

# SELF-TESTING NON-MAINTAINED EMERGENCY LUMINAIRE WITH WIRELESS COMMUNICATION



## TECHNICAL CHARACTERISTICS

	<b>GRL-29/WL</b>
OPERATION VOLTAGE	220-240V AC/50-60Hz
MAXIMUM POWER CONSUMPTION	12.6W/13.1VA
SUPPLY CURRENT	57 mA
Prated/Irated	10W / 500mA
Iemergency	260mA per Lamp
WIRE CROSS SECTION	Power Cables: 0.8-2.5mm <sup>2</sup>
U-OUT	30V
TX/RX FREQUENCY RANGE	868.150-868.450MHz
TX POWER	11dBm
BATTERY (DJWS12-7.0)	Sealed Lead-Acid 12V/7Ah, 0 ~ 40°C
MAX. CHARGING VOLTAGE IN NORMAL CYCLE	14.5V
MAX. VOLTAGE IN STANDBY OPERATION	13.8V
MIN. - MAX. CHARGE CURRENT / VOLTAGE RANGE	230 - 710 mA / 10.5 - 14.5V
MIN. - MAX. DISCHARGE CURRENT / VOLTAGE RANGE	755 - 1100 mA / 13.8 - 10.5
BATTERY PROTECTION	Deep discharge and overcharge protection / the control gear will recharge the battery normally after the test of 22.3
Rated CURRENT @12V	1A
OPEN CIRCUIT VOLTAGE	23.5V DC
CONTROL GEAR FUSE	8A/250V FB, 5x20mm
CONTROL GEAR MAX. TEMPERATURE	78°C at R11
CONTROL GEAR MIN/MAX VOLTAGE LOAD OUTPUT	17 / 23V
INDICATIONS - CONTROLS	POWER-CHARGE indicator, LAMP FAULT-BATT. FAULT indicator, TEST button
CHARGING TIME	24h
MINIMUM AUTONOMOUS DURATION	180 min
LIGHT SOURCE	White LEDs
EMERGENCY ILLUMINATION	1760lm
DEGREES OF COVER PROTECTION	IP42
PRODUCED IN ACCORDANCE WITH	EN 60598-1, EN 60598-2-22, EN 55015, EN 61547, EN 61000-3-2 EN 61000-3-3, ETSI EN 303 446-1 V1.1.0, ETSI EN 300 220-2 V3.1.1
OPERATION TEMPERATURE RANGE	5 to 40 °C
RELATIVE HUMIDITY	Up to 95%
CONSTRUCTION MATERIALS	ABS/PC, PC
EXTERNAL DIMENSIONS	302 x 94 x 345 mm
TYPICAL WEIGHT	3463gr.
GUARANTEE	3 years (1 year for the battery)

CONTROL GEAR WITH AUTOMATIC TEST FUNCTION

**EL-T**

The lamp controlgear relies upon the luminaire enclosure for protection against accidental contact with live part (7.2 BS EN 61347-2-7)


The controlgear is proof against supply voltage polarity reversal

The controlgear is suitable for LED module only

The controlgear can supply the LED modules only during emergency operation

The controlgear has mains-connected windings of transformer

## LED MODULE CHARACTERISTICS

Manufacturer	Olympia Electronics S.A.
Model Number	2002163
Voltage Range	19-23V
Nominal Power	4.9W
Supply Current	260 mA on each lamp
Max Working Voltage for Proper Insulation	700 V
LV Supply - Control Conductors Insulation Type	Basic Insulation
Connections	Cable connection between main pcb and led module
Temperature (tc)	60 °C max. across the board
LED Module Type	Built-in 

**Thank you for your trust in our products**  
**Olympia Electronics - European manufacturer**

### **GENERAL**

These luminaires are used indoors (ta 40°C) where emergency light is needed. Each luminaire must be connected permanently to the mains power supply.

### **OPERATION DESCRIPTION**

When the unit is connected to the mains power supply (after connecting the battery) the indicator LAMP FAULT – BATT. FAULT remains OFF whereas the indicator POWER CHARGE blinks to indicate that the batteries are charging. When the batteries are fully charged this indicator will light permanently. If this indicator does not light then probably the battery has not been connected. If the batteries are connected and the indicator does not light then contact a qualified service technician for assistance. The charging procedure is monitored by a microprocessor and is based on a 3 stage cycle thus ensuring a fast and full charge of the battery. The charge current is supplied by a high efficiency switch mode power supply which ensures perfect charging even during the fluctuations of the mains power supply.

### **MANUAL TESTING**

Is accomplished by briefly (<1 sec.) pressing the TEST button. This permits the user to test the good operation of the luminaire's emergency circuit. The unit simulates a power failure and the lamps are lit using the batteries. This manual test does not affect the automatic test.

### **DIMMING OPTION**

When the luminaire is in emergency mode, with corresponding pressings of the button, we can choose the illumination of 100%, 50%, 33% or turned off, either to increase the autonomy time or not to consume the battery power unnecessarily. This option is canceled when the network is restored.

### **WIRELESS COMMUNICATION**

The WL luminaire models have the ability to communicate over the air with Olympia's control panels for wireless emergency luminaires. The luminaires can also communicate with a PC/laptop through a gateway (Ethernet, Wi-Fi, USB). For more information, please refer to Wireless Emergency Lighting guides, available on the company's website.

### **LAMP TESTING**

The luminaire tests the good condition of the lamps in emergency mode and warns the user for probable malfunction. If a lamp is found faulty then the LAMP FAULT indicator starts to blink. To verify which lamp is faulty use the TEST button. If the faulty lamp is replaced then the error is automatically restored and the indicator is turned OFF.

### **AUTOMATIC EMERGENCY CIRCUIT TEST**

The unit automatically tests the emergency circuit every 15 days (if the battery and mains power are connected). During this test the lamps are turned ON for 3 seconds using the batteries. In some cases this function might not be acceptable (i.e in cases this function might not be acceptable (i.e in cinema theaters) so the installer must take this into account during the installation.

### **AUTOMATIC DURATION TEST**

This test is conducted every 6 months by simulating a power failure, if the battery and mains power supply are connected. The unit lights the lamps using the charged battery and counts the time until the stated duration. If the lamps are ON during the end of the test then the unit is restored to its normal operation (lamps OFF and battery charging). If the lamps go OFF before the end of the test then the unit is restored to its normal operation but the LAMP FAULT / BATT. FAULT indicator is lit to show that there is a problem with the battery and that the battery must be replaced. Let it be noted that this duration test is also done during every long power failure. If the power failure lasts for a long time and the luminaire has entered the BATTERY CUTOFF mode and the duration measured is not correct then the fault indicator will light when the power is restored.

### **ERASING ERRORS**

Erasing errors is accomplished with a prolonged pressing of the TEST button (>5 sec) when the unit is connected to the mains power supply. The fault indicated with the indicator LAMP FAULT / BATT. FAULT will be erased. If the cause of the fault has not been restored (i.e burned lamp) then the indicator will light again. If the fault was caused by a low emergency duration and you erase the error then this will be indicated again during the next duration test after 6 months. In this case (for duration errors) it is vital to replace the battery before erasing the error (the error is automatically erased if the mains power and the battery are disconnected).

### **WARNING !!!**

1. Every test, installation or maintenance procedure must be done only by qualified personnel.
2. The unit must be connected to the mains power supply using a line fuse rated accordingly.
3. The replacement of the battery and the light source must be done using parts of the same type, by the manufacturer or by a competent person.
4. If the luminaire must be isolated from the mains power supply for more than 2 months then the batteries must be disconnected by removing the battery connectors.
5. **It is not allowed to discard batteries in to common trash bins, they must be discarded only in battery recycling points. Do not incinerate.**



## Wireless Communication LED indications (interior)

The **top LED** (LD3-green) indicates the network connection status.

This LED may blink according to the following patterns:

1. Steady ON: The device has established direct connection to a Gateway device, and at least one more Gateway device is available for alternate routing (false condition).
2. Rapid flash [5 times/s]: The device has established direct connection to a single Gateway device.
3. Fast flash [2 times/s]: The device has established connection to a Router device and at least one more Router device is available on the same hop level, as an alternate route (redundant connection).
4. Moderate flash [1 second ON / 1 second OFF]: The device has established connection to a single Router device, and no alternatives exist on the same hop level.
5. No light: The device is disconnected.

The **middle LED** (LD2-green) indicates the received signal strength (RSSI) of the router module.

This LED may blink according to the following patterns:

1. Very fast flash [5 times/s]: received signal strength is excellent.
2. Fast flash [2 times/s]: received signal strength is good.
3. Moderate flash [1 second ON / 1 second OFF]: received signal strength is acceptable for reliable communication.
4. Very slow [2 seconds ON / 2 seconds OFF]: received signal strength is not acceptable for reliable communication, or no signal.

The **bottom LED** (LD1-red) indicates operation status.

This LED may blink according to the following patterns:

1. Very fast blink [5 times/s]: the module is not initialized correctly. In this case you have to press for more than 2 seconds the push button, in order to reset the module (loads default settings).
2. Moderate flash [2 times/s]: The module is properly operating.

## Button functionality:

The on-board button has the two following functions:

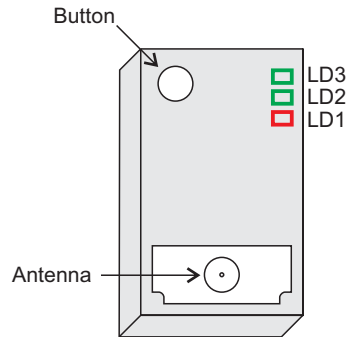
1. Short press (<2"): a status message will be sent to the Gateway device of the wireless network.
2. Long press (>2"): Loads factory default settings to the module.

### Default settings (V1 Wireless System):

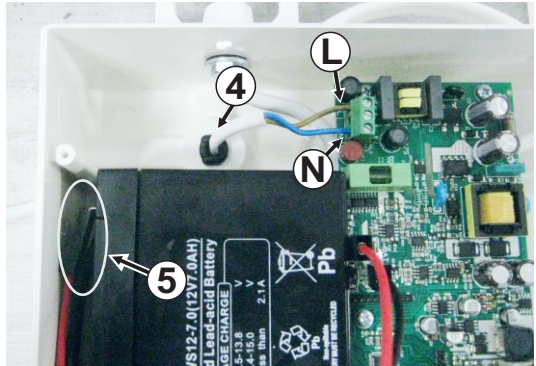
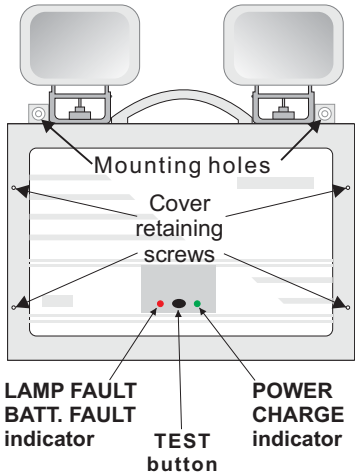
- SID: 00000001
- RF Channel: 13 ( 869.525MHz )

### Default settings (V2 Wireless System):

- SID: 00000001
- NKEY: 00000000
- RF Channel: 2 ( 868.150MHz )



## INSTALLATION PROCEDURE (wall installation only)



1. Use the supplied mounting accessories to mount the device.
2. Remove the four cover retaining screws.
3. **Always use in any case round mains cable, with external diameter of 6-9mm (H05RN-F type 2x1mm<sup>2</sup> or any other type, at least equal to it's mechanical and electrical properties). ATTENTION!! The cable must not be deformed in any way (This requirement is important to ensure the tightness isolation IP).** Install the cable gland, pass the round cable through and tighten it all the way.
4. Connect the cables to the respective positions in the terminal block **L for phase and N for neutral**.
5. Install the battery cable connectors to the batteries taking care of the polarity, black cable (-) and red cable (+).
6. Reinstall the front cover and fasten the retaining screws. (Tightening torque 1Nm).

### WARNING!!

After the installation has finished, charge the batteries for at least 24 hours so as to obtain the rated autonomous duration.

## INDICATION LED STATUS (with the mains power supply connected)

POWER / CHARGE		LAMP FAULT / BATT. FAULT	
○	Disconnected battery / not charging	○	Normal operation mode
●	Charged battery	●	Low emergency duration (replace battery)
☼	Battery under charge	☼	Lamp fault (Check lamps and replace if needed)

○ Indicator OFF ● Indicator ON ☼ Indicator Blinking

### BATTERY REPLACEMENT

*It can be done only by a competent person and after the mains interruption.*

1. Follow the step 2 of the installation procedure.
2. Disconnect the cables and remove the old battery.
3. Connect the new battery with the same type (step 5 of the installation procedure) and place it in the position of the old one.
4. Follow the step 6 of the installation procedure and power the device.

**NOTE:** LED= Light Emitting Diode

#### LABELING EXPLANATION:

**X:** Self contained

**0:** Non Maintained (\*)

**A:** Including test device

**B:** Including remote test mode

**C:** Including inhibiting mode

**F:** Automatic test gear complying with IEC 61347-2-7 denoted EL-T

**180:** 3 hours duration

**X|0|A|B|C|F|180**

(\*) Non Maintained operation: The luminaire lights its illumination source, only in power supply's failure.



The light source of this luminaire is not replaceable when the light source reaches its end of life the whole luminaire shall be replaced.



Do NOT stare at operating light source. The luminaire should be positioned so that prolonged staring into the luminaire at a distance closer than 1.2m is not expected.  $E_{thr} = 904.8 \text{ lux}$ .

NOTE Maintenance of the declared insulation barrier for the luminaire can also be dependent on other external components/products connected to the same bus. This is the responsibility of the control system designer, not the luminaire manufacturer.

### WARRANTY

Olympia Electronics guarantees the quality, condition and operation of the goods. The period of warranty is specified in the official catalogue of Olympia Electronics and also in the technical leaflet, which accompanies each product. This warranty ceases to exist if the buyer does not follow the technical instructions included in official documents given by Olympia Electronics or if the buyer modifies the goods provided or has any repairs or re-setting done by a third party, unless Olympia Electronics has fully agreed to them in writing. Products that have been damaged can be returned to the premises of our company for repair or replacement, as long as the warranty period is valid.

Olympia Electronics reserves the right to repair or to replace the returned goods and to or not charge the buyer depending on the reason of defection. Olympia Electronics reserves the right to charge or not the buyer the transportation cost.

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