Protecta X Sealed For Life
LED Linear Luminaire
ATEX, IECEx and UKEX

INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS

Important: Please read these instructions carefully before installing or maintaining this equipment.
Good electrical practices should always be followed, and this data should be used as a guide only.

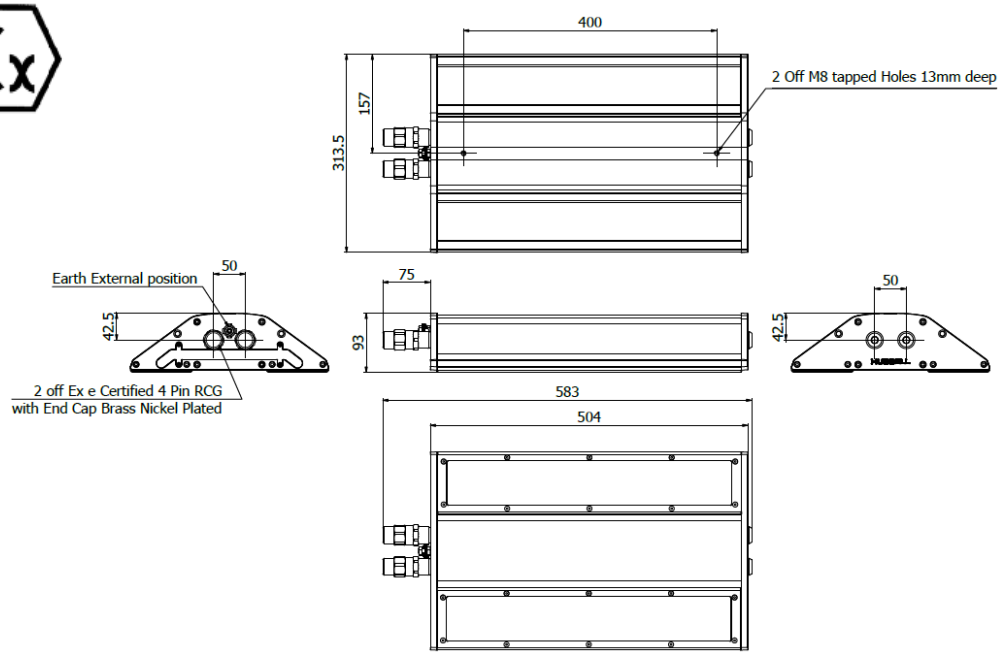


Fig. 1 Sealed For Life version PRB/05L/LE/**/SFLL shown for illustration

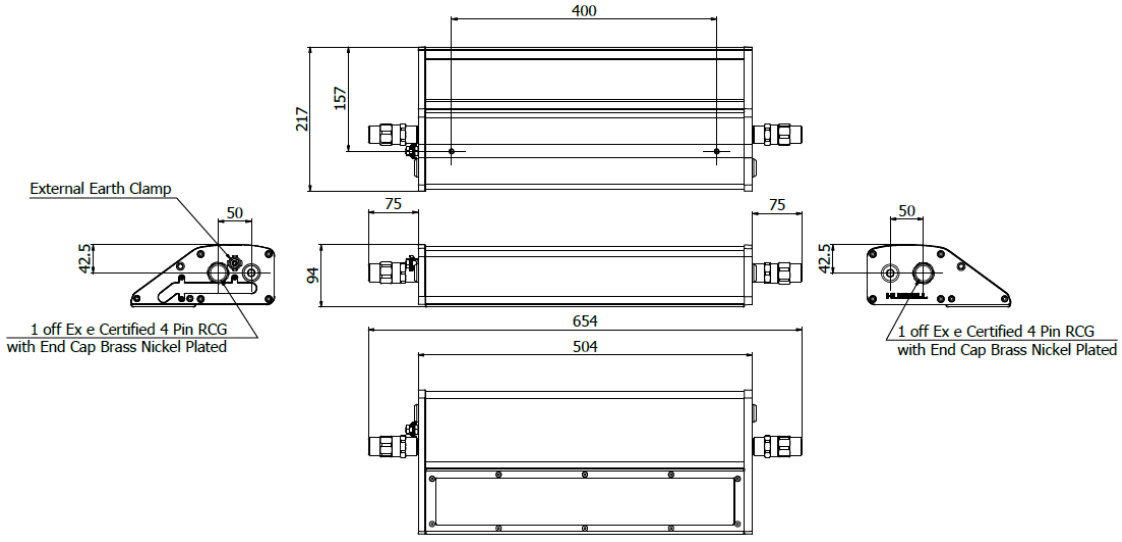


Fig. 2 Sealed For Life version PRB/02L/LE/**/SFLT shown for illustration

Specification

Type of Protection	Ex db eb (Flameproof, Increased Safety) Ex tb (Dust Protected Enclosure)
Protection Standards	EN/IEC 60079-0, EN/IEC 60079-1, EN/IEC 60079-7, EN/IEC 60079-31.
Area Classification	Zone 1 and Zone 2 areas to EN/IEC 60079-10-1 Zone 21 and Zone 22 areas to EN/IEC 60079-10-2
Installation	EN/IEC 60079-14
Certificate	IECEx Certificate of Conformity IECEx CML 18.0167X EU Type Examination Certificate CML 18ATEX3358X UK Type Examination Certificate CML 21UKEX1506X
Equipment Coding	Ex db eb IIC T5 Gb Ex tb IIIC T85°C Db -40°C ≤ Ta ≤ 55°C/60°C
ATEX /UKEX Coding	Ⓔx II 2 GD
Ingress Protection	IP66/67
Photobiological safety of Lamps and Lamp Systems	Risk Group 1 LED product to IEC 62471.
WARNING! DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT	
CE UK CA	The CE marking of this product applies to "The Electrical Equipment (Safety) Directive", The Electromagnetic Compatibility Directive", the "Waste Electrical and Electronic Equipment Directive" and the "Equipment and Protective Systems intended for use in Explosive Atmospheres Directive". [2014/35/EU, 2014/30/EU, 2012/19/EU and 2014/34/EU respectively]. The UKCA marking of this product applies to "The Electrical Equipment (Safety) Regulations 2016", "The Electromagnetic Compatibility Regulations 2016", the "Waste Electrical and Electronic Equipment Regulations 2012" and the "Equipment and Protective Systems intended for use in Explosive Atmospheres Regulations 2016 The Equipment is declared to meet the provisions of the ATEX directive (2014/34/EU) by reason of the Type Examination/EU Type Examination and meets the UK statutory requirements SI 2016 No.1107 and compliance with the Essential Health and Safety Requirements.  A Reid Technical Manager

SPECIAL CONDITIONS FOR SAFE USE

Flameproof joints of driver modules are not intended to be repaired.

Under certain extreme circumstances, the non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces (e.g. steam generation, windblown dust, etc). In addition, the equipment shall only be cleaned with a damp cloth.

The presence of certain chemicals in the explosive atmosphere may cause a chemical reaction with non-metallic materials such as the polycarbonate diffuser and silicone/EPDM gaskets that could have detrimental effect on their performance. Chemical compatibility is highly dependent on concentration, temperature, humidity and other environmental conditions. The end user will assume responsibility for evaluation of gaseous or direct contact compatibility at their site prior to product installation. If in doubt please contact Chalmit sales.

1.0 Introduction – Protecta X

The Protecta X Luminaire operates from mains voltage.
This installation leaflet covers the range of ATEX and IECEx Protecta X Luminaire models. These luminaires are mainly used in harsh environments and are constructed using Non-corrosive materials. Refer to the current catalogue for information on product references. The luminaires are available in 02L, 05L and 07L Lumen outputs.

2.0 Electrical Supplies

Table 1 MODEL VARIATIONS

Voltage range AC ==> 110-277V					
Voltage range DC ==> 127-250V					
Frequency range Hz ==> 50-60Hz					
Product	**Ambient**	**Voltage AC**	**Watts**	**Amps**	**Tamb Range**
PRXB/02L/LE/SFL*	Ta25°C	110 - 277V	16	0.15 – 0.06A	-40°C to +60°C
PRXB/05L/LE/SFL*	Ta25°C	110 - 277V	35	0.35 – 0.14A	-40°C to +60°C
PRXB/07L/LE/SFL*	Ta25°C	110 - 277V	51	0.47 – 0.19A	-40°C to +55°C

The safety limit for surface temperature (T rating) is +/-10% on the rated voltage. The maximum nominal variation from rated voltages stated above is +/- 6%. For the full range of Product Technical data contact Chalmit technical department

Power Factor @230V >0.90 Power is constant over voltage range.
Over Voltage 400V ac for 1 min and EN 61000-4-5 > 4kV
Through Wiring The through current rating is 16A. 4mm² terminals are standard (As option /SC 6mm² wiring can be used in the terminals in accordance with the luminaire certificate).
Fuse and MCB Ratings It is recommended that for selection of MCBs users should consult the MCB manufacturer as this unit contains electronic control gear. The electronic control gear has nominal values of inrush current as follows;
07L 20.0A for 300µs on 230V @ Ta25°C
05L 17.7A for 41µs on 230V @ Ta25°C.
02L 14.5A for 28µs on 230V @ Ta25°C.

3.0 Storage

Luminaires are to be stored in cool dry conditions preventing ingress of moisture and condensation. Storage temperature range to be -40°C to +80°C.

4.0 Installation and Safety

4.1 General

These instructions should be read fully and carefully before attempting to install the luminaire. For details of servicing operations etc. see section 5.0

Copies of these instructions should be held in a safe place for future reference. It is the responsibility of the installer to ensure that the apparatus selected is fit for its intended purpose and that the installation, operation and maintenance of the apparatus complies with applicable regulations, standards or codes of practice. Installation should be carried out in accordance with (IEC) *EN 60079-14* or with a local hazardous area code of practice, whichever is appropriate.

Any specific installation instructions must be referred to. In the UK the requirements of the *Health and Safety at Work Act* must be met and electrical work associated with this product must be in accordance with the *"Manual Handling Operations Regulations"* and "*Electricity at Works Regulations 1989".* Disposal instructions should be complied with. The luminaires should be considered Class 1 to EN 60598 and effectively earthed. Certification details on the rating plate must be verified against the application requirements before installation. The information in this leaflet is correct at the time of publication. The company reserves the right to make specification changes as required without notice.

4.1.1 Use in Combustible Dust Atmospheres

Where the equipment is used in ignitable dust atmospheres reference must be made to the selection and installation standards in order that the equipment is used correctly. In particular this applies to the de-rating of surface temperature for use where dust clouds may be present. Dust layers should not be allowed to accumulate on the fitting surface and good housekeeping is required for safe operation. Dust in layers has the potential to form ignitable clouds and to burn at lower temperatures. Refer to EN/IEC 60079-10-2 & EN/IEC 60079-14 for additional details of selection and installation.

4.1.2 Hybrid Mixtures – Gas plus Dust.

Where Hybrid mixtures exist as defined in EN1127 as a potentially explosive atmosphere, consideration should be given to verifying that the maximum surface temperature of the luminaire is below the ignition temperature of the hybrid mixture.

4.2 Tools

4mm flat blade Screw Driver (For 501/RCG Wire Connection)
Suitable Spanners for Installing Cable Glands
Pliers, Knife, Wire Strippers / Cutters

4.3 Mounting

Luminaires should be installed where access for maintenance is practical and in accordance with lighting design information. Refer to the note in 4.1 concerning electrostatic charge.
The standard suspension is via two M8 x 12mm deep blind tapped holes in the top of the body, the recommended torque for the fixing bolts is 10-15Nm. Various adaptors, pole clamps and suspension brackets are available to order.

4.4 Electrical Supplies

A maximum voltage variation of +6%/-6% on the nominal is expected. The safety limit for T rating is +10%.

4.5 Light Source

The luminaire is fitted with LEDS that can last >200,000 hours depending on ambient temperatures. Therefore, depending on the functionality of the fitting replacement of LED's will be rare / unnecessary.

4.6 Cabling and Cable Glands

4.6.1 Cable Entries

The Protecta X Sealed For Life Luminaire comes factory fitted with Hawke 501/RCG entries.
The installer and user must take responsibility for the selection of cables and termination of the cables with Hawke 501/RCG bodies, which are required to hook up the cable to the 501/RCG entries. 501/RCG bodies are not supplied with the luminaire.

The product is certified for ATEX, IECEx and UKEX and all factory fitted 501/RCG entries and sealing plugs have been assessed and certified in line with these requirements. As the luminaire is sealed for life, the installer should not remove the factory fitted cable entry or stopping plug devices.

All 501/RCG entries and stopping plugs are brass nickel plated as standard. The end user should ensure that these materials are suitable for the application.

The 501/RCG entries are supplied fitted with end caps. In order to maintain IP66/67, the 501/RCG entries are required to either be fitted with the metallic end caps, or be mated with a 501/RCG body.

The /SFLL version will have two 501/RCG entries on the one side of the Luminaire as per Fig. 1
and for the /SFLT versions, there will be two entries one at each side of the Luminaire as per Fig.

4.6.2 Cable
The temperature conditions at the supply cable entry point are such that 70°C (ordinary PVC) cable can be used.

4.6.3 Cable Connection
Refer to the Hawke OEM 501/RCG Installation Instructions for connection procedure of 501/RCG Body,
Luminaire is supplied with 2x entry part code; NRCGBA04EBMBXDXXXX
Refer to 7.1 Wiring Diagrams for the RCG Pin connections

4.7 Electrical Connections and Testing
If any work is to be done on any luminaire already connected to the electrical system, the luminaire must be isolated from the system.

However, if this is not possible luminaires can be tested with an insulation tester that complies with IEC 364 or BS 7671 with a maximum output current of 1mA and output voltage of 500V dc. (Units damaged by incorrect insulation testing can be detected). Before completing the wiring, ensure that all the connections are correct.

5.0 Inspection, Maintenance and Servicing
Safe servicing on the Luminaire requires the mains supply to be isolated.
Individual organisations will have their own procedures for inspection and maintenance. What follows are guidelines based on *EN/IEC 60079-17* and on our experience. Maintenance work and fault finding must be performed by competent personnel under an appropriate permit to work and with the apparatus isolated. Frequency of maintenance will depend on experience and the operating conditions.

1 Check if any LED's have failed.
2 The LEDs are mounted on boards, if there is 3 or more LED's not working on one board the light output will have dropped to a level where the LED board may need replaced.
3 Check the cable gland for tightness and re-tighten if necessary.
5 Check any external earthing.
6 Examine the LED diffuser for any signs of damage and for any signs of sealant damage, cracking or discoloration.
7 Check all End Cover bolts for tightness, Torque 4Nm.
8 Check for signs of corrosion between the LED Light Engine and the main housing. Evaluation of this will be a matter for judgement gained by experience, as there may be little evidence on the outside. A damaged or non-resilient gasket must be replaced (supplied by Chalmit).

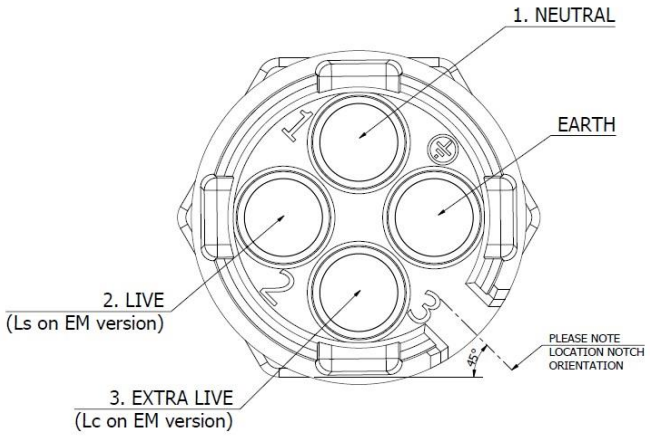
Any replacement screws must be identical to the original.
Replacement fasteners should be stainless steel marine ISO262 grade A4 -70 minimum

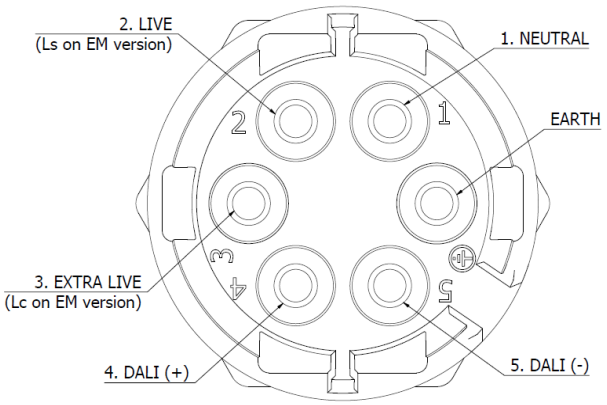
9 If painting operations have taken place around the luminaire, ensure that coatings have not entered or been deposited on the LED Diffuser. If they have, clean carefully.
10 Check that mountings are secure.
11 Clean the LED Diffuser.
12 If there is suspicion that the luminaire has suffered mechanical damage, a stringent workshop check should be made.

6.0 Electrical Fault Finding and Replacement
Any fault finding must be done by a competent electrician with the luminaire isolated and if carried out with the luminaire in place, under a permit to work. Fault finding is by substitution with known good components.

7.0 DALI feature,
The driver when ordering a /DM version will have DALI 2 compatibility control gear

7.1 Wire Diagram
4 WAY NON-EMERGENCY PIN ALLOCATION 6 WAY NON-EMERGENC, DIMMING PIN ALLOCATION





8.0 Disposal of Material

The unit is mostly made from incombustible materials. The control gear contains electronic components and synthetic resin. All these may give off noxious fumes if incinerated. Care must be taken to render these fumes harmless and avoid inhalation. Any local regulations concerning disposal must be complied with. Any disposal must satisfy the requirements of the WEEE directive [2012/19/EU and Regulations 2012] and therefore must not be treated as commercial waste.

To comply with the Waste Electrical and Electronic Equipment directive 2012/19/EU and Regulations 2012 the apparatus cannot be classified as commercial waste and as such must be disposed of or recycled in such a manner as to reduce the environmental impact.

Chalmit Lighting is a leading supplier of Hazardous Area lighting products

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For technical support, please contact: techsupport@chalmit.com

	EU/UK-Declaration of conformity **UE-Déclaration de conformité** **EU-Konformitätserklärung**

Manufacturer	Chalmit	Address	388 Hillington Road, Glasgow. G52 4BL Scotland UK
Product	Protecta X (LED Linear Luminaire)		
Notified Body	CML B.V. 2776		
EU - Type Examination Certificate	CML 18ATEX3358X		
Approved Body	Eurofins CML 2503		
UK Type Examination Certificate	CML 21UKEX1506X		
ATEX/UKEX Coding	Ⓔx II 2 GD		
ATEX/UKEX Classification	Group II Category 2 GD		
Equipment Coding	Ex db eb IIC T5 Gb -40°C ≤ Ta ≤ 55°C/ 60°C Ex tb IIIC T**°C Db IP6*		
Ingress Protection	IP66/67		

The technical basis, with respect to equivalence of

La base technique, en ce qui concerne l'équivalence de

Die technische Grundlage hinsichtlich der Normen

Protection Standards EN 60079-0, EN 60079-1, EN 60079-7, EN 60079-31

Area Classification EN 60079-10-1 and EN 60079-10-2

of compliance with the EHSRs is valid as there are no changes which materially affect the state of technological progress of the product.

en conformité avec les EESS est valide puisqu'il n'y a aucun changement qui affecte matériellement l'état de l'évolution technologique du produit.

zur Erfüllung der GSGA ist gegeben, da keine Änderungen erfolgt sind, die einen Einfluss auf den technischen Stand des Produkts haben.

Terms of the directive: Prescription de la directive: Bestimmungen der Richtlinie:		Standard & Date Certified to Standard & date certifiée à Standard & Datum Zertifiziert nach	Standards Date Declared to Normes date Déclaré Standards Datum erklärt
2014/34/EU SI 2016 No.1107	Equipment and protective systems intended for use in potentially explosive atmospheres.	EN 60079-0: 2012 A11:2013	
		EN 60079-1 : 2014	
2014/34/UE	Appareils et les systèmes de protection destinés à être utilisés en atmosphères potentiellement explosibles.	EN 60079-7 : 2015 EN 60079-31: 2014	
2014/34/EU	Geräte und Schutzsysteme zur bestimmungs-gemäßen Verwendung in explosionsfähigen Bereichen.		
2014/30/EU Regulations 2016	Electromagnetic compatibility	EN 55015 : 2019	
2014/30/UE	Compatibilité électromagnétique	EN 61547 : 2009	
2014/30/EU	Elektromagnetische Verträglichkeit	EN 61000-3-2 : 2019	
2014/35/EU Regulations 2016	Low voltage equipment	EN 60598-1 : 2015	
2014/35/UE	Équipements électriques à bas voltage	EN 60529 : 1992+A2:2013	
2014/35/EU	Niederspannungsgeräte / -systeme		
2012/19/EU Regulations 2012	Waste of electrical and electronic equipment		
2012/19/UE	Déchets d'équipements électriques et électroniques		
2012/19/EU	Entsorgung der elektrischen und elektronischen Geräte / Systeme		

2011/65/EU Regulations 2012	RoHS II Directive		
Additional information:	The luminaire is capable of withstanding over voltage levels of up to 400V AC for 1 minute and impulse voltage surges of 4kV.		
Informations complémentaires:	Le luminaire peut supporter des niveaux de tensions juqu'à 400V CA pendant 1 minute et des tensions de choc de 4kV.		
Zusatzinformation :	Dieser Strahler widersteht Überspannungen bis 400V AC 1 Minute lang sowie Stoßspannungen von 4kV.		

On behalf of the Chalmit, I declare that, on the date the equipment accompanied by this declaration is placed on the market, the equipment conforms to all technical and regulatory requirements of the above listed directives.

En tant que représentant du fabricant Chalmit, je déclare qu'à la date où les équipements accompagnant cette déclaration sont mis sur le marché, ceux-ci sont conformes à toutes les dispositions réglementaires et techniques des directives énumérées ci-dessus.

Hiermit bestätige ich, im Namen von Chalmit, dass am Tag der Lieferung des Produkts/der Produkte zusammen mit dieser Erklärung das Gerät/die Geräte alle technischen und regulativen Anforderungen der oben aufgeführten Direktiven erfüllt.

Name and Date Nom et Date Name und Datum	Andrew Reid	24/08/2023	Technical Manager Directeur technique Technischer Leiter	

Quality Assurance Notification by:	**SGS Fimko OY**	Quality Management System Acreditation:	**ISO 9001**
Notification d'assurance qualité par: Qualitätssicherungsnotifikation durch:	**0598**	Système de Management Qualité Accréditation: Qualitätsmanagementsystem Akkreditierung:	
		Environmental Management System. Système de gestion de l'environnement. Umwelt kontroll system.	**ISO 14001** by/par/durch **Loyd's Register**
UKCA Quality Assurance Notification by:	**SGS Fimko OY** **0598**	**Certificate No./Certificat N°/Zertifikat Nr.**	**LRQ 4005876**