



## 11 Description

The Protecta IV LED Luminaire comprises a control gear and has emergency and non-emergency variants.

The luminaire body is manufactured from glass reinforced polyester resin and the diffuser is manufactured from polycarbonate. The diffuser is hinged along one side to the body of the luminaire and along the other side a quick release snap-on clamp bar runs the entire length and is used to seal the diffuser to the body. A gasket is secured in a groove in the body of the luminaire and forms an IP66/67 seal.

GRP models are identified by the catalogue code PR4B/02L/LE/\*\*\*. The code further defines the number and power of LED's, emergency, voltage etc.

The control gear components are mounted within the body of the luminaire via a removable gear tray.

The electronic control gear is Ex component certified. The component certification covers the flameproof Ex db Driver/Inverter and the LED module. Emergency models have a 6-volt battery made up of 5 NiMH batteries connected in series rated at a capacity of 4Ah. The Chalmit control gear controls the charging and discharging of the battery, providing under-voltage and over-voltage protection and preventing reverse polarity charging of the cells.

The body of the enclosure is fitted with 4 cable entries, maximum two at each end. The permitted component certified blanking elements to be used are detailed in the table below. Other suitable equipment certified blanking elements may be used.

The equipment maybe fitted with 501/RCG in-line connector, currently afforded IECEx CML 20.0137X, CML 20ATEX3217X and CML 21UKEX3073X, which allows connection for multiple number of lighting fixtures.

The equipment is fitted with the following equipment certified Hot swappable battery stick currently afforded certificate numbers IECEx CML18.0169X and CML18ATEX5360X.

In addition to the above, suitably Ex equipment approved blanking elements/plugs maybe used.

The enclosure must be fitted with suitably approved cable entry devices which shall maintain the ingress protection rating of the enclosure.

The body is also fitted with 2 x M8 bushes for mounting purposes. The stainless-steel bodied version is supplied with external brackets to allow for mounting.

Brass earth continuity plates are fitted to the entries of the luminaires on the GRP bodied versions and an internal/external M8 earth stud is fitted to the body of the stainless-steel bodied version. An earth terminal is also fitted to the gear tray. All the earth points are connected via earth conductors.

The marking of the Protecta IV LED Luminaire is:-

Ex db eb IIC T5/T6 Gb

Ex tb IIIC T100°C/T85°C Db IP66/67

T<sub>amb</sub> = -40°C to +60°C

T<sub>amb</sub> = -25°C to +60°C for luminaire with emergency option

When Protecta IV LED luminaire is fitted with internal opaque diffuser the equipment shall be marked with ambient temperature range:  $T_{amb} = -40^{\circ}\text{C}$  to  $+45^{\circ}\text{C}$ .

Internal wiring is by 0.75mm<sup>2</sup> or 1.0mm<sup>2</sup> stranded copper conductors with PVC insulation. Through wiring is by 2.5mm<sup>2</sup> or 4mm<sup>2</sup> stranded conductors with PVC insulation.

Various options are permitted as indicated below: -

1. Version of the enclosure with pole mounting option. The base of the enclosure incorporates a sleeve for the pole. The sleeve is fitted internally with a certified cable gland and a silicone seal around the entry which maintains the IP66/67 rating of the luminaire. Grub screws are incorporated into the sleeve to secure the luminaire to the pole once mounted. When the pole mounted variation is used, the luminaire is restricted to the temperature range and IP rating of the cable gland.

The equipment is included with the following model options:

CHALMIT MODEL NUMBER	POWER W	CURRENT A	VOLTS	LIGHT SOURCE
PR4B/02L/LE/**	16	0.14 - 0.063	110-277 Vac 127-250 Vdc	1 X LED STRIP
PR4B/0^L/LE/**	36	0.33 - 0.15	110-277 Vac 127-250 Vdc	1 X LED STRIP
PR4B/05L/LE/**	36	0.33 - 0.15	110-277 Vac 127-250 Vdc	2 X LED STRIP
PR4B/07L/LE/**	49	0.44 - 0.20	110-277 Vac 127-250 Vdc	2 X LED STRIP
PR4B/02L/LE/EM/**	18.5	0.14 - 0.073	110-277 Vac 127-250 Vdc	1 X LED STRIP
PR4B/0^L/LE/EM/**	38.5	0.36 - 0.16	110-277 Vac 127-250 Vdc	1 X LED STRIP
PR4B/05L/LE/EM/**	38.5	0.36 - 0.16	110-277 Vac 127-250 Vdc	2 X LED STRIP
PR4B/07L/LE/EM/**	52	0.5 - 0.2	110-277 Vac 127-250 Vdc	2 X LED STRIP

The following components are incorporated in the luminaire:

Component	Certificate Numbers	Standards Applied	Differences Considered
DRIVER/INVERTER – 75D	IECEX CML18.0163U CML18ATEX1352U	IEC 60079-0:2017 Ed.7 IEC 60079-1:2014 Ed.7	No technical differences are considered.
DRIVER/INVERTER – 200D	IECEX CML20.0107U CML20ATEX1173U	IEC 60079-0:2017 Ed.7 IEC 60079-1:2014 Ed.7	No technical differences are considered.
LED MODULE	IECEX CML21.0127U CML21ATEX11128U	IEC 60079-0:2017 Ed.7 IEC 60079-1:2014 Ed.7	No technical differences are considered.
Screwless modular feed-through and single terminal block, Type 262-1** and Type 262-2**	IECEX PTB 04.0004U	IEC 60079-0:2017 Ed.7 IEC 60079-7:2017 Ed.5.1	No technical differences are considered.
387 Range of Stopping plug	IECEX BAS 06.0029U	IEC 60079-0:2017 Ed.7 IEC 60079-7:2017 Ed.5.1 IEC 60079-31:2013 Ed.2	No technical differences are considered.
Terminal Block	IECEX TUR 18.0019U	IEC 60079-0:2017 Ed.7 IEC 60079-7:2017 Ed.5.1	No technical differences are considered.

**Variation 1**

This variation assesses the following modification:

- i. To recognize a change to the applicant's and manufacturer's name and address.

**Variation 2**

This variation assesses the following modifications:

- i. To assess and permit the introduction of an alternative inverter fitted internally in the equipment.
- ii. To recognise 220-240VAC as the only voltage for the alternative inverter option.
- iii. To recognise a change to the applicant's and manufacture's details.

**12 Certificate history and evaluation reports**

Issue	Date	Associated Report	Notes
0	05 Jan 2024	R16984A/00	Issue of Prime Certificate
1	30 Apr 2024	R17491A/00	Introduction of Variation 1
2	09 Dec 2024	R17911A/00	Introduction of Variation 2

Note: Drawings that describe the equipment or component are listed in the Annex.

**13 Conditions of Manufacture**

The following conditions are required of the manufacturing process for compliance with the certification.

- i. Where the product incorporates certified parts or safety critical components, the manufacturer of the product defined on this certificate shall continually monitor these parts/components for any modifications introduced by the manufacturer(s) of these constituent parts. If the manufacturer of any constituent part introduces any changes which affect the compliance of the certified product that is the subject of this certificate, the manufacturer is required to have this certificate updated.
- ii. The equipment complete assembly shall be subjected to a dielectric strength test in accordance with IEC 60079-7 clause 7.1. The test voltage (1000+2U) or 1500V shall be applied to the equipment electrical wirings and earth, or to an appropriate industrial standard. No flash or leakage of current shall be observed.

**14 Specific Conditions of Use (Special Conditions)**

The following conditions relate to safe installation and/or use of the equipment.

- i. The equipment is for fixed installation only and shall be protected against the risks resulting electrostatic discharge. See manufacturer instruction manual for the necessary guidance.
- ii. The flameproof joint and path of the driver/inverter and LED module inside the equipment shall not be repaired or serviced.
- iii. The equipment shall be installed with suitably approved Ex equipment blanking plugs.

## Certificate Annex

**Certificate Number** CML 23ATEX1426X Issue 2  
**Equipment** Protecta IV LED Luminaire  
**Manufacturer** Hubbell Limited t/a Chalmit Lighting



The following documents describe the equipment or component defined in this certificate:

### Issue 0

Drawing No	Sheets	Rev	Approved Date	Title
H062328	1 to 3	0	05 Jan 2024	Protecta 4LED Assembly
H063703	1 of 1	0	05 Jan 2024	Protecta 4 Cert Label

### Issue 1

None.

### Issue 2

Drawing No	Sheets	Rev	Approved Date	Title
H062328	1 to 3	1	09 Dec 2024	PROTECTA 4 LED ASSEMBLY CERTIFICATION DRAWING
H063703	1 of 1	1	09 Dec 2024	PROTECTA 4 CERT LABEL