

# Datasheet SLC-Motion203-C

## Smart Controller for Light on Demand

The SLC-Motion203-C is a Zhaga D4i-certified street light controller with an integrated PIR motion sensor. Acting as the central intelligence, the controller enables light-on-demand applications and seamlessly connects lighting assets to modern management systems. Its integrated GNSS receiver enables automatic positioning and simplified commissioning, while the built-in eSIM, provides secure remote connectivity, monitoring and gateway functionality for up to 100 luminaires.



### Remote Management

Provides real-time monitoring, management, and remote control of lighting networks via the SL-Control web platform.



### On-Site Management

Enables on-site configuration of lighting parameters, including dimming levels, for individual luminaires or luminaire groups.



### Mesh Network

Uses a self-organising 2.4 GHz mesh network for reliable communication between luminaires within range.



### Global Cellular Connectivity

An integrated eSIM provides worldwide cellular connectivity via LTE Cat M1, NB-IoT NB2 and EGPRS networks.



### Gateway Function

Enables remote monitoring and management of up to 100 connected luminaires via a single cellular controller.



### Over-The-Air Updates

Supports remote firmware updates for connected controllers via the SL-Control web platform.



### Automatic Positioning

The integrated GNSS receiver provides precise positioning and time synchronisation for automated lighting control.



### AstroDim

Automatically adjusts lighting profiles based on precise sunrise and sunset times at the installation location.



### Brightness Sensor

An integrated brightness sensor enables automatic on/off control based on ambient light levels.



### Tilt Sensor

Integrated tilt sensing enables detection of pole movement, collision events, and changes in orientation across all axes.



### Temperature Sensor

Integrated temperature sensor supports predictive maintenance by detecting abnormal operating conditions.



### Motion Sensor

Motion sensors support dynamic lighting by automatically adjusting light levels when movement is detected.



## DALI Features

### Application Controllers

|                                                                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ✓ Supports DALI version-1 control gear                                                                                                                            |
| ✓ Supports DALI-2 control gear                                                                                                                                    |
| ✓ Support for event messages from input devices                                                                                                                   |
| ✓ Support for other application controllers on the same bus                                                                                                       |
| ✓ Support for Occupancy sensors (DALI part 303)                                                                                                                   |
| ✓ Support for Light sensors (DALI part 304)                                                                                                                       |
| ✓ Support for LED (DALI part 207)                                                                                                                                 |
| ✓ Support for Switching (DALI part 208)                                                                                                                           |
| ✓ Support for Colour control (DALI part 209, DT8) <ul style="list-style-type: none"><li>↳ Supports colour type Tc</li><li>↳ Supports colour type RGBWAF</li></ul> |
| ✓ Supports feedback from control gear (including lamp failure feedback)                                                                                           |
| ✓ Support for addressing or grouping of control gear                                                                                                              |
| ✓ Support for Luminaire-mounted control devices (DALI part 351) <ul style="list-style-type: none"><li>↳ Type B</li></ul>                                          |
| ✓ Support for Luminaire data (DALI part 251)                                                                                                                      |
| ✓ Support for Energy data (DALI part 252)                                                                                                                         |
| ✓ Support for Diagnostics data (DALI part 253)                                                                                                                    |
| ✓ Luminaire-mounted control devices (DALI part 351) <ul style="list-style-type: none"><li>↳ Type A</li></ul>                                                      |
| ✓ D4i certified                                                                                                                                                   |

### Connector

|                             |
|-----------------------------|
| ✓ Zhaga connector (Book 18) |
|-----------------------------|

## Operating Parameters

|                               |                             |
|-------------------------------|-----------------------------|
| Supply Voltage Range          | 12 – 30 V DC   typ. 24 V DC |
| Current Input (24 V DC)       | 16 – 45mA                   |
| Average Power Usage (24 V DC) | 450 mW                      |
| Operating Temperature         | -40...+80 °C                |
| DALI Input Current            | max: 250 mA                 |
| Protection Class              | IP66                        |
| Impact Protection             | IK09                        |

## Maximum Ratings

|                     |             |
|---------------------|-------------|
| Supply Voltage      | 34 V DC     |
| Current Input       | 60 mA       |
| Storage Temperature | -40...+90°C |

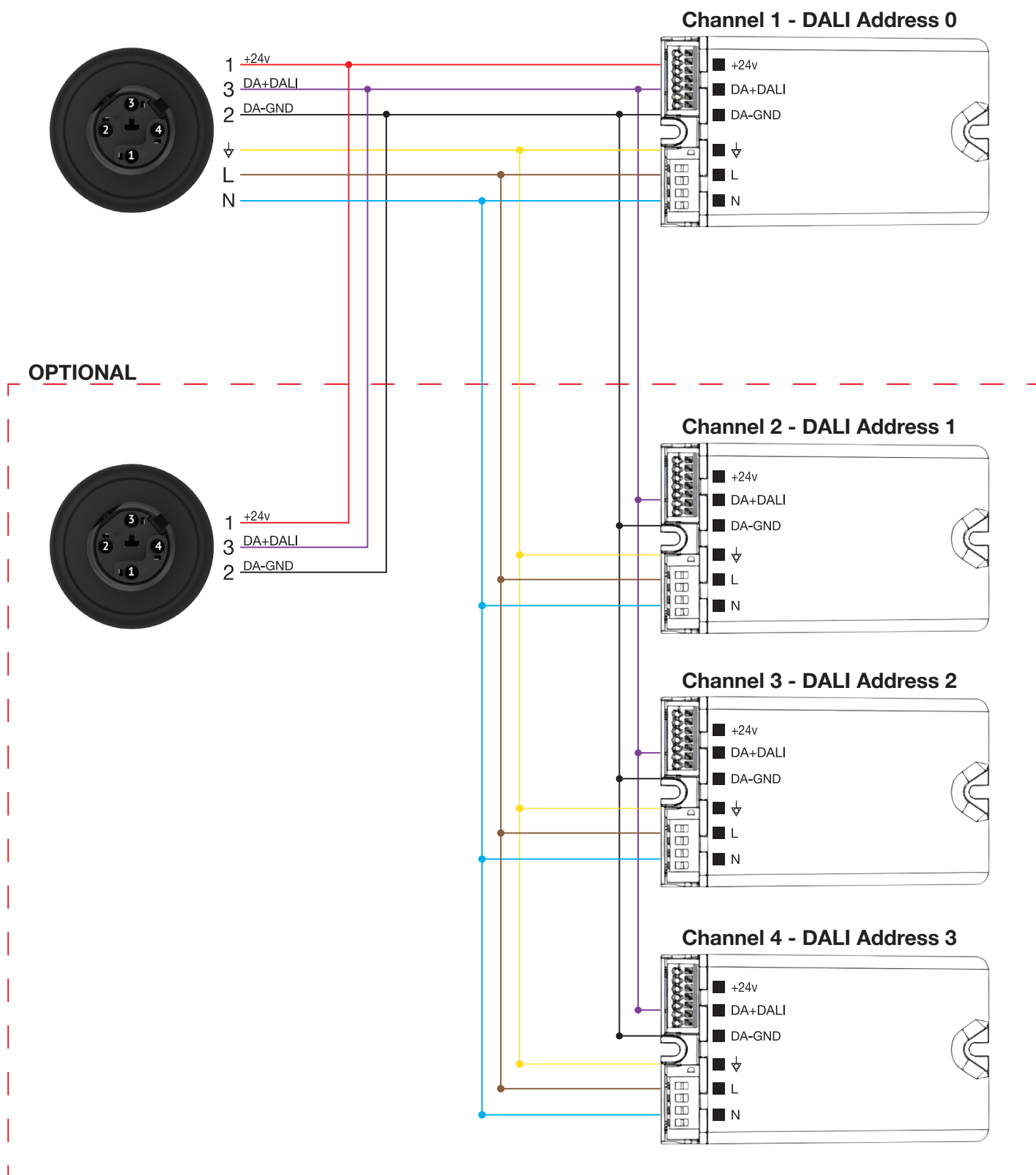
## Mesh Characteristics

|                         |                   |
|-------------------------|-------------------|
| RF Frequency Range      | 2.420 – 2.480 GHz |
| RF Nominal Output Power | +8 dBm            |
| Receiver Sensitivity    | -100 dBm          |

## Cellular Characteristics

|                       |                                                                                                                                                                                                             |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Protocols             | LTE Cat M1, NB-IoT NB2, EGPRS                                                                                                                                                                               |
| Frequency Bands (MHz) | <b>CAT M1:</b><br>B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B27/B28/B66/B8<br><b>NB-IoT NB2:</b><br>B1/B2/B3/B4/B5/B8/B12/B13/B18/ B19/B20/B25/B28/B66/B71/B8<br><b>EGPRS:</b><br>850/900/1800/1900 MHz |

## Wiring



When two controllers are used, one DALI output is automatically disabled.

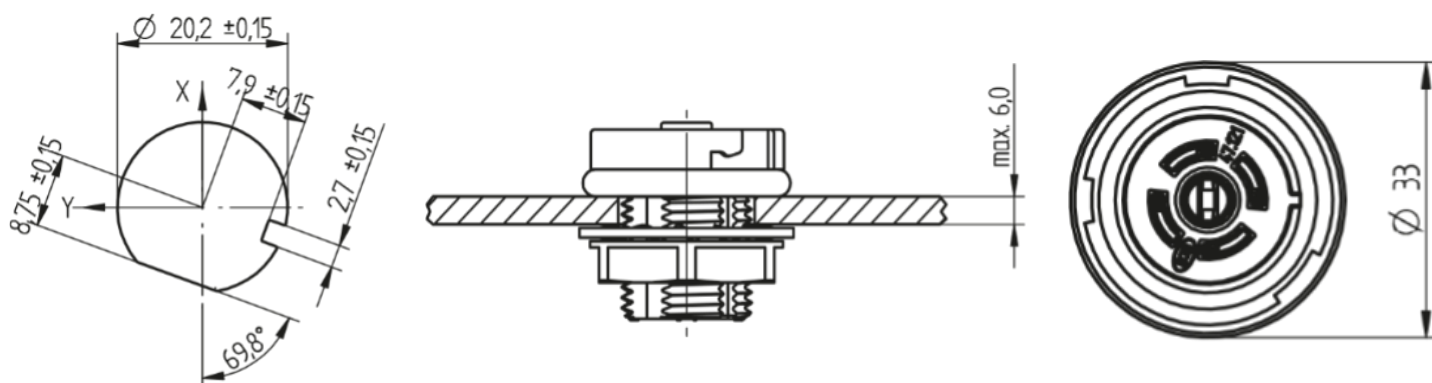
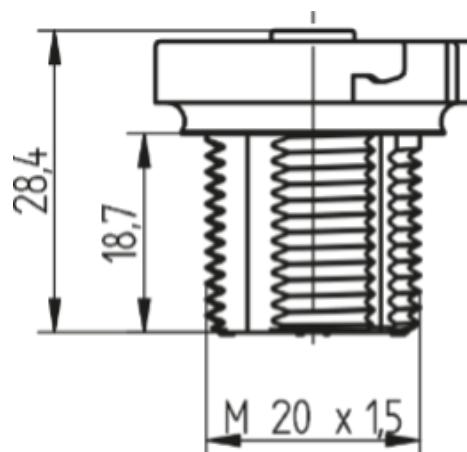
## Dimensions SLC-Motion203-C

|                      |                        |
|----------------------|------------------------|
| <b>Diameter</b>      | 81.50 mm               |
| <b>Height</b>        | 54.00 mm               |
| <b>Weight</b>        | 80 g                   |
| <b>Dome Material</b> | Polycarbonate          |
| <b>Dome Color</b>    | Transparent Smoke Grey |
| <b>Base Material</b> | PBT                    |
| <b>Base Color</b>    | Grey                   |



## Dimensions Zhaga Connector

|                      |                                                      |
|----------------------|------------------------------------------------------|
| <b>Diameter</b>      | 30.00 mm                                             |
| <b>Height</b>        | 28.40 mm                                             |
| <b>Thread Length</b> | 18.70 mm                                             |
| <b>Thread Pitch</b>  | M20 x 1.5                                            |
| <b>Material</b>      | PBT                                                  |
| <b>Wire Size</b>     | 20-16 AWG (0.5 - 1.5 mm²)                            |
| <b>Mounting</b>      | Tightening torque 1.8 – 2.4 Nm<br>(27 mm hex socket) |



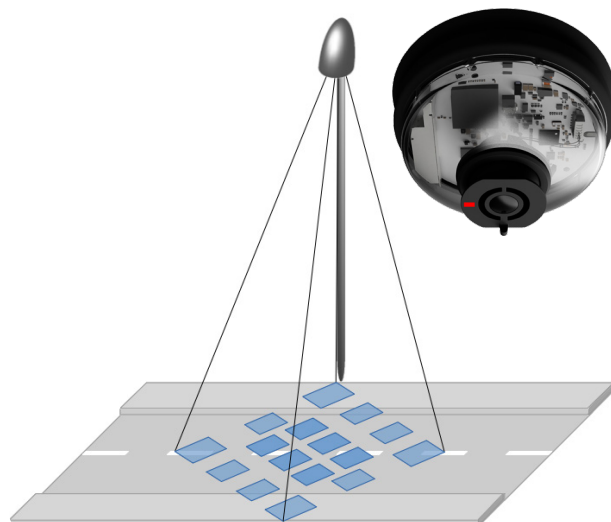
## Installation

The sensor must be mounted at the bottom of the luminaire to ensure reliable motion detection.



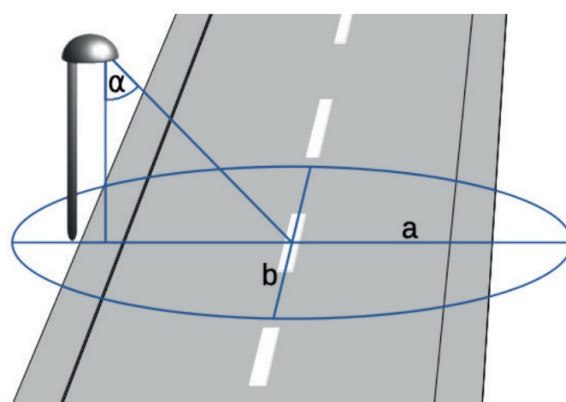
## Sensor Alignment

- Align the red marker along the road.
- Position the alignment tab at the lowest point.
- Provides a 45° detection field for optimal motion detection.
- The sensor is adjustable in all directions.



## Alignment Angle

| Height | Alignment angle ( $\alpha$ ) |      |      |      |      |
|--------|------------------------------|------|------|------|------|
|        |                              | 0°   | 10°  | 20°  | 30°  |
| 5 m    | A                            | 5.7  | 6.0  | 7.5  | 11.8 |
|        | B                            | 5.7  | 5.7  | 6.0  | 6.5  |
| 6 m    | A                            | 6.8  | 7.3  | 9.0  |      |
|        | B                            | 6.8  | 6.9  | 7.2  |      |
| 7 m    | A                            | 7.9  | 8.5  | 10.5 |      |
|        | B                            | 7.9  | 8.0  | 8.4  |      |
| 8 m    | A                            | 9.0  | 9.7  |      |      |
|        | B                            | 9.0  | 9.2  |      |      |
| 9 m    | A                            | 10.2 | 10.9 |      |      |
|        | B                            | 10.2 | 10.3 |      |      |
| 10 m   | A                            | 11.3 | 12.1 |      |      |
|        | B                            | 11.3 | 11.5 |      |      |
| 11 m   | A                            | 12.4 |      |      |      |
|        | B                            | 12.4 |      |      |      |

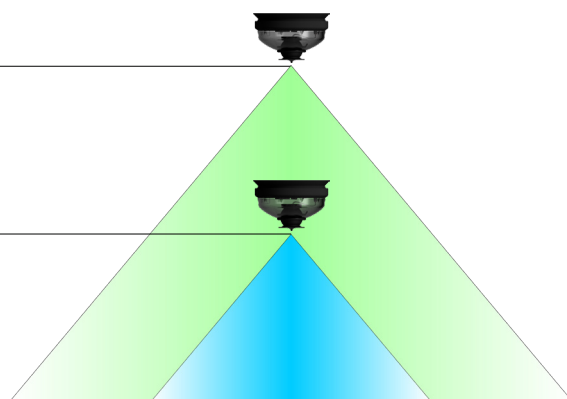


- Standard (ST)  
Height: From 0 m up to 6 m
- High Sensitive (HS)  
Height: From 6 m up to 12 m

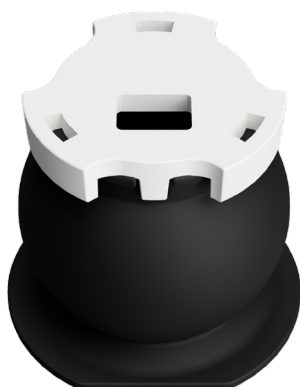
## Sensor Types

High Sensitive (HS)  
Height: From 6 m up to 12 m

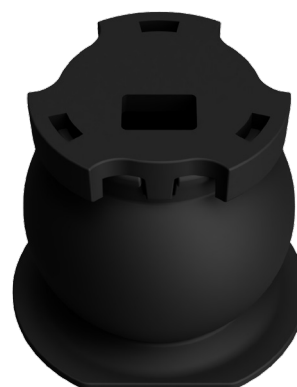
Standard (ST)  
Height: From 0 m up to 6 m



**Standard (ST)  
White Cover**



**High Sensitive (HS)  
Black Cover**



## Optional Alignment Tool

An optional alignment tool is available for easy and precise sensor alignment.



All information has been carefully checked; however, errors and technical changes are reserved.