

Protecta X LED Linear Luminaire

Industrial

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.

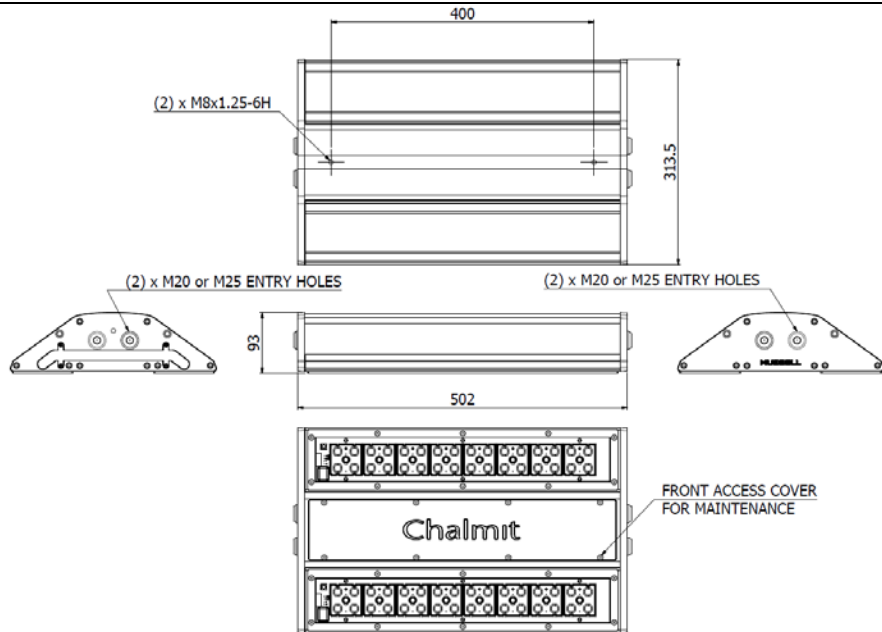


Fig. 1

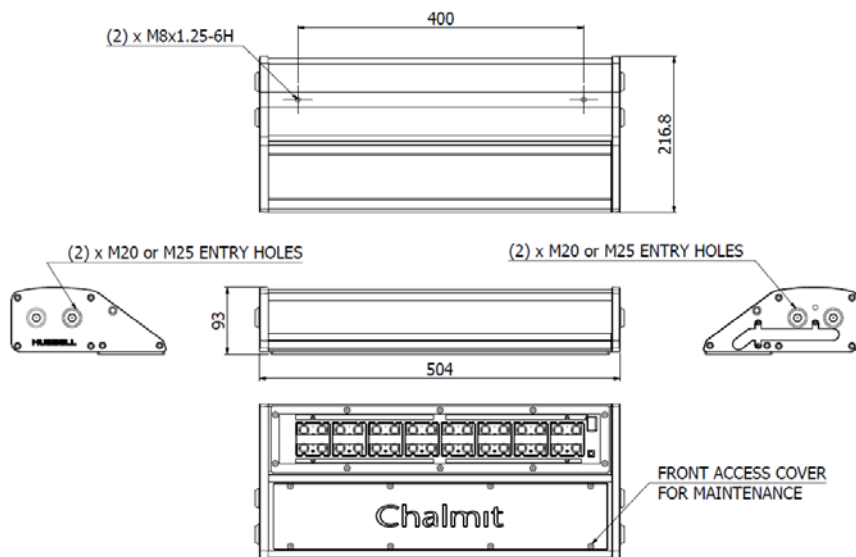



Fig. 2

Specification

0.0 Specification	
Type Of Protection	N/A
Standards	EN 60598-1,
Area Classification	Industrial (Non- Hazardous)
Ambient	-25°C to +60°C
Ingress Protection	IP66/67 to EN 60529
CE Mark 	The CE marking of this product applies to "The Electrical Equipment (Safety) Regulations 2006", "The Electromagnetic Compatibility Regulations 2004", the "Waste Electrical and Electronic Equipment Regulations 2006". [This legislation is the equivalent in UK law of EU directives 2014/35/EU, 2014/30/EU, 2012/19/EU respectively]. M Poutney Technical Manager

1.0 Introduction – Protecta X

The Protecta X Luminaire operates from mains voltage.

This installation leaflet covers the range of Protecta X Industrial 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, and 05L Lumen outputs.

2.0 Electrical Supplies

Table 1 MODEL VARIATIONS

Lamps	02L - 1 x LED Strip (Fig. 2)	05L - 2 x LED Strip (Fig. 1)
Voltage range AC	110-277V	
Frequency range Hz	50-60Hz	
Power Watts 230V Typical @ Ta25°C	16W	36W
Current Amps 230V Typical @ Ta25°C	73.5mA	165mA

The maximum nominal variation from rated voltages stated above is +/- 6%. For the full range of Product Technical data please contact Chalmit technical department

Power Factor >0.95

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 (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 of 46.5A for 3.15µs 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, opening 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

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. 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.

4.2 Tools

6mm A/F socket keys (For Blanking Plugs)
4mm flat blade Screw Driver (For Terminal Connection)
T20 Torx Screw Driver (For Front Cover Access)
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 4.1.1 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.

4.5 Light Source

The luminaire is fitted with LEDS that can last 120,000 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 Glands

The installer and user must take responsibility for the selection of cables, cable glands and seals.

Two tapped cable entries are provided, one with a plug and seal suitable for permanent use, the other has a travelling plug.

M20 x 1.5 pitch entries are standard, other sizes are available on request up to M25 x 1.5 pitch.

Cable Glands must be reliable and maintain the IP rating of the Enclosure

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

The cable connections are made by removing the main front access cover (Fig.1). The screws are retained and should be re-greased as required. The conductors should be bared back so that they make full contact in the terminals, but the bare conductor should not be more than 1mm beyond the terminal. Unused terminal screws should be tightened. The core must be identified by polarity and connected in accordance with the terminal markings. Before re-fitting the cover, a final check on the correctness of connections should be made. Front access cover screw torque 6 Nm.

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. The access front cover (Fig.1) is swung down. To access the mains terminals loosen the 8 fixing screws. Screw type or screw-less "cage clamp" terminals are fitted in the range of luminaires. Mains terminal blocks are marked L N Earth.

The maximum amount of insulation allowed beyond the throat of the terminal is 1mm. 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.

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 correctly introduced into place before reassembling the luminaire.

5.0 Inspection, Maintenance and Servicing

Safe servicing on the gear tray requires the mains supply to be isolated.

Individual organisations will have their own procedures for inspection and maintenance. 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.



Maximum Insulation Resistance Test 500V dc.

- 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. Refer to **6.2 LED Replacement**.
- 3 Check the front access cover screws for tightness.
- 4 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 cover bolts for tightness. Torque 16Nm
- 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).

The cover should be re-fitted with all screws fully tightened. Any replacement screws must be identical to the original. All are 18/8 stainless steel with a minimum of ISO262 Grade A4-70.

- 9 The front access cover should be opened periodically and checked for moisture and dirt ingress. The cable connections should be checked for tightness. The gasket should be checked for cracks or lack of elasticity, and if necessary, replaced. (It may well be practical to also replace the gasket on each occasion if this is at a 3-year interval). (supplied by Chalmit).
- 10 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.
- 11 Check that mountings are secure.
- 12 Clean the LED Diffuser.
- 13 If there is suspicion that the luminaire has suffered mechanical damage, a stringent workshop check should be made.

Important: *Where spares are needed, these must be replaced with manufacturer parts. No modifications should be made without the knowledge and approval of the manufacturer.*

6.1 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.

6.2 LED Replacement.

The need and frequency of replacing LED's be dependent on the functionality of the fitting. If it is continually running at high ambient temperatures it will affect the frequency of LED replacement. If it is necessary to replace the LED's, the LED's are mounted on boards that can be replaced individually. (The boards with LED's supplied by Chalmit).

Removal of LED assembly is as follows:

1. Remove front cover and disconnect positive and negative LED wires.
2. Remove wire end cap located on end plate to allow for free movement of LED wires.
3. Unscrew 4 off screws that secure the led module to the end plates.
4. Loosen off 4 off screws on one end plate to extrusion (complete removal not needed)
5. Remove old LED module by sliding blank side first (opposite from wired end)
6. Slide new wires from new led module through end plate IP sealed entry.
7. Move module in to position with wired end first.
8. Screw in the 2off screws at both ends of the LED module.
9. Tighten off 4 off screws on end plate for the extrusion.
10. Screw new LED module wires in to the corresponding terminal blocks

Replace Front cover and fully tighten all bolts.



7.0 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 therefore must not be treated as commercial waste.



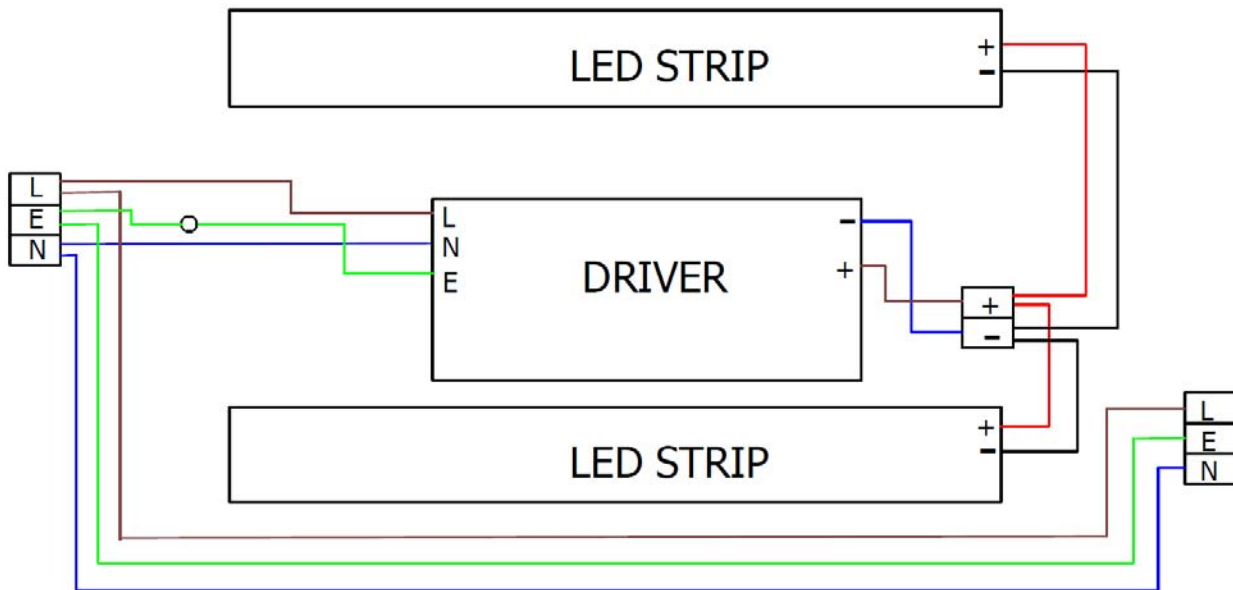
To comply with the Waste Electrical and Electronic Equipment directive 2012/19/EU the apparatus cannot be classified as commercial waste and as such must be disposed of or recycled in such a manner as to reduce the environmental impact.

Chalmit Lighting is a leading supplier of Hazardous Area lighting products

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

Note: Chalmit Lighting reserves the right to amend characteristics of our products and all data is for guidance only.



DOUBLE WING WIRING DIAGRAM - NON EMERGENCY with NO DALI



	EU-Declaration of conformity		
	UE-Déclaration de conformité		
	EU-Konformitätserklärung		
Manufacturer	Chalmit	Address	388 Hillington Road, Glasgow. G52 4BL Scotland UK
Product	Protecta X LED Industrial (Standard)		
Catalogue	PRXI/***/**/* Example: PRXI/02L/LE		
Area Classification	Industrial (Non- Hazardous)		
Ingress Protection	IP66/67		
Ambient	-25°C to +60°C		
Terms of the directive:		Standard & Date Certified to	Standards Date Declared to
2014/30/EU		Electromagnetic compatibility	EN 55015 : 2013
2014/30/UE		Compatibilité électromagnétique	EN 61547 : 2009
2014/30/EU		Elektromagnetische Verträglichkeit	EN 61000-3-2 : 2014
2014/35/EU		Low voltage equipment	EN 60598-1 : 2015
2014/35/UE		Équipements électriques à bas voltage	EN 60598-2-5 : 2015
2014/35/EU		Niederspannungsgeräte / -systeme	EN 60529 : 1992
2012/19/EU		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		RoHS II Directive	

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 Mark Poutney 01/05/2019
 Nom et Date
 Name und Datum

Technical Manager
 Directeur technique
 Technischer Leiter

Quality Management System Accreditation:
 Système de Management Qualité Accréditation:
 Qualitätsmanagementsystem Akkreditierung:
 Environmental Management System.
 Système de gestion de l'environnement.
 Umwelt kontroll system.
 Certificate No./Certificat N°/Zertifikat Nr.

ISO 9001

ISO 14001
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