

# SPARTAN



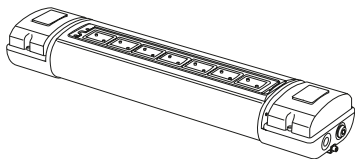
## Zone 1 Linear Range - Installation Guide

CML14ATEX3119 & IEC Ex CML15.0001

This installation guide provides instructions for installing SPARTAN series of explosion protected Zone 1 Linear luminaires.

*Text in italics specific for emergency variants.*

### Overview



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

### Important information

The SPARTAN series of explosion protected luminaires 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.

*Emergency luminaires will require the fuse to be reconnected upon installation and the luminaire subjected to three 24 hour charge/discharge cycles to bring the battery up to peak capacity.*

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

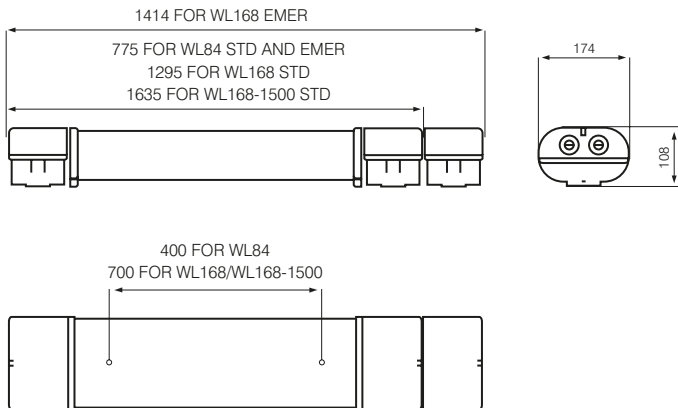
1. Read this leaflet carefully before commencing to install the SPARTAN unit and retain it for future use. Installation can only be carried out by suitably qualified personnel.
2. Check the certification to ensure that the mains supply, ambient temperature present and 'T' rating are suitable for the environment the unit is being installed in.
3. If the SPARTAN unit is to be installed in areas of high vibration, please consult with Raytec.
4. The SPARTAN unit housing is constructed from marine grade aluminium and polycarbonate outer optic. The end user must ensure that these materials are suitable for the environment the SPARTAN unit will be installed in; Zone 1 and Zone 2 Hazardous areas.
5. Check certification nameplate on cover of luminaire to ascertain type of threaded cable entry on the luminaire. Select suitably certified ATEX/IEC Ex cable glands and stopper plugs, these must be parallel thread, have a minimum of 5 full thread engagement and be of a medium/fine tolerance to ISO965-1 and ISO965-3. The cable entry devices selected must maintain the IP rating of the luminaire.
6. The incoming mains cable should not exceed a temperature of 27°C above the ambient conditions; select suitable cable.



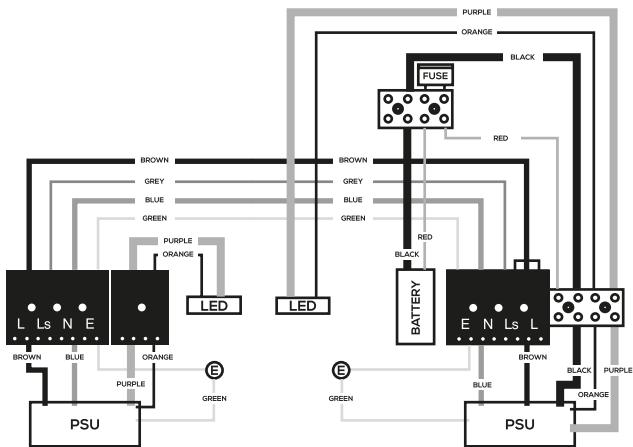
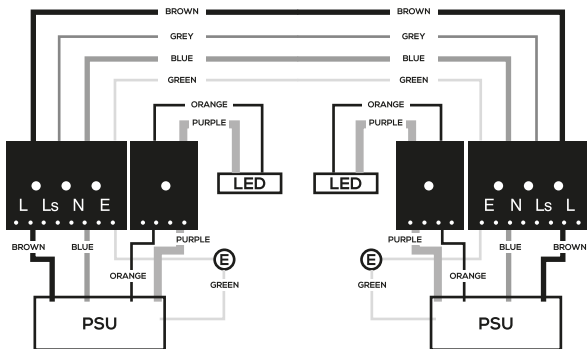
## 2. Installation

### Mounting SPARTAN 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 rear of the unit has 3 sets of blind M6/M8 fixing points, a full range of mounting accessories are available including a range of pole clamps, ceiling mount brackets, various wall mount brackets, outreach bracket and chain mount eyelets. Please consult **www.rayteclad.com** for further details.



3. When installing the SPARTAN luminaire vertically where possible, the cable glands should be kept to the bottom of the luminaire.



4. Wire the Mains cable into the terminal block. Provision has been made for this and identified as the E (Earth), L (Live), Ls (Live switched) 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, an identical terminal block is also available at the other end of the luminaire to allow the unit to be through wired. The Ls terminals on a standard unit is not electrically connected but allows them to be used on the same circuits as *emergency luminaires*.
5. Installer should earth the unit separately – an internal and external earth point are provided as standard at each end of the luminaire
6. Connect wires to mains supply.
7. If the unit is opened for any reason, disconnect mains – *On emergency luminaires there may be more than one mains supply.*
8. All SPARTAN luminaires have terminal blocks suitable for looping 4mm<sup>2</sup> cable, only one cable should be connected to each terminal block connection.
9. *The battery fuse is located in the compartment that contains the battery, the fuse is disconnected after final manufacturing testing. When installing the luminaire the battery fuse 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.*
10. *If a 4 core cable is used on emergency luminaires – L, Ls, N and E the link cable at the front of the terminal block between L and Ls should be removed - see wiring diagram on previous page.*
11. *During emergency operation the light output and duration will be determined by the variant purchased.*

### 3. Maintenance

1. It is essential that all SPARTAN units are maintained in accordance with the requirements of the EN60079-17 Standard: (Electrical apparatus for explosive gas atmospheres – other than mines).
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 SPARTAN unit from the mains supply and allow to cool before carrying out any maintenance work.
4. In the unlikely event of a number of LED's failing, the light engine assembly must be replaced. This is achieved by removing the outer polycarbonate cover and then releasing the 4 bolts that hold the LED assembly in place, disconnect the white and violet cable to the power supply and pull the light engine assembly clear. Re fitting a light engine is a reversal of the above procedure.
5. The unit has either 1 or 2 independent power supplies located in the terminal chamber covers, in the event that a power supply needs to be replaced the terminal chamber cover should be removed, the cables disconnected and the dog clip can then be detached from the cover. Fitting a new power supply is a reversal of the above procedure.
6. Disposal of packaging, SPARTAN unit and old LED assemblies/power supplies should be carried out in accordance with national regulations.

## 4. Technical Specification

	WL84 STD (WL84-1200 STD)	WL 168 STD (WL168-1500 STD)	WL84 EMER	WL168 EMER
Input Voltage	110-254V AC or 18-30V AC/18-40V DC see certification nameplate on product			
Consumption	33W max	66W max	35W max	68W max
Power Factor	>0.95			
Mains Frequency	50/60Hz			
IP Rating	IP66/67			
Weight	5kg - 11lbs (WL84-1200 STD 8kg – 17.6lbs)	8kg – 17.6lbs (WL168-1500 STD 10kg – 22lbs)	7kg (15.4lbs)	10kg (22lbs)
Dimensions	See previous pages for line diagrams			
ATEX and IECEx Rating	See below			

### Protection/Certification

CML14ATEX3119 or IEC Ex CML15.0001

II 2 GD Ex em IIC T4 & T5 Gb

Ta up to -40°C to +55°C\*

II 2 GD Ex em IIC T6 Gb

Ta up to -40°C to +45°C\*

Ex tb IIIC T75°C Db

IP66 & IP67

Ta up to -40°C to +55°C\*

110V to 254V AC ONLY or 18-30V AC/18-40V DC

*Emergency variants restricted operating temperature of -20°C to +50°C T4/T5 or -20°C to +40°C T6*

## 5. Trouble Shooting

1. Ensure the two LED boards are correctly wired to terminal block.  
White to White : Violet to Violet.
2. Ensure Mains input is correctly connected.
3. Ensure Mains Input is turned on at the source.
4. *On emergency variants check fuse to ensure it has not blown.*
5. If the LED panel fails to light it is possible to identify if the problem is with the LED panel or power supply by swapping LED cables to opposite power supply to help identify problem.

See sales literature for full list of ordering codes.



# Declaration Of Conformity With The Atex Directive 94/9/EC



Raytec Ltd. declares under our sole responsibility that the product(s) listed below conform with the relevant provisions of directive 94/9/EC of 23rd March 1994.

Manufacturer	Raytec Ltd Unit 3, Wansbeck Business Park Rotary Parkway Ashington Northumberland NE63 8QW United Kingdom
Description of Equipment	Spartan range of LED linear – standard and emergency
Notified Bodies	Sira Certification Services (0518) Rake Lane Ecclestone Chester CH4 9JN
Certificate numbers	CML14ATEX3119 or IEC Ex CML15.0001 Quality Assurance Notification Sira
Equipment Marking	II 2 GD Ex em IIC T4 or T5 Gb Ta -40°C to +55°C* or II 2 GD Ex em IIC T6 Gb Ta -40°C to +45°C* Ex tb IIIC T75°C Db IP66 & IP67 Ta = -40°C to +55°C* 110V to 254V AC ONLY or 18-30V AC/18-40V DC  <i>*Emergency variants restricted operating temperature -20°C to +50°C T4/T5 or -20°C to +40°C T6</i>

Compliance with the Essential Health and Safety Requirements has been assessed by reference to the following standards -

IEC 60079-0 : 2012 + A11 : 2013 IEC 60079-7 : 2007

IEC 60079-18 : 2009 IEC 60079-31 : 2009

And also 89/336/EEC – Electromagnetic Compatibility.

Signed



Name

Barry Thompson

Position

Director of Hazardous Area Division

Dated

Serial number





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