

## OWA FL LED



## INSTALLATION AND MAINTENANCE MANUAL

## MOUNTING TYPE

**FL** - (FLUSH MOUNTED) mounting in a suspended ceiling

## SYSTEM VARIANT

- ST** - STANDARD - tests commissioned manually (see menu and magnetic switch)
- AT** - AUTOTEST - internal components, battery and light source tests being performed automatically
- CT** - CENTRALTEST - internal components, battery and light source tests being performed on command from the main unit of central management system

## OPERATING MODE

**NM** - NON-MAINTAINED - luminaire operates in emergency mode after power supply failure

## OPTICS

- AR** - AREA - open area optics for high ceiling altitudes or for the illumination of fire protection equipment
- AP** - AREA PLUS - open area optics for low and medium ceiling altitudes
- RP** - ROAD PLUS - evacuation (corridor) optic for low and medium ceiling altitudes

## TESTS

The microcontroller-based control and test unit performs automatically (AT) or on order from the central management system (CT) or by manual execution (ST) two types of tests:

**TEST A** - internal components and light source test lasting 60 seconds - performed every 30 days for the AT system variant

**TEST B** - internal components, light source and operation duration test (till the battery is fully discharged) - performed every 360 days for the AT system variant

## TECHNICAL DATA

Supply voltage	230V AC 50/60Hz		
Power consumption	< 7VA		
Protection class	I		
Ingress protection light source/emergency module	IP65 / IP20		
Light source type	LED module <sup>1)</sup>		
Light source power	1W, 2W, 3W		
Luminaire colour	<b>RAL9016 (white)</b>	<b>RAL7042 (gray)</b>	<b>RAL9005 (black)</b>
Luminous flux (1W)	<b>AP: 142lm</b> <b>AR: 148lm</b> <b>RP: 145lm</b>	<b>AP: 136lm</b> <b>AR: 142lm</b> <b>RP: 139lm</b>	<b>AP: 123lm</b> <b>AR: 129lm</b> <b>RP: 126lm</b>
Luminous flux (2W)	<b>AP: 233lm</b> <b>AR: 243lm</b> <b>RP: 238lm</b>	<b>AP: 223lm</b> <b>AR: 233lm</b> <b>RP: 228lm</b>	<b>AP: 202lm</b> <b>AR: 211lm</b> <b>RP: 207lm</b>
Luminous flux (3W)	<b>AP: 340lm</b> <b>AR: 355lm</b> <b>RP: 347lm</b>	<b>AP: 326lm</b> <b>AR: 341lm</b> <b>RP: 333lm</b>	<b>AP: 295lm</b> <b>AR: 309lm</b> <b>RP: 302lm</b>

Light source temperature	5700K
Colour rendering index	70
Light source lifespan	> 50 000h
Battery type, capacity	Ni-Cd 1.0Ah, 1.5Ah, 2.5Ah Ni-MH 1.6Ah, 2.1Ah, 4.0Ah
Battery voltage	4.8V
Battery recharging time	< 24h
Emergency operation time	1h, 3h
Ambient temperature range	<b>TS (standard): +5 - +45°C</b> <b>TE (extended): -20 - +45°C</b>
Supply cable cross-section area	0.5-2.5mm <sup>2</sup>

<sup>1)</sup> Non-exchangeable but serviceable light source.

## SAFETY

- During the installation and usage of emergency luminaires, follow the national safety rules as well as generally accepted technical rules.
- Supply voltage should never be removed from the permanent phase by any external switches, relays or contactors (BMS, wall switch, etc.).
- During usage of emergency luminaires keep a register of inspection reports. Luminaire installation or maintenance has to be preceded by turning off the power supply and battery.
- Ensure that all foreign bodies are removed before the luminaire power is switched on.
- The luminaire is to be used undamaged and in accordance with specifications.
- The luminaire is designed for use inside the building.

The above-mentioned luminaire is a fire protection equipment and therefore falls within relevant standards and regulations.



### NOT OBEYING THE SAFETY INSTRUCTIONS AND RECOMMENDATIONS CAN CAUSE LIFE THREAT OR EVEN DEATH

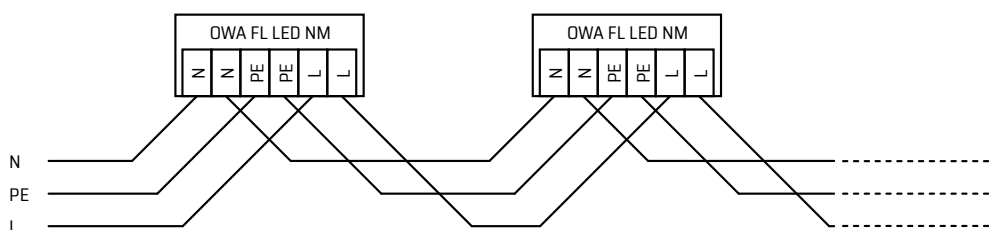
Not obeying this instruction manual can result in luminaire damage and loss of warranty



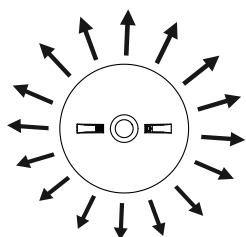
### DO NOT STARE AT THE OPERATING LIGHT SOURCE

The luminaire should be positioned so that prolonged staring into the luminaire at a distance closed than 0.5m is not expected

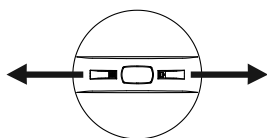
## WIRING DIAGRAM



## OPTICS

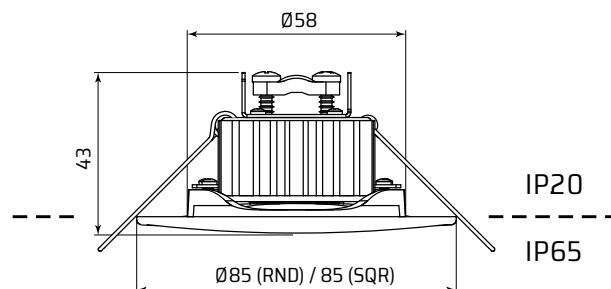


AREA/AREA PLUS



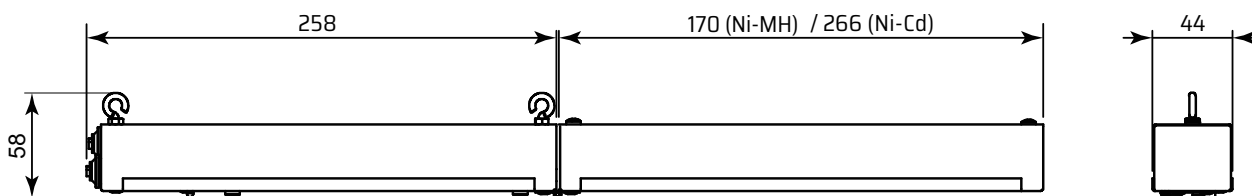
ROAD PLUS

## LIGHT SOURCE DIMENSIONS (mm)

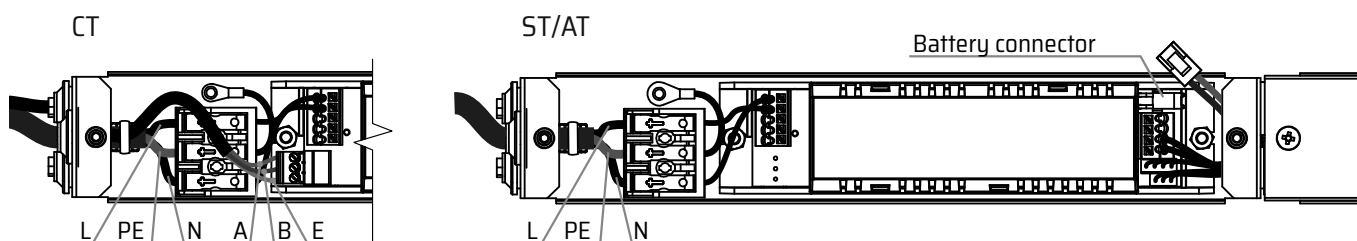


mounting hole diameter:  $\varnothing 65$ -75mm  
 minimal height between a luminaire and a suspended ceiling:  
 for the mounting hole  $\varnothing 65$  mm - 240mm  
 for the mounting hole  $\varnothing 75$  mm - 220mm

## EMERGENCY MODULE DIMENSIONS (mm)

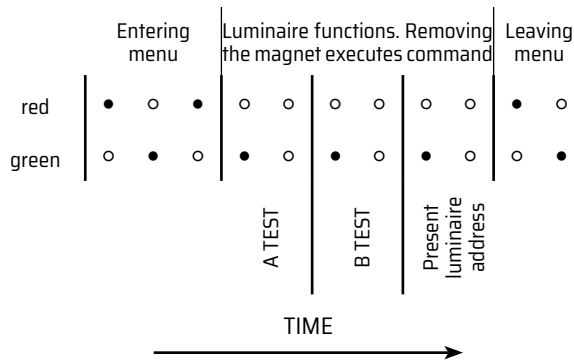


## EMERGENCY MODULE CONSTRUCTION



## LED INDICATORS AND LUMINAIRE CONTROL

All self-contained OWA FL luminaires are equipped with two LED indicators (red and green) and a magnetic switch. The two LED indicators are used to signal the luminaire state as well as with the magnetic switch (marked on luminaire with TEST) are used to display a menu and run specific luminaire functions. Access to manual luminaire control is available by closing and holding a magnet near the magnetic switch (marked TEST). Entering the menu is signalled by three alternate led blinks - red, green, red after which seven green LED blinks appear which mean each of the seven functions: 1 - start functional test (A TEST), 2 - start full test (B TEST), 3 - present luminaire address (CT only). Removal of the magnet during or after each green led illumination is equal to running the specific luminaire command/function.



## LUMINAIRE STATE SIGNALLING

green	red	LED indicators
●	○	luminaire operating properly, battery fully charged
●/●	○	luminaire operating properly, battery being charged
○	●/●	test being executed
○	●	control module malfunction, light source failure, battery disconnected
○	○	emergency operation

○ - off, ● - on, ●/● - blinks

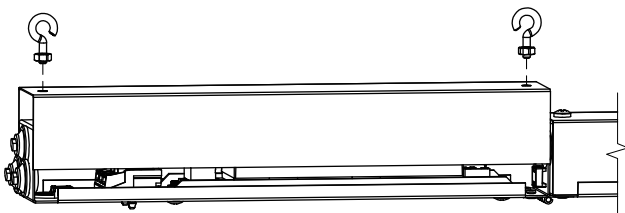


### BEFORE ANY INSTALLATION OR MAINTENANCE OPERATION IS PERFORMED ON THE LUMINAIRE THE POWER SUPPLY SHOULD BE DISCONNECTED.

All installation and maintenance procedures can be performed only by qualified, properly trained and if appropriate, certified staff.

## INSTALLATION

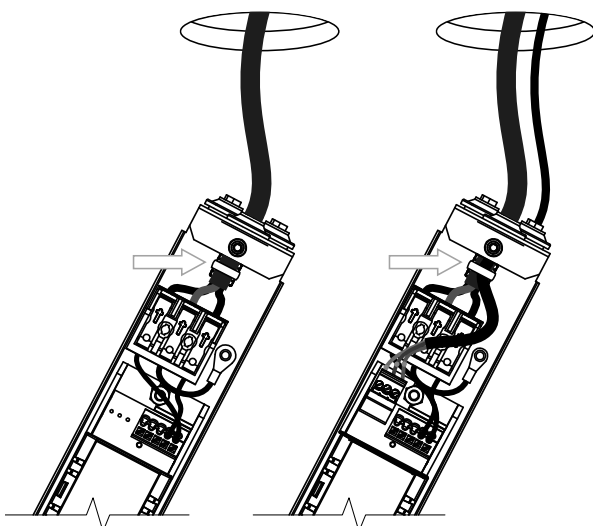
1. Unpack the luminaire after transport and verify its condition.
2. Cut a hole with the Ø65-75mm diameter in the suspended ceiling.
3. Remove the emergency lighting module housing cover.



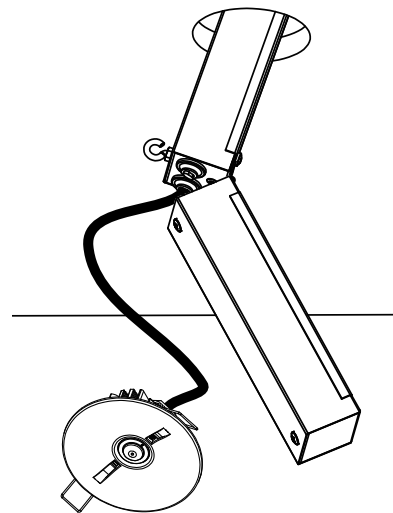
4. Lead the power supply and communication line (CT only) cables from the hole and connect them to the power supply connector according to the wiring diagram, strip 7-8mm of wire copper insulation. After connecting secure the wires with a cable tie as shown in the drawing below.

ST/AT

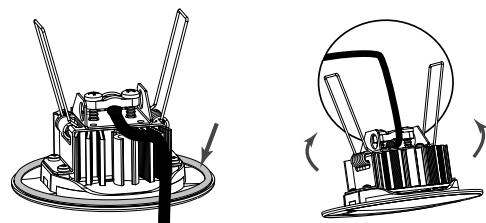
CT



5. Connect the battery plug to the battery socket on the emergency module. Please note that the red wire marks the positive pole of the battery (+). Screw the emergency module housing cover.
6. Place the emergency module in the ceiling.



7. Apply the silicone along the luminaire backside. A sealing is not required when ingress protection IP20 is sufficient. Bend the springs fixing the luminaire upwards and slide the luminaire into previously prepared mounting hole in the ceiling, press it to seal the luminaire. Pay attention to the direction of the luminaire optics (see page 2).



8. Perform the commissioning procedure.

## COMMISSIONING

After all installation procedures are finished, the luminaire operation needs to be verified. Follow the instructions below and pay attention to the state of the led indicators:

1. Switch on the luminaire power supply, leave it for 30 second. In that time red indicator LED should not light and the green one should light constantly or blink.
2. Turn off the luminaire power supply. The luminaire will go automatically into emergency operation; the indication LEDs should remain switched off. The light source should light.
3. Switch power supply again - the luminaire should work as in first point.
4. Perform the battery forming procedure.

## MAINTENANCE

Luminaire should be cleaned with a damp cloth according to building maintenance plan.

Do not use abrasive cleaners, solvents, substances and cleaning agents containing alcohol to clean the light source.

The light source used in this luminaire may only be replaced by the manufacturer, his service agent or a similar qualified person.

**Battery replacement procedure** if nominal emergency operating time isn't met (follow the drawings in installation procedure):

1. Disconnect the battery from the emergency module.
2. Replace it with a new one of the same types as on the battery label.
3. Connect the battery plug to the battery socket on the emergency module. Perform the commissioning procedure.

## BATTERY FORMING

To ensure the battery long lifespan perform a forming procedure. After installation and commissioning follow below instructions:

1. Switch on luminaire power supply. The battery will be charged. During this period no voltage blackouts should occur.
2. After 36 hours turn off luminaire power supply. The luminaire will go automatically into emergency operation and will operate for up to two hours over the rated emergency operation time.
3. Switch the power supply back on after the light source turns off.
4. After 24 hours the battery is again fully charged.
5. Turn off the power supply, luminaire will switch to emergency operation again and will operate until the battery is fully discharged.
6. Turn the luminaire power supply back on.
7. The luminaire will be ready for operation after 24 hours.

## STORAGE

The luminaire should be stored no longer than 6 months from the date of purchase, in a dry place with an ambient temperature range of -10 - +30°C.

## WARRANTY

Warranty is valid and enforceable only when manufacturer's recommendations are preserved, and the installation and usage are proper. Warranty is granted for a period of 12 months from the date of sale, unless the luminaire has been sold under different contract conditions. The warranty is excluded in case of misuse, unsuitable use, wrong connection or mechanical defects of the luminaire caused by the client.