

RF3 – OLC300S / GATEWAY GW1

- Suitable for all luminaire types
- Widely applicable and expandable
- Nodes built into the luminaires
- No external antenna required
- 868 MHz / MyriaMesh Network Technology

OLC300S



GW1



The RF3 system

The RF3 system consists of the OLC300S outdoor lamp controller (OLC) and the Gateway GW1. The OLCs in the luminaires of the RF3 network are wirelessly connected via Radio Frequency signals at 868 MHz. They automatically build a network.

The network remains operational in the event of one or more OLCs failing, for example due to a defective mast fuse, phase or group. The network is self-repairing because the functions are taken over by other OLCs. Even if a gateway fails, communication is taken over by another gateway and the network continues to function.

The RF3 network can be expanded indefinitely by adding OLCs and gateways. There is no hard limit on the number of OLCs per gateway. In practice, we assume 500 OLCs per gateway for large-scale application.

The OLC300S

The OLC 300S RF is a lamp controller for remote control, dimming, monitoring and management of public lighting. This OLC is suitable for all types of aluminum and plastic luminaires and can control drivers based on DALI or 1-10 Volt. The OLC300S has a relay for switching the lighting and a digital input for additional Smart City functions. The OLC300S is built into the fixture without drilling, along with the antenna.

The OLC300S sends the following information to the Luminizer platform:

- Operating hours of the lamp and weighted operating hours
- The set and actually followed dimming schedule
- The current measurement
- DALI status information of lamp and driver

The Gateway GW1

The Gateway GW1 unlocks the wireless OLC lighting network with the Internet. With a built-in 2G / 3G / 4G router, a wireless Private APN connection with the management software is maintained when the lighting is on. The gateway receives the settings via this secure connection and reports information about the lighting and any defects. In case of calamities, the commands given from the central, such as "all lighting to 100%", are carried out by the gateway via an "override".

- Easy mounting in a cabinet or on the mast
- Function transfer by another gateway in case of failure

LUMINEXT OLC 300S RF OUTDOOR LAMP CONTROLLER

Model	OLC300S RF
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ELECTRICAL DATA

Mains Supply	230Vac (+/-10%) 50Hz
Max Lamp Power	200W
Power Consumption	1W
Safety	Class II (Double insulated), Surge protection 1kV (L/N)

HOUSING

Material	ABS PA-765
Protection	IP20
Wiring	1.5mm ²
Dimensions	150 x 40 x 28 (l x w x h)
Weight	110 grams

ENVIRONMENT

Temperature	-25°C to +70°C
Relative Humidity	10% to 90%

FEATURES

Dimming Interface	DALI, IEC 62386, support 1 driver. Analog 1-10V linear
Digital Input	Voltage free contact
Relay	Switched 230Vac outlet, Max switching current 3A, Max switching capacity 720VA
Measurements	Integrated current measurement accuracy 3%

COMMUNICATON

RF Communication	Mesh 868MHz ISM band 869.400-869.650MHz. Transmitter duty cycle <10% (4% at a TDMA cycle time of 5sec).
RF Protocol Software	MyriaMesh
Antenna	SMA Connector for Antenna (Antenna must be placed inside the fixture)
Security	AES CCM encryption according to NIST SP 800-38C via 128-bit AES key. The CCM encryption combines the encryption of the network messages with authentication by means of a <i>message authentication code</i> (MAC). Thus, the network communication is protected against eavesdropping, modification and forgery of messages. Only Tokens present on a white-list are considered for processing.
Related Products	The OLC300S must be used with a GW 1 Smart OVL Gateway or GW Smart OVL RF3 4G Gateway. Per 500 OLC's one Gateway is required.

STANDARDS

Approval	RED Directive 2014/54/EU, RoHS Directive 2011/65/EU, WEEE Directive 2012/19/EU
Radio	EN 300 220-2, EN 301 489-1, EN 301 489-3
EMC	EN 61000, EN 55022 class B
Safety	EN 60950-1

ORDER INFORMATION

Productnumber	OLC300S RF 10.70.300 Internal antenna 40.20.300
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The EU-Declaration of Conformity is available on <https://www.luminext.eu/en/rf3-system/>

LUMINEXT GW1 SMART OVL GATEWAY

Model	GW1 Smart OVL GATEWAY
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ELECTRICAL DATA

Mains Supply	230Vac (+/-10%) 50Hz
Power Consumption	< 7W
Safety	Class II (Double insulation), Overvoltage category II (additional protection if needed)

HOUSING

Material	ABS UL94 V-0
Protection	IP20
Wiring	1.5mm ²
Dimensions	150 x 100 x 30 (l x w x h)
Weight	310 grams

ENVIRONMENT

Temperature	-25°C to +70°C
Relative Humidity	10% to 90%

FEATURES

Modem / router	2G / 3G GSM/GPRS/EDGE: Dual band GSM 900/1800Mhz UMTS/HSPA+: Dual band UMTS 900/2100Mhz
Antenna	SMA connector (for external antenna to Mobile network)
Output	Relay output with NO and NC contacts (voltage free) Max 3A / 230Vac

COMMUNICATON

RF Communication	Mesh 868Mhz ISM band 869.400-869.650Mhz. Transmitter duty cycle <10% (4% at a TDMA cycle time of 5sec).
RF Protocol Software	MyriaMesh
Antenna	SMA connector for External MyriaMesh antenna (article 40.10.00)
Security	AES CCM encryption according to NIST SP 800-38C via 128-bit AES key. The CCM encryption combines the encryption of the network messages with authentication by means of a <i>message authentication code</i> (MAC). Thus, the network communication is protected against eavesdropping, modification and forgery of messages. Only Tokens present on a white-list are considered for processing.
Related Products	The Gateway GW1 RF must be used with an OLC300S. Per 500 OLC's one Gateway is required.

STANDARDS

Approval	RED Directive 2014/54/EU, RoHS Directive 2011/65/EU, WEEE Directive 2012/19/EU
Radio	EN 300 220-2, EN 301 511, EN 301 908-1, EN 301 908-2, EN 301 489-1, EN 301 489-3
EMC	EN 301 489-52, EN 62311
Safety	EN 60950-1

ORDER INFORMATION

Productnumber	GW1 Smart OVL Gateway 20.20.300S Internal antenna 40.20.300 IP65 housing (article 75.30.300) mounting bracket (article 75.30.100) Vandal proof cabinet antenna (GSM) (article 40.10.005)
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LUMINEXT GW Smart OVL RF3 4G GATEWAY

Model	GW Smart OVL RF3 4G Gateway
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ELECTRICAL DATA

Mains Supply	230Vac (+/-10%) 50Hz
Power Consumption	< 7W
Safety	Class II (Double insulation), Overvoltage category II (additional protection if needed)

HOUSING

Material	ABS UL94 V-0
Protection	IP20
Wiring	1.5mm ²
Dimensions	150 x 100 x 45 (l x w x h)
Weight	350 grams

ENVIRONMENT

Temperature	-25°C to +70°C
Relative Humidity	10% to 90%

FEATURES

Modem / router	2G / 4G-LTE GSM/GPRS/EDGE: Dual band GSM 900/1800Mhz LTE: Pentaband 700(Bd28) / 800(Bd20) / 900(Bd8) / 1800(Bd3) / 2100Mhz(Bd1)
Antenna	2 x SMA Connector (1 x Main, 1 x Diversity)
Output	Relay output with NO and NC contacts (voltage free) Max 3A / 230Vac

COMMUNICATON

RF Communication	Mesh 868Mhz ISM band 869.400-869.650Mhz. Transmitter duty cycle <10% (4% at a TDMA cycle time of 5sec).
RF Protocol Software	MyriaMesh
Antenna	SMA Connector for External MyriaMesh antenna (article 40.10.00)
Security	AES CCM encryption according to NIST SP 800-38C via 128-bit AES key. The CCM encryption combines the encryption of the network messages with authentication by means of a <i>message authentication code</i> (MAC). Thus, the network communication is protected against eavesdropping, modification and forgery of messages. Only Tokens present on a white-list are considered for processing.
Related Products	The GW Smart OVL RF3 4G Gateway must be used with an OLC300S. Per 500 OLC's one Gateway is required.

STANDARDS

Approval	RED Directive 2014/54/EU, RoHS Directive 2011/65/EU, WEEE Directive 2012/19/EU
Radio	EN 300 220-2, EN 301 511, EN 301 908-1, EN 301 908-2, EN 301 489-1, EN 301 489-3
EMC	EN 301 489-52, EN 62311
Safety	EN 60950-1

ORDER INFORMATION

Productnumber	GW Smart OVL RF3 4G Gateway 20.20.310S Internal antenna 40.20.300 IP65 housing (article 75.30.300) mounting bracket (article 75.30.100) Vandal proof cabinet antenna (GSM) (article 40.10.005)
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INFORMATION

ORDER INFORMATION

Product	Product number
OLC 300S RF	10.70.300
Internal antenna	40.20.300
GW1 Smart OVL Gateway	20.20.300S
GW Smart OVL RF3 4G Gateway	20.20.310S

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