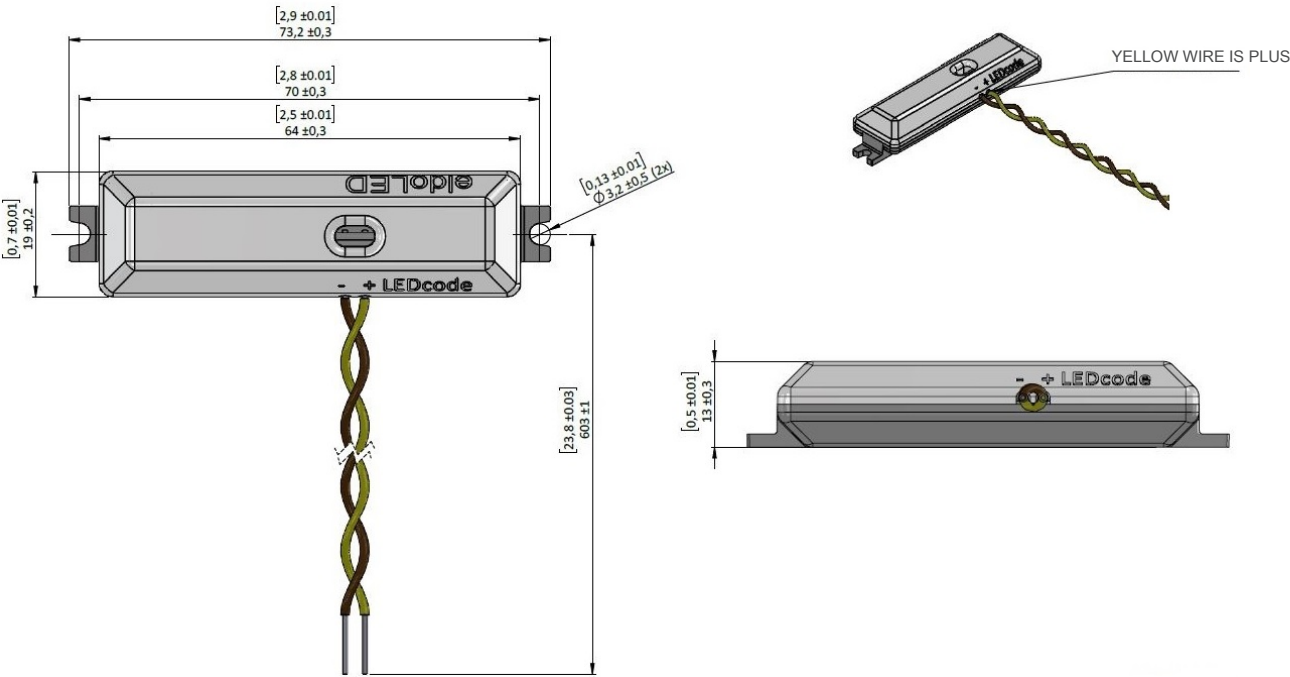
NOTE

|                                         |                                                    |
|-----------------------------------------|----------------------------------------------------|
| Wire length from BLE radio to LED drive | 3 meter maximum if extending or using other wiring |
|-----------------------------------------|----------------------------------------------------|

LEDcode BLE radio, Casambi-ready

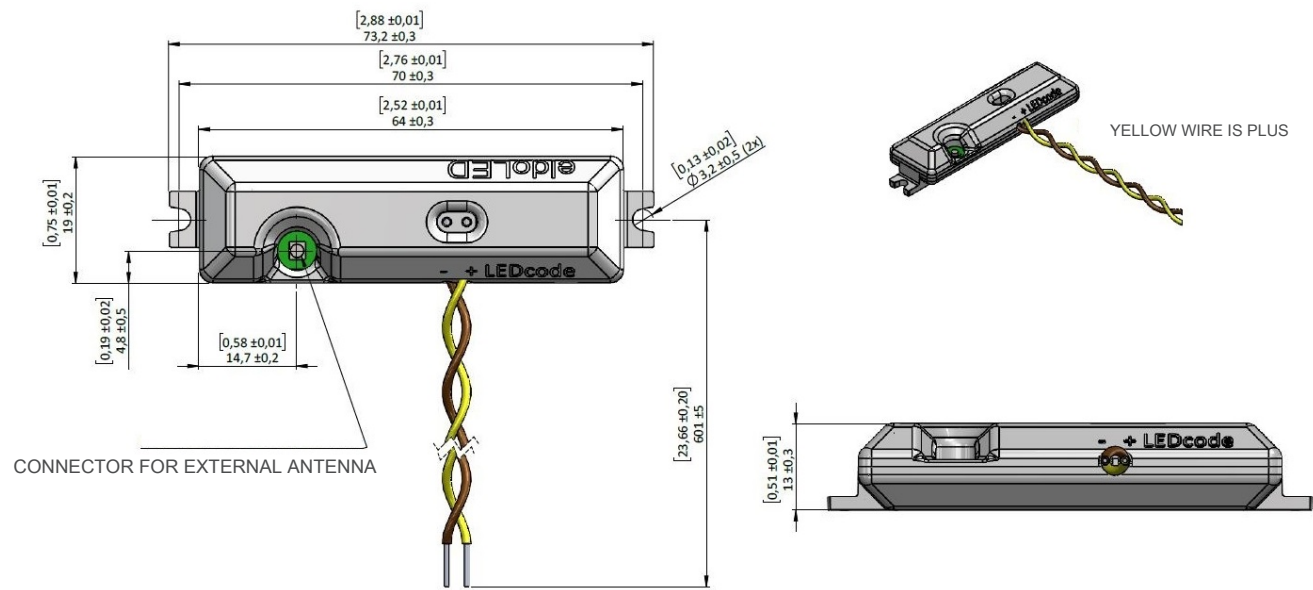
BLE radio module mechanical details

P/N: BT-L1C1



LEDcode BLE radio, Casambi-ready

P/N: BT-L2C1



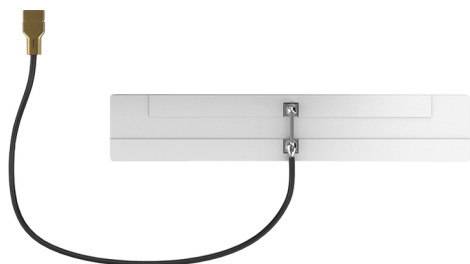
|                                         |                                                             |
|-----------------------------------------|-------------------------------------------------------------|
| Length                                  | Nominal: 73.2 mm / 2.9 inch<br>Maximum: 73.5 mm / 2.91 inch |
| Width                                   | Nominal: 19 mm / 0.7 inch<br>Maximum: 19.2 mm / 0.71 inch   |
| Height                                  | Nominal: 13 mm / 0.5 inch<br>Maximum 13.3 mm / 0.51 inch    |
| Center to center mounting hole distance | 70 mm / 2.8 inch<br>tolerance: +/- 0.3 mm / 0.01 inch       |
| Mounting hole diameter                  | 3.2 mm / 0.13 inch<br>tolerance: +/- 0.5 mm / 0.01 inch     |
| Mounting                                | M3, outer dimensions <3.2mm                                 |
| Mounting torque                         | not to exceed 100 Nm                                        |
| Weight                                  | 10.4 g                                                      |

## LEDcode BLE radio, Casambi-ready

### Packaging

|                                             |                             |
|---------------------------------------------|-----------------------------|
| Length x Width x Height box                 | 470 x 345 x 150 mm          |
| Weight (100 products)                       | 2 kg                        |
| Products per box                            | Sets of 5 pcs (100 pcs max) |
| Length x Width x Height Single unit package | 95 x 60 x 32 mm             |

### Remote antenna mechanical details



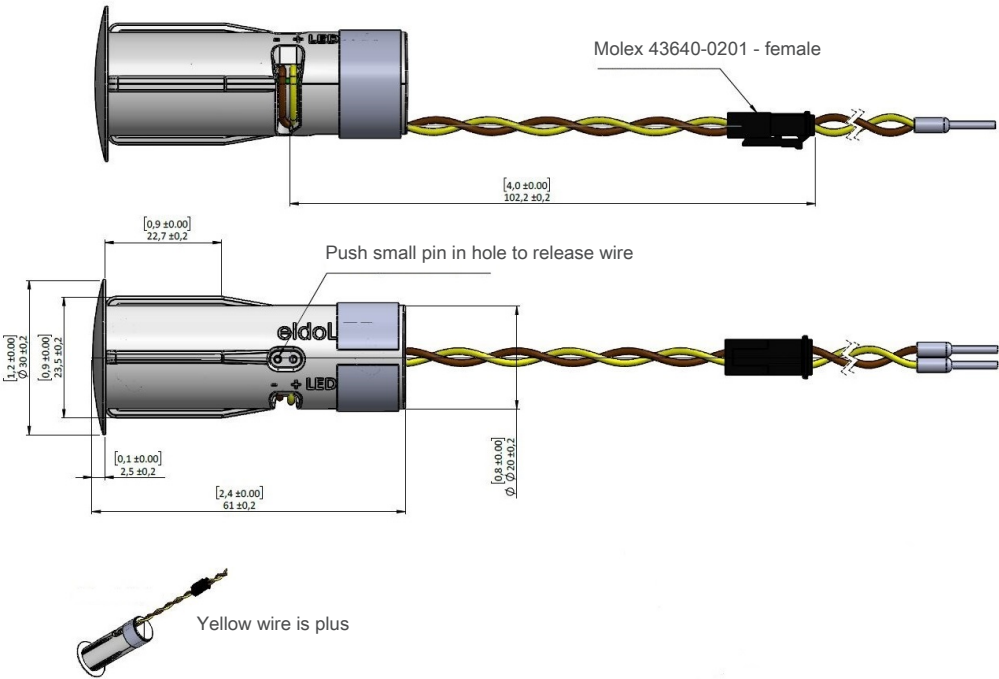
|                |                                                                               |
|----------------|-------------------------------------------------------------------------------|
| Length         | typical 47.7 mm / 1.88 inch                                                   |
| Width          | typical 10.7 mm / 0.42 inch                                                   |
| Height         | typical 3.8 mm / 0.15 inch                                                    |
| Wire length    | typical 254 mm / 10.0 inch                                                    |
| Connector type | I-PEX - U.FL                                                                  |
| Weight         | 3.3 g                                                                         |
| Mounting       | With adhesive tape (already on antenna - 3M 4959 3mm VHB)<br>No substitutions |

### Tools LEDcode BLE radio (with remote antenna)

|                                              |                                                            |
|----------------------------------------------|------------------------------------------------------------|
| Extraction tool for U.FL connector (BT-L2C1) | Hirose Connector<br>P/N: U.FL-LP-N-2<br>HRS No. 331-0494-5 |
| Insertion tool for U.FL connector (BT-L2C1)  | Hirose Connector<br>P/N: U.FL-LP-IN<br>HRS No. 331-0334-9  |
| Release of wires from LEDcode connector      | WAGO. P/N: 206-859                                         |

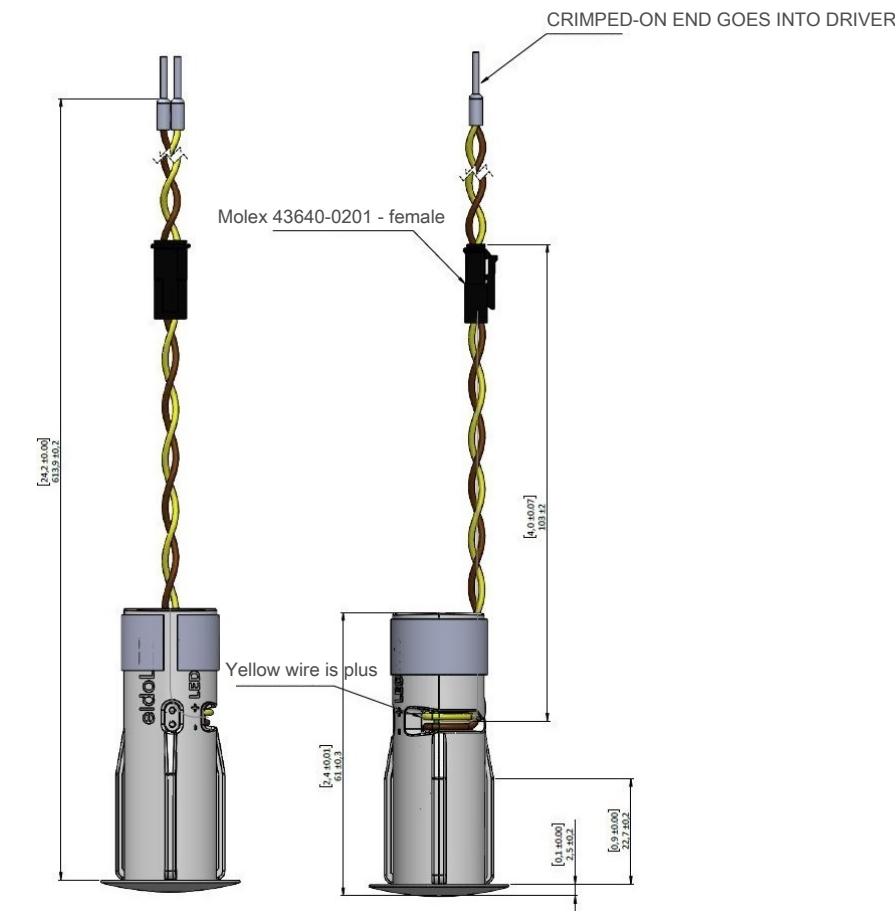
LEDcode BLE radio, through-hole mechanical details

P/N: BT-S1C1



|          |                                                             |
|----------|-------------------------------------------------------------|
| Length   | Nominal: 61.0 mm / 2.4 inch<br>Maximum: 61.2 mm / 2.41 inch |
| Diameter | Nominal: 30 mm / 1.2 inch<br>Maximum: 30.2 mm / 1.21 inch   |
| Weight   | 12.2 g                                                      |
| Mounting | Fits in hole $\varnothing 22 \pm 0.5$ mm                    |





Packaging

|                                             |                             |
|---------------------------------------------|-----------------------------|
| Length x Width x Height box                 | 470x345x150 mm              |
| Weight (including 100 products)             | 2.2 kg                      |
| Products per box                            | Sets of 5 pcs (100 pcs max) |
| Length x Width x Height Single unit package | 95x60x32 mm                 |

Tools

|                                         |                    |
|-----------------------------------------|--------------------|
| Release of wires from LEDcode connector | WAGO. P/N: 206-859 |
|-----------------------------------------|--------------------|

Environmental conditions

|                                          |                  |
|------------------------------------------|------------------|
| Operating ambient temperature (Ta) range | -40 °C to +85 °C |
| Lifetime                                 | 100,000 hours    |

## LEDcode BLE radio, Casambi-ready

### Electrical specifications

|                           |                                                                  |
|---------------------------|------------------------------------------------------------------|
| Bluetooth core version    | 4.0                                                              |
| Frequency range           | 2.402 GHz - 2.480 GHz                                            |
| BTLE antenna              | Single-band antenna                                              |
| Input voltage range DC    | 4-6.5V                                                           |
| Maximum output power      | 4 dBm                                                            |
| Maximum input power       | 50 mW                                                            |
| Peak current              | <15mA @ 3.6V                                                     |
| Polarity of LEDcode lines | Protected against incorrect wiring of the incoming LEDcode wires |

### Standards & compliance

|                                     |                                                                               |
|-------------------------------------|-------------------------------------------------------------------------------|
| ENEC Safety                         | EN 62368-1:2014<br>EN 62479:2010                                              |
| Radiated emissions                  | 47 CFR Part 15.247<br>RSS-210 Issue 9 August 2016<br>RSS-247 Issue 1 May 2015 |
| Bluetooth                           | Bluetooth Qualification & Declaration<br>ID: D037520                          |
| IC                                  | 6715C-BRM1                                                                    |
| Surge Immunity                      | ANSI C63.4:2014                                                               |
| Restriction of hazardous substances | RoHS2                                                                         |
| SVHC-list substances                | REACH Art.33                                                                  |
| EMC                                 | EN301 489-1 V2.2.0<br>EN301 489-17 V3.2.0                                     |
| Radio Spectrum                      | EN300 328 V2.1.1                                                              |

### Certifications



Europe, Rest of World

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