Schréder
Experts in lightability™

DATASHEET

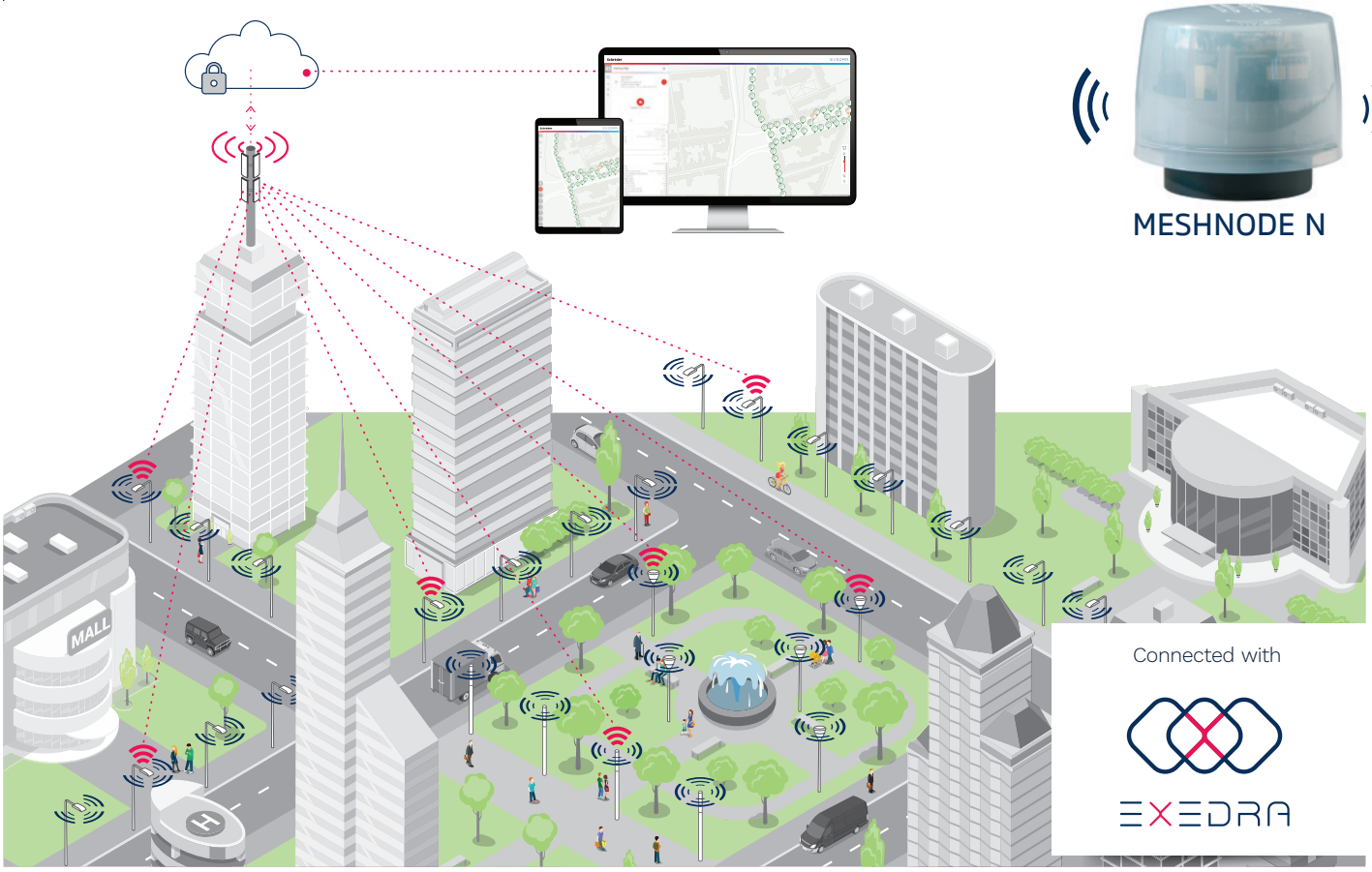
OWLET IV NEMA SAM luminaire controllers

OWLET IV luminaire controllers operate Schréder's luminaires and luminaires from third parties through the NEMA receptacle. They offer easy installation and have fast plug-and-play commissioning. OWLET IV controllers use both cellular and mesh radio networks, optimising geographical coverage and redundancy for continuous operation. DATALIFT use mesh network to aggregate information from a cluster of MESHNODEs, and forward this on to the IoT platform using cellular connectivity.

Among other features, OWLET IV controllers use advance cybersecurity mechanisms to protect the deployment in the city and provide accurate power outage information to city's streetlight managers. OWLET IV controllers are managed with EXEDRA, Schréder's advanced smart lighting management platform.

DATALIFT N

MESHNODE N



Connected with

EXEDRA

Key advantages

- **Auto-commissioning**
  Easy installation and plug-and-play
- **Auto-geolocation**
  GPS-location detection and time synchronisation
- **Real time dynamic lighting**
  Mesh technology to broadcast sensor triggering event locally within a cluster of luminaire controllers
- **Last gasp messaging**
  Power outage detection allowing a last message when power cuts off
- **Asset management**
  Automatic device detection via RFID tag or asset data import
- **Tunable white**
  Ability to control luminaires with variable colour temperature (DT8)

Features

- Gateway less hybrid network architecture using 6LowPAN Mesh network & cellular connectivity
- Built-in GPS
- Built-in RFID reader for asset identification
- Built-in photocell to control each luminaire based on local ambient light level
- Embedded self-test capability to check installation
- Dimming interface automatic detection: DALI or 0-10V
- Extra digital input for auxiliary sensor (occupancy, etc.)
- Offering responsive light-on-demand use cases triggered by local sensors
- +/- 1% metering accuracy
- Surge protection
- Reduced inrush current due to zero-crossing detection
- End-to-end encrypted communication
- Over-the-Air firmware update

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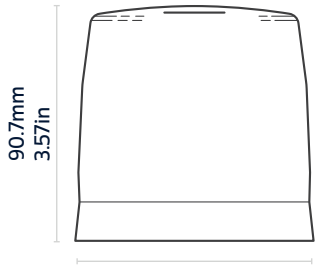
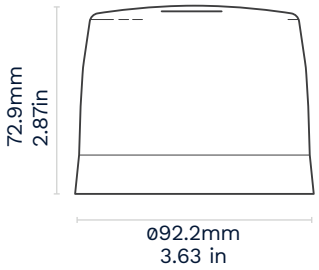


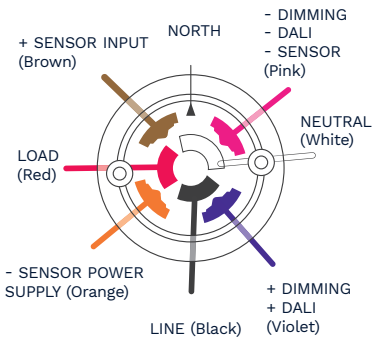
DATALIFT N



MESHNODE N

Electrical connections

NEMA TWIST LOCK (TOP VIEW) ANSI C 136.41



Metering and accuracy

Measured parameters	Power, Voltage, Current, Power Factor, Energy, Dimming level, Cumulative burning hours, Internal temperature
Fault monitoring	Abnormal power consumption, Under/over input voltage, Low-power factor, Driver/ light source failure, Relay, Temperature
Integrated energy metering accuracy	+/- 1% for load >= 15 W +/- 5% for load < 15 W

Mains voltage

Voltage (L - N)	110-277 V CA ±10%
Frequency	50/60 Hz ±5%
Max. load current	7.5 A
Max. power at 7.5 A	240 V x 7.5 A = 1800VA
Surge immunity	6KV/3KA (Designed according to Ansi C136.10-2017)

Housing

Material	Makrolon 6557 Transparent, UV stable, Flame retardant
Colour	RAL 7042 traffic grey
Protection class	Ingress protection rating IP66 / DIN EN 60529
Impact protection	IK 08

Average power consumption

Operating wattage	<2 W

Operating conditions

Ambient temperature (ta)	-40°C to +65°C -40°F to 149°F
Relative humidity	5% to 90%

Standards & certificates

Approvals	FCC
Standards	FCC Part 15
EMC	FCC part 15B, ICES-003
Radio	FCC 47 CFR Part 15 Subparts B and C FCC Parts 22, 24 and 27 RSS-210, RSS-247, RSS-132, RSS-133, RSS-139
DALI	IEC 62386-101/103
Human exposure	ANSI C95.1
Connector	Compatible with ANSI C136.41 and ANSI C136.10
Electrical safety	IEC 61347-1:2015 IEC 61347-2-11:2001 UL-773

Radio communications

Low-power mesh	IPv6, RPL, 6LowPAN, MAC - IEEE 802.15.4e, PHY – IEEE 802.15.4.g, 2.400 MHz a +15 dBm
Cellular modem (DATALIFT only)	LTE-FD: B2,B4,B7 and B28 WCDMA: B2,B5 and B8 GMS/EDGE: GSM-850, PCS-1900
RFID	13.56 MHz (ISO/IEC 15693)

Communication parameters

	LTE/ UMTS/ GSM	Wi-SUN	RFID	GNSS
Frequency	700 to 2600 MHz	2.4 GHz	13.56 MHz	1598.0625 to 1609.3125 MHz
Maximum power of transmission	2.3dBm / 33dBm (GSM)	15 dBm	30 to 33 dBm	NA
Modulation method	OFDM / QAM / QSPK / 8-PSK	2-FSK	OOK	BSPK

DALI interface

Protocol	Compliant to IEC62386 Ed. 2
ESD rating	4kV (according to EN61000-4-2)
Protection	Interface is short circuit protected
Isolation	3108V to AC mains
Built-in DALI Bus supply current	maximum 250mA / guaranteed 16mA (4 DALI devices)

0-10V interface

Protocol	Designed according to IEC60929 (Annex E)
Min. control voltage	0.3V
Load capacity	8 drivers
ESD rating	4kV (according to EN61000-4-2)
Isolation	3108V to AC mains

Sensor auxiliary power supply

12Vdc ±1V, 4mA max.

GNSS (Global Navigation Satellite System)

Supports	GPS system (L1C/A signals), Glonass system (L1OF signal), and SBAS (Satellite Based Augmentation System)
Position accuracy	Up to 2.5m/8ft (with > 6 satellites)

Security features

Authentication	Based on unique X.509v3 device certificates Mesh Access Control using IEEE802.1x and EAP-TLS
Encryption	ECC P256 used in TLS X509v3 AES-CCM-128 based Mesh Frame Security RSA-2048 used for firmware signing
Cipher suites	TLS_ECDHE_ECDSA_WITH_ AES_128_CCM

Ordering information

Model	Part number	Description
DATALIFT N	03-65-053	2.4GHz Mesh, Cellular LTE
MESHNODE N	03-65-058	2.4GHz Mesh