

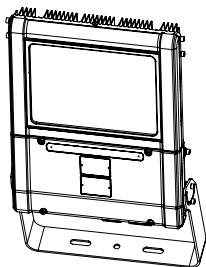
SPI **WARRIOR**

Mid Power Luminaire Range - Installation Guide

This installation guide provides instructions for installing the WARRIOR MP Highbay/ Floodlight series of floodlights.

Text in Italics is specific for Emergency variants

Overview



- 1 Safety Instructions
- 2 Installation
- 3 Maintenance
- 4 Trouble Shooting
- 5 Technical Specification

Important information

The WARRIOR MP series of floodlights/highbay are specialist devices, certified for use in specific operating environments.

The units must be installed in accordance with these instructions, must be correctly certified for the specific operating environment and must be installed by suitably qualified personnel.

If you have any queries about the installation or the certification of the unit please contact Raytec for immediate assistance and advice.

1. Safety instructions

1. Read this leaflet carefully before commencing to install the WARRIOR unit and retain it for future use. Installation can only be carried out by suitably qualified personnel.
2. Check the label to ensure that the mains supply and the ambient temperature present is suitable for the unit being installed.
3. If the WARRIOR unit is to be installed in areas of high vibration, please consult with Raytec.
4. Externally the WARRIOR unit housing is constructed from marine grade aluminium, and toughened glass, stainless steel brackets/fasteners and silicone gaskets, internally there are many non metallic components. The end user must ensure that these materials are suitable for the environment the WARRIOR unit will be installed in.
5. WARRIOR units are designed to withstand marine environments and are tested in accordance with IEC60068-2-52. However if the WARRIOR unit is to be installed in a very high corrosive environment such as **coastal** and **offshore** the following good practice should be followed:

During installing ensure there are no scratches, chips or defects in external paint surface that would allow ingress of water to bare aluminium. If so touch up with suitable paint

During installation apply an anti corrosive jointing compound to screw threads such as PSU cover and external earth points.

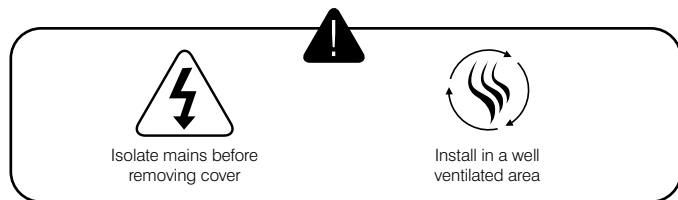
During installation ensure exterior surface of the product is not in direct contact with a dissimilar metal such as galvanised steel. If so fit a nylon barrier to prevent galvanic corrosion.

During maintenance regularly wash down external surface of fitting with clean, fresh water to remove any deposits of mineral salts on the exterior surface.

6. The incoming mains cable should not exceed a temperature rise of 27°C above the ambient conditions; select suitable cable.
7. When the unit is installed correctly and in accordance with these installation instructions it will not harm humans or animals.
8. Before installing emergency luminaires please check the last charge date of the battery. This is shown on the external product packaging and also on the battery label, alternatively consult date shown on the declaration at the back of this leaflet. If the last charge date was in excess of 3 months (if stored at 5°C to 25°C) or 1 month (if stored outside this range) from date of installation, please consult Raytec document 0010-D-00001 Battery Handling Guide

Eye Safety :

Caution – EN62471 Risk Group 2 Classification - The luminaire should be positioned so that prolonged staring into the luminaire at a distance closer than 0.230m is not expected

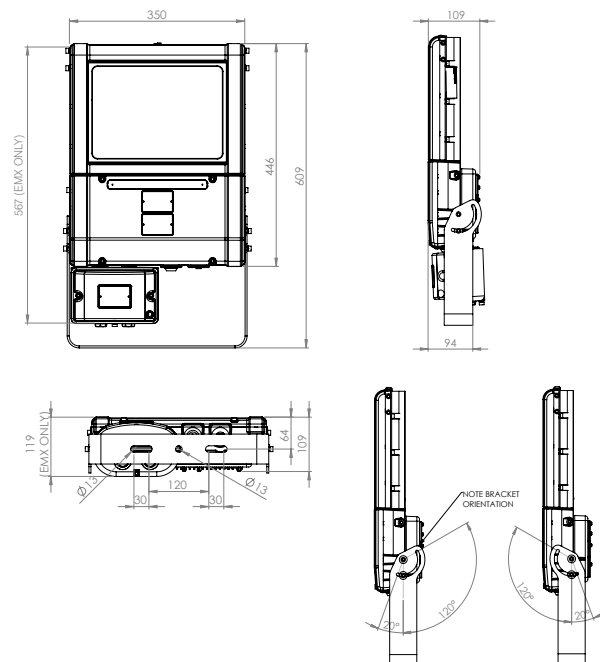


2. Installation

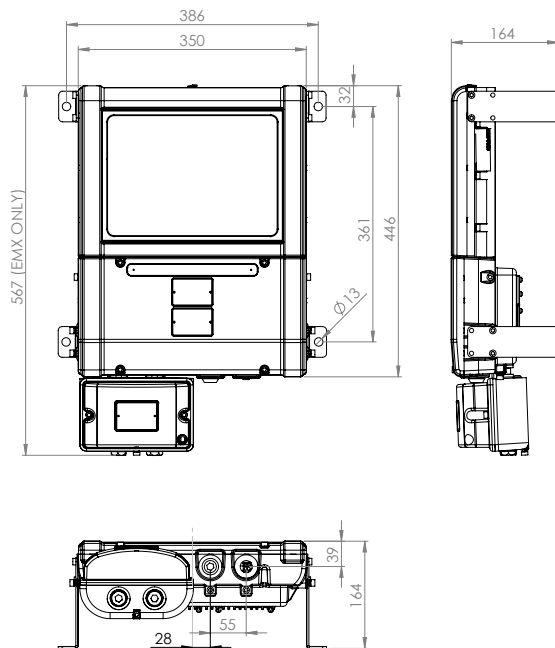
Mounting WARRIOR Unit

1. To meet the requirements of certification a **MINIMUM** of 2 fixing points must be used, the fixing points must be suitable for the conditions of use.
2. The line diagrams below are for guidance only – units may be mounted in any orientation

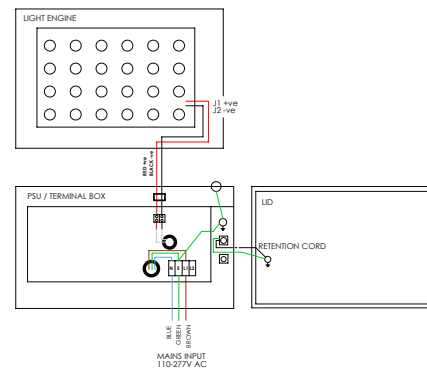
Mounting MP WARRIOR Unit – Floodlight Application



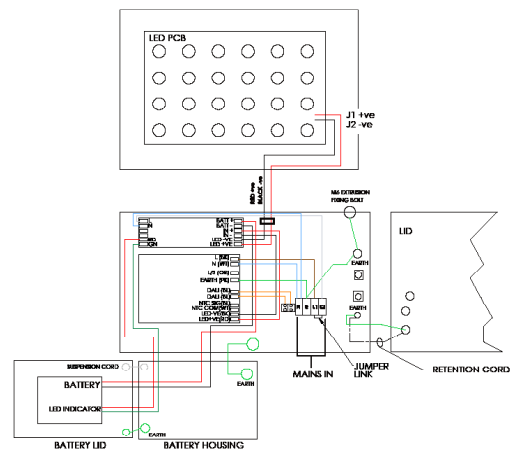
Typical wiring diagram



Standard Variants



Emergency Variants



Wire the Mains cable into the terminal block. Provision has been made for this and identified as the E (Earth), L1 (Switched Live), L2 (permanent live) and N (Neutral) terminals. There are two pairs of contacts for each of these to facilitate a mains cable that can be looped in and out of the unit. The L2 terminals on a standard unit are not electrically connected but allows them to be used on the same circuits as emergency units.

3. Attach mounting brackets as required with M6 screws/washers provided. Tighten to 10Nm. (see Bracket Orientation Diagram)
4. Open terminal block enclosure.
5. Installer should earth the unit separately – an internal and external earth point are provided as standard.
6. Connect wires to mains supply.
7. If the unit is to be opened for any reason, disconnect mains.
8. All WARRIOR floodlights/highbay have terminal blocks suitable for looping 4mm² cable, only one cable should be connected to each terminal block connection – when incoming cables are installed a creepage and clearance of 5mm and 4mm respectively. Variants with a Weidmüller MK6 terminal block may have been supplied to special order, these can accommodate cable up to 6mm² size conductors.
9. *The battery fuse is located in the compartment that contains the battery, the battery positive lead is disconnected after final manufacturing testing. When installing the product the battery positive lead will need to be reconnected and the unit charged for 24 hours and then discharged (repeated 3 times) to bring the battery up to peak capacity. (Unless an 'EMX' intelligent emergency variant – see notes below.)*
10. *If a 4 core cable is used on emergency luminaires – L1, L2, N and E the link cable at the front of the terminal block between L1 and L2 should be removed.*
11. *During emergency operation the light output and duration will be determined by the variant purchased*
12. Ensure no cables are trapped and gasket is seated correctly and replace terminal cover, tighten to 4Nm
13. If carrying out Insulation Resistance tests the normal method of insulation testing is to connect Live and Neutral together and test between this point and Earth to prevent the risk of damage to the electronic control gear.

Description	Behaviour	Installation
Maintained Unswitched	The unit is on 100% under normal conditions and is switched to emergency mode in the event of a mains failure	A single unswitched mains supply is provided the live line connected to L2. The link between L1 and L2 remains.
Maintained Switched	The unit is on or off depending on the switched line under normal operation and is switched to emergency mode in the event of a mains failure	An unswitched mains supply is provided with the live line connected to L2. A switched mains supply is also provided with the switched live connected to L1. The link between L1 and L2 should be removed
Non maintained	The unit is off and only comes on in emergency mode in the event of failure in the mains supply	A single unswitched mains supply is provided to live line connected to L2. The link between L1 and L2 should be removed

URBAN Intelligent Emergency Operation Guide

The Emergency version is equipped with a self-test functionality according IEC62034.

- 28 days after power-up the driver will perform a functional test of 30 seconds.

• Every 6th test (after half a year) will be a duration test. This test will run until the battery is fully discharged and the driver will verify if the capacity of the battery is sufficient to provide 3hrs emergency time.

• A Duration test will only be performed if the battery is fully charged AND when the external lamp driver is off for 2 hrs. I.e.: in an office, the duration test will generally take place in the nightly hours. A 24/7 lighting situation will be detected as such if the lighting has been on for at least 72 hrs. In that case the duration test will be performed once its timer has elapsed.

• Generally, in case of a failure, an error will be indicated by the LED status indicator. See below for details.

LED Status Indicator

LED indicator (colour / flashing)	Error condition	Cause	Solution
Green / no flashing		System OK, battery fully charged	
Off		Mains off, EM mode, Rest mode, test in progress	
Green / slow 0.25s on, 1.25s off		System OK, battery is charging	
Green / fast 0.25s on, 0.25s off		System OK, recently tested (< 5 days, Australia mode only)	
Red / no flashing	Battery voltage too high or too low	No battery connected	Connect battery
		Wrong or bad battery connected	Replace battery
		Battery pack replaced with different type	Reset the driver
Red / fast 0.25s on, 0.25s off	Output voltage too low or too high	Wrong LED load connected	Connect right load and perform functional test
	No load connected or output shorted	Wrong connection	Connect right load and perform functional test
Red / slow 0.25s on, 1.25s off	Failed test due to battery	Battery end of life Charger failure	Replace battery and perform duration test Replace driver
Red-green / fast Fast flashing: on-time = 0.25s, off-time = 0.25s Slow flashing: on-time = 0.25s, off-time = 1.25s		DALI device identification	
Green / short on-time = 50ms, off-time = 0.95s		Battery detection	

3. Maintenance

1. It is essential that all WARRIOR units are maintained by qualified personnel.
2. **IMPORTANT.** No modifications are permitted to the unit, all spare parts must be purchased from the manufacturer, unauthorized modifications or spare parts will invalidate certification and make the equipment dangerous.
3. Isolate the WARRIOR unit from the mains supply and allow to cool before carrying out any maintenance work.
4. The unit has one power supply; in the event that a power supply needs to be replaced remove the terminal enclosure cover to get access to the power supply. Remove the power supply from the mains terminals then remove LED wires (white and white with red mark.)
5. In the event that a battery needs to be replaced in an emergency unit the battery chamber cover should be removed. The battery positive disconnected and safely terminated, followed by the battery negative. The cable ties securing the battery can then be cut and the battery removed. Fitting a new battery is the reverse of the above procedure. Replacement batteries must be obtained from Raytec.

Disposal of packaging, WARRIOR units and old LED assemblies/power supplies should be carried out in accordance with national regulations.

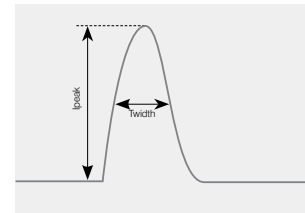
4. Troubleshooting

1. Ensure the two LED boards are correctly wired to terminal block. White/Red to White/Red : White to White – paired cables.
2. Ensure Mains input is correctly connected.
3. Ensure Mains Input is turned on at the source.

5. Technical Specification

	Up to 150W
Input Voltage	150-264V AC Other options available
Input Current (230Vac, full load)	0.65A
Consumption	up to 150W
Power Factor (230Vac, full load)	>0.97
Mains Frequency	50/60Hz
Inrush Current (I_{peak} @50%)	53A, $\Delta t < 300\mu s$
Total Harmonic Distortion (230Vac, full load)	$\leq 10\%$
IP Rating	IP66/67
Weight (STD)	13.2Kg
Weight (EM)	15.6Kg
Dimensions	See previous pages for line diagrams

Inrush Current Typical Curve



MCB Type	Rating	SPI-MPFL 10K-20K version Maximum products per MCB
B	10A	4
B	16A	10
B	20A	12
B	25A	15
C	10A	8
C	16A	16
C	20A	20
C	25A	26

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