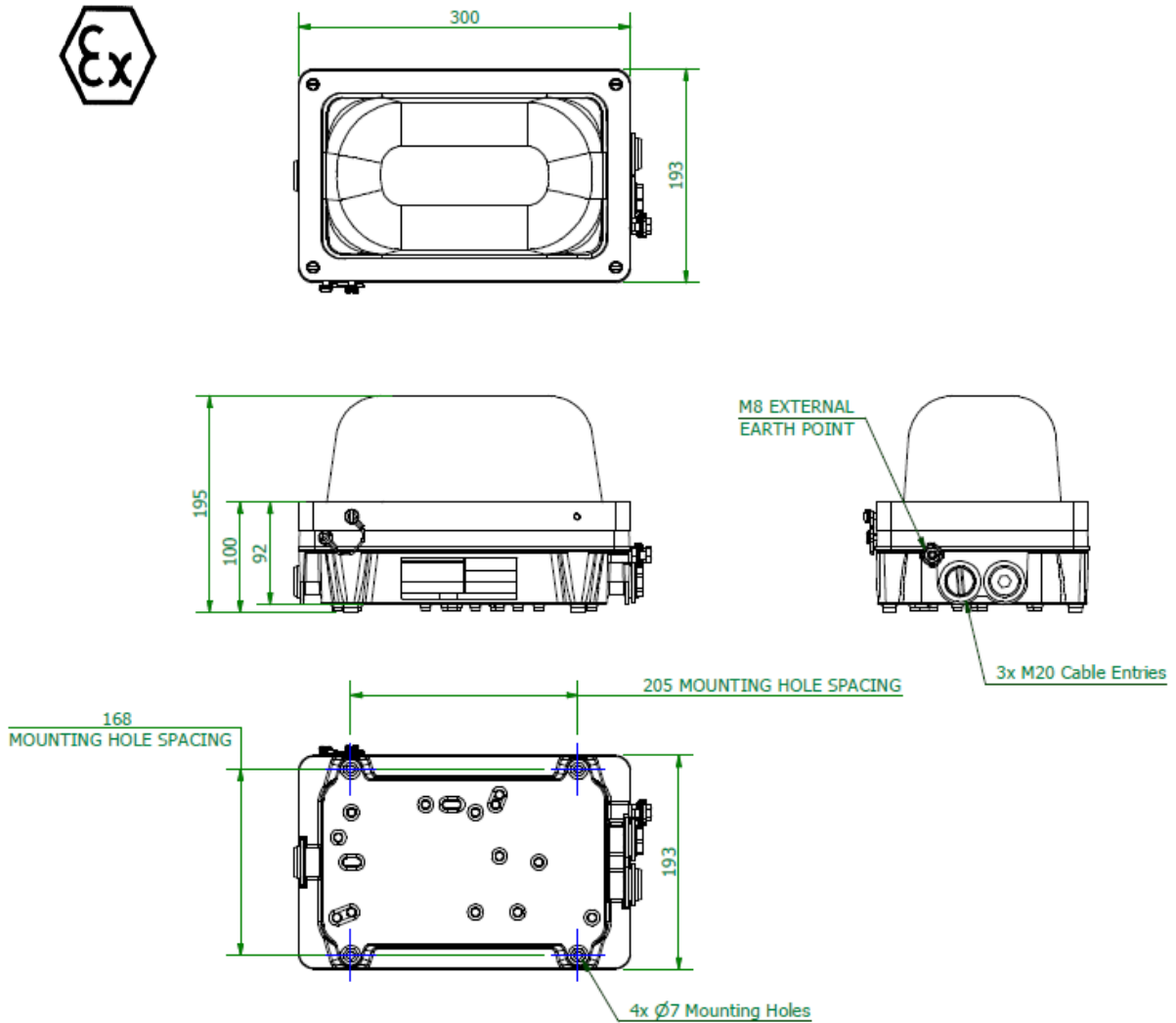



INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS

Nexus II LED - Bulkhead Luminaires

ATEX & IECEx

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



0.0 Specification	
Type Of Protection	Ex nR (restricted breathing)
Protection Standards	(IEC) EN 60079-0, (IEC) EN 60079-15, (IEC) EN 60079-31
Area Classification	Zone 2 areas to EN 60079-10-1 Zone 21 and Zone 22 areas to (IEC) EN 60079-10-2
Installation	EN 60079-14
Certificate	Type Examination Certificate Baseefa11ATEX0031X (Zones 2 and 22) EC-Type Examination Certificate Baseefa11ATEX0032X (Zone 21) IECEX Certificate of Conformity IECEX BAS 11.0017X (Zones 2, 22 and 21)
Equipment Coding	Ex nR IIC T6 Gc -45°C ≤ Ta ≤ 55 °C Ex tc IIIC T70°C Dc or Ex tb IIIC T70°C Db IP6X
ATEX Coding	Ⓜ II 3GD or II 2D
Ingress Protection	IP66 to EN 60529
Laser safety class	Class 1 LED product
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" and the "Equipment and Protective Systems intended for use in Explosive Atmospheres Regulations 1996". [This legislation is the equivalent in UK law of EU directives 2014/35/EU, 2014/30/EU, 2012/19/EU and 2014/34/EU respectively]. The Equipment is declared to meet the provisions of the ATEX directive (2014/34/EU) by reason of the Type Examination/EC Type Examination and compliance with the Essential Health and Safety Requirements. M Poutney Technical Manager

SPECIAL CONDITIONS FOR SAFE USE

The glass diffuser is suitable only for areas with low risk of mechanical impact otherwise a wire guard is required.

1.0 Introduction

The Chalmit Nexus II LED brings to hazardous areas the very latest in lighting technology. It is a compact light source that uses ultra bright light emitting diodes to provide light from mains power. The LEDs are maintenance free and can last up to 80000 hours or more. They are housed in an impact and corrosion resistant marine grade aluminium enclosure with a toughened glass lens. The control gear is electronic with regulated lamp output. The LEDs work equally well at very low temperatures as they do at high and produce a product with very low overall power consumption. The LEDs also emit no ultra-violet light and no forward heat.

The product is available with up to 12 leds and is also available in coloured led.

2.0 Application

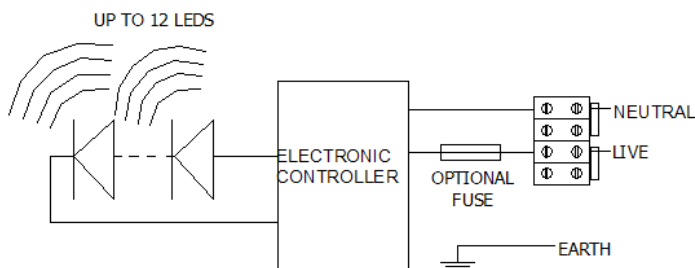
The type of protection is Ex nR using a restricted breathing enclosure. The luminaire is designed to be safe in normal operation. The luminaire should not be used where there are environmental, vibration or shock conditions above the normal for fixed installations. The gaskets should not be exposed to hydrocarbons in liquid or high concentration vapour states. The luminaire is suitable for applications where Category 3 apparatus can be used. The application is for ignitable gas atmospheres. It is also suitable for Category 2 Dust only environment. Where there is a high risk of mechanical damage a guard should be specified and fitted. (Refer to EN 60079-14). Where a guard is not fitted, the nameplate is marked X.

Table 1

Led	UP TO 12
Voltage range AC	110 - 254V
Frequency range Hz	50 / 60 Hz
Power Watts 110-254V	19W
Current Amps 220-254V	0.19 – 0.08A
Current Amps 110-130V	0.19A

The safety limit for surface temperature (T rating) is +/-10% on the rated voltage. Equipment should not be operated continuously at more than +10/-10% of the rated voltage of the control gear.

- Power Factor** 0.85 minimum
- EMC** EN 61547 EN 55015
- Over voltage** 400V ac for 1 min
- Looping** The looping current rating is 16A. 6mm² terminals are standard.
- Tamb Storage** -45°C to +55°C
- Storage** Luminaires are to be stored in cool dry conditions preventing ingress of moisture and condensation.
- LED** The LED used in the Nexxus II LED is the latest technology and is a class 1 LED product.
- Fuse and MCB Ratings** Current consumption of a 25W LED lamp unit is 90mA. It is recommended that for selection of MCB's users should consult the MCB manufacturer. MCB ratings can vary depending on the manufacturer and type and the size of the installation, i.e. impedance of conductors, however type 'C' breakers are usually suitable. The electronic control gear has an inrush current of 20A for less than 1ms on 230Vac. These figures are worst case with low resistance connections with short cables and low impedance supplies.



WIRING DIAGRAM

3.0 Installation and Safety

3.1 General

There are no health hazards associated with this product whilst in normal use. However, care should be exercised during the following operations. Installation should be carried out in accordance with *EN/IEC 60079-14* or the local hazardous area code of practice, whichever is appropriate, and fitting of specified insulating material to be adhered to where a specific fire resistance rating is required. In the UK the requirements of the '*Health and Safety at Work Act*' must be met.

Handling and electrical work associated with this product to be in accordance with *the 'Manual Handling Operations Regulations'* and '*Electricity at Work Regulations, 1989*'. Your attention is drawn to the paragraphs (i) 'Electrical Supplies', (ii) 'Electrical Fault Finding and Replacement' and (iii) 'Inspection and Maintenance'. The luminaires are class 1 and should be 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.

3.1.1 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 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 (IEC) EN 60079-10-2 & (IEC) EN 60079-14 for additional details of selection and installation.

3.1.2 Hybrid Mixtures – Gas and Dust

Where hybrid mixtures exist as defined in EN 1127 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.

3.2 Tools

3mm and 5mm flat blade screwdriver.

Suitable spanners for installing cable glands.

Pliers, knife, wire strippers/cutters.

3.3 Electrical Supplies

The standard unit is rated for a nominal 110V-254V AC 50Hz or 60Hz. A maximum voltage variation of +6%/-6% on the nominal is expected. (The safety limit for T rating is +10%). Equipment must not be operated outside of the rated voltage of the control gear. The lamp supply is regulated therefore the light output over the supply range is constant.

3.4 LED Module

This product is fitted with LED lamps that can last in excess of 80000 hours. Therefore in many applications replacement of the LED array will be unnecessary. If replacement is required ensure mains supplies are isolated before commencing work. The cover is released by unscrewing the four screws using a screwdriver. Unscrew the LED array fasteners lift the LED array mounting plate then disconnect the RED & BLACK cables from the array followed by the earth wire. Finally unclip the retaining strap. In the event that the LED Driver needs replacement first disconnect the cables then remove the screws. Assembly is the reverse of disassembly making sure that the polarity is correct, that the earths are connected and also ensuring the gasket/glass mating surfaces are clean and cables are not trapped.

3.5 Mounting

Luminaires should be installed where access for maintenance is practical and in accordance with any lighting design information provided for the installation. Mounting is by 4 holes in the base of the body casting external to

the gasket. These should be secured with lock washers or self-locking nuts and bolts and are accessed by removing the front cover. Any mounting attitude may be used.

3.51 Re-fitting gaskets

If the main sealing gasket needs to be replaced it should be retained in place using a layer of silicone adhesive. The body lip should be cleaned and the adhesive put into the gasket groove before fitting and clamping down

3.6 Cabling and Cable Glands

3.6.1 Cables

The maximum conductor size is 6mm². Internal earth point is provided next to the main terminal block. 300/500V cable ratings are adequate and no special internal construction is necessary. The standard looping cable size is up to 6mm². The selection of cable size must be suitable for the fuse rating. Terminals are supplied with suitability for looping. Where looping is used the maximum current is 16A. Terminals are accessed by removing the front cover and LED array. Maximum cable temperature rise is 20°C above ambient. The cable makeup must be suitable to ensure the obtaining of a restricted breathing enclosure when the cable gland assembly is fitted. It is strongly advisable to use a high quality and well filled cable with direct entry into restricted breathing luminaires.

3.6.2 Cable Glands

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

Cable glands and sealing plugs when installed must maintain the restricted breathing enclosure. Entries suitable for M20 cable glands are standard.

To maintain the restricted breathing properties of the enclosure a suitable cable gland such as a **Hawke 501/453/RAC** type should be installed or a cable gland satisfying the following requirements:

- The cable gland must satisfy the requirements for EN/IEC 60079-0 and must maintain an ingress rating of at least IP65.
- The certified cable gland is to be a compression type gland where the cable sheath is evenly compressed when tightened or an Ex d stuffing type or a punched seal type.
- To enable a reliable seal at the cable entry face a neoprene or silicone rubber washer and a stainless steel washer are provided for each entry and must be fitted.

Three tapped cable entries are provided, two with a plug and seal suitable for permanent use, the other with a travelling plug not suitable for use in service. Only two entries should be used at any one time. The third should be used as a test port. It is the user's responsibility to utilise a suitable testing device for testing of restricted breathing properties. Sealing plugs are similarly rated and a tool must be used for their removal. Cable entries are M20x1.5. Cable glands and sealing plugs must have ATEX approval or be certified to EN60079-0. For installation outside the EU suitable cable glands in accordance with IEC 60079-0 will meet the technical requirements.

The cable glands must be suitable for the application. Where brass cable glands are used in a corrosive environment, cadmium or nickel plating should be used.

3.7.1 Fused Terminal Blocks

When a fused terminal block has been fitted, it is essential that the fuse holder be retained by the metal clamp supplied.

4.0 Inspection and maintenance

Visual inspection should be carried out at a minimum of 12 monthly intervals and more frequently if conditions are severe; refer to EN/IEC 60079-17.

4.1 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.

4.2 Test Port

The test port entry has to utilise a suitable testing device for testing of restricted breathing properties. Routine checking shall be conducted according to EN/IEC 60079-17: 2007 clause 5.5. For the fitting to pass, the pressure **MUST NOT** fall from 3kPa to below 2.7kPa in a time of 14 seconds.

5.0 Routine Maintenance

Visual tests and checks should be carried out at intervals described by the appropriate regulations, EN/IEC 60079-17, and should include the following:

- Check that the LEDs are working.
- Check for mechanical damage/corrosion.
- Check for loose connections including earthing.
- Check for undue accumulations of dust or dirt.
- Verification of tightness of fixing, glands, blanking plugs etc.
- Check for unauthorised modifications.
- Check condition of enclosure gasket and fastenings.
- Check for any accumulation of moisture.

Periodic inspection of the enclosure seal should be carried out to ensure that the seal is sound.

If the luminaire has been subject to abnormal conditions, for example, severe mechanical impact or chemical spillage, it must be de-energised until it has been inspected by an authorised and competent person. If in doubt the unit should be returned to Chalmit for examination, and if necessary replaced.

Before re-assembling, all connections should be checked and any damaged cable replaced.


6.0 Disposal of Material

The unit is mainly made from incombustible materials. The control gear contains plastic resin and electronic components. All electrical components may give off noxious fumes if incinerated. Take care to render these fumes harmless or 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


	<p>CHALMIT LIGHTING PO Box 5575 Glasgow, G52 9AP Scotland</p>	
<p>Telephone: +44 (0) 141 882 5555 Fax: +44 (0) 141 883 3704 Email: info@chalmit.com Web: www.chalmit.com</p>	<p>Registered No: 669157 Registered Office: Cannon Place 78 Cannon Street London EC4N 6AF UK</p>	

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.

	EU-Declaration of conformity		
	UE-Déclaration de conformité		
	EU-Konformitätserklärung		
Manufacturer	Chalmit	Address	388 Hillington Road, Glasgow. G52 4BL Scotland UK
Product	Nexxus II LED Bulkhead Luminaire		
Type Examination Certificate	Baseefa11ATEX0031X (Ex tc),		
EC-Type Examination Certificate	Baseefa11ATEX0032X (Ex tb).		
Notified Body	SGS Fimko OY 0598		
ATEX Coding	 II 3 GD or II 2D	ATEX Classification	Group II Category 3 GD Group II Category 2 D
Equipment Coding	Ex nR IIC T6 Gc Ex tc IIIC T70°C Dc IP6X or Ex tb IIIC T70°C Db IP6X		
Ingress Protection	IP66		
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 60079-15, EN 60079-31			
Area Classification EN 60079-10-1, 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:		Standard & Date Certified to	Standards Date Declared to
Prescription de la directive:		Standard & date certifiée à	Normes date Déclaré
Bestimmungen der Richtlinie:		Standard & Datum Zertifiziert nach	Standards Datum erklärt
2014/34/EU	Equipment and protective systems intended for use in potentially explosive atmospheres.	EN 60079-0: 2009	2012
		EN 60079-15: 2010	
2014/34/UE	Appareils et les systèmes de protection destinés à être utilisés en atmosphères potentiellement explosibles.	EN 60079-31: 2009	2014
2014/34/EU	Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsfähigen Bereichen.		
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	01/01/2021	Technical Manager
Nom et Date			Directeur technique
Name und Datum			Technischer Leiter
			
Quality Assurance Notification by:	SGS Fimko OY	Quality Management System Accreditation:	ISO 9001
Notification d'assurance qualité par:	0598	Système de Management Qualité Accréditation:	
Qualitätssicherungsnotifikation durch:		Qualitätsmanagementsystem Akkreditierung:	
		Environmental Management System.	ISO 14001
		Système de gestion de l'environnement.	by/par/durch
		Umwelt kontroll system.	Lloyd's Register
		Certificate No./Certificat N°/Zertifikat Nr.	LRQ 4005876