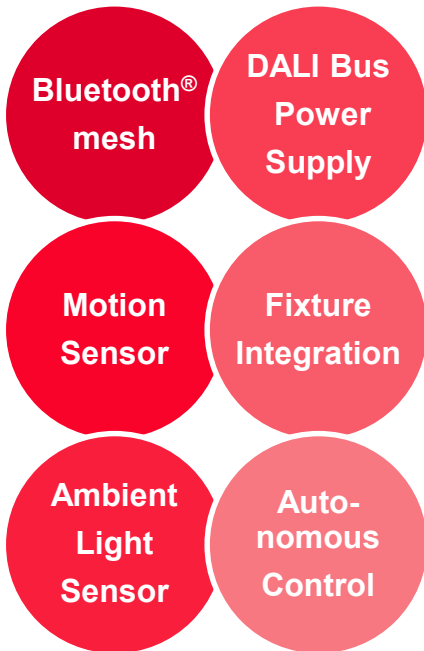


# Fixture-Integrated Sensor based on Bluetooth® mesh

Converts Luminaires into Multifunctional IoT Devices



Murata's Fixture-Integrated Sensor combines occupancy sensing, daylight harvesting, digital dimming and Bluetooth® radio circuits into a small package that fits into various luminaires. When used with compatible drivers, it enables any lighting manufacturer to deliver wirelessly-controllable and sensor-equipped fixtures with minimal engineering effort. Murata's Sensor-equipped luminaires just need to be connected to mains power and can be simply configured using an intuitive mobile app. The result is increased occupant comfort and energy savings that meet the most demanding building energy codes. By leveraging SIG-Qualified Bluetooth® mesh, the first wireless standard for professional lighting applications which ensures unmatched scalability and reliability, the wireless lighting control system can be seamlessly expanded with Bluetooth® mesh-certified products and/or compatible Bluetooth® switches as needed.

## Key Features

- SIG-Qualified Bluetooth® mesh
- PIR occupancy detection
- Daylight harvesting
- Task tuning
- Compact form factor
- Polarity-insensitive power supply
- Autonomous sensor-based control
- OTA firmware upgrade
- Scheduler control

## Benefits

- Cost-effective solution for energy savings
- Energy code compliance
- Robust mesh network
- Decentralized control (no single point of failure)
- Gateway-less configuration & operations
- Polarity-insensitive integration

## Applications

- Open offices
- Individual offices
- Conference rooms
- Classrooms
- Retail stores
- Hospitals
- Lobbies

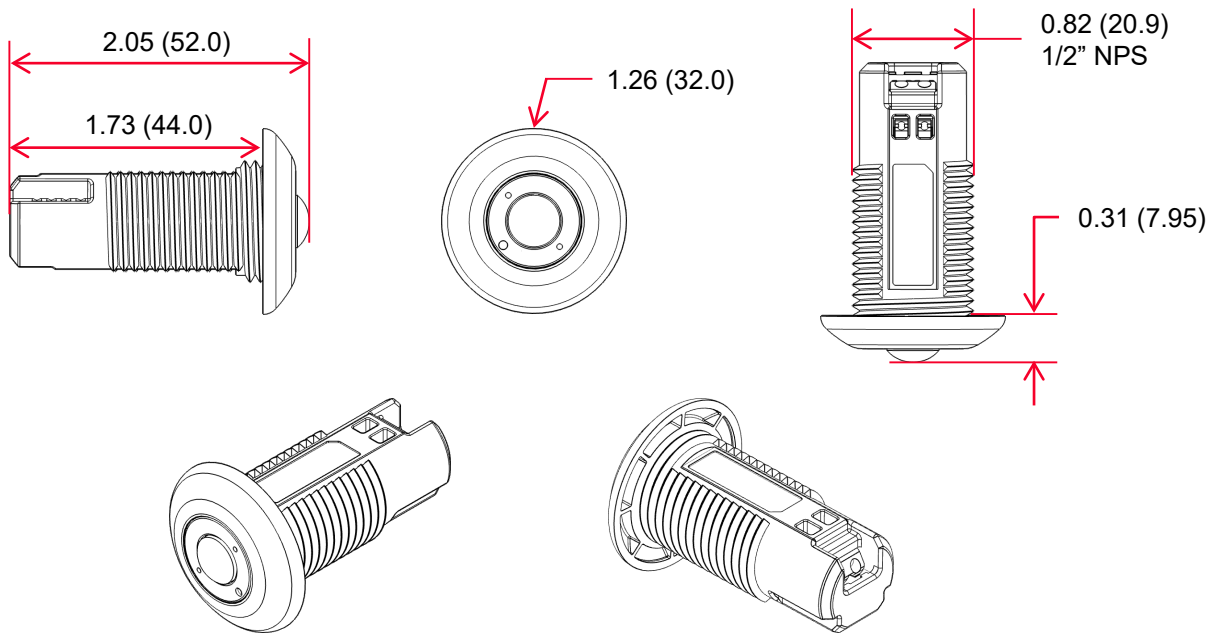
## Product Data

<b>Ordering Information</b>	
Non-Activated Ordering Part Number	LBCC2ZZ1UE-465 (Sensor-Controller) / LBCC2ZZ1UZ-66 (Sensor-less Controller)
<b>Physical Information</b>	
Dimensions / Weight	See Dimensions / 14 g (without locknut) / 23 g (with locknut)
Mounting (Luminaire Hole)	1/2" trade size knockout (22.2-23.2mm)
Material / Color	ABS / White
Connectors / Wire Gauge / Strip Length	(1) two-pole connectors / 24-18 AWG (0.2-0.75 mm <sup>2</sup> ) solid wire / 0.28-0.35 in. (7-9 mm)
<b>Electrical Information</b>	
Input Voltage	12-22.5 VDC (DALI Bus Power Supply)
Current Consumption	< 30mA
Cable Length	< 3m
Factory Reset	Reset by neodymium magnet
Status Indicators	Green (network status), Red (occupancy detection) **
Insulation DA – Casing	Supplementary insulation
<b>Wireless Communication</b>	
Radio Frequency / Tx Power Setting	2.4 GHz (2400 – 2483 MHz) / +4 dBm
Wireless Protocol / Communication Range	Bluetooth® mesh, Bluetooth® 5 / 100 feet (30m) Line of Sight
Radio/EMC Certifications	FCC/ISED (plan), EN 300 328 V2.1.1, EN 62479:2010, EN 301 489-1 V2.1.1, EN 301 489-17 V3.1.1
<b>Lighting Control</b>	
Features	Continuous dimming, Task tuning (0-100%), Individual/group addressing, Scene control, Autonomous sensor-based control (occupancy, vacancy or daylight harvesting mode) **, Decentralized control (no single point of failure), Scheduler control (plan)
<b>Sensing **</b>	
Occupancy Sensing Type	Murata passive infrared (PIR) sensor
Occupancy Viewing Angle	92° (see Occupancy Detection Pattern)
Occupancy Detection Range	10 feet (3m)
Occupancy Sensor Warm Up Time	40 seconds
Daylight Harvesting Type	Ambient light sensor / Light pipe (closed loop) / 0-2000 lux
Sensing Information	Can be shared within SIG-Qualified Bluetooth® mesh network
<b>Switch</b>	
Compatible EnOcean Switch	EnOcean ESRPB / EDRPB / EWSSB / EWSDB
<b>Environment</b>	
Operating Temperature Range / tc value	0°C to 50°C (indoor use only) / 60°C
Storage Temperature Range	0°C to 60°C
Safety Certification	cULus Listed, Plenum Rated IEC 61347-2-11 (First Edition):2001 used in conjunction with IEC 61347-1:2015 (Third Edition)
IP Rating	IP 20

\* All specifications are typical and at 25°C unless otherwise specified

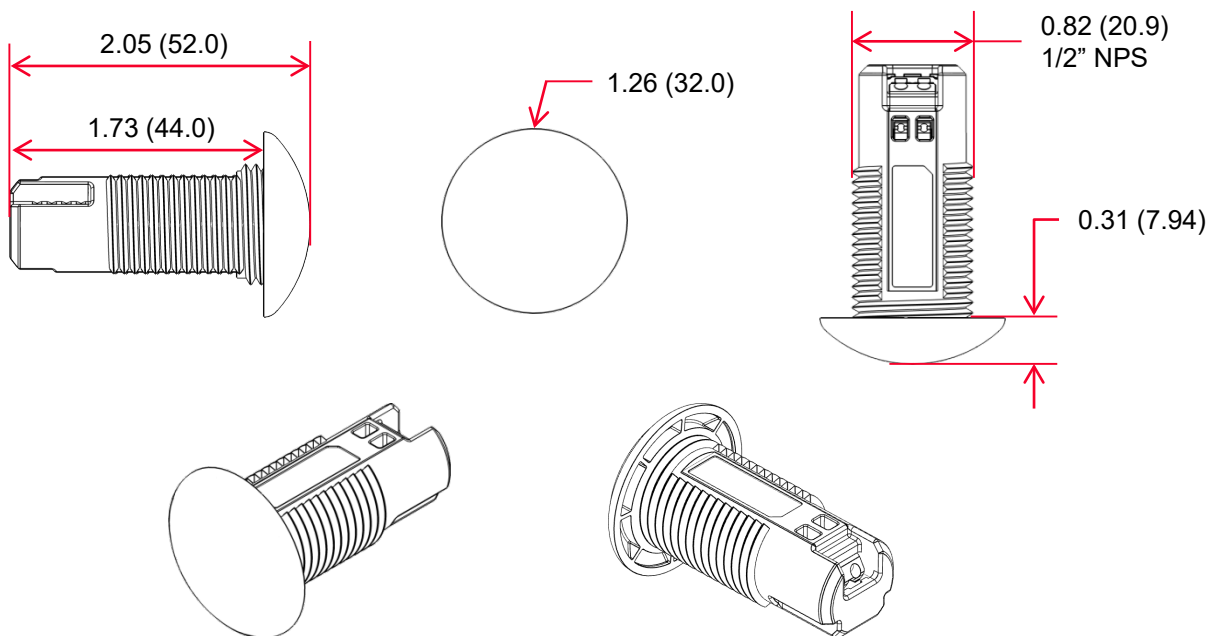
\*\* Not available in Sensor-less Controller

**Dimensions and Appearance (Sensor Controller)**



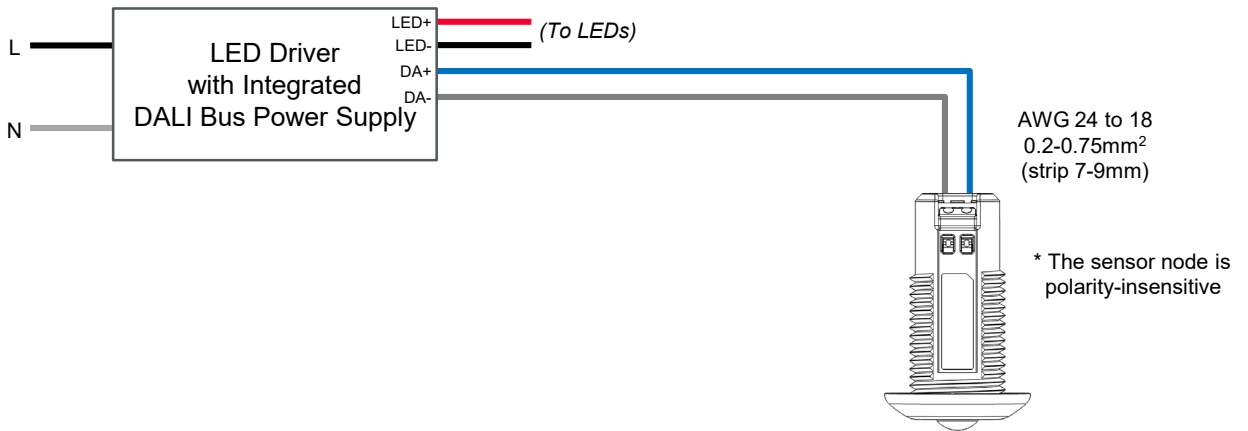
\* in (mm)

**Dimensions and Appearance (Sensor-less Controller)**

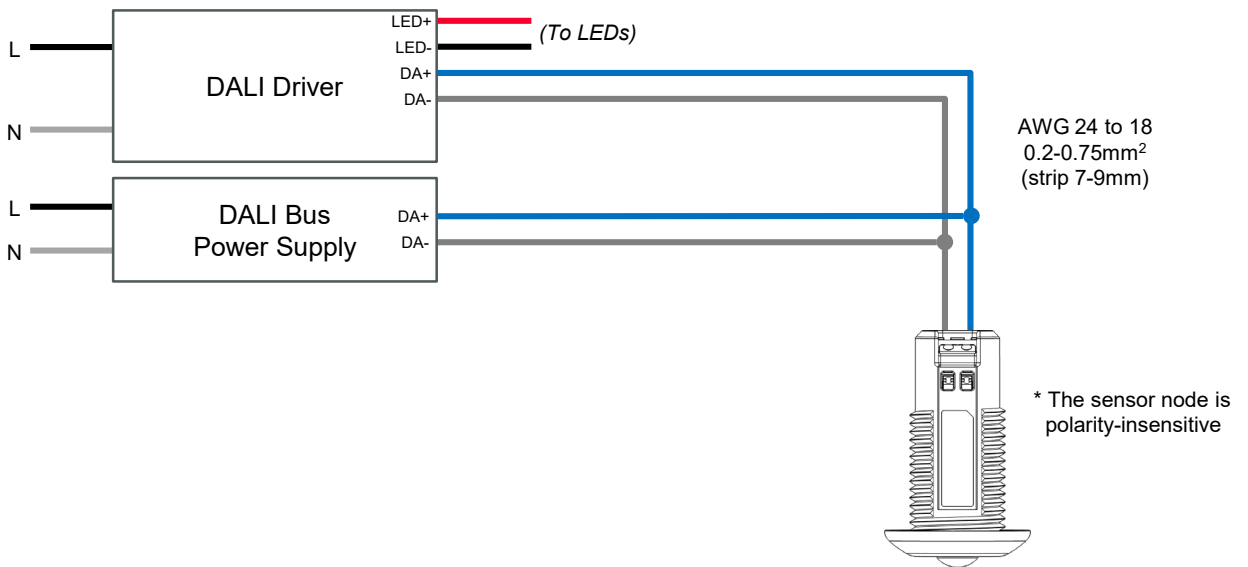


\* in (mm)

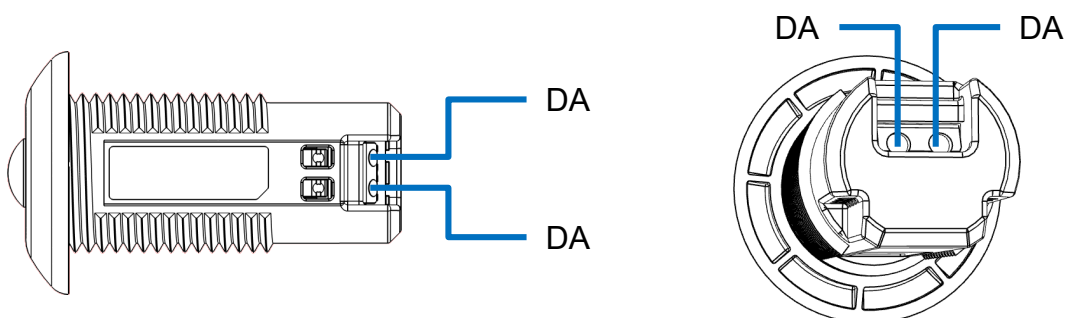
### Wiring Diagram – LED Driver with Integrated DALI Bus Power Supply



### Wiring Diagram – DALI Bus Power Supply



### Terminal Assignments



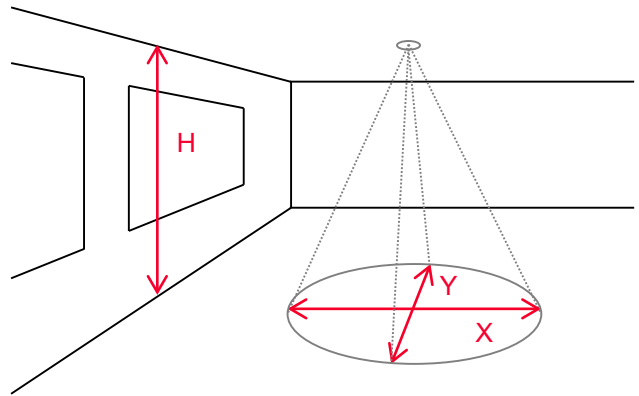
## LED Indicators

Green LED (Network Status)	
Fast blink (300ms cycle)	Unprovisioned
Slow blink (2000ms cycle)	Provisioned
Blink twice	Relevant packet received
Long blink	Factory reset
Red LED (Motion Sensor Status)	
Blink once	Motion detected

\* Not available in Sensor-less Controller

## Occupancy Detection Pattern

H	X	Y
7.9' (2.4m)	16.4' (5.0m)	16.4' (5.0m)
8.9' (2.7m)	18.4' (5.6m)	18.4' (5.6m)
9.8' (3.0m)	20.3' (6.2m)	20.3' (6.2m)



Orientation Indicators

