



UL2024

NEMA Streetlight Controller

4th GENERATION

The NEMA Streetlight Controller G4 is a wireless remote control device designed for HID and LED streetlights equipped with the ANSI C136.41 NEMA compliant connector. It utilises the DALI (D4i) and 0..10V analog interfaces to provide control and monitoring of the streetlight. The NEMA Streetlight Controller G4 communicates through LoRaWAN[®], NB-IoT, DECT NR+ or SensorLink[™] networks. Our open communication protocols, an open source JavaScript payload decoder and our LumaLink[™] app all contribute to reducing system integration costs.

The device offers easy plug-and-play installation, making it a convenient choice for various street lighting modules. This controller is ideal for outdoor installations, offering robust, weather-resistant performance. It is well suited for both existing lighting infrastructures as well as new installations.



LoRaWAN[®] is a trademark of Semtech Corporation

DALI, the DALI Logo, DALI-2, the DALI-2 Logo, DiiA, the DiiA Logo, D4i, the D4i Logo, DALI+ and the DALI+ Logo are trademarks in various countries in the exclusive use of the Digital Illumination Interface Alliance

Product Features

- Control up to 8 DALI / DALI-2 drivers independently*
- 0..10V analog control output*
- Power measurement for connected load and via DALI
- D4i Energy registers reported for each driver
- Versatile astronomical calendar based dimming
- Layered time based dimming profiles
- Automatic device time synchronisation
- Light intensity sensor
- Remote control and configuration
- Multicast control and configuration
- Configuration app LumaLink™ (iOS & Android)
- GPS positioning**
- External D4i Control devices***
- Simple push-and-twist lock installation
- Configurable ON/OFF switching
- Autonomous and adaptive operation (configure and forget)
- Real time control and feedback
- RTC to keep time after power loss
- Built in tilt sensor
- Surge protection
- Fully Documented Open Communication Protocol

* software configurable Analog or DALI control output
 ** with GPS option
 *** in development

Measured parameters

- Ambient light
- Controller temperature
- Relay on operating hours
- Line voltage
- Power and power factor*
- Energy consumption
- Forwards D4i Energy registers for each driver

* NEMA measures its own power and whatever is connected to its relay combined

Monitored parameters

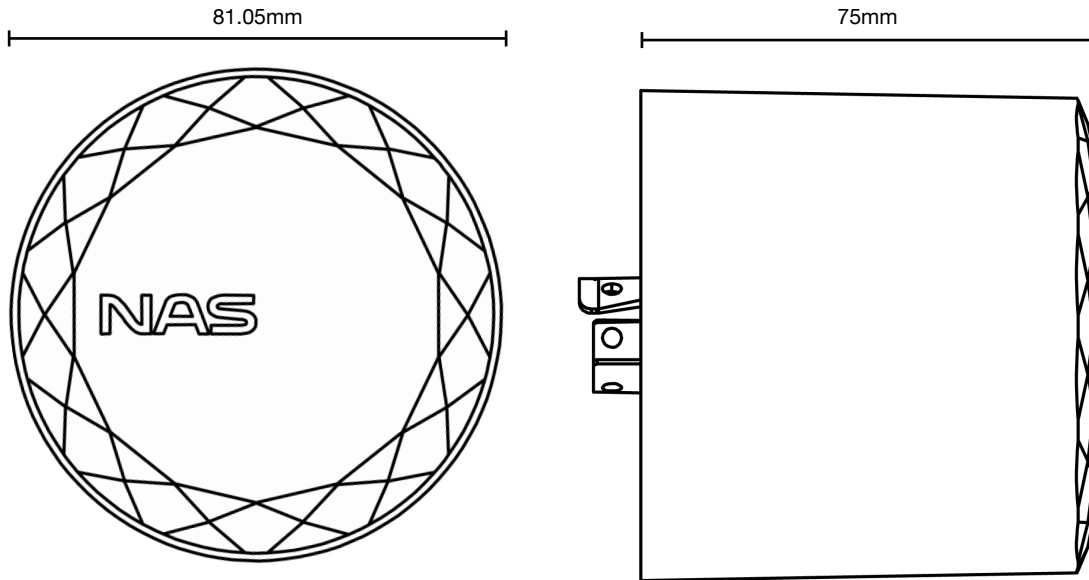
- Line voltage
- Power
- Lamp/driver fault
- Control gear faults
- Controller tilt angle, collision event
- GPS position*

* with GPS option

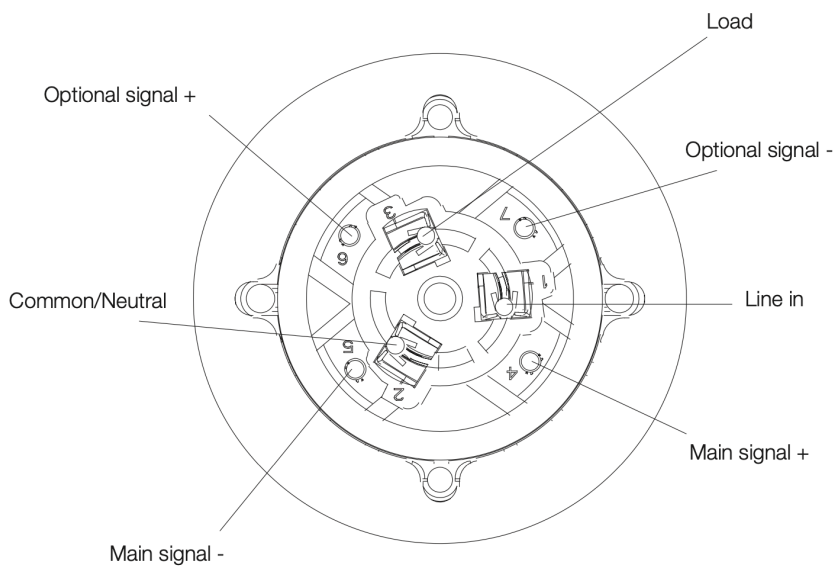
Technical Data

Supply				
Power supply	230 VAC (min 96 VAC- max 285 VAC)			
Max power consumption	2 W			
Surge protection	4500 V			
Communication	LoRaWAN	NB-IoT	DECT NR+	NanoLite™
Network interface	LoRaWAN 1.1 Class C	3GPP LTE release 14 Cat-NB1 and Cat-NB2 compliant	DECT-2020 NR	n/a
RF Frequency	868MHz / 915MHz / 923MHz	Cat-NB1/NB2: B3, B8, B20 1710-1880, 880-960, 791-862MHz	NR+ band: 1, 2, 9 1880-1930MHz	
Rx Sensitivity	-137 dBm @ 125kHz BW SF12	-108 dBm sensitivity (Cat-M1) for low band, -107 dBm for mid band	-103 dBm	
Tx power	up to +22 dBm (depending on region)	up to +23 dBm	up to +19 dBm	
Network security	Encrypted communication based on security keys (AES128-bit)	APN / VPN	AES128-bit	
GPS	GPS/Glonass/BeiDou/QZSS *	GPS/Glonass	GPS/Glonass	GPS/Glonass/BeiDou/QZSS *
SensorLink™ *	SensorLink™ Mesh networking		n/a	SensorLink™ Mesh networking
LumaLink™	Local configuration, diagnostics and firmware updates			
Firmware update	OTA (2.4 GHz)			
Interfaces				
DALI Control Device	Controls up to 8 DALI ballasts.			
DALI PSU	Internal 18V, auto-detects external supply			
Analog interface	0 .. 10 V			
Light sensor	Integrated. Configurable threshold.			
Lamp Control				
Dimming range	0%-100% (linear or logarithmic depending on control gear settings)			
Control interface	DALI-2 / DiiA (IEC 62386) / D4i / Philips SR / 0 .. 10 V			
Metering				
D4i reported parameters	V, W, Wh, and PF, lamp-on time			
Internal measured parameters	V, W, Wh, and PF, lamp-on time			
Internal measurement accuracy	3%			
Timing				
Real Time Clock (RTC)	Yes, supercap backup			
Environmental				
Ingress protection	IP66 (IEC 60529)			
Impact protection	IK09 (IEC 62262)			
Operating temperature	-20°C ... +60°C			
Mechanical				
Weight	149 g			
Dimensions	81.05 mm x 75 mm			
Body material	ABS			
Connector	ANSI C136.41			
Compliance				
Standards	EN 61347-1, EN 61347-2-11, EN 300220, EN 62368, EN 301489, EN 62479, EN 50581			
Certifications	CE, SR Signify			

Mechanical Dimensions



Wiring Guide



Ordering Info

Order code **UL2024** **A** # **P** # **0006** **WW**

Communication type

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
NB-IoT *band selection in options field	N
DECT NR+	G
NanoLite™ (without communication)	Y

Options

Default control interface: DALI (configurable via software)	D
Default control interface: Analog (configurable via software)	A
GPS (included with NB-IoT and DECT NR+)	P
Sensorlink (not available with DECT NR+)	S
B8 900MHz	B8
B3 1800MHz	B3
B20 800MHz	B20

Packing Quantity

Sample	SS01
Single packaging	0001
Multipack 6pcs	0006