

S4i

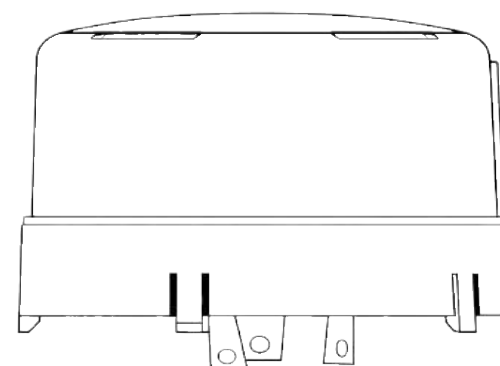
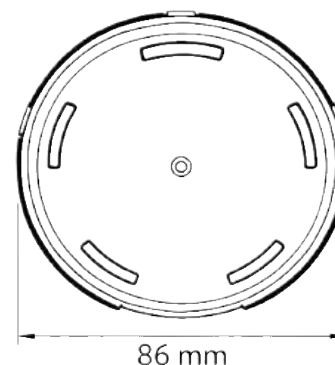
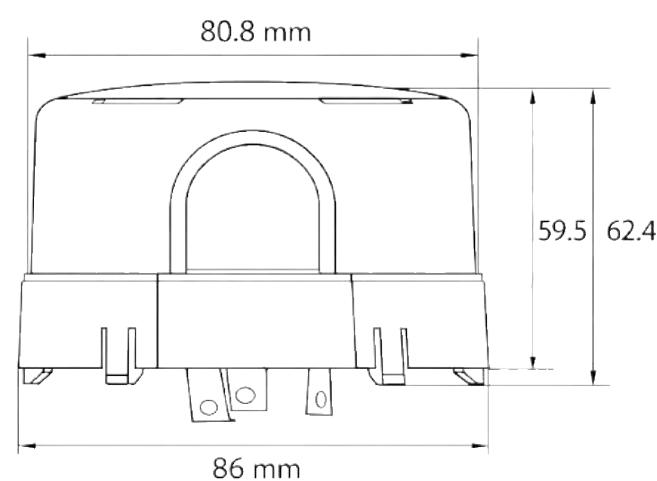
LPC NEMA NODE

The S4i NEMA Node is a Bluetooth® mesh lighting control interface that converts wired DALI or 0–10V signals into secure wireless communication. It installs directly onto a standard ANSI C136.41 7-pin NEMA receptacle using a tool-free twist-lock connection.

Operating on Bluetooth® Low Energy (4.0 or 5.0), the node forms part of a distributed mesh network supporting up to 100 devices. Configuration and control are managed through the Casambi mobile app (iOS and Android), with encrypted communication and automatic firmware distribution across the network.

The node supports multiple communication profiles and can retrieve performance data from D4i drivers, including energy consumption, operating hours, and temperature. An integrated photocell enables automatic scene control, on/off switching, and illuminance-based adjustments.

Designed for outdoor environments, the unit features an IP66-rated, UV-resistant enclosure and is also suitable for indoor applications.



Technical Specifications

Measurements	86 mm X 62.4 mm
Power supply	Rating: 100~277VAC; 50/60Hz limit: 85~305VAC; 47/63Hz
Device power consumption	<1.25W(220VAC)
Load capacity	≤15A (277VAC)
Dimming output	DALI/0-10V - Switching light/0-100% dimming/RGBW
0-10V dimming accuracy	<±2%
DALI bus drive capability	Rated at 16VDC/60mA
Energy Metering	Energy Metering for both D4i and 0-10V/1-10V
Wireless communication	Casambi BLE Mesh(BLE 4.0/BLE 5.0)
Light Sensor Range	20-1500 lux
Operating Temperature	-35~70°C
Warranty	3 years (extension available)

Characteristics

85~305VAC wide voltage input
6KV/3KA surge protection
Maximum load capacity of 15A
Crossing the zero switch
ANSI 136.41
BLE Mesh
DALI/0-10V switchable
Built-in energy metering
Integrated DALI bus power supply
Integrated light sensor
Double-layer shell for higher structural reliability
86 x 62.4mm ultra-small size
The shell is UV resistant
IP66 rated shell

S4i

LPC NEMA NODE

Cost-efficient: A single node can manage up to 8 DALI drivers individually or up to 30 drivers via broadcast.

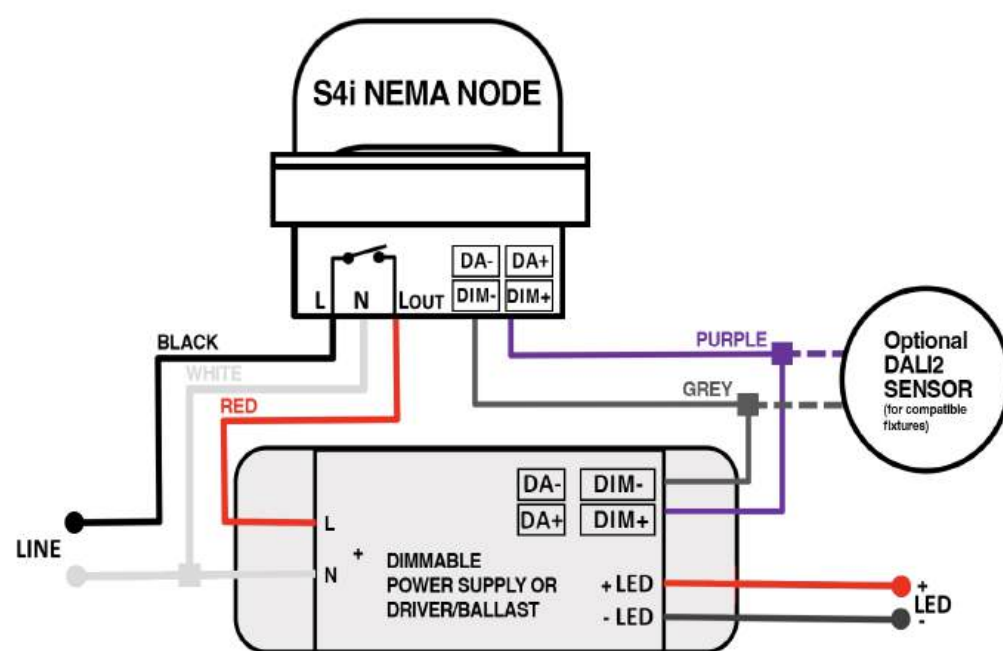
Wide compatibility: Works with DALI, 0–10V, and 1–10V drivers.

Scalable architecture: Supports networks of up to 100 nodes.

Wireless mesh network: Provides coverage of up to 300 m between nodes.

Integrated components: Built-in photocell and relay within each node.

Connection



Communication Features:

Wireless Technology - Bluetooth® Low Energy (BLE 4.0 / 5.0) mesh network

Network Architecture - Self-healing, frequency-hopping, spread-spectrum mesh topology

Firmware Updates - Over-the-Air (OTA) firmware updates with automatic distribution across the network

Network Coverage (Outdoor, Line of Sight)

- Up to 120 m – Balanced mode (BLE 4.0)
- Up to 200 m – Long-range optimized mode (BLE 5.0)
- Up to 300 m – Long-range maximum mode (BLE 5.0, node-to-node)

*300 m can be achieved under the best conditions

Network Capacity - Supports up to 100 nodes per mesh network

Security - AES128 encryption with elliptic curve cryptography

Applications

Outdoor Lighting

Road and Street Lighting
Highways and Traffic Intersections
Parks and Public Gardens
Campus and University Lighting
Pedestrian Areas and Pathways
Parking Lots and Car Parks

Commercial & Public Facilities

Shopping Malls and Retail Parks
Supermarkets
Public Squares and Plazas
Transportation Hubs (bus terminals, stations)

Industrial & Infrastructure

Factories and Industrial Sites
Warehouses and Logistics Areas
Utility and Infrastructure Lighting

Smart City & Energy Management

Smart City Lighting Systems
Energy-efficient Retrofit Projects
Remote Monitoring and Maintenance Systems
Adaptive and Sensor-based Lighting Control

Benefits

Wide voltage compatibility – 85~305VAC input range accommodates various power supply conditions

Robust surge protection – 6KV/3KA surge protection ensures reliability in harsh electrical environments

High load capacity – Maximum 15A load capacity suitable for demanding lighting applications

Flexible dimming options – DALI/0-10V switchable dimming modes provide versatility for different lighting systems

Advanced wireless control – BLE Mesh (Casambi) enables remote control, configuration, and real-time monitoring via app

Built-in energy metering – Integrated energy monitoring for both DALI and 0-10V modes supports energy management

Integrated DALI bus power supply – Eliminates need for separate DALI power supply (16VDC/60mA rated)

Integrated light sensor – Built-in sensor (20-1500 lux range) enables adaptive lighting control

D4i compliance – Meets D4i standards (Part 101, 103, 351, 250, 251, 253) ensuring interoperability and future-proofing

Compact design – Ultra-small size (86x62.4mm) fits standard NEMA sockets with minimal footprint

High reliability – Double-layer shell construction and IP66 protection rating ensure durability

UV resistant shell – Extended outdoor lifespan with UV-resistant materials

Wide operating temperature range – Functions in extreme conditions (-35~70°C)

Low power consumption – Device consumes less than 1.25W at 220VAC

Zero-crossing switch – Reduces electrical noise and extends lamp lifespan

Secure communication – AES128 bit encryption with elliptical cryptography protects data

Large network capacity – Supports up to 250 devices in BLE Mesh network

High dimming accuracy – 0-10V dimming accuracy within ±2%

ANSI compliant – Meets ANSI 136.41 standard for photocell compatibility

Order Details

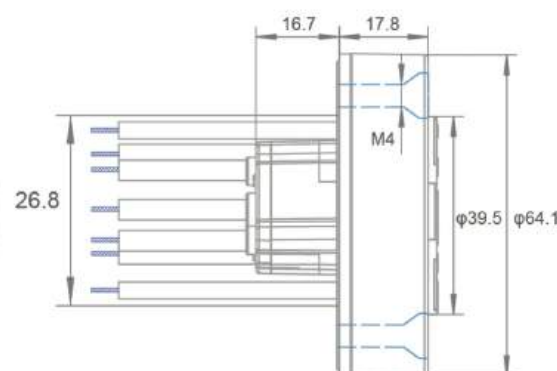
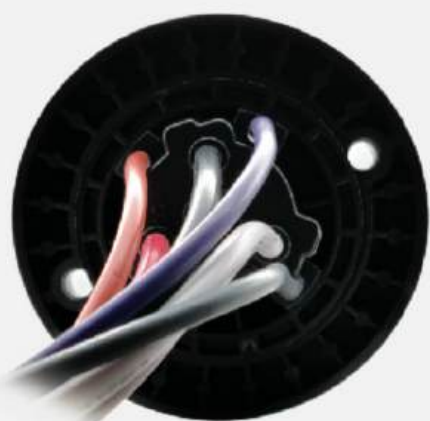
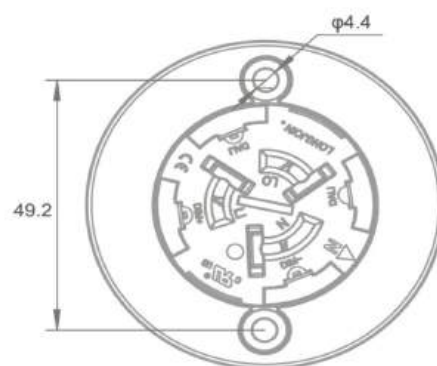
Product SKU

S4i-LPC-CAS-NEMA-DALI-V



LPC NEMA RECEPTACLE

The Photocontrol Receptacle (North-Orientation-Free) is designed for lanterns with an ANSI C136.41 receptacle to accept a twist-lock photocontrol for multi-control of LED lamps. Features gold-plated low voltage pads with ANSI C136.41 spring contacts, rear wiring leads for signal connection, and 360° rotation limiting conforming to ANSI C136.41 requirements.



Technical Specifications

Power Volt Range	0~480VAC
Rated Frequency	50/60Hz
Load Rating	15A
Signal Control	0-30 VDC, 250 mA Max
Lead	16AWG/14AWG, 6" min
Ambient Temperature	-40°C ~ +70°C
Related Humidity	96%
Energy Metering	Rated at 16VDC/60mA
Certifications	UL / cUL CE CB RoHS
Warranty	3 years (extension available)

Characteristics

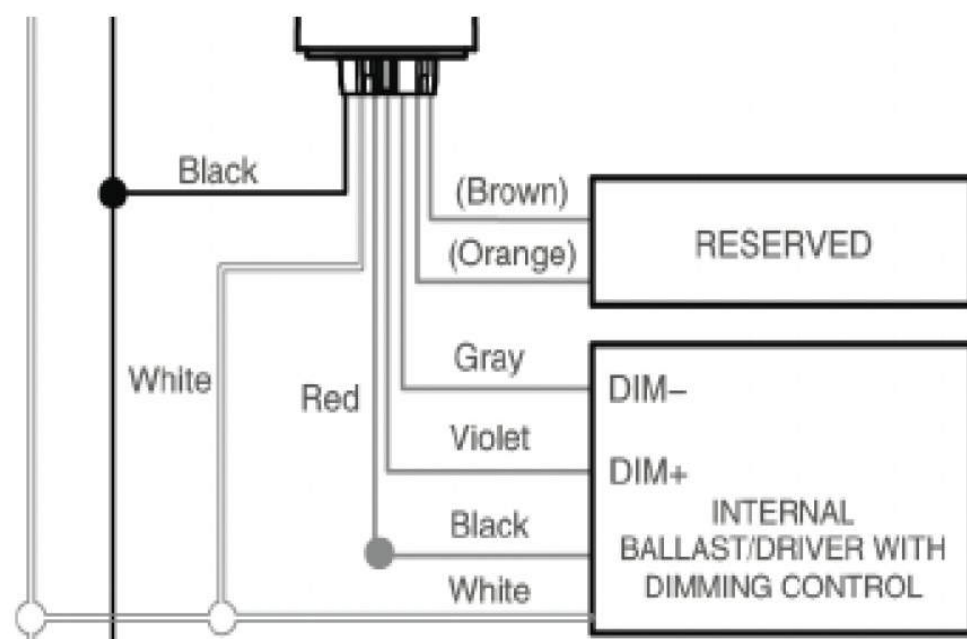
0~480VAC wide voltage range
Polybutylene terephthalate body
Phosphor bronze contacts
Gold-plated pads (ASTM B 522)
Silicone gasket included
360° rotation limiting (ANSI C136.41)
15A load rating
Signal control: 0-30 VDC / 250 mA max
North-Orientation-Free design
2 or 4 gold-plated dimming pads
7-pin or 5-pin wiring options
-40~70°C operating temperature
UL / cUL, CE, CB, RoHS certified
Rotatable via central slot screwdriver



LPC NEMA RECEPTACLE

Cost-efficient: Connects directly to ballast/driver — no extra hardware.
Wide compatibility: Works with DALI, 0–10V, and 1–10V drivers.
North-Orientation-Free: No directional alignment required on install.
7-pin NEMA: Supports up to 7 wires for full dimming control.
ANSI C136.41: Standard twist-lock with 360° rotation limiting.

Connection



Communication Features:

Interface: 7-pin NEMA (ANSI C136.41) twist-lock receptacle
Signal Type: 0-30 VDC, 250 mA Max
Lead Options: 5-wire or 7-wire configuration
Lead Gauge: 16AWG/14AWG, minimum 6" length
Pad Config: 2 or 4 gold-plated low voltage dimming pads
Rotation: 360° limiting via central slot screwdriver adjustment

Applications

Outdoor Lighting

Road and Street Lighting
Highways and Traffic Intersections
Parks and Public Gardens
Campus and University Lighting
Pedestrian Areas and Pathways
Parking Lots and Car Parks

Commercial & Public Facilities

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Industrial & Infrastructure

Factories and Industrial Sites
Warehouses and Logistics Areas
Utility and Infrastructure Lighting

Smart City & Energy Management

Smart City Lighting Systems
Energy-efficient Retrofit Projects
Remote Monitoring and Maintenance Systems
Adaptive and Sensor-based Lighting Control

Benefits

Wide voltage compatibility – 0~480VAC input accommodates various power supply conditions
High load capacity – Maximum 15A load rating for demanding lighting applications
Gold-plated contacts – ASTM B 522 nickel-plated phosphor bronze with gold plating for reliable signal transfer
North-Orientation-Free – No directional alignment needed, simplifying installation
360° rotation limiting – Conforms to ANSI C136.41 for precise photocontrol positioning
Silicone gasket – Weatherproof sealing suitable for outdoor applications
Flexible wiring – 5-wire or 7-wire, 16AWG/14AWG leads, minimum 6" length
Multiple pad configs – 2 or 4 gold-plated dimming pads for different driver setups
Protocol compatible – Works with DALI, 0-10V, and 1-10V driver types
Durable body – Polybutylene terephthalate (PBT) — UV and heat resistant
Tool-free twist-lock – ANSI C136.41 spring contacts for fast, secure installation
Signal precision – 0-30 VDC / 250 mA max for accurate dimming control
Wide temp range – -40°C to +70°C for extreme environment operation
High humidity rating – Rated to 96% relative humidity
Multi-certified – UL/cUL, CE, CB and RoHS certified for global compliance
On-site rotation – Adjustable via central slot screwdriver for orientation correction
Compact footprint – 49.2mm diameter — fits standard NEMA 7-pin receptacle openings

Order Details

Product SKU

S4i-NEMA7-RCP