

Protecta III
Acclaim
Curie Elite
Lomond
Evolution II
Nevis
NexLED
Sterling II
800 Series
Micronex/Maxinex
Nexxus II
Eclipse II

CHALMIT

Chalmit[®], formerly known as Andrew Chalmers and Mitchell was formed in 1910 as a supplier of marine equipment to shipyards in the west of Scotland. Today the company is one of the largest and most respected hazardous area and marine lighting companies in the world and supplies product internationally through sales offices and agents located in over 40 countries.

As part of the Hubbell Harsh and Hazardous division, Chalmit[®] can offer a global range of IEC & NEC products suitable for hazardous area lighting and apparatus installations on any continent and complying with all international codes and standards.

In addition to hazardous area luminaires, Chalmit[®] has in-house facilities for the design and manufacture of fluorescent and HID control gear. This capability provides Chalmit[®] with the ability to create ballasts tailored to meet the specific requirements of individual luminaires. These bespoke design services are also available to our customers upon request.



A CENTURY OF BRILLIANCE

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TECHNICAL INTRODUCTION

This technical guide outlines the design and use of equipment protected against the ignition of hazardous atmospheres formed from gases, vapours or dusts. The information given applies specifically to Chalmit[®] products and can also be used as a general guide.

The guide refers to equipment and methods complying with safety practices being used throughout the world. This material is included both for completeness and because Chalmit[®] operates throughout the world supplying all lighting requirements. Chalmit[®] hazardous area products are designed and manufactured in accordance with the best engineering practices and to well established construction standards for explosion protected equipment.

The equipment must be selected, installed, maintained and disposed of in accordance with any regulation or legislation appropriate to its use. Reference must be made to the data sheets and the certification applying to each individual product.

The guide also refers to construction standards and application codes. The correct application of protected equipment is a specialist subject and these notes must be treated as being only informative. In addition to the Chalmit[®] technical information users must themselves study the relevant codes of practice and construction standards.

Installation operation and maintenance manuals (IOM) are enclosed with each product and are available upon request. These contain information essential to the safe use of the equipment and must be read and understood by installers and users before putting equipment into service. Much of the information is also available on the Chalmit[®] website (www.chalmit.com). Usually this will be for the latest version of a particular range. If detailed information on superseded product is needed Chalmit[®] should be contacted directly.

International, Regional and National Standards - Ongoing Changes

This revised technical introduction was prepared in 2009 during a period of transition in the history of Ex standardisation. As such this section aims to highlight some of the current initiatives underway to simplify and rationalise product standards on a global scale.

The process of developing product standards which initially began with the invention of equipment for the safe operation of "gassy mines", led to the standardisation of the "flameproof" and "intrinsic safety" concepts for product design. The standardisation of equipment on a national basis is now in its final stage of transition with the final move towards global standardisation under the IEC Ex scheme. This may cause some confusion in the short term but leads to international uniformity.

IEC Standards & ATEX

The early IEC standards were largely based on the national standards of European countries.

The first EU Directive [1976] for product standardisation prompted the rapid development of Euro-normes [EN] which were numbered in the EN 50014 etc. series. Gradually the IEC 79 series, later re-numbered 60079- series were updated using the EN's as a basis but with growing international input. These were mostly the gas hazard standards. In the late 1990's it was agreed in CENELEC that all work that could be carried out at IEC level, would be, and the standards voted in parallel as IEC standards and EN's. These standards carry the EN 60079- numbering.

The second ATEX directive [1994], see later section, introduced further factors. The directive covers gas and dust hazards and both electrical and mechanical equipment. It introduced basic requirements for safety, the "Essential Health and Safety Requirements [ESHR's]". Three levels of safety Categories 1, 2 and 3 were defined effectively as:

Category 1 - "very safe and considering two possible equipment faults"

Category 2 - "safe with one fault"

Category 3 - "safe in normal operation"

Although the performance criteria of the Categories aligned with the expected area of application, the Zones, the designation of equipment protection by zone was removed. The selection of a particular type of explosion protection for a particular zone was by risk assessment.

Rationalisation

In order to eliminate this potentially long term anomaly at international level and to introduce the concept of a declared level of safety, IEC agreed to introduce "Equipment Protection Levels" [EPL's]. These EPL's are Ga, Gb and Gc for gas and Da, Db and Dc for dust. Ma and Mb also exist for mining. These are an alternative and additional specification for equipment made in accordance with the standards.

The key point is that the definitions of product performance are in effect identical to the ATEX Category definitions. In future, rationalisation may see the EPL's incorporated into ATEX.

The basic technical requirements for ATEX and IEC via the IEC Ex scheme (see the section on the IEC Ex scheme) will therefore be identical as EPL's are introduced right across the standards series. The ATEX marking is different from IEC and must be shown in addition to the IEC marking.

Sub-Division

A further effect of the introduction of EPL's is to give a definition to the emergence of sub-divisions in some of the protection concepts. The principle of sub-division is clear when one considers that Intrinsic Safety was divided into ia and ib and is now complimented by ic. Now encapsulation has sub-divisions of ma, mb and mc and Pressurisation has px, py and pz. Sub-division of other concepts may be developed in due course and some existing requirements in the Ex n standard may be relocated.

Standards for Combustible Dusts

A further change is the addition to the General Requirements IEC 60079-0 of general requirements common to protection against the ignition of combustible dusts. This enables the dust protection concept standards to be incorporated in the 60079 series.

As many equipment enclosures have certification for both gas and dust, this will be of benefit to both manufacturers and users. The current IEC dust standards are the IEC 61241 series. These cover test methods, construction and use. There are also various equipment standard concepts:

- tD, protection by enclosure
- pD pressurisation
- mD encapsulation.

As stated, where possible these IEC 61241 standards are being incorporated into the IEC 60079 series. In Europe these standards are becoming Euro Norms (EN's) and supersede the EN 50281 series.

Euro Norms

Because of the movement towards IEC, references to EN's are not used in this introduction except where there is no current Euro-norme in the IEC series, in which case the EN numbering in the EN 50014 etc. series will be given in brackets.

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Methods of Explosion Protection for Electrical Equipment in Explosive Gas Atmospheres

This catalogue contains a selection of lighting and ancillary equipment suitable for use in areas where explosive atmospheres may occur.

Explosive atmospheres can be ignited by sparks or hot surfaces arising from the use of electrical power.

The hot surfaces can be those of enclosures, components and light sources. Under fault conditions electrical connections may become over-heated and cause arcs or sparks.

In addition, sparks may be the result of the inadvertent discharge of stored energy or from switching contacts. Other possible sources of ignition are electrostatic discharges and frictional sparking.

A number of methods of protecting against ignition have been established and these have been codified in construction

standards. These codes enable manufacturers to design equipment of a uniform type and have it tested by certification authorities for compliance with the standards.

The basic methods of protection are summarised in Table 1.

Method	Type Of Protection
Designed to prevent any means of ignition arising	Ex e Increased Safety Ex nA Non Sparking tD (for dust hazards)
Designed to limit the ignition energy of the circuit	Ex i intrinsic Safety Ex op Optical Radiation Ex nL Energy Limitation
Designed to prevent the explosive mixture reaching a means of ignition	Ex m Encapsulation Ex pD Pressurisation Ex o Oil immersion Ex nR Restricted Breathing
Designed to prevent any ignition from spreading outside of the apparatus	Ex d Flameproof Enclosure Ex q Powder Filling Ex nC Non Incendive
Table 1 Methods of Evolos	ion Protection

General Requirements IEC 60079-0

This standard contains general requirements common to the series of standards for the protection sub-groups. Equipment will comply with the general requirements except where they are excluded or varied by the individual protection standard detailed below.

Ex d "Flameproof Enclosure" Protection - IEC 60079-1

The potentially incendive parts are contained within an enclosure into which the explosive atmosphere can enter but which will contain any resultant explosion and prevent its transmission outside of the enclosure.

Ex pD "Pressurised Equipment" Protection - IEC 60079-4

One type of pressurisation maintains a positive static pressure inside the equipment to prevent entry of gas and another maintains a continuous flow of air or inert gas to neutralise or carry away any explosive mixture entering or being formed within the enclosure. In the case of Ex pD, the source of release can be internal.

Essential to these methods are continuous monitoring systems to ensure their reliability and purging schedules on installation and following opening for maintenance.

Ex q "Powder Filling" Protection - IEC 60079-5

This technique involves the mounting of potentially incendive components in an enclosure filled with quartz or solid glass particles. The powder filling prevents explosive ignition. It was originally developed to protect heavy duty traction batteries. The method is now primarily of use where the incendive action is related to the abnormal release of electrical energy by the rupture of fuses or failure of components used in electronic equipment.

The likelihood of possible incendive failure of the components is assessed and precautions taken to minimise it. Usually Ex q is used for discrete sub-assemblies and components inside Ex e equipment.

Ex o "Oil immersion" Protection - IEC 60079-6

This is a technique primarily used for oil filled equipment. The oil acts as an insulating medium.

Ex e "Increased Safety" Protection - IEC 60079-7

Normally sparking components are excluded from this method of protection. Other components are designed to substantially reduce the likelihood of the occurrence of fault conditions which could cause ignition. This is done by reducing and controlling working temperatures, ensuring the electrical connections are reliable, increasing insulation effectiveness and reducing the probability of contamination by dirt and moisture ingress.

Ex i "Intrinsic Safety" Protection - IEC 60079-11

The circuit parameters are reliably controlled to reduce potential spark energy to below that which will ignite the specific gas mixture. This includes the occurrence of one (coded ib) or two (coded ia) component faults and consequent failures in the circuit. Ex ic has no countable faults.

It should be noted that this method does not entirely protect against the local over-heating of damaged connections or conductors. These should be kept sound and suitably enclosed against damage.

Ex n "Non Sparking" Protection - IEC 60079-15

For this method, precautions are taken with connections and wiring to increase reliability, though not to as high a degree as for Ex e. Where internal surfaces are hotter than the desired T rating, they can be tightly enclosed to prevent the ready ingress of an explosive atmosphere. This is the "restricted breathing enclosure" technique.

The 'Non Sparking' concept also requires that high ingress protection ratings of IP65 and above are built into the design. The coding Ex nR denotes that the protection method employs a restricted breathing enclosure. The restricted enclosure may be confined to the part of the equipment containing the hot components such as lamps. Where the normal non-sparking construction is used the coding is nA.

There are other sub codes nC - non incendive, which refer to simplified forms of other protection methods listed above. The codes are used individually.

The Ex n methods have been developed specifically for the design of equipment used in the remotely hazardous area, Zone 2. Ex n meets the basic requirements for ATEX category 3.

Ex m "Encapsulation" Protection - IEC 60079-18

Potentially incendive components are encapsulated, usually by organic resins, which exclude the explosive atmosphere and control the surface temperature under normal and fault conditions. The likelihood of overheating and disruptive failure of the components is assessed and precautions taken to minimise any effect on the protection.

Ex op "Optical radiation" - IEC 60079-28

This is primarily concerned with the control of pulsed and continuous wave optical radiation through fibre optic cable with restrictions on the ratio of emitted optical power to the irradiated area.

The protection concepts include Inherently Safe which is analogous to Ex i and provides over-power/energy fault protection. Other methods include mechanical protection of the fibre and optical interlocks.

Ex t "Dust Protection by Enclosure" - IEC 60079-31

This method is applicable to electrical equipment protected by enclosure and surface temperature limitation for use in explosive and dust atmospheres. This standard will supersede replace IEC 61241-1. IEC 60079-31 combines practices A and B into a single practice.

Protection against the Ignition of Atmospheres containing Dusts

Most of the gas protection techniques will in practice protect against dust ignition. The enclosure method, where dust is effectively excluded and the external surface temperature defined, is generally used for lighting.

In the product data this is referred to as "dust protected enclosure". This is currently standardised as tD with sub-division into Practice A and Practice B as defined in 60079-14. With the advent of EPL the coding tD will be superseded by ta, tb and tc, and Practice A and B will be combined.

Sub divisions of Ex m; maD and mbD, Ex i; iaD and ibD also Ex pD; pD have been introduced for dusts.

Classification of Hazardous Areas and the use of Protected Equipment

Codes of practice have been established for the classification of the potential hazards, the selection of suitable equipment to protect against the hazard and its installation and maintenance. The codes of practice list the methods of protection which, if used individually or in combination, may be employed to achieve an acceptable margin of safety.

The hazardous areas are classified in Table 2 according to IEC 60079-10-1 and IEC 61241-10-2.

Zone	Description			
Zone 0 and Zone 20	An area in which an explosive atmosphere is continuously present or for long periods or frequently			
Zone 1 and Zone 21	An area in which an explosive atmosphere is likely to occur occasionally in normal operation			
Zone 2 and Zone 22An area in which an explosive atmosphere is not likely to occur i operation but, if it does occur, will persist for a short period only				
Table 2 Hazardous Areas Classification				
Note: the definitions are for areas containing gas mist or vapour mixtures with air. The dust Zones have been added for ease of understanding and the definitions are effectively the same.				

The deployment of protected apparatus in hazardous areas classified to IEC 60079-10-1 and EN 60079-10-2 is summarised according to IEC 60079-14 in table 3.

Zone	Type of Protection Assigned to Equipment	EPL
Zone 0	Ex ia Ex ma and types of protection suitable for Zone 0 as constructed to IEC 60079-26	Ga
Zone 1	Any type of protection suitable for Zone 0 and Ex d, Ex ib, Ex py, Ex e, Ex q and Ex mb (Also see notes on Ex s protection)	Gb
Zone 2	Any type of protection suitable for Zone 0 or 1 and Ex n, Ex mc, Ex ic, Ex pz and Ex o (Also see notes on Ex s protection)	Gc
Zone 20	tD A20, tD B20, iaD and maD	Da
Zone 21	Any type of protection suitable for Zone 20 and tD A21, tD B21, ibD, mbD and pD	Db
Zone 22	Any type of protection suitable for Zone 20 or 21 and tD A22 IP 6X	Dc
	Table 3 Selection of Protected Equipment in Hazardous Areas generally according to IEC 60079-14	
The suffix A and B for the dust protection methods refer to the two Practices A and B for the assessment of temperature with and without dust layers.		

The EU ATEX Directives

The relevant directives of the EU are:

- 94/9/EC Equipment and protective systems intended for use in potentially explosive
- 99/92/EC Minimum requirements for improving the safety and health protection of workers potentially at risk from explosive atmospheres.

The directives are adopted into national law by the individual member states. Some candidate entrant states have also aligned their national regulations with ATEX.

ATEX covers hazards arising from the use of both electrical and mechanical equipment in explosive atmospheres. The ATEX equipment directive and the accompanying health and safety directive, specifying the protection of workers, apply to the European Union. The safety directive requires hazardous areas to be subjected to a risk analysis, classified into Zones and suitably equipped.

The manufacturer must make a declaration of compliance with the equipment directive and apply the CE mark before the product can be placed on the market in the EU.

The EU ATEX Directives (continued)

The individual governments of the member states appoint "Notified Bodies" to carry out testing and certification. Equipment is divided into Equipment Groups (Group 1 for mining and Group II for non-mining), the ignitable component of the explosive atmosphere, Gas (G) and Dust (D) and Categories 1, 2 and 3. The Categories provide respectively, very high and normal levels of protection against ignition.

The Categories should be considered as achieving the level of protection obtained by applying the existing protection techniques (Ex d, Ex e, Ex i, etc) no numerical basis has yet been devised for the expected safety level of categories or of equipment. Alternatively, the existing techniques can be replaced or supplemented by new concepts and engineering judgements made by the manufacturer in the design and construction of the equipment. Where required, this would be validated by Notified Bodies performing an EC type examination of the product.

In practice, the Categories are equated to suitability for Zones. The actual category of equipment specified by the user for a Zone will depend on the overall risk assessment. Zoning considers only the probability of the occurrence of an explosive atmosphere, its extent and duration. It does not consider possible consequential effects of an ignition having taken place, or of the environmental conditions at a particular site. Equipment will be marked with the Grouping and Category in addition to the marking required by the individual protection standards.

Protection Codes for Chalmit Products

The range of Chalmit[®] products fall within Group II for industrial and hazardous area applications and cover designation as Category 2 or 3. This means that products will generally be suitable for use in Zone 1 and 2 areas as defined by the codes of practice for area classification (IEC 60079-10) and selection (IEC 60079-14 etc). These codes of practice provide the user with guidance in selecting equipment needed to obtain the degree of safety that is required for the particular hazardous area application.

The ATEX directive lists "The Essential Health and Safety Requirements" (EHSR's) required to comply with the directive, in addition the product must be "safe". The term "safe" covers any property which is not covered by the directive, but is known to or could have been reasonably foreseen by the manufacturer. Compliance with the Euro-norme gives a presumption of conformity with those aspects of the directive covered by the standard. Lists of these standards are published in the official journal (OJ) of the EU.

The European Commission web site (www.europa.eu) contains a large quantity of material concerning the directives along with the actual directive itself and the guidelines for its application.

Examination Certificates

An EC type examination by a Notified Body is mandatory for Category 1 and 2 electrical equipment but not for Category 3.

Chalmit[®] have chosen to obtain a certificate of compliance from a third party for Category 3 equipment in order to ensure customer confidence and continue the long standing practice that Chalmit[®] has used for Ex n equipment.

The designation EC can not be used for certification of Category 3 equipment. In the data the term "type examination" rather than "EC type examination" is used for Category 3 equipment.



IEC & ATEX

The relationship between IEC Equipment Protection Levels, ATEX Categories and applications is shown below in table 4.

iec epl	ATEX Category	Degree of Safety	Design Requirement (condensed)	Expected Zone of use		
Ga	Category 1	Very high level Two independent means of pro-	Zone 0			
Da	Category 1	orprotection	dent faults	Zone 20		
Gb	Category 2	High level of	Safe with frequently	Zone 1		
Db	Category 2	protection	normal operating fault	Zone 21		
Gc	Category 3	Enhanced level	Safe in normal operation	Zone 2		
Dc	Category 3	of protection		Zone 22		
	Table 4 EPL, Atex Category, Design Requirements and Expected Application					

Equipment Protection Levels (EPLs) are used as part of a risk assessment approach to the selection of Ex equipment. It is beneficial to identify and mark equipment according to their inherent ignition risk thus making selection easier and provide the basis of a better risk assessment approach, where appropriate.

Marking of an ATEX Product and the CE Mark

A product that carries the ATEX marking will include the CE mark, $\mathbf{C} \in \mathbf{E}$, the Group, the Category and the Category sub-group G or D. The product also carries the normal coding, Ex d etc. and the surface temperature and ambient temperature (Tamb) ratings. The Group also forms part of the marking in the product standards and pre-dates ATEX.

The Category is additional to the the marking in accordance with the standard. This means that all of the familiar marking is still present. All products carry the general product safety and electromagnetic compatibility CE mark on the product, installation manual or packaging, as appropriate.

The marking attests that the product meets the requirements of the Low Voltage and Electro-Magnetic Compatibility (EMC) directives of the EU as transposed into UK law. If the product carries the CE mark for ATEX it is not repeated. The scope of compliance is given in the IOM. Products exported directly outside of the European Community are not required to carry any CE marking but local marking regulations may apply.

Surface Temperature Rating and Gas Grouping

Any explosive mixture can be classified for explosion protection under two main characteristics, temperature of ignition by a hot surface and the spark energy to ignite it.

The spark energy of ignition is also related to the intensity of the explosion. This latter property is crucial to the design of the joints in flameproof enclosures (Ex d) and the energy level limit of intrinsically safe (Ex i) and energy limited circuits.

Other important subsidiary characteristics are the specific gravity and flash point, which are used in the determination of the area classification.



Surface Temperature for Ignition

The surface temperature rating is measured in the most onerous design attitude at the most severe supply voltage condition within the design tolerance. Usually this is +10% of rated voltage for lighting and with any fault or overload condition which could normally occur in service.

A normal overload condition for motors may be the starting or stalled condition and, for luminaires, the end of life of a lamp. In the case of Ex d, Ex m, Ex q, Ex nR and dust proof enclosure methods, the maximum temperature is measured on the external surface. In other methods of protection the maximum internal temperature of the equipment is measured.

The explosive mixtures are allocated into broad bands giving the Temperature Classes shown in Table 5.

Temperature Class		Maximum Surface Temperature °C
T1		450
T2		300
Т3		200
T4		135
Т5		100
T6		85
Table 5	Classification	of Maximum Surface Temperatures for Electrical Equipment IEC 60079-0

For dust protection using the enclosure methods, the surface temperature is limited to a given value in °C, the T grouping prefix is not used.

Gas Grouping

The gases, vapours and dusts are classified as shown in Table 6. The possible number of chemical compounds is extensive and the list shown is only representative.

The changes introduced in IEC 60079-0 Edition 5 affect the marking of Groupings as all Group II and III equipment must be marked with the Sub-Division A, B, or C

Group	Representative Gases and Dusts
I	All underground coal mining. Firedamp (methane)
IIA	Industrial methane, propane, petrol and the majority of industrial gasses
IIB	Ethylene, coke oven gas and other industrial gasses
IIC	Hydrogen, acetylene, carbon disulphide
IIIA	Combustible flyings
IIIB	Non-conductive dust
IIIC	Conductive dust
	Table 6 Gas and Dust Grouping for Electrical Equipment for IEC 60079-0

Protection against the Ignition of Explosive Atmospheres formed from Combustible Dust



In this catalogue are products for use with ignitable dusts. Explosives dusts i.e. those not requiring the presence of air to ignite are outside the scope of ignitable dust protection.

With respect to the formation of an explosive atmosphere, the nature of dust is very different to that of gas or vapour. Dust, unlike gas does not disperse, it remains until cleared away by manual means or ventilation and can form layers. Layers of dust can ignite at much lower temperatures than clouds. This is because layers can insulate and increase the temperature and also because layers of some dust are prone to spontaneous combustion. The ignition of layers results in burning which can subsequently translate into an explosion. Layers have the potential to be disturbed and form clouds. Ignition data for dusts is given for clouds and layers. Typically, dust in a cloud form is harder to ignite than gas either by a hot surface or a spark.

The maximum allowable surface temperature for equipment present in dust clouds is de-rated from the actual surface temperature of ignition of the dust. The allowable surface temperature for layers is subject to further de-rating where layers exceed 5mm thick and extra heavy layers require special laboratory investigation by the specifier or user.

When installing floodlights, care must be taken to ensure that the face of the glass is positioned at such an angle that dust cannot settle. Ignitable atmospheres caused by dust may also be prevented from arising by ventilation, containment and by good housekeeping.

Area Classification

The area classification for dust is similar to that for gas, namely, Zone 20, Zone 21 and Zone 22, depending on the likelihood of a hazardous dust atmosphere being present (refer to table 2). As a generality, the zones are smaller than those for gas. Equipment may be marked as suitable for both gas and dust hazards.

If the equipment carries marking for both dust and gas this does not mean both at the same time.

Where an explosive gas atmosphere and a combustible dust atmosphere are or may be present at the same time, the simultaneous presence of both shall be considered and may require additional protective measures. The potential for ignition must be investigated by a qualified person.



Protection Methods

The enclosure method, where dust is effectively excluded and the external surface temperature defined, is generally used for lighting. In the product data this is referred to as "dust protected enclosure". This is now standardised as tD with sub-division into Practice A and Practice B. The next edition of IEC 60079-14 shall align with the protection concepts and include ta, tb and tc with Practice A and Practice B combined.

Sub-Divisions of Ex m; maD and mbD, Ex i; iaD and ibD also pD have been introduced.

The dust ignition protection method for products in this catalogue is by surface temperature limitation and enclosure to IP6X or IP5X as appropriate. IP6X is required for ATEX Category 1 and 2 and for conducting dusts in any Category. Ingress of a conducting dust can cause incendive insulation failure. IP5X is a minimum for Category 3. The surface temperature is limited to a given value in °C.

The table below outlines the difference between practices A and B.

Practice A	Practice B
Performance based	Performance based and prescriptive
Maximum surface temperature is determined with 5 mm layer of dust and installation rules require 75K margin between the surface temperature and ignition temperature of a particular dust.	Maximum surface temperature is determined with 12.5 mm layer of dust and installation rules require 25K margin between the surface temperature and ignition temperature of a particular dust.
A method of achieving the required dust ingress protection by the use of resilient seals on joints and rubbing seals on rotating or moving shafts or spindles and determining dust ingress according to IEC 60529 - IP code.	A method of achieving the required dust ingress protection by specified widths and clearances between joint faces and, in the case of shafts and spindles, specified lengths and diametrical clearances and determining dust ingress by a heat cycling test.

 Table 7
 Comparison of Practice A and B for Dust Protected Enclosures

Reference is also made in this catalogue to products for use in NEC Class II and Class III locations. NEC dust protected products are to UL 844. The construction and testing is different to that specified in the Euro-norme but is very similar to the alternative Practice B given in the IEC standard.

The IEC Ex Scheme

The IEC Ex scheme is an international certification scheme based on the use of IEC standards.

This is now well established and has a large group of participants including all the major manufacturing countries. In each member country, test laboratories and certification bodies have been vetted and joined the scheme. These organisations now accept each other's test reports prepared under the scheme and issue certificates of conformity with IEC standards. The certificates will carry the IEC certification mark.

The ultimate objective is the acceptance of one certificate regardless of origin to show that explosion proof equipment is safe for use. A fundamental requirement of the scheme is that participating countries align their national standards with IEC.

International Standards

Two distinct groups of equipment standards used world-wide are the IEC/EN (Euronorme) series of standards and those used in the USA and areas influenced by US practice. A large proportion of work on hazardous area and equipment standards is now being carried out at IEC level and almost all EN's are identical with IEC.

Many countries which have their own national standards have adopted the IEC standards in their entirety or incorporated material from them. The practice in the US has developed differently. The US engineering practice, legal requirements, regulations and the use of approval organisations such as UL, FM and ISA mean that, whilst the safety principles are much the same as in the rest of the world, the detail is significantly different. The US code of practice is the National Electrical Code (NEC) and the 'standard' exclusively used, until recently, for luminaires is ANSI/UL844.

This standard integrates the designation of the hazardous area in which equipment is designed to be used and the protection method. For lighting purposes the types of protection are a flameproof type and a non-sparking type. These are used in Class 1 Division 1, and Class 1 Division 2 areas which are broadly equivalent to Zone 1 and Zone 2 respectively. Dust and fibre hazards are Classes II and III.

The only basic technical difference between these and the equivalent IEC/EN standards is that the ANSI/UL844 'nonsparking' technique, known as 'enclosed and gasketed', does not use the restricted breathing method. This is one factor which accounts for the generally higher surface temperature ratings of ANSI/UL844 listed equipment and the practical need for a greater number of temperature sub-divisions. Another factor is that the ANSI standard specifies higher test pressures for flameproof equipment. In the case of HID luminaires this results in the lampglass being smaller and the surface temperature inevitably hotter.

The construction and testing of dust protected enclosures is different to EN but is currently partially incorporated as an additional alternative in the IEC standards. In both codes the gases and compounds are classified by surface temperature of ignition and grouped into ignition groups for the dimensioning of flameproof joints and for intrinsic safety. The classification and grouping are broadly similar to IEC but differ in detail. The classification and protection cannot be mixed and must be used as complementary pairs.

A general comparison between IEC and NEC practice for gas hazard protection is shown in Tables 8 and 9. The US standards are also influenced by the use of conduit wiring systems which, in contrast to cable, form a flameproof distribution method for Class 1 Division 1 and a damage and ingress protected distribution method for Division 2.

NEC - Zone Classification

The NEC has now introduced the Zone classification concept for gas hazards as an alternative to the Division method. To support this UL and ISA have now introduced their own IEC based protection standards for use in the alternative Zones. These standards are intended to become single ANSI documents. The objective is that the two systems will run in parallel until the older US system becomes obsolete. This will take many years. The new US standards, although based on IEC, may differ from IEC although great effort is being made to ensure that differences do not occur except where there are major difficulties such as the continuation of the long standing US practice of using ordinary motors in Class 1 division 2.

Certification to IEC based US standards can not be considered as being identical to IEC. The wiring methods currently remain unchanged from those traditional in the USA.

Products may be marked for both Divisions and Zones. Where product complies with the US standard based on IEC the designation AEx is applied on the marking.

Canadian Approvals

The Canadian practice has been a hybrid of US and European. The mining industry in Canada was much influenced by Europe which led to the use of European methods elsewhere. Through the joint accreditation system with the US (NRTL) there is a degree of overlap but the detail of this cannot be addressed properly in this introduction. Canada has now adopted the zone system for new construction.

Chalmit[®] is part of the Harsh and Hazardous division of Hubbell Inc, as such Chalmit can supply the products of sister company Killark providing a complete product portfolio to meet US and Canadian standards and codes.

The combined range is comprehensive encompassing the vast majority of lighting products needed to satisfy applications in hazardous areas throughout the world.

Maximum	Surface Te	emperature Classification
Temperature °C	EN 50014	ANSI/UL844
450	T1	T1
300	T2	T2
280	280°C (T2)	T2A
260	260°C (T2)	T2B
230	230°C (T2)	T2C
210	215°C (T2)	T2D
200	Т3	Т3
180	180°C (T3)	ТЗА
160	165°C (T3)	ТЗВ
160	160°C (T3)	ТЗС
135	T4	T4
120	120°C (T4)	T4A
100	Т5	Т5
85	T6	T6
Table 8 Comr	parison of Surface Temperature Classificat	ion IEC and NEC

8 Comparison of surface remperature Classification IEC and NEC

Representative Gas	Explosion Group IEC 60079-0	Explosion Group National Electrical Code
Acetylene	IIC	А
Carbon disulphide	lic	В
Hydrogen	lic	В
Ethylene oxide	IIB	В
Hydrogen sulphide	IIB	с
Ethylene	IIB	С
Acrylo-nitrile	IIA	D
Industrial methane	IIA	D
Propane	IIA	D
Ethyl acetate	IIA	D

Table 9 Comparison of Representative Gases in IEC and NEC Gas Groups

Ingress Protection

The surface temperature classification and gas grouping are the primary safety considerations. A major secondary parameter is protection against the ingress of solid bodies and liquids. In some cases the degree of ingress protection (IP) forms part of the standard requirement of the explosion protection method.

Where equipment is used in dirty or wet conditions, high resistance to ingress contributes to the reliability of explosion protection in that electrical faults within the equipment are often the result of water ingress.

For Chalmit[®] products, the appropriate standard is IEC 60529. The definitions of the IP code are summarised in Table 9. It will be noted that many Chalmit[®] luminaires have both IP66 and IP67 ratings. This is because the IP66 test can be more severe than IP67 for some constructions. The US has a system using the ANSI/NEMA 250 code which is similar but also contains tests for corrosion resistance.

First Digit Numeral	Degree of Protection (Foreign Bodies)	Second Digit Numeral	Degree of Protection (Liquids)
0 🐓	No protection	° 🐓	No protection
1 50 1	Protection against ingress of large solid foreign bodies	1	Protection against drops of water
2	Protection against ingress of medium sized solid foreign bodies	2	Protection against drops of liquid falling at any angle up to 15° from vertical
3	Protection against ingress of small solid foreign bodies greater in diameter than 2.5mm	3	Protection against rain falling at any angle up to 60° from the vertical
4	Protection against ingress of small solid foreign bodies greater in diameter than 1mm	4	Protection against splashing. Liquid splashed from any direction shall have no harmful effect
5	Protection against the ingress of dust in an amount sufficient to interfere with satisfactory operation of the enclosed equipment	5	Protection against water projected by nozzle from any direction
6	Complete protection against ingress of dust	6	Protection against powerful water jets
			Protection against temporary immersion in water
		8	Protection against indefinite immersion in water. Tests to be agreed between supplier and cus- tomer.
	Table 10 Definition	on of Ingress Prot	ection

Resistance to Mechanical Damage

The standards usually contain two levels of impact resistance these being appropriate to high and low risk of impact. The selection will depend on the mounting position. If the equipment is only suitable for low impact the certificate is suffixed X or the information is included in the installation information.

The tests are conducted at both below the lowest permitted ambient temperature and above the highest. 10 Joules is equivalent to 1 Kilogram dropped from a height of 1 metre. A 25 mm diameter hemispherical steel impact piece is used. Chalmit[®] equipment usually exceeds the minimum level by a substantial margin.

Part of apparatus tested	Impact energy in Joules IEC 60079-0				
	High risk of mechanical danger	Low risk of mechanical danger			
Enclosures and Guards	7	4			
Light transmitting parts without guard	4	2			
Light transmitting parts with guard when tested without guard	2	1			
Table 11 Impact	t Energy Requirements for IEC 60079-0	Group II Equipment			

IK Code

In addition to the index of protection against the ingress of foreign bodies and liquids, a third figure is sometimes quoted. This relates to the minimum levels of resistance to mechanical damage as measured by test methods producing an impact energy measured in Joules or Newton metres.

It is often referred to as the IK code, the levels of protection for this index are detailed in Table 12 below. The test method is not the same as in the IEC standards.

IK Code	IK00	IK01	IK02	IK03	IK04	IK05	IK06	IK07	IK08	IK09	IK10
lmpact energy (Joule)	а	0.14	0.2	0.35	0.5	0.7	1	2	5	10	20
^a Not protected to this standard											
Table 12 Impact Energy Requirements IK Code											

Compliance with General Product Standards

Luminaires are designed to comply with normal product construction standards, such as IEC 60598, where the requirements do not conflict with those in the Ex protection standard. This also applies to internal components such as lampholders, terminals and control gear.

Equipment complying with the individual product standard will have its internal components operating within their own rated parameters when operated at the maximum rated ambient temperature of the finished product. This contributes to the reliability and, ultimately, the safety of the installation. Compliance with product standards is the normal method of claiming compliance with the Low Voltage Directive of the EU.

Operational Temperatures - Tamb

The operational temperature limits, Tamb, are based on both product function and the Ex protection standards. As a general guide the normal upper limit is 40°C but some equipment is rated at other temperatures which may be linked to the surface temperature rating or the temperature limit of operation. The normal lower limit for Ex products is -20°C unless otherwise noted on the certificate or data. 40°C to -20°C is the standard level given in IEC 60079-0 and if these are the limits, the product does not need to be marked with the Tamb.



Where the range is other than 40°C to -20°C the upper and lower limits are both marked. The lowest certified Tamb is not always the actual lowest temperature for functional operation, especially for luminaires where the lamp may not be suitable because of temperature limitation.

In some cases the lowest temperature for Ex use is lower than a temperature at which the lamp will start or the product will function properly. The lower limits of operation and starting for lamps and for batteries can be obtained from Chalmit[®]. A guide is -40°C for HPS, -30°C for Metal halide, -25°C for Mercury vapour, -45°C for LED and as low as -30°C for fluorescent depending on the control gear used and -10°C for battery operated equipment.

'X' suffix on Certificate

Some products carry a suffix 'X' after the certificate number. This denotes "special certification conditions". These are given on the certificate and in the installation manual. The conditions usually relate to cable entry, operation, lamps, orientation, installation position and location, impact level or maintenance. They must be observed by the user.

Delayed Opening



In those cases where internal temperatures are greater than the T rating or where energy is stored in electrical components, a delay before opening is marked on the equipment. This will give a minimum time limit to be observed following the interruption of electrical power. This allows for cooling and discharge of energy. It applies most practically to Ex d equipment.

For Category 3 equipment, opening times are not usually given as it is inferred that an explosive atmosphere is unlikely to occur during maintenance operations.

Cabling and Cable Glands

Ex d floodlights and well-glass luminaires in this catalogue feature indirect entry via Ex e terminal enclosures. This means that the terminal chamber is separated from the main chamber by a flameproof barrier. Cable glands must satisfy the requirements for Ex e entry with reference to IP rating and impact. The cables must satisfy any requirement laid down in an installation code of practice.

Where the entry is via an indirect Ex d terminal chamber or directly into an Ex d enclosure, Ex d cable glands must be used. The method for selecting cable gland types for Ex d is set out in the code of practice IEC 60079-14.

Where glands are fitted as part of the equipment, the diameter of the supply cables used must be suitable for accommodation within the cable glands supplied. If not correct, the glands must be replaced by the user. The terminal size and looping facility available is shown in the product data sheets and Installation Operation Manuals (IOMs). Where there is an option, the requirement must be stated on the order. Equipment is usually despatched with one or more permanent entry plug(s) and one travel plug which will keep out moisture during transport, storage and initial installation.



Ex nR with a restricted breathing enclosure is provided with a means of achieving the gas-tight seal needed to attain the protection method. It is the responsibility of the user to ensure that the cable entry system is satisfactory.

In relation to cable temperature, some products require to be supplied with cables with temperature ratings above 70°C (ordinary PVC), particularly where the product is rated for higher ambient temperatures. The cable temperature is shown on the rating plate and in the IOM. The rating is based on the maximum rated ambient. Where cable temperatures exceed 70°C at the maximum rated ambient, Chalmit[®] now gives the actual temperature rise at the cable entry. The user can relate this to the actual operating condition and select appropriate cables. At their own discretion users may choose to adjust the cable temperature ratings of those products with specific cable temperatures on this basis.

For Ex nR luminaires in this catalogue, the cable glands which may be used are listed in the certificate pertaining to that piece of equipment. This is to ensure that the restricted breathing properties are maintained. A list of suitable cable glands is given in the installation leaflet supplied with the product and available upon request from Chalmit[®].

Where cables do not enter directly into the restricted breathing enclosure the designation is Ex nA nR and special glands are not required, however the ingress protection and impact requirements must be met. Information on this can be found in the individual product installation leaflet.

Lamps and Control Gear

Lamps fall into two broad categories, incandescent lamps where the light is generated by a hot wire element and discharge lamps where the light is generated by an electrical discharge enclosed in a containment vessel usually referred to as the arc tube. Discharge lamps either produce light directly from the hot gas discharge, as is the case with high pressure sodium and metal halide, or by conversion from UV to visible light using a phosphor which absorbs one wavelength and emits another. Phosphors are used in fluorescent and mercury vapour lamps.

Apart from some specialist "induction" lamps where the plasma is generated by an external magnetic field, the electrical arc in discharge lamps is formed between electrodes within a vessel or arc tube. Discharge lamps are divided into two types. Low pressure lamps with an evacuated glass vessel filled with inert gas at low pressure and a small amount of metal, usually mercury, and high pressure types where the quartz or ceramic arc tube is filled with sodium, mercury and sometimes a combination of rare earth metals which vaporise at high temperature.

The high pressure lamp types have an outer evacuated enclosure to reduce heat loss and protect against the severe corrosion which would occur if the hot arc tube were to be exposed to the atmosphere.

The electric arc generated to strike the lamp is unstable so control gear is needed to stabilise it, hence the common term "ballast". Some discharge lamps are designed so that they can be initiated at normal mains



designed so that they can be initiated at normal mains supply voltage but the optimisation of output and efficiency usually means that an enhanced voltage is needed to initiate the arc. Depending on the requirement, this is produced by resonant circuits which boost the voltage during starting or by a separate ignitor producing a high voltage pulse. Fluorescent lamps have cathodes which are usually pre-heated providing ionisation to aid initiation of the arc. Ex e fluorescent lamps use cold start technology to initiate the electrical arc.

Light emitting diodes (LED) produce light directly by using solid state technology. These are being developed rapidly and have now reached output levels and efficiency where they can be used for illumination rather than decoration and indication also providing extended, maintenance free installation.

Lamps and Control Gear (continued)

The different types of lamps have various characteristics: instant light/slow run up; instant re-strike/long delay: good/poor colour rendering (colour rendering is a method of comparing colours as they appear under a given lamp with their appearance in natural daylight); long/medium life; high/low efficiency; cost; size; fragility; ability to run at low or high temperature; vibration resistance; maximum power; etc. Some lamps are so hot or so bulky that their use must be confined to certain types of Ex protection.

No single lamp type is ideal for all lighting applications but a combination of fluorescent and powerful high intensity discharge lamps will accomplish most tasks. The user must select the combination of light source and protection which suits the application. Table 13 gives a summary of lamp characteristics and their application as applied to general Ex usage. It must be stressed that this is a broad summary and that considerations of lamp economics are both complex and subjective. This applies especially to views on economical life.

Details of the specific lamp types required for individual Chalmit[®] luminaires can be found in ordering information section at the end of this catalogue.

The lamp output shown is given in lumens. The lumen is a unit of light which quantifies the amount of luminous power in the visible range. Large diffuse light sources such as fluorescent and coated HID types can not readily be focussed. The ability of the lamp and luminaire to deliver the light to a working surface varies considerably with the lamp type, reflector and luminaire design.

As a general rule, the smaller power lamps of each type have lower efficiency and shorter lives, often significantly so. The lamp manufacturers provide large amounts of data but the tables of lamp mortality combined with the reduction of output over the lamp life (lumen depreciation) need to be studied carefully to make a refined judgement. The amount of switching is also an important factor.

Lamp Type	Tubular Fluorescent and 2 Leg Compact	Compact Fluorescent	High Pressure Sodium	Metal Halide	Mercury Vapour	Incandescent. GLS and Tungsten Halogen	Light Emitting Diodes (High Power LED) ****
Lamp Power range W	18 to 58W	9 to 55W	70 to 1 kW	70 to 2kW	80 to 400W	40 to 2000W	Up to 8W
Output range Lumens	up to 6000	up to 4800	6000/13000**	5000/20000	3400/22000	375/3100	Varies
Physical size	Long	Small	Small to medium	Small to medium	Medium	Medium	Very small
Temperature of lamp	Cool	Cool	Hot	Very hot	Medium	Medium to very high	Cool
Efficiency lumens per circuit watt	up to 90	Up to 85	Up to 125	Up to 90	Up to 70	Up to 21	Up to 90
Instant light	nt Yes		No ***	No	No	Yes	Yes
Lumen depreciation	Slow	Slow	Negligible	Quick	Slow	Negligible	Slow
Colour rendering Ra	Good up to 90	Good up to 90	Poor up to 40	Good up to 90	Fair up to 65	V Good 95/100	Good up to 90
Economical life max (hrs)	40000*	12000	30000	12000	10000	1000	Up to 60000
Ability to be focussed for floodlighting	No	Limited	Good (tubular)	Good (tubular)	Limited	Some (tubular linear)	Yes
Emergency operation	Easy	Easy	No	No	No	Very easy (but inefficient)	Yes
Vibration resistance	Medium	Medium	Good	Good	Good	Poor	Very Good
Most common equipment Ex protection methods	ExnA Exe	Exn Exd	Exd ExnR	Ex d Ex nR	Exd ExnR	Exe Exd ExnR	Ex e Ex nA Ex d
T amb range °C	-20 to 55	-20 to 55	-50 to 60	-30 to 55	-20 to 55	-50 to 60	-55 to 55
Common T ratings	T6 to T4	T6 to T4	T4 to T2	T4 to T2	T4 to T2	T6 to T2	T6 to T4
	Tabla	12 Summan	of Lamn Char	storictics and the	oir Application		

* Most fluorescent lamps have an economical life of 15,000 hrs but some higher specification lamps are available which can run economically for up to 60,000 hours.

** Equal to or less than 48,000 hours when "twin arc" lamps are used. (See note below)

*** HPS lamps are available which have two arc tubes in parallel inside the same envelope and are commonly known as "twin arc" lamps. They give 15% light output immediately after a brief supply interruption which extinguishes the lamp. They also give a longer service life.

**** LED figures represent single chip devices; multichip devices can consume considerably more power. Economic lifetime and efficiency are directly affected by temperature.

Lamp Standardisation

Most IEC type lamps are now standardised in form and cap dimensions even when, as newly developed lamps, they are not included in a standard.

The US type lamps are generally somewhat different and are designed for use with US control gear. Some US fluorescent lamps are superficially identical to IEC lamps but may not run reliably on IEC control gear and vice versa. In addition, some US HPS lamps are identical in operating characteristics with IEC lamps but others have different operating characteristics. US and IEC lamp-cap sizes are often different.

US metal halide lamps usually have quite different operating characteristics to European lamps and there are many varieties. Most must be operated on US control gear and sometimes a specific make of control gear if warranties are to be valid. Great care must be taken with the use of all metal halide lamps and details of their application will be found in the instruction manuals.

Most products for IEC applications in this catalogue are designed to use metal halide lamps compatible with HPS (SON) ballasts. Lamps will also run satisfactorily provided they are compatible with both HPS and MBFU ballast impedances. In all cases check control gear for compatibility. If in doubt with metal halide lamps please contact your local Chalmit[®] representative.

Care must also be taken with the specification of compact fluorescent lamps, particularly whether they need to have a starting switch in the lamp. Most of the luminaires in the catalogue use 4-pin compact fluorescent lamps without internal starter switches. HPS/SON lamps with internal ignitors must not be used in Ex n or Ex N equipment. All Chalmit[®] HID luminaires are suitable for use with twin arc HPS/SON lamps.

Please consult Chalmit[®] or your local representative if there are any uncertainties concerning lamps.

Control Gear and Electrical Supplies



Incandescent, tungsten-halogen and MBTF(self ballasted discharge) lamps are matched to the supply available and must be ordered accordingly. Discharge lamps are matched to the supply by the use of control gear. The control gear may be suitable for a single rated voltage or, by having taps or by a 'universal' or regulating design, may be suitable for a range of rated voltages. Usually discharge lamps will be standardised, refer to the section above on lamps for possible miss-match. Supplies will have a tolerance on the rated or nominal voltage and, in general, the lamps will have a shorter life and produce more light when the actual voltage is higher than rated.

This effect is reduced or eliminated with full regulation, usually by electronic control. Electronic control is now common for fluorescent lamps and this gives

additional benefits in efficiency and lamp life. There are however technical and operational problems with the use of electronic control for HID lamps. In particular these concern the temperature limitations of economical electronic power supplies. Also the efficiency benefits are proportionately much lower than for fluorescent lamps. For these reasons electronic control for high power HID lamps is some way in the future. Operation above rated voltage will also reduce the life of control gear and enclosures, especially where operation is continuous and at the maximum allowable Tamb. The product standards are currently based on having a normal maximum variation of +/-6% and an extreme variation of +/-10% of rated voltage.

There is a problem in the UK caused by the rationalisation of nominal supply to 230V throughout the EU. The nominal supply in the UK is now 230V whereas the actual measured supply usually remains at or near 240V. Most Chalmit[®] products will have a number of taps which can be selected to match the actual average supply voltage. Continuous operation at more than 6% above of the nominal control gear setting is not advised. To avoid this occurring the ordering of equipment for the actual site voltage or with taps or the use of control gear having regulated operation is required. Many Chalmit[®] products with wound control gear are power factor corrected to values greater than 0.85 depending on the lamp and supply voltage and frequency. PFC can be omitted where supplies have large harmonic components which could damage capacitors.

Products with electronic control gear have a power factor near unity. Further information is contained in the product installation manuals available to download from the website (www.chalmit.com). Most Chalmit[®] control gear for high pressure discharge lamps now has thermal protection against the possible effects of rare faults occurring when lamps reach the end of their life.

Emergency Lighting

Some luminaires for emergency lighting are contained in the catalogue. Where remote battery supplies are available these can supply GLS or tungsten-halogen lamps of appropriate rating from dc supplies.

Luminaires such as Protecta III, Acclaim, Curie Elite, NexLED and Stirling II with electronic ballasts, can power fluorescent lamps from dc supplies. Most of the remaining range can be run at mains ac voltage from a UPS but the characteristics of the UPS must be compatible with those of the luminaire. For details of operation where full information is not included in the catalogue refer to Chalmit[®] technical sales (techsupport@chalmit.com). The Protecta III, Acclaim, Curie Elite and Stirling II luminaires are also available with integral, self contained nickel-cadmium batteries to provide illumination on ac mains failure. The output is a given percentage of the full luminaire output depending on the lamp size chosen and the duration required.

Applications

Chalmit[®] luminaires use a wide range of lamps, each of which is suited to its particular application. The use of high intensity discharge lamps in floodlighting and high bay applications reduces the number of luminaires required with a consequential reduction in the amount of installation and maintenance time as well as cost.

The Chalmit[®] range also includes a number of luminaires for single point or local illumination and those using fluorescent lamps provide instant illumination of good light quality using low cost sources. The HID sources allow a compact luminaire construction that will reliably attain a high degree of ingress protection. Many fluorescent sources and the smaller HID sources can be housed in luminaires having plastic enclosures and these have additional applications in certain corrosive environments. The wide range of products and lamps ensures that Chalmit[®] can supply the correct luminaire for the application.



To assist you in developing a lighting design that will provide the optimum performance from Chalmit[®] products for your specific applications, Chalmit[®] have developed a user friendly lighting design package called CHALMLITE[®]. This software

programme is available free of charge and includes unique internal & external quantity estimators to provide a quick indication of the luminaire quantities required.

Chalmit[®] also offer a lighting design service to assist in the development of complex lighting designs tailored to meet exact project requirements.

Glossary

ANSI	American National Standards Institute	ITS	Intertek Testing Services (formerly part of ERA)
ATEX	Abr. Directive 94/9/EC Equipment and protective systems intended for use in potentially explosive atmospheres		Netherlands Testing Laboratory
DACEEL			An independent company assessing business processes and products to internationally recognised standards
BASEEFA	British Approvals Service for Electrical Equipment in Explosive Atmospheres. This was a government organisation that is now closed	NEMA	National Electrical Manufacturers Association (US)
BASEEFA	A private organisation which has taken on much of the work of BASEEFA		Nationally Recognised Testing Laboratories (US)
2001			SIRA Certification Service (UK)
CAA	Civil Aviation Authority (UK)	SOLAS	Safety of Life at Sea (convention)
CEN	Committee European de Normalisation	т	Surface Temperature (Max)
CENELEC	Committee European de Normalisation Electrique	Ta/Tamb	Ambient Temperature
CIE	Commision Internationale de Leclairage	UL	Underwriters Laboratory Inc.
CSA	Canadian Standards Association		LAMP TYPES
EC	European Communities	HID	High Intensity Discharge
EECS	Electrical Equipment Certification Service (UK). Parent organisation	CFL	Compact Fluorescent
	of BASEEFA, now closed	MBFU	Mercury Vapour
ERA	The Electrical Research Association (hazardous area testing section became part of ITS)	MBI/HQI	Metal Halide
EU	The European Union	MBTF	Blended Mercury Vapour
FM	Factory Mutual (US)	SON/HPS	High Pressure Sodium
IEC	International Electro-technical Commission	тн	Tungsten-Halogen
IP	Ingress Protection	QL	Induction Lamp
ISA	Instrument Society of America	LED	Light Emitting Diode

PROTECTA III



Bolted through suspension points & fully compressed gasket

Construction

• Tough glass reinforced polyester body • Polycarbonate diffuser with high resistance to UV and stress cracking • Robust hinges and multipoint compressive clamping of diffuser closure • EPDM gasket with sealing lip Bolted through suspension points for great strength IP66/IP67 and deluge tested to DTS-01



control gear



Quick release mains terminals to ballast & battery for ease of maintenance

Protecta with diffuser opened . 100

Reverse side of gear tray

Reliability

- Robust electronics with End of Life (EOL) protection to IEC 60079-7
 - with EOL I and EOL II functionality
- Outstanding electrical immunity to mains disturbances including over-voltage, harmonics and spikes • Vibration tested to DNV/Lloyds requirements
- Functional 9 minute self test every 13 days with full discharge and recharge self test every 3 months
 - Comprehensive charge and discharge control management for maximum battery life
 - Continuous monitoring of charge and function with fault indication and diagnosis
 - Temperature resistant Ni-Cd battery technology

KEY FEATURES

Performance

- Automatic commissioning of emergency versions

 Regulated output, light is constant over full supply voltage range
 Very high electrical efficiency > 92%

 Excellent light output in emergency operation:

 18W = 50% of one lamp,
 36W = 45% of one lamp (/HEO option)
 Optional 3 hour emergency duration to EN 60598-2-22
 Rapid recharge to 80% capacity
 Universal Remote Emergency Inhibition
 - can be used with other pre-existing systems



20% greater light output at -20°C compared to other manufacturers



Patented automatic lamp de-energisation on opening





Quick release mains terminals

ease inals

Screwed connection (optional)

Installation and Maintenance • Standard fixing centres

- All parts mounted on gear tray, can be quickly removed leaving an Ex safe configuration
 - Screwless mains terminals for rapid connection, no need for periodic checks
- Plug and socket battery connection for quick connection guaranteeing correct polarity
 - Can be voltage tested with suitable current limited instruments
 Emergency lamp fault detection before the lamp becomes un-serviceable
 - Self testing of battery capacity with low capacity LED indication
 - Patented automatic lamp de-energisation on opening
 - Common spare parts across Ex e fluorescent range (Protecta, Acclaim, Curie Elite)

Bi-colour LED indication

PROTECTA III

Ex e FLUORESCENT



The Protecta III is a proven and reliable T8 fluorescent luminaire. The Protecta's rugged, corrosion resistant construction (IP66/IP67) combined with an advanced high frequency ballast ensure minimum product maintenance is required.

When access is required the Protecta III features an easy access clamp bar and automatic lamp de-energisation to allow quick and easy re-lamping.

	Standard Specification	Features		
Type of Protection	Ex e mb q (Increased safety Encapsulation	Simple rugged construction		
ATEX Classification	Powder filling) Group II Category 2 GD	Full length easy access diffuser clamp		
Area Classification	Zone 1 and 21 areas to EN 60079-10-1 and EN 60079-10-2 with installation to EN 60079-14	Advanced control gear gives 50/60Hz operation, high power correction factor		
Certificate	EC Type Examination Certificate Baseefa04ATEX0220	and regulated lamp output that is 20% greater at -20°C than competitors		
Coding	⟨€͡x⟩ II 2 GD Ex e mb q lIC T4 Tamb 55°C	Resistant to voltage fluctuations		
Enclosure	GRP body with polycarbonate cover	dc operation		
Reflector/Geartray	and brass suspension points White polyester painted zinc coated steel	Automatic lamp de-energisation on opening		
Entry	4 x M20 cable entries, 2 at each end	Quick release mains terminals		
Termination	Quick release mains terminals - 3 core 4mm ² max. conductor with looping and 16A rating	. DTS-01 deluge tested		
	through wiring. (6mm ² terminations available - /SC option)	Vibration tested to comply with Lloyds/DNV		
Installation	Two M8 tapped brass inserts located on rear of body	End of life (EOL) protection to IEC 60079-7		
Control Gear	High Frequency	(with EOL F and EOL II functionality)		
Relamping	Quick release diffuser clamp and hinged cover			
Lampholder	G13 (Bi-pin)	International Approvals		
Burning Position	Universal			
Ingress Protection	IP66/67 to EN 60529	ATEX, GB (China), GOST, CSA and CEPEL		
Electrical Supply	220V - 254V 50/60Hz, 220 - 300V dc	IECEx Compliant		

ATEX CATEGORY 2 ZONE 1 & 21 APPLICATIONS

S	Std. Cat No.	Wattage	Lamp	TClass	T°C (Dust)	Ambient °C	Weight
Р	RGE/218/BI	2x18W	T8	T4	85	-20 to +55	4.2kg
Ρ	RGE/236/BI	2x36W	Т8	T4	85	-20 to +55	9.8kg
Ρ	RGE/218/MO	2x18W	Т8	T4	85	-20 to +55	4.2kg
Р	RGE/236/MO	2x36W	Т8	T4	85	-20 to +55	9.8kg

MO - Mono-pin (Fa6 Cap) Lamps. Mono-pin Coding: Ex d e q.

Options – Suffix to Catalogue No.				
/120	Specific voltage (110/130)	/3P	3 phase termination facility	
/M25	M25 cable entries	/LBE	Looping both ends	
/SC	Screwed connection terminal block (up to 6mm ² conductors)	/EL	Extra live termination facility (to match emergency circuit)	
/SB	Stainless steel mounting bush	/SE	Spigot entry	



Accessories Should be ordered separately	Catalogue Order Code
Pole mounting bracket assembly (38-42mm diameter poles)	SPOL4-100001
Pole mounting bracket assembly (48-52mm diameter poles)	SPOL4-100002
Pole mounting bracket assembly (58-62mm diameter poles)	SPOL4-100003
Hook type ceiling bracket assembly	SPRO4-0005
Ceiling mounting bracket assembly	SPRO4-0002
Eyebolt mounting assembly	SPRO5-0005
Flush mounting wall bracket assembly	SPRO4-0006
Looping Kit – non emergency version (allows looping from both ends of luminaire)	SPROT-0021

For details on outreach brackets see page 29.

Product design and specifications are subject to change without notice, please check the Chalmit® website for latest specifications.

PROTECTA III E

Ex e EMERGENCY FLUORESCENT



Utilising the same reliable design of the standard Protecta III, the emergency version also features intelligent battery and lamp management technology. The luminaire is capable of self commissioning and routine self-testing to ensure safe and dependable emergency operation.

A high emergency output version is also available that increases the lumen output in emergency mode.

	Standard Specification	Features
Type of Protection	Ex e mb q (Increased safety Encapsulation Powder filling)	Ability to detect and indicate impending end of emergency lamp life before actual failure
ATEX Classification Area Classification	Group II Category 2 GD Zone 1 and 21 areas to EN 60079-10-1 and EN 60079-10-2 with installation to EN 60079-14	Battery management, monitoring and automatic self test
Certificate	EC Type Examination Certificate Baseefa04ATEX0220	Emergency inhibition and mains power off re-start
Coding Enclosure	 II 2 GD Ex e mb q IIC T4 Tamb 55°C GRP body with polycarbonate cover 	Automatic lamp de-energisation on opening
	and brass suspension points	DTS-01 deluge tested
Reflector/Geartray Entry Termioatiaa	White polyester painted zinc coated steel 4 x M20 cable entries, 2 at each end Quick release mains terminals - 4 core 4mm ² max	Vibration tested to comply with Lloyds/DNV
	conductor with looping and 16A rating through wiring. (6mm ² terminations available - /SC option)	End of life (EOL) protection to IEC 60079-7 (with EOL I and EOL II functionality)
Installation	Two M8 tapped brass inserts located on rear of body	
Control Gear	High Frequency	
Relamping	Quick release diffuser clamp and hinged cover	
Lampholder	G13 (Bi-pin)	
Burning Position	Universal	
Ingress Protection	IP66/67 to EN 60529	
Electrical Supply	220V - 254V 50/60Hz	International Approvais
Battery		
	50% minutes to EN 60598-2-22	ATEX, GB (China), GOST, CSA and CEPEL
Emergency Oulput	25% of one lamp (36W)	IECEx Compliant

ATEX CATEGORY 2 ZONE 1 & 21 APPLICATIONS

Std. Cat No.	Wattage	Lamp	TClass	T℃ (Dust)	Ambient °C	Weight
PRGE/218/BI/EM	2x18W	Т8	T4	85	-20 to +55	8.3kg
PRGE/236/BI/EM	2x36W	Т8	T4	85	-20 to +55	12.4kg
PRGE/218/MO/EM	2x18W	Т8	T4	85	-20 to +55	8.3kg
PRGE/236/MO/EM	2x36W	Т8	T4	85	-20 to +55	12.4kg

MO - Mono-pin (Fa6 Cap) Lamps. Mono-pin Coding: Ex d e mb q IIC.

Options – Suffix to Catalogue No.				
/120	Specific voltage (110/130)	/LBE	Looping both ends	
/M25	M25 cable entries	/HEO	High emergency output - 45% (36W only)	
/SC	Screwed connection terminal block (up to 6mm ² conductors)	/3H	3 hour battery duration*	
/SB	Stainless steel mounting bush	/RI	Remote emergency inhibition facility (External switch ordered separately)	
/3P	3 phase termination facility (Not available if looping required)	/SE	Spigot entry	
		* 18W = 3	30% of one lamp, 36W = 25% of one lamp	



Accessories Should be ordered separately	Catalogue Order Code
Pole mounting bracket assembly (38-42mm diameter poles)	SPOL4-100001
Pole mounting bracket assembly (48-52mm diameter poles)	SPOL4-100002
Pole mounting bracket assembly (58-62mm diameter poles)	SPOL4-100003
Hook type ceiling bracket assembly	SPRO4-0005
Ceiling mounting bracket assembly	SPRO4-0002
Eyebolt mounting assembly	SPRO5-0005
Flush mounting wall bracket assembly	SPRO4-0006
Looping Kit – non emergency version (allows looping from both ends of luminaire)	SPROT-0021
Looping Kit – emergency version (allows looping from both ends of luminaire)	SPROT-0022
Remote Ex switch for emergency inhibition (1 switch controls up to 10 luminaires)	SPROT-0033
For details on outreach brackets see page 29.	

Product design and specifications are subject to change without notice, please check the Chalmit® website for latest specifications.

PROTECTA III S/S STAINLESS STEEL Ex e FLUORESCENT 26



The Protecta III is also available in a stainless steel body version. This incorporates the same design and monitoring features found in the GRP body Protecta. The increased durability of its stainless steel construction makes this luminaire ideal for applications where there is a high risk of mechanical damage or exposure to chemical agents.

	Standard Specification	Features
Type of Protection	Ex e mb q (Increased safety Encapsulation	316 Stainless steel body and clamp bar
ATEX Classification Area Classification	Powder filling) Group II Category 2 GD Zone 1 and Zone 21 areas to EN60079-10-1 and EN 60079-10-2 with installation to EN 60079-14	Advanced control gear gives 50/60Hz operation, high power correction factor and regulated lamp output that is 20% greater at -20°C
Certificate	EC Type Examination Certificate Baseefa04ATEX0220	Automatic lamp de-energisation on opening
Coding	⟨ II 2 GD Ex e mb q IIC T4 Tamb 55°C (45°C for emergency version)	Resistance to voltage fluctuations
Enclosure	Marine grade 316S31 stainless steel body with polycarbonate cover	Battery management, monitoring and automatic self test
Reflector/Geartray Entry Termination	White polyester painted zinc coated steel 4 x M20 cable entries, 2 at each end Quick release mains terminals - 3 core 4mm² may	dc operation (non-emergency only)
	conductor with looping and through wiring facility. 4 core 4mm ² connectors on emergency). (6mm ² terminations available - /SC option)	Ability to detect and indicate impending end of emergency lamp life before actual failure
Installation	Two M8 tapped stainless steel inserts located on rear of body	End of life (EOL) protection to IEC 60079-7
Lampholder Control Gear Relamping Burning Position	G13 (Bi-pin) High Frequency Quick release diffuser clamps and hinged cover Universal	(with EOL I and EOL II functionality)
Electrical Supply	220V - 254V 50/60Hz 220V - 300V dc (non-emergency only)	International Approvals
BatteryInternal Ni-Cd (6V)Duration90 minutes to EN60598-2-22Emergency Output50% of one lamp (18W)25% of one lamp (36W)		ATEX, GB (China), GOST, CSA and CEPEL

ATEX CATEGORY 2 ZONE 1 & 21 APPLICATIONS

Std. Cat No.	Wattage	Lamp	TClass	T°C (Dust)	Ambient °C	Weight
PRSE/218/BI	2x18W	Т8	T4	85	-20 to +55	6.0kg
PRSE/236/BI	2x36W	Т8	T4	85	-20 to +55	9.6kg
PRSE/218/BI/EM	2x18W	Т8	T4	85	-20 to +45	9.1kg
PRSE/236/BI/EM	2x36W	Т8	T4	85	-20 to +45	12.5kg
PRSE/218/MO	2x18W	Т8	T4	85	-20 to +55	6.0kg
PRSE/236/MO	2x36W	Т8	T4	85	-20 to +55	9.6kg
PRSE/218/MO/EM	2x18W	Т8	T4	85	-20 to +45	9.1kg
PRSE/236/MO/EM	2x36W	Т8	T4	85	-20 to +45	12.5kg

MO - Mono-pin (Fa6 Cap) Lamps. Mono-pin Coding: Ex d e q. Mono-pin emergency coding: Ex d e mb q IIC.

Accessories Should be ordered separately

Options – Suffix to Catalogue No.				
/120	Specific voltage (110/130V)	/LBE	Looping both ends	
/M25	M25 cable entries	/EL	Extra live termination facility (compatible with 4 core switched emergency circuits)	
/SC	Screwed connection terminal block (up to 6mm ² conductors)	/HEO	High emergency output - 45% (36W only)	
/3P	3 phase termination facility (Not available if looping required)	/3H	3 hour battery duration*	
	(1000 =	$^{\circ}$ 18W = 30% of one lamp, 36W = 25% of one lamp	



Catal	ooue	Order	Code
- acai	Uguu		0000

Pole mounting bracket assembly (38-42mm diameter poles)	SPOL4-100001
Pole mounting bracket assembly (48-52mm diameter poles)	SPOL4-100002
Pole mounting bracket assembly (58-62mm diameter poles)	SPOL4-100003
Hook type ceiling bracket assembly	SPRO4-0005
Ceiling mounting bracket assembly	SPRO4-0002
Eyebolt mounting assembly	SPRO5-0005
Flush mounting wall bracket assembly	SPRO4-0006
Looping Kit – non emergency version (allows looping from both ends of luminaire)	SPROT-0021
Looping Kit – emergency version (allows looping from both ends of luminaire)	SPROT-0022
Remote Ex switch for emergency inhibition (1 switch controls up to 10 luminaires)	SPROT-0033
For details on outreach brackets see page 29.	

Product design and specifications are subject to change without notice, please check the Chalmit® website for latest specifications.

PROTECTA III



MOUNTING OPTIONS

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ACCLAIM

Ex e RECESSIBLE

EOL Protected



The Acclaim III is a recessed fluorescent specifically designed for use in solid or plank ceiling types. The luminaire is SOLAS B15 approved and suitable for use in offshore accommodation modules for both task and emergency lighting.

To allow safe and easy maintenance Acclaim III features automatic lamp de-energisation upon opening. Emergency versions provide battery management, monitoring and self-test functions, this ensures safe and dependable battery back-up operation.

	Standard Specification	Features
Type of Protection	Ex e mb q (Increased safety Encapsulation Powder filling)	Automatic lamp de-energisation on opening
Area Classification ATEX Classification	Group II Category 2 GD Zone 1 and Zone 21 areas to EN60079-10-1 and EN 60079-10-2 with installation to EN 60079-14	Battery management, monitoring and automatic self test
Certificate	EC Type Examination Certificate Baseefa04ATEX0286	Resistant to voltage fluctuations
Coding Enclosure	 II 2 GD Ex e mb q IIC T4 Tamb 45°C White polyester painted zinc coated steel 	Local switching arrangement as standard
	body and frame. Silicone rubber gasket. Clear polycarbonate diffuser	Ingress protection to IP65
Reflector/Geartray	White polyester painted zinc coated steel	dc operation (non emergency)
Entry	4 x 20mm holes, two at one end and two at the other end	B15 SOLAS fire rating - appropriate insulation is required over the luminaire
I ermination	Quick release mains terminals - 3 core 4mm ² max. conductor with looping and through wiring facility. 4 core 4mm ² connectors on emergency).	Emergency inhibition and power off re-start
Installation	(6mm ² terminations available - /SC option) Fixed side brackets with swing out arms, with provision for drop rod mounting	End of life (EOL) protection to IEC 60079-7 (with EOL I and EOL II functionality)
Lampholder	G13 (Bi pin)	
Control Gear	High Frequency	
Relamping Buraiaa Pasitiaa	Via front cover, secured by pan head slotted screws Horizontal	
Ingress Protection	IP65 to EN 60529	
Electrical Supply	220V - 254V 50/60Hz 220V - 300V dc (non-emergency only)	International Approvals
Battery	Internal Ni-Cd (6V)	
Emergency Output	50% of one lamp (18W)	ATEX and CSA
	25% of one lamp (36W)	IECEx Compliant

ATEX CATEGORY 2 ZONE 1 & 21 APPLICATIONS

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Std. Cat No.	Wattage	Lamp	TClass	T° C(Dust)	Ambient °C	Weight
ACLE/218/BI	2x18W	Т8	T4	95	-20 to +45	16kg
ACLE/236/BI	2x36W	Т8	T4	95	-20 to +45	23kg
ACLE/218/BI/EM	2x18W	Т8	T4	95	-20 to +45	19kg
ACLE/236/BI/EM	2x36W	Т8	T4	95	-20 to +45	26kg

Options – Suffix to Catalogue No.				
/120	Specific voltage (110/130)	/PD	Prismatic diffuser	
/25	25mm cable entries	/PC	Solid plank ceiling	
/RI	Remote emergency inhibition facility (external switch ordered separately)	/SC	Screwed connection terminal block (up to 6mm ² conductors)	
/3P	3 phase termination facility (not available if through wiring required)	/NST	High frequency - non self test ballast	
/EL	Extra live termination facility (compatible with 4 core switched	/HEO	High emergency output, 45% of one lamp (36W version only)	
	emergency circuits)	/3H	3 hour battery duration*	
/LG	Low glare louvre	/IEC	Supplied with IECEx certification label	

* 18W = 30% of one lamp, 36W = 25% of one lamp

Note: Ceiling type must be stated at time of enquiry/order



Product design and specifications are subject to change without notice, please check the Chalmit® website for latest specifications.

M300 Plank Ceiling Types

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Front view of recessed luminaire



Solid Ceiling Types



Front view of recessed luminaire



CURIE ELITE

Ex e RECESSIBLE

EOL Protected



The Curie Elite is a recessed fluorescent specifically designed for use in solid or modular ceiling types. The luminaire is SOLAS B15 approved and suitable for use in offshore accommodation modules for both task and emergency lighting.

To allow safe and easy maintenance Curie features automatic lamp de-energisation upon opening. Emergency versions provide battery management, monitoring and self-test functions, this ensures safe and dependable battery back-up operation.

	Standard Specification	Features			
Type of Protection	Ex e mb q (Increased safety Encapsulation Powder filling) Dust protected enclosure	B15 SOLAS fire rating - appropriate insulation is required over the luminaire			
ATEX Classification Area Classification	Group II Category 2 GD Zone 1 and Zone 21 areas to EN 60079-10-1 and EN 60079-10-2 with installation to EN 60079-14	Battery management monitoring & automatic self test Simple and easy access via front cover fo lamp replacement and maintenance			
Certificate	EC Type Examination Certificate Baseefa02ATEX0117X				
Coding Enclosure	(Ex) II 2 GD Ex e mb q IIC T4 Tamb 40°C White polyester painted zinc coated steel body and aluminium frame. EPDM rubber gasket. Prismatic polycarbonate diffuser	Suspended gear tray for ease of maintenance			
Reflector/Geartray Entry	White polyester painted zinc coated steel 4 x 20mm diameter holes for cable entries, mounted	Automatic lamp de-energisation on opening			
Termination	on the top, two at one end and two at the other end 3 core 4mm ² max. conductor with looping and through wiring 16A rating.	Electronic control gear gives 50/60Hz operation, high power factor correction and regulation of lamp output			
	(6mm ² terminations available - /SC option)	dc operation (non emergency)			
Installation	Side brackets with adjustable arms (solid ceilings) Rotating cams (Exposed 'T' and Spring 'T' ceilings). There is also a provision for drop rod mounting	Local switching arrangement as standard			
Lampholder Control Gear Relamping Burning Position	G13 (Bi-pin) High Frequency Access via front cover secured by screws Horizontal	End of life (EOL) protection to IEC 60079-7 (with EOL I and EOL II functionality)			
Ingress Protection Electrical Supply	IP65 to EN 60598-1:2000 220V - 254V 50/60Hz, and 220V - 300V dc (non-emergency only)	International Approvals			
Battery Battery Duration	Internal Ni-Cd (6V)				
Emergency Output	50% of one lamp (18W) 25% of one lamp (36W)	IECEx Compliant			

ATEX CATEGORY 2 ZONE 1 & 21 APPLICATIONS

Std. Cat No.	Wattage	Lamp	TClass	T℃ (D∪st)	Ambient °C	Weight
CUEE/218/BI*	2x18W	Т8	T4	70	-20 to +40	12.5kg
CUEE/418/BI	4x18W	Т8	T4	70	-20 to +40	16.0kg
CUEE/236/BI*	2x36W	Т8	T4	70	-20 to +40	16.0kg
CUEE/436/BI	4x36W	Т8	T4	70	-20 to +40	20.0kg
CUEE/218/BI/EM*	2x18W	Т8	T4	70	-20 to +40	14.5kg
CUEE/418/BI/EM	4x18W	Т8	T4	70	-20 to +40	18.0kg
CUEE/236/BI/EM*	2x36W	Т8	T4	70	-20 to +40	22.0kg
CUEE/436/BI/EM	4x36W	Т8	T4	70	-20 to +40	22.0kg

* Only available in 600 x 600mm and 600 x 1200mm body styles.

The standard Curie Elite is supplied with a 3mm clear outer panel & prismatic diffuser.

Note: Modular ceiling types require the /MET or /MST suffix. Ceiling type must be stated at time of enquiry/order

Options – Suffix to Catalogue No.				
/MET	Modular – Exposed 'T' ceiling	/LG	Low glare louvre	
/MST	Modular – Spring 'T' ceiling	/NST	High frequency non-self testing ballast	
/120	Specific voltage (110/120)		(recommended for sleeping quarters)	
/25	25mm cable entries	/2L	2 lamp emergency mode	
/SC	Screwed connection terminal block (up to 6mm ² conductors)	/HEO	High emergency output 90 minute duration (36W only)	
/EL	Extra live termination facility (to match emergency circuit)	/3H	3 hour battery duration*	
	* 18W = 30% of one lamp, 36W = 25% of one lamp			



CEILING TYPE OPTIONS



View of Exposed "T" Ceiling with recessed luminaire, typical 600mm x 600mm tile grid mounting system (/MET).



View of Spring "T" Ceiling with recessed luminaire, typical 600mm x 600mm tile grid mounting system (/MST).





View of Solid Ceiling with recessed luminaire.
DIMENSIONS

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Solid Ceiling dimensions.

LOMOND

Ex d FLUORESCENT

EOL Protected



The Lomond is a rugged, flameproof T8 fluorescent luminaire. It features an integrated mounting channel for universal installation. The aluminium and glass construction make the Lomond highly resistant to aggressive chemical agents.

The luminaire is available in single and twin lamp versions including an eight watt version for over door emergency exit marking.

	Standard Specification	Features
Type of Protection	Ex d (flameproof), Ex dm (flameproof	Quick lamp start, flicker free
ATEX Classification	Group II Category 2 GD	High frequency electronic control gear
Area Classification	Zone 1 and 21 areas to EN 60079-10-1 and EN 60079-10-2 with installation to EN 60079-14	Cool running improves T-rating
Certificate Coding	EC Type Examination Certificate SIRA05ATEX1299X	Standard support channel allows for multiple fixing centres and options
Enclosure	Aluminium alloy LM6 to BS 1490 (AC44100)	Suitable for high ambient areas
Reflector/Geartray Entry Termination	Borosilicate glass overtube, painted steel reflector 2 x M20 cable entries 3 core 4mm ² max. conductor with looping 4 core 4mm ² max connectors on emergency	Optional Exit Sign Kit for Emergency Escape Route Lighting
Installation Control Gear Relamping Burning Position Ingress Protection Electrical Supply	Via steel support rail High Frequency Two socket head screws and tapered spigotted flamepath Universal Ingress protection to IP66, IP67 and IP68 Non Emergency: 220V - 240V 50/60Hz (8W) 120V - 254V 50/60Hz (18W)	
Emergency Duration	110V - 130V 50/60Hz (36W - /120) 220V - 254V 50/60Hz (36W, 58W) Emergency: 220V - 254V 50/60Hz (18W, 36W, 58W) 110V - 130V 50/60Hz (18W, 36W - /120) 3 hours	International Approvals ATEX and GOST

Std. Cat No.	Wattage	Lamp	TClass	T°C (Dust)	Ambient °C	Weight
LOMD/108/BI	1x8W	T5	Т6	85	-20 to +55	5.0kg
LOMD/208/BI	2x8W	T5	T6	85	-20 to +55	5.5kg
LOMD/218/BI	2x18W	Т8	Т6	85	-20 to +55	9.0kg
	1,26\//	Т8	Т6	85	-20 to +53	12 Oka
	1×3000	Т8	Т5	100	-20 to +55	15.0Kg
	2×36\\\/	Т8	Т6	85	-20 to +53	13 Oka
	223000	Т8	Т5	100	-20 to +55	13.0Kg
LOMD/158/BI	1,59\/	Т8	Т6	85	-22 to +49	15 Oka
	123000	Т8	Т5	100	-22 to +55	15.0Kg
	2~58\//	Т8	T6	85	-20 to +49	15 Oka
LOIVID/238/BI	2x38vv	Т8	Т5	100	-20 to +55	15.0Kg
LOMD/108/BI/EM	1x8W	T5	Т6	85	-20 to +55	10.5kg
LOMD/218/BI/EM	2x18W	Т8	T6	85	-20 to +55	13.5kg
	2,2611/	Т8	Т5	100	-20 to +52	20.0kg
	2×30	Т8	Т6	85	-20 to +55	20.0Kg
LOMD/258/BI/EM	2x58W	Т8	Т5	100	-20 to +48	22.3kg

Options – Suffix to Catalogue No.					
/M25	M25 cable entries	/IIC	Suitable for IIC gas areas		
/SR	Stainless steel support rail				
/NM	Non maintained (1x8W only)	/120	110 - 130V supply		



Accessories Should be ordered separately

Catalogue Order Code

For details of accessories please see page 40 and 41

LOMOND

Ex d FLUORESCENT

Ceiling Mounting Bracket Assembly

Cat No. SLOMD-000001





Wall Mounting Bracket Assembly

Cat No. SLOMD-000003

69.60





Pole Mounting Bracket Assembly



Pole mounting bracket to suit pole diameter (38-42mm) SPOL4-100004 (48-52mm) SPOL4-100005 (58-62mm) SPOL4-100006



Wire Guard

Cat No. SLOMD-000008/000009/000010





Hanging Exit Sign Cat No. SPATE-00005/00006/00007/00008/00009



Self Adhesive Exit Sign Kit





'Left' Exit sign





Cat No. SPATE-00012

'Right' Exit sign



EVOLUTION II

PHOTOMETRIC EXCELLENCE

Benefits of Asymmetric Design

Asymmetric reflector design uses an aiming angle from 0° to a maximum of 20° compared to a typical 45° angle for Symmetric floodlights. This has several benefits:

- Increased Photometric Efficiency Higher lighting levels due to better utilisation of light
- Increased Energy Efficiency Fewer floodlights to meet required lighting levels = reduced energy consumption
- Reduced glare & Light Pollution Lower cut off angle
- Light where you need it
- Better Uniformity of light



An asymmetric reflector allows the light beam to be both thrown forward a long distance and also light the area below the pole or mounting location is effectively lit.

This efficient lighting profile gives lower glare and light pollution making it ideal for hazardous area applications including:

- Environmentally sensitive areas
- Energy efficient lighting schemes
- Tank Farms
- Security and Perimeter Lighting
- General task area lighting



Evolution Range

KEY FEATURES

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Easy Installation and Low Maintenance

Chalmit[®] luminaires are designed to ensure that they are simple to install and easy to maintain:

- Reduction in maintenance time
- Significantly reduce the overall site maintenance costs

The Evolution range embodies this design philosophy. With its single bolt opening, the Evolution ensures easy access to lamp and control gear. Inspection and maintenance of the flamepaths is not required as they not are exposed. Instead, the unique design locates these within the IP66/67 sealed area of the control gear. In this respect, the Evolution can effectively be classed as maintenance free.



Simple Re-lamping Complete in Under Three Minutes

No Exposed Flamepath = No Flamepath Maintenance Routine

EVOLUTION II

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Ex d e ASYMMETRIC FLOODLIGHT



Recommended maximum aiming angle 20° from horizontal plane



Optional PTFE Coating

The Evolution II is a photometrically advanced floodlight that combines Ex d e protection with optimised utilisation of light through its asymmetric design. The Evolution concept has no exposed flamepaths making the luminaire effectively maintenance free. Access to the lamp and terminal chamber is achieved by the unscrewing of a single captive bolt

Features

vals

Type of Protection	Ex d e (Flameproof, Increased Safety) Dust protected enclosure	Installation in gas groups IIA and IIB
ATEX Classification Area Classification	Group II Category 2 GD Zone 1 and Zone 21 areas to EN 60079-10-1 and EN 60079-10-2 with installation to	Easy and quick access for maintenance
Certificate	EN 60079-14 Gas Groups IIA and IIB EC Type Examination Certificate Baseefa04ATEX0155	Simple, rapid lamp replacement and flamepath inspection
Coding Enclosure	(£3) II 2 GD Ex d e IIB Refer to table for T rating and Ambient Aluminium alloy LM6 to BS 1490 (AC44100)	Reduced maintenance due to no exposed flamepath
	All fastenings A4 stainless steel Toughened glass window	Exceptional photometric efficiency with reduced glare
Reflector	Asymmetric beam, high purity anodised aluminium	Timed ignitor supplied as standard
Entry	2 x M20 cable entries	
Termination	3 core 6mm ² max. conductor with looping	
Installation	Stirrup mounting bracket with aiming quadrant	
Windage	0.112m ²	
Control Gear	Internal copper/iron with PFC correction capacitor and timed ignitor	
Relamping	Access via hinged end cover on release of single screw	
Burning Position	Universal for HID, +/-45° on horizontal plain for Tungsten-Halogen lamps	International Approva
Ingress Protection	IP66/67 to EN 60529	
Electrical Supply	220, 230, 240, 254V 50Hz HPS & Metal Halide	ATEX, GB (China) and GOST
	24v - 254v Linear Tungsten-Halogen, 110V - 254V Single ended Tungsten-Halogen	IECEx Compliant

Standard Specification

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Std. Cat No.	Wattage	e Lamp La	mpholder	T Class (Gas)	T ℃ (Dust)	Ambient °C	Weight
FV2D/150/MS	150\\/	HPS and Metal Halide	E40	T4	130	-20 to +40	28.0kg
	15000		LHU	Т3	175	-20 to +55	20.089
FV2D/250/MS	250\\/	HPS and Metal Halide	F40	T4	130	-20 to +40	28 5ka
2720/230/113	25011		210	Т3	175	-20 to +55	20.5Kg
EV2D/400/MS	400W	HPS and Metal Halide	E40	Т3	175	-20 to +55	28.5kg
EV2D/600/HS*	600W	HPS	E40	Т3	195	-20 to +35	25.0kg
EV2D/500/TH	500W	Single Ended T/Halogen	E40	Т3	195	-20 to +40	25.0kg
EV2D/500/TL	500W	Linear T/Halogen	R7s	Т3	195	-20 to +55	25.0kg

*Ignitor only fitted. Remote gear box required (see Universal Box - page 66).

Note: Please specify voltage at time of enquiry/order

Options – Suffix to Catalogue No.						
/120	110V - 130V (Weight increase of +10kg)	/ P	PTFE coating			
	HPS & Metal Halide only	/PE	Pendant mounted			
/60	60Hz	/N	Narrow beam option			
/208-60	208V 60Hz	/IEC	Supplied with IECEx certification label			
/M25	M25 cable entries					



NOTE: 120V version utilises deeper end cover (as shown above)

Accessories Should be ordered separately

Catalogue Order Code

For details of accessories please see page 50 and 51

EVOLUTION

Ex d e FLOODLIGHT



The Evolution is a highly efficient floodlight that combines Ex d e protection with optimised utilisation of light through advanced reflector design. The Evolution concept has no exposed flamepaths making the luminaire effectively maintenance free. Access to the lamp and terminal chamber is achieved by the unscrewing of a single captive bolt.

The Evolution is suitable for use in IIC gas environments.



Ex d e PENDANT HIGH BAY

The Pendant version has simple mounting points and is designed for use in high bay applications.

	Standard Specification	Features
Type of Protection	Ex d e (Flameproof, Increased Safety) Dust protected enclosure	Installation in gas groups IIA, IIB and IIC
ATEX Classification Area Classification	Group II Category 2 GD Zone 1 and Zone 21 areas to EN 60079-10-1 and EN 60079-10-2 with installation to	Easy and quick access for maintenance
Certificate	EN 60079-14 Gas Groups IIA, IIB and IIC EC Type Examination Certificate BAS98ATEX2373	Simple, rapid lamp replacement and flamepath inspection
Coding	(E) II 2 GD Ex d e IIC Refer to table for T rating and Ambient Aluminium alloy I M6 to BS 1490 (AC44100)	Reduced maintenance due to no exposed flamepath
	All fastenings A4 stainless steel Toughened glass window	Exceptional photometric efficiency
Reflector Entry Termiaction	Wide beam, high purity anodised aluminium 2 x M20 cable entries	Effective light distribution for many applications
Installation Windage	Stirrup mounting bracket with aiming quadrant 0.159m ² / 0.173m ² (120V version)	Timed ignitor supplied as standard
Relamping	and timed ignitor Access via hinged end cover on release	
Burning Position	Universal for HID, +/-45° on horizontal plain for Tungsten-Halogen lamps	International Approvals
Electrical Supply	220, 230, 240, 254V 50Hz HPS & Metal Halide 24V - 254V ac/dc linear Tungsten-Halogen, 110V - 254V single ended Tungsten-Halogen	ATEX, GOST, CSA, CEPEL and TIS IECEx Compliant

Std. Cat No.	Wattage	e Lamp Lar	mpholder	T Class (Gas)	T °C (Dust)	Ambient °C	Weight
	150\/	Apple and Motal Halide	E40	T4	130	40	28.0kg
	13000			Т3	175	55	20.0Kg
FVOD/250/MS	250\\/	HPS and Metal Halide	F40	T4	130	40	28.5kg
230/103	25000		lide E40	Т3	175	55	20.3Kg
EVOD/400/MS	400W	HPS and Metal Halide	E40	Т3	175	55	28.5kg
EVOD/600/HS*	600W	HPS	E40	Т3	195	35	25.0kg
EVOD/500/TH	500W	Single Ended T/Halogen	E40	Т3	195	40	25.0kg
EVOD/500/TL	500W	Linear T/Halogen	R7s	Т3	195	55	25.0kg

*Ignitor only fitted. Remote gear box required (see Universal Box - page 66). For Pendant substitute EVPD for EVOD.

Note: Please specify voltage at time of enquiry/order

Options – Suffix to Catalogue No.						
/120	/120 110-130V (Weight increase of +12kg) (Extended end cover) HPS & Metal Halide only	/M	Medium beam reflector			
		/ P	PTFE coating			
/60	60Hz	/LT	Low temperature version -50°C			
/M25	M25 cable entries		(Gas groups IIA and IIB only)			
/N	Narrow beam reflector	/IEC	Supplied with IECEx certification label			



NOTE: 120V version utilises deeper end cover (as shown above)

Accessories Should be ordered separately

Catalogue Order Code

47

For details of accessories please see page 50 and 51

EVOLUTION JUNIOR Exde FLOODLIGHT





The Evolution Junior is a lightweight and portable version of the advanced Evolution floodlight. It features the same single bolt access and has a range of floor and tripod stands for a variety of temporary applications.

	Standard Specification	Features
Type of Protection ATEX Classification	Ex d e (Flameproof, Increased Safety) Group II Category 2 G	Installation in gas groups IIA, IIB and IIC
Area Classification	Zone 1 and Zone 2 areas to EN 60079-10-1 with installation to EN 60079-14.	Easy and quick access for maintenance
Certificate	EC Type Examination Certificate BAS99ATEX2228	Simple, rapid lamp replacement and flamepath inspection
Coding	€ II 2 G Ex d e IIC Refer to table for T rating and Ambient	Exceptional photometric efficiency
Enclosure	Aluminium alloy LM6 to BS 1490 (AC44100) All fastenings A4 stainless steel Toughened glass window	Available with secondary protective glass for shot blasting applications
Reflector	Wide beam, high purity anodised aluminium	
Entry	2 x M20 cable entries	
Termination	3 core 6mm ² max. conductor with looping	
Installation	Stirrup mounting bracket	
Windage	0.094m ²	
Control Gear	Internal copper/iron with PFC correction capacitor	
Relamping	Access via hinged end cover on release of single screw	
Burning Position	Universal for HID, +/-45° on horizontal axis for Tungsten-Halogen lamps	International Approvals
Ingress Protection	IP66/67 to EN 60529	
Electrical Supply	220, 230, 240, 254V 50Hz (HID)	ATEX, GOST CEPEL and TIS
	24V(ac/dc)-250V (dependant on voltage)	

ATEX CATEGORY 2

ZONE 1 APPLICATIONS

49

Std. Cat No.	Wattage	Lamp	Lampholder	T Class	Ambient °C	Weight
EVJD/070/MS	70W	HPS and Metal Halide	E27	T4	40	12kg
				Т3	55	12kg
	150W	Tungsten-Halogen	R7s	Т3	55	10kg
	200W	Tungsten-Halogen	R7s	Т3	40	10kg
EVJD/300/TL	250W	Tungsten-Halogen	R7s	Т3	20	10kg
				T2	50	10kg
	300W	Tungsten-Halogen	R7s	T2	40	10kg
EVJD/150/TL/24	150W 24V	Tungsten-Halogen	R7s	Т3	55	10kg
Secondary Glass Sh	ield Cat Nos.					
	150W	Tungsten-Halogen	R7s	Т3	55	10kg
	200W	Tungsten-Halogen	R7s	Т3	25	10kg
20,00,000,12,00	200W	Tungsten-Halogen	R7s	T2	50	10kg
	250W	Tungsten-Halogen	R7s	T2	40	10kg
EVJD/300/TL/24/GS	5 150W 24V	Tungsten-Halogen	R7s	Т3	55	10kg

Note: Please specify voltage at time of enquiry/order

Options – Suffix to Catalogue No.					
/60 /M25	60Hz	/FS	Suitable for use with floor stand (floor stand should be ordered separately)		
/P	PTFE coating Yellow painted version (110V only) Low temperature version	/CG	Cable and Ex gland fitted (order cable separately - see accessories)		
/Y /LT		/CGP	Cable, Ex gland and 110V plug (cable should be ordered seperately)		
	-50°C (IIA & IIB only)	/GS	Secondary glass (factory fitted)		



Accessories Should be ordered separately

Catalogue Order Code

Pole mounting bracket assembly (48-70mm diameter poles)	SEVJ4-0003
Anti-glare shield	SEVJ4-0001
Wire guard	SEVJ4-0002
Floor stand assembly (to be ordered with floor stand version of floodlight)	SEVJR-0001
Tripod stand assembly	SEVJR-0002
Ratchet handles (2 off) for adjustable aiming	SEVJR-0005
Cable (ordered per metre)	E0414-0009

EVOLUTION RANGE

Evolution II & Evolution Guards and Shields



Evolution II	
Wire Guard	SEV04-0020
Combined Anti-Glare	
Shield and Wire Guard	SEV24-0001
Evolution	
Anti-Glare Shield	SEV04-0002
Wire Guard	SEV04-0003
Combined Anti-Glare	
Shield and Wire Guard	SEV04-0008

Evolution Anti-Glare Shield Combined Anti-Glare Shield and Wire Guard





Swing Jib Damper & Bracket Assembly





SERVICE & MOUNTING ACCESSORIES

51

Pole Mounting Bracket Assembly Cat No. SEV04-0001 17 ſ 6-HOLES #13-4-HOLES \$13 40 CRS CRS Ð 110 240 SS 14.3118 86 ITEM.1 POLE CLAMP = = 135 86 140

284 Retrofit Bracket

Cat No. SEV01-0001

300



Evolution Junior Mounting Accessories

Cat No. SEVJR-0001/SEVJR-0002



Floor assembly SEVJR-0001



Tripod assembly SEVJR-0002



Ex d e BULKHEAD



The Nevis bulkhead is designed for low profile applications. It can be mounted on walls, handrails and ceilings making it ideal for walkways or restricted height areas. The wide ambient temperature range makes the Nevis suitable for extreme environmental conditions.

The Nevis has a side mounted increased safety terminal chamber. This eliminates the need for flameproof glands and allows for flush mounting with easy cable access.

	Standard Specification	Features
Type of Protection	Ex d e (Flameproof, Increased Safety)	Installation to gas groups IIA and IIB
ATEX Classification Area Classification	Group II Category 2 GD Zone 1 and Zone 21 areas to EN 60079-10-1 and EN 60079-10-2 with installation to EN 60079-14 Gas Groups IIA and IIB	Ex e cable entries and looping as standard
		Hinged front cover
Certificate	EC Type Examination Certificate Baseefa08ATEX0178	Captive cover screws
Coding	(Ex) II Ex d e IIB Refer to table for T rating and Ambient	High ingress protection
Enclosure	Aluminium alloy LM6 to BS 1490 (AC44100)	Internal reflector options
	All fastenings A4 stainless steel Toughened glass dome cover	Low temperature applications to -55°C
Internal Reflector	High purity anodised aluminium	
Entry	2 x M20 cable entries	Compact construction
Termination	3 core 6mm ² max. conductor with looping	
Installation	Flush mounting bracket	
Control Gear	Internal copper/iron with PFC correction capacitor	
Relamping	Access via hinged front glass cover assembly	
Burning Position	Universal	
Ingress Protection	IP66/67 to EN 60529	
Electrical Supply	220, 230, 240, 254V 50Hz - 70W HPS/Metal Halide	
	220, 230, 240V 50Hz - 80W and 125W MBFU	International Approvais
	250V Max GLS/MBTF	
	240V - CF	ATEX and GOST
	220-240V QL	IECEx Compliant

Std. Cat No.	Wattage	Lamp	TClass	T°C (Dust)	Ambient °C	Weight
NEVD/050/HS	50W	HPS	T4	125	-55 to +55	12.5kg
NEVD/070/MS	70W	HPS and Metal Halide	T4	125	-55 to +55	12.5kg
NEVD/080/MV	80W	Mercury Vapour	T4	130	-20 to +55	12.0kg
NEVD/125/MV	125W	Mercury Vapour	Т3	140	-20 to +40	12.0kg
NEVD/200/GL	200W	GLS	Т3	165	-55 to +55	11.5kg
NEVD/118/CF	18W	Compact Fluorescent	Т5	80	-55 to +55	11.9kg
NEVD/126/CF	26W	Compact Fluorescent	Т5	80	-55 to +55	11.9kg
NEVD/160/MB	160W	MBTF	Т3	155	-55 to +40	11.5kg
NEVD/055/QL	55W	QL	T5	98	-55 to +55	13.5kg

Note: Please specify voltage at time of enquiry/order

Options – Suffix to Catalogue No.					
/120	120V, 50/70W HPS, 70W Metal Halide Compact Fluorescent and OL lamp	/ P	PTFE coating		
/60	60Hz	/NC	No power factor correction capacitors fitted		
/M25	M25 cable entries				



Accessories Should be ordered separately	Catalogue Order Code
Pole mounting bracket assembly (38-50mm diameter poles)	SNEV1-0001
Wire guard	SNEV1-0002
Hand rail mounting bracket assembly	SNEV4-0003

216

Ex d e WELL-GLASS



The 216 is compact wellglass ideal for areas where efficient localised lighting is required. The luminaire has a side mounted increased safety terminal chamber eliminating the need for flameproof glands.

The wide ambient temperature range makes the 216 suitable for extreme environmental conditions.



The 216 c/w external reflector



The 216 c/w wire guard

	Standard Specification	Features
Type of Protection	Ex d e (Flameproof, Increased safety)	Installation to gas groups IIA and IIB
ATEX Classification Area Classification	Group II Category 2 G Zone 1 and Zone 2 areas to EN 60079-10-1 with installation to EN 60079-14 Gas Groups IIA and IIB	Highly resistant to mechanical damage and corrosion
		Stainless steel fasteners
Certificate	EC Type Examination Certificate BAS01ATEX2307	Compact and efficient
Coding	🐼 II 2 G Ex d e IIB	Ex e terminal chamber
Enclosure	Refer to table for T rating and Ambient Aluminium alloy LM6 to BS 1490 (AC44100) All fastenings A4 stainless steel Toughened glass dome globe	Compact fluorescents have 6 times the life of tungsten lamps and consume 80% less power.
Reflector	High purity anodised aluminium	Anchor chain on glass cover assembly
Entry	2 x M20 cable entries	Suitable for use down to
Termination	3 core 6mm ² max. conductor with looping	-50°C ambient
Installation	Flush mounting bracket	
Windage	0.084m ²	
Control Gear	Internal copper/iron with PFC correction capacitor	
Relamping	Access via front glass cover assembly	
Burning Position	Universal	International Approvals
Ingress Protection	IP66/67 to EN 60529	
Electrical Supply	220, 230, 240, 254V 50Hz (H.I.D) 250V max (GLS)	ATEX and GOST
	240V (CF)	

ATEX CATEGORY 2

ZONE 1 APPLICATIONS

Std. Cat No.	Wattage	Lamp	Lampholder	T Class	Ambient °C	Weight
216D/050/HS	50W	HPS	E27	T4	-50 to +50	9.5kg
216D/070/HS	70W	HPS	E27	T4	-50 to +45	10.0kg
216D/080/MV	80W	Mercury Vapour	E27	T4	-20 to +40	10.0kg
216D/100/GL	100W	GLS	E27	T4	-50 to +55	9.5kg
216D/200/GL	200W	GLS	E27	T3	-50 to +55	9.5kg
216D/113/CF	1x10/13W	4-pin Compact Fluor	G24q	Т6	-50 to +55	9.5kg
216D/118/CF	1x18W	4-pin Compact Fluor	G24q	T5	-50 to +55	9.5kg
216D/126/CF	1x26W	4-pin Compact Fluor	G24q	T5	-50 to +55	9.5kg
216D/213/CF	2x10/13W	4-pin Compact Fluor	G24q	T5	-50 to +40	10.0kg
216D/218/CF	2x18W	4-pin Compact Fluor	G24q	Т5	-50 to +40	10.0kg

Note: Please specify voltage at time of enquiry/order

Options – Suffix to Catalogue No.					
/	Specific voltage (24, 110, 120, 130	/ P	PTFE coating		
	compact flourescent)		Stirrup mounting bracket		
/60	60Hz	(20			
/M25	M25 cable entries	/2P	start control gear (single lamp version only)		



Accessories Should be ordered separately	Catalogue Order Code
Pole mounting bracket assembly - stirrup mounting version only (48-60mm diameter	poles) S2160-0002
Pole mounting bracket assembly c/w stirrup - retro fit for flush mounting bracket (48-60)	mm diameter poles) S2160-0004
Wire guard	S2160-0017
External reflector	S2160-0010

238

Ex d e WELL-GLASS



The 238 is a powerful and efficient wellglass that is designed for general purpose low and medium bay illumination. The luminaire has a side mounted increased safety terminal chamber eliminating the need for flameproof glands.

The wide ambient temperature range makes the 238 suitable for extreme environmental conditions.



The 238 c/w external reflector



The 238 c/w wire guard

	Standard Specification	Features
Type of Protection	Ex d e (Flameproof, Increased Safety), Ex tD (Dust)	Installation to gas groups IIA and IIB
A I EX Classification Area Classification	Group II Category 2 GD Zone 1 and Zone 21 areas to EN 60079-10 -1 and EN 60079-10-2 with installation to EN 60079-14	Ex e cable entries and looping as standard
	and Gas Groups IIA and IIB	Anchor chain on glass cover assembly
Certificate	EC Type Examination Certificate BAS08ATEX0177 IEC Ex BAS08.0056	High ingress protection
Coding	€ II 2 GD Ex d e IIB	External reflector (option)
Enclosure	Aluminium alloy LM6 to BS 1490 (AC44100) All fastenings A4 stainless steel	Low temperature applications to -50°C
	Toughened glass dome globe	Compact construction
Internal Reflector	High purity anodised aluminium	
Entry	2 x M20 cable entries	
Termination	3 core 6mm ² max. conductor with looping	
Installation	Flush mounting bracket	
Windage	0.138m²	
Control Gear	Internal copper/iron with PFC correction capacitor	
Relamping	Access via front glass cover assembly	
Burning Position	Universal	
Ingress Protection	IP66/67 to EN 60529	International Approvals
Electrical Supply	220, 230, 240, 254V 50Hz - 70W, 150W & 250W HPS/Metal Halide 220, 230, 240V 50Hz - 80W, 125W, 250W MBFU & 100W HPS	ATEX, GOST and CSA IECEx Compliant

ATEX CATEGORY 2

ZONE 1 APPLICATIONS

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Std. Cat No.	Wattag	e Lamp La	mpholder	TClass	T℃ (Dust)	Ambient °C	Weight
238D/070/MS	70W	HPS and Metal Halide	E27	T4	125	-50 to +60*	17.0kg
238D/100/HS	100W	HPS	E40	T4	125	-50 to +60*	17.0kg
238D/150/MS	150W	HPS and Metal Halide	E40	T4	125	-50 to +40	18.0kg
238D/250/MS	250W	HPS and Metal Halide	E40	Т3	150	-50 to +45*	20.0kg
238D/080/MV	80W	Mercury Vapour	E27	T4	125	-20 to +60*	17.0kg
238D/125/MV	125W	Mercury Vapour	E27	T4	125	-20 to +40	17.0kg
238D/250/MV	250W	Mercury Vapour	E40	Т3	175	-20 to +45*	19.5kg
238D/150/GL	150W	GLS	E27	T4	130	-50 to +60*	15.5kg
238D/200/GL	200W	GLS	E27	T4	125	-50 to +50	15.5kg
238D/300/GL	300W	GLS	E27	T4	130	-50 to +40	15.5kg
238D/160/MB	160W	MBTF	E27	Т3	145	-50 to +50*	15.5kg
238D/085/QL	85W	QL	QL	Т5	75	-50 to +55	16.0kg
238D/070/HS/T5	70W	HPS	E27	Т5	95	-50 to +40	17.0kg
238D/150/MS/T3	150W	HPS and Metal Halide	E40	Т3	140	-50 to +55*	18.0kg
238D/125/MV/T3	125W	Mercury Vapour	E27	Т3	135	-20 to +50*	17.0kg

Note: Refer to installation leaflet for cable rating on models marked *

The 250W luminaires have a 70°C cable rating at ambients of 30°C.

Note: Please specify voltage at time of enquiry/order

Options – Suffix to Catalogue No.						
/120	120V QL only	/P	PTFE coating			
/60	60Hz	/S	Stirrup mounting bracket			
/M25	M25 cable entries	/NC	No power factor correction capacitors fitted			





S2380-0001

Accessories Should be ordered separately	Catalogue Order Code
Pole mounting bracket assembly - stirrup mounting version only (42-64mm diameter	poles) \$2610-0001
Wire guard	S2381-0012

External reflector

261

Ex d e WELL-GLASS



The 261 is an efficient high wattage wellglass for general task area and highbay lighting. The luminaire has a side mounted increased safety terminal chamber eliminating the need for flameproof glands.

The 261 is suitable for low temperature operation (-40°C) with high pressure sodium lamps.



The 261 c/w external reflector



The 261 c/w wire guard

	Standard Specification	Features
Type of Protection ATEX Classification Area Classification Certificate Coding Enclosure	Ex d e (Flameproof, Increased Safety) Group II Category 2 G Zone 1 and Zone 2 areas to EN 60079-10-1 with installation to EN 60079-14 Gas Groups IIA and IIB EC Type Examination Certificate BAS01ATEX2309 (I 2 G Ex d e IIB Refer to table for T rating and Ambient Aluminium alloy LM6 to BS 1490 (AC44100)	Installation to gas groups IIA and IIB Ex e terminal chamber Stainless steel fasteners Anchor chain on glass cover assembly Low temperature applications to -40°C
Reflector Entry Termination Installation Windage Control Gear	All fastenings A4 stainless steel Toughened glass dome globe High purity anodised aluminium 2 x M20 cable entries 3 core 6mm ² max. conductor with looping Stirrup mounting bracket 0.197m ² Internal copper/iron with PFC correction capacitor	
Relamping Burning Position Ingress Protection Electrical Supply	Access via front glass cover assembly Universal IP66/67 to EN 60529 220, 230, 240, 254V 50Hz (HID) 110V - 240V ac/dc (GLS)	International Approvals ATEX and GOST

ATEX CATEGORY 2

ZONE 1 APPLICATIONS

Std. Cat No.	Wattage	Lamp	TClass	Ambient °C	Weight
261D/150/HS	150W	HPS	T4	-40 to +50	31kg
261D/250/HS	250W	HPS	T4	-40 to +50	32kg
261D/400/HS	400W	HPS	T4	-40 to +50	33kg
261D/125/MV	125W	Mercury Vapour	T4	-20 to +50	31kg
261D/250/MV	250W	Mercury Vapour	T4	-20 to +50	32kg
261D/400/MV	400W	Mercury Vapour	T4	-20 to +50	33kg
261D/250/MH	250W	Metal Halide	T4	-40 to +50	32kg
261D/400/MH	400W	Metal Halide	T4	-40 to +50	33kg
261D/500/CI	Lip to 500W/	CLS	T4	-40 to +45	29kg
2010/300/32	00 10 5000	GLS	Т3	-40 to +50	29kg
261D/125/MV/F*	125W	Mercury Vapour	T4	-40 to +70	31kg

*F - Flush / Pendant Mounted Version.

Note: When the external reflector is fitted with the flush/pendant version, the 'T' class and ambients stated above apply. When fitted to the stirrup mounted version the 'T' class changes to T3 with the ambient remaining the same.

Note: Please specify voltage at time of enquiry/order

Options – Suffix to Catalogue No.							
/ P	PTFE coating	/60		60Hz			
/M25	M25 cable entries						





Accessories Should be ordered separately	Catalogue Order Code
Pole mounting bracket assembly (42-64mm diameter poles)	\$2610-0001
Wire guard	\$2610-0003
External reflector	\$2610-0007

SOLAS

EMERGENCY LED FLOODLIGHT Ex de PROTECTION

SOLAS is a new generation of LED luminaire. Using ultra bright LEDs, it produces a whiter more focused light that an equivalent 70W HPS lamp. Available with a self contained battery, it can also be used for backup emergency lighting.

The long life of the LEDs makes it possible to use the luminaire continuously in normal operation (maintained), whilst still ensuring illumination in the event of a power failure. Alternatively it can simply be used as an emergency luminaire (non-maintained).

The unique characteristics of the SOLAS offer a flexible luminaire that is as well suited to providing focused area lighting, illuminating safety critical areas in an emergency situation. A remote inhibition facility is available on all emergency versions.

The range is available with options for operation down to -55°C making it ideal for low temperature applications.



Solas c/w external switch

Fonturos

Type of Protection	Ex de (Flameproof & Increased Safety)	Ex e terminal chamber
ATEX Classification	Group II Category GD	No re-lamping required -
Area Classification	Zone 1 & 2 areas to EN 60079-10 with	over 60,000 hours*
	installation to EN 60079-14	
Certificate	ATEX Certification Baseefa11ATEX0090	Low ambient temperatures
	IECEx Certification IECEx BAS 11.0047	Non-maintained
Coding	🚯 Ex de IIB T6	or Maintained modes
Enclosure	Aluminium alloy LM6	Output of over 4000 lumens
Reflector	Toughened glass window	comparable with 70W HPS floodlight
	All fastenings 316 stainless steel	Emergency Inhibition
Entry	2 x M20 cable entries -	
	Non-emergency version: looping for 4mm ²	
	cable Emergency version: single entry only for	
	4mm ² cable	
Termination	4 core 4mm ² max.	
Installation	Stirrup mounted	
Control Gear	Electronic	
Batteries	Internal Rechargeable Ni-Cad	
Light Source	34 High power Light Emitting Diodes (LEDs)	
Burning Position	Universal	
Ingress Protection	IP66/67 to EN 60529	
Electrical Supply	220-254V 50/60Hz	
ergency Light Duration	90 minutes (100% output)	

Em

Maintained as standard

Standard Specification

60

ATEX CATEGORY 2

ZONE 1 APPLICATIONS

61

Std. Cat No.	Wattage	Lamp	TClass	T°(Dust)	Ambient °C	Weight
SOLD/034/LE	34W	Light Emitting Diodes	Т5	70	-55 to +55	24.0kg
SOLD/034/LE/EM	34W	Light Emitting Diodes	Т5	70	-20 to +40	29.0kg
SOLD/034/LE/EM/NI	M 34W	Light Emitting Diodes	T5	70	-20 to +55	29.0kg

	Options – Suffix to Catalogue No.							
/M25	M25 cable entries	/3H	3 hour emergency operation (50% output)					
/ P	PTFE coating	/SC	Screwed connections (minimum temp					
/N	Narrow beam spread		changes to -50°C)					
/NM	Non-maintained emergency version		 Non emergency version: looping for up to 6mm² cable 					
/LT	Low temperature (emergency only)	Non maintained emergency:						
	• Non-maintained -55 to +55°C		single entry only for up to 6mm ² cable					
	• Maintained -55 to +40°C		 Maintained emergency version: screwed connections not available 					







Accessories Should be ordered separately	Catalogue Order Code
Pole mounting bracket	S2610-0001
Wire guard	S2610-0005
Remote switches are available upon request, please contact technical sales (techsuppo	ort@chalmit.com)

261E and 723 EMERGENCY PROJECTOR Ex d Ex e PROTECTION 62



The 261E provides focused safety critical lighting in emergency evacuation situations. It is designed to provide illumination during the launching of lifeboats to ensure the way is clear of hazards.

	Standard Specification	Features
Type of Protection	Luminaire: Ex d e (Flameproof Increased Safety) Battery Box: Ex e m (Increased Safety	Installation to gas groups IIA and IIB
	Encapsulation)	Ex e terminal chamber
ATEX Classification	Group II Category 2 G	
Area Classification	Zone 1 and Zone 2 areas to EN 60079-10 with installation to EN 60079-14	Stainless steel fasteners, marine grade
Certificate	EC Type Examination Certificate BAS01ATEX2310 Battery Box: Baseefa03ATEX0003	Anchor chain on glass cover assembly
Coding	261E: Ex d e IIB T4 723: Ex e m II T4	Increased safety battery
Enclosure	Aluminium alloy LM6 to BS 1490 (AC44100) All fastenings A4 stainless steel Toughened glass window Battery Box: Marine grade 316S31 stainless steel with silicone rubber gasket	Both wide and narrow beam versions available
Reflector	High purity anodised aluminium (narrow beam - single ended lamp) (wide beam - double ended lamp)	
Entry	2 x M20 cable entries for mains supply and 1 x M25 cable entry for interconnection	
Termination	3 core 6mm ² max. conductor with looping for mains supply and 12 core 1.5mm ² luminaire to battery box	
Installation	Luminaire: Stirrup mounting bracket Battery Box: Flat straps	
Windage	0.096m ²	
Control Gear	Electronic	International Approvals
Relamping	Access via front glass cover assembly	
Burning Position	Universal	
Ingress Protection	IP66/67 to EN 60529	ATEX
Electrical Supply	220, 230, 240, 250V 50Hz and 60Hz	
Emergency Light Duration	90 minutes	

ATEX CATEGORY 2

ZONE 1 APPLICATIONS

63

Std. Cat No.	Wattage	e Lamp L	_ampholder	TClass	Ambient °C	W	eight
						Flood	Batery Box
261E/070/HS/EM*	70W	HPS	E27	T4	-10 to +40	28.0kg	22.0kg
261E/070/MS/EM**	70W	HPS or Metal Halide Double Ended	e R7s	T4	-10 to +40	28.0kg	22.0kg

*Narrow beam

**Wide beam

Standard catalogue number incorporates both floodlight and box.

Note: Please specify voltage at time of enquiry/order

Options – Suffix to Catalogue No.					
/M25	M25 cable entries (on 723 box)	/NS	Battery box without manual switching		
/ P	PTFE coating		anangement (automatic operation)		



Accessories Should be ordered separately	Catalogue Order Code
Pole mounting bracket assembly (42-64mm diameter poles)	S2610-0001
Wire guard	S2610-0005
Slave unit for operation on LIPS 24dc 110/254ac	Details on request

NexLED

Ex e LED BULKHEAD



The NexLED bulkhead utilises the latest LED technology to provide instant illumination. The NexLED requires no re-lamping making it virtually maintenance free and unaffected by low temperatures. This combination makes the NexLED ideal for extreme environmental applications.

Coloured LED options are also available.



NexLED with Exit Sign kit



NexLED with green LED's

Standard Specification Type of Protection Ex e mb (Increased Safety and Encapsulation) ATEX Classification Group II Category 2 GD Area Classification Zone 1 and Zone 21 area to EN 60079-10-1 and EN 60079-10-2 with installation to EN 60079-14 Certificate EC Type Examination Certificate Baseefa04ATEX0245 IEC Ex BAS09.0062 🚯 II 2 GD Ex e mb IIC Coding Refer to table for T rating and Ambient Aluminium alloy LM6 to BS 1490 (AC44100) Enclosure with toughened glass and silicone gasket Reflector Brushed aluminium Entry 2 x M20 cable entries Termination 3 core 4mm² max conductor with looping Installation Surface mounted, 4 mounting holes located outside of seal Light Source 1W light emitting diodes. Colour: white Control Gear Electronic Burning Position Universal Ingress Protection IP66/67 to EN 60529

110-254V AC (50/60Hz) DC

Electrical Supply

Features

Installation to gas groups IIA, IIB and IIC

Highly visible, instant light

Easy to install and maintain

Ultra long life, no relamping required

Very low power consumption

International Approvals

ATEX and GOST IECEx Compliant

Std. Cat No.	Wattage	Light Source	TClass	T℃ (Dust)	Ambient °C	Weight
NELE/201/LE	2W	Light Emitting Diode	T4	100	-45 to +55	4.0kg
NELE/801/LE	8W	Light Emitting Diode	T4	100	-45 to +55	4.1kg

Options – Suffix to Catalogue No.						
/RDE	Red LED's	/ADE	Amber LED's			
/GDE	Green LED's	/IEC	Supplied with IECEx certification label			
/BDE	Blue LED's					



Accessories Should be ordered separately

Catalogue Order Code

SNEL1-0008

Exit sign kit (supplied with - up, down, left and right labels*)

* Other signage options available upon request, please contact technical sales (techsupport@chalmit.com)

NexLED E

Ex e ib mb EMERGENCY



The NexLED emergency provides emergency battery backup to ensure continued operation in the event of a power outage. The emergency version benefits from the same features as the standard NexLED and is available as a special low temperature version for operation down to -45°C.

Coloured LED options are also available.



NexLED with Exit Sign kit



NexLED with green LED's

	Standard Specification	Features
Type of Protection	Ex e ib mb (Increased Safety, Intrisically Safe Encapsulated)	Installation to gas groups IIA, IIB and IIC
	Dust protected enclosure	Highly visible, instant light
ATEX Classification	Group II Category 2 GD	Easy to install and maintain
Area Classification	Zone 1 and Zone 21 areas to EN 60079-10-1 and EN 60079-10-2 with installation to EN 60079-14	Ultra long life,
Certificate	EC Type Examination Certificate	
	IEC Ex BAS09.0062	Very low power consumption
Coding	⟨ि II 2 GD Ex e ib mb IIC T4	100% output in emergency mode (Up to 3 hours)
Enclosure	Aluminium alloy LM6 to BS 1490 (AC44100) with toughened glass and silicone gasket	Rechargable Ni-Cd batteries
Reflector	Brushed aluminium	with charging indication
Entry	2 x M20 cable entries	Compatible with UPS systems
Termination	4 core 4mm ² max conductor with looping	
Installation	Surface mounted, 4 mounting holes located outside of seal	
Light Source	1W light emitting diodes. Colour: white	
Control Gear	Electronic	
Burning Position	Universal	
Ingress Protection	IP66/67 to EN 60529	
Battery	Ni-Cd (4.8V)	International Approvals
Emergency Duration	8W version - 90 minutes 2W version - 3 hours	ATEX and GOST
Electrical Supply	110-254V AC/DC	

Std. Cat No.	Wattage	Light Source	TClass	T℃ (D∪st)	Ambient °C	Weight
NELE/201/LE/EM	2W	Light Emitting Diode	T4	100	-20 to +55	4.0kg
NELE/801/LE/EM	8W	Light Emitting Diode	T4	100	-20 to +55	4.1kg

Options – Suffix to Catalogue No.					
/RDE	Red LED's	/ADE	Amber LED's		
/GDE	Green LED's	/LT	Low temperature -45°C to +55°C		
/BDE	Blue LED's	/IEC	Supplied with IECEx certification label		



Accessories Should be ordered separately

Catalogue Order Code

SNEL1-0008

Exit sign kit (supplied with - up, down, left and right labels*)

* Other signage options available upon request, please contact technical sales (techsupport@chalmit.com)

UNIVERSAL BOX Exe CONTROL



BOX

The Universal is a lamp control and transformer box for use in Zone 1 and Zone 2 hazardous areas. It can be used as a control box for up to 600W HID lamp sources.

The Universal box can also be specified as a 120V transformer box up to 1000VA.

	Standard Specification	Features
Type of Protection	Ex d e m (Increased Safety, Flameproof, Encapsulated) Dust protected enclosure	Installation to gas groups IIA, IIB and IIC Marine grade stainless steel
ATEX Classification Area Classification	Group II Category 2 GD Zone 1 and Zone 21 areas to EN 60079-10-1 and EN 60079-10-2 with installation to	Construction Easy to install and maintain Hinged lid with three captive
Certificate	EN 60079-14 Gas Groups IIA, IIB and IIC EC Type Examination Certificate BAS01ATEX2270	fixing screws Control gear easily accessed and can be replaced
Coding	$\langle \!$	Thermal cut-outs fitted on ballast and transformer
Enclosure	Marine grade 316S31 stainless steel with silicone rubber gasket	
Entry	3 x M20 cable entries	
Termination	3 core 6mm ² max. conductor with looping	
Installation Control Gear	Internal copper/iron and PFC correction capacitor as required	
Operating Position	Cable entries on lower end, if mounted vertically	International Approvals
Electrical Supply	220-254V 50Hz - Control box version, 120V 50-60Hz - Transformer box version	ATEX and GOST

Std. Cat No.	Wattage	Lamp	TClass	T℃ (D∪st)	Ambient °C	Weight
LINIE/150/MS	150\//	HPS/Metal Halide	T4	110	-40 to +45	10 Eka
	13000	Th Sylvictal Haliae	Т3	120	-40 to +55	то.экд
UNIF/250/MS	250W	HPS/Metal Halide	T4	110	-40 to +45	11 Oka
01112/2007/113	23011	Th S/Weta Hanac	Т3	120	-40 to +55	TT.0kg
UNIE/400/MS	400W	HPS/Metal Halide	T4	120	-40 to +55	12.0kg
UNIF/600/HS	600W	HPS	T4	115	-40 to +45	14.0kg
01112,000,110			Т3	125	-40 to +55	14.0Kg
UNIE/500/TF*	500VA	Transformer	T4	105	-40 to +35	11 Oka
	30077	hansionnei	Т3	115	-40 to +55	TT.OKY
UNIE/1000/TF*	1000VA	Transformer	T4	105	-40 to +35	12 Oka
	10007A	nunsionnei	Т3	115	-40 to +55	12.0Kg

*120 to 240V step up transformer boxes for fixed applications only. (Not portable).

Options – Suffix to Catalogue No.					
/60	60Hz	/MF	Mains fuse (-20°C to +40°C only)		
/M25	M25 cable entries	/3P	3 Phase termination		



PROTECTA n

NORMAL and EMERGENCY LIGHTING Ex n FLUORESCENT



The Protecta n utilises the proven strength and integrity as the Protecta III but is certified for use in Zone 2, Zone 21 and Zone 22 hazardous areas. The luminaire is recommended for use in areas where high levels of ingress protection is required

	Standard Specification	Features
Type of Protection ATEX Classification	Ex nA (Non-sparking) Group II Category 3 GD	Easy access to suspended control gear tray
Area Classification	Zone 2 and Zone 22 areas to EN 60079-10-1 and EN 60079-10-2 with installation to EN 60079-14	High frequency control gear gives 50/60Hz operation, high power factor correction and regulation of lamp output
Codino	IEC Certificate IECExBAS 08.0075	dc operation (non-emergency only)
Enclosure	Refer to table for T rating and Ambient GRP body with polycarbonate cover and brass	Vibration tested to comply with Lloyds/ DNV
Reflector	suspension points White polyester painted zinc coated steel 4 x M20 cable entries, 2 at each end 3 core 4mm ² max. conductor with looping and through wiring 16A rating. 4 core 4mm ² connectors on emergency	DTS-01 deluge tested
Entry Termination		End of life (EOL) protection to IEC 60079-7 (with EOL I and EOL II functionality)
Installation	(6mm ² terminations available - /SC option) Two M8 tapped brass inserts located on rear of body.	Suitable for Zone 21 (Dust) areas Type Examination Certificate Baseefa08ATEX0228
Control Gear	High Frequency electronic ballast Emergency - electronic/inverter	Coding 🕢 II 2D Ex tD A21 T85°C
Relamping Burning Position	Quick release diffuser clamp and hinged cover Universal	
Ingress Protection Electrical Supply	IP66/67 to EN 60529 220-254V 50/60Hz Ni Cd 6V (Emorganese version only)	International Approvals
Battery Duration Emercency Output	3 hours (Emergency version only) 18W 32% of one lamp	ATEX
	36W 14% of one lamp	IECEx Compliant

Std. Cat No.	Wattage	TClass(Gas)	T°C (Dust)	Ambient °C	Weight
PR2N/218/BI	2x18W	T4	85	-20 to +50	6.2kg
PR2N/136/BI	1x36W	T4	85	-20 to +50	9.6kg
PR2N/236/BI	2x36W	T4	85	-20 to +50	10.0kg
PR2N/218/BI/EM	2x18W	T4	85	-20 to +45	9.1kg
PR2N/136/BI/EM	1x36W	T4	85	-20 to +45	12.2kg
PR2N/236/BI/EM	2x36W	T4	85	-20 to +45	12.6kg

Options – Suffix to Catalogue No.					
/120	Specific voltage (110V-130V)	/3P	Three phase termination		
/SC	Screwed connection terminal block (up to 6mm ² conductors) M25 cable entries	/MF	Mains fuse		
		/IS	Isolation switch		
/M25		/SE	Spigot entry		



Accessories Should be ordered separately	Catalogue Order Code
Pole mounting bracket assembly (38-42mm diameter poles)	SPOL4-100001
Pole mounting bracket assembly (48-52mm diameter poles)	SPOL4-100002
Pole mounting bracket assembly (58-62mm diameter poles)	SPOL4-100003
Hook type ceiling bracket assembly	SPRO4-0005
Ceiling bracket assembly	SPRO4-0002
Flush mounting wall bracket assembly	SPRO4-0006
Eyebolt mounting assembly	SPRO5-0005
Looping Kit – non emergency version (allows looping from both ends of luminaire)	SPROT-0021
Looping Kit – emergency version (allows looping from both ends of luminaire)	SPROT-0022
18W wall mounting outreach bracket (use with SPOL4-100001)	NPRO4-0008
36W wall mounting outreach bracket (use with SPOI 4-100001)	NPRO4-0012

STERLING II

Ex n FLUORESCENT



The Sterling II is a high quality but cost effective T8 fluorescent. Its lightweight and slimline construction make it simple to install and maintain. The luminaire features high frequency control gear with 'End of Life' (EOL) protection.

The Sterling II is available with single and twin lamp versions.

	Standard Specification	Features				
Type of Protection	Ex nA (Non-sparking) Group II Category 3 GD Zone 2 and Zone 22 areas to EN 60079-10-1 and	Robust polycarbonate diffuser with stainless steel clips as standard				
Area Classification	EN 60079-10-2 with installation to EN 60079-14	Through wiring as standard				
Certificate	Type Examination Certificate Sira 06ATEX4348X IEC Ex SIR 06.0108X	High frequency control gear gives 50/60Hz operation, high power factor correction and regulation of lamp output.				
Coding	(refer to table for T rating and Ambient)	Simple to install and maintain				
Enclosure	GRP with polycarbonate diffuser and stainless steel retaining clips	Lightweight and slim line construction				
Reflector	White polyester painted zinc coated steel	End of life (EOL) protected				
Entry	2 x 20mm diameter holes					
Termination	4 core 4mm ² max. conductor with through wiring 16A rating					
Installation	Two clearance holes for M8 fasteners located on rear of body, sealing washers provided					
Control Gear	High Frequency ballast					
Relamping	Access via diffuser secured by quick release stainless steel clips	International Approvals				
Burning Position						
Ingress Protection	1765 to EN60529	ATEX				
Electrical Supply	220-234V 30/60Hz (AC/DC)	IECEx Compliant				
Std. Cat No.	Wattage	Voltage	TClass	T°(Dust)	Ambient °C	Weight
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ST2N/218/BI	2x18W	220V-254V	T4	85	-20 to +45	2.6kg
ST2N/136/BI	1x36W	220V-254V	T4	85	-20 to +45	3.3kg
ST2N/236/BI	2x36W	220V-254V	T4	85	-20 to +45	3.6kg
ST2N/158/BI	1x58W	220V-254V	T4	85	-20 to +45	3.7kg
ST2N/258/BI	2x58W	220V-254V	T4	85	-20 to +45	4.1kg

Options - Suffix to Catalogue No.

/MF

/120	110-130V 50/60Hz AC – 36W & 58W only
	(Note: Upper ambient, limit of +30°C)

Mains fuse



	2x18W	1x36W / 2x36W	1x58W / 2x58W
А	702	1312	1612
В	500	800	1100
С	172	102 / 172	102 / 172
D	106	106	106

Catalogue Order Code Accessories Should be ordered separately Pole mounting bracket assembly (38-42mm diameter poles) SPOL4-100004 Pole mounting bracket assembly (48-52mm diameter poles) SPOL4-100005 SPOL4-100006 Pole mounting bracket assembly (58-62mm diameter poles) Hook type ceiling bracket assembly S3004-100003 Ceiling bracket assembly \$3004-100001 Flush mounting wall bracket assembly \$3004-100004 18W wall mounting outreach bracket (use with SPOL4-100004) NPRO4-0008 NPRO4-0012 36W wall mounting outreach bracket (use with SPOL4-100004) 58W wall mounting outreach bracket (use with SPOL4-100004) NPRO4-0022

STERLING ILE EMERGENCY LIGHTING Ex n FLUORESCENT

EOL Protected

IECEx Compliant

The Sterling II Emergency features the same construction and EOL protected ballast as the standard product. In addition it also provides three hours of battery backup for emergency operation in the case of a power outage.

	Standard Specification	Features
Type of Protection	Ex nA (Non-sparking)	Polycarbonate diffuser
Area Classification	Zone 2 and Zone 22 areas to EN 60079-10-1 and	Through wiring as standard
Certificate	EN 60079-10-2 with installation to EN 60079-14 EC Type Examination Certificate Sira 06ATEX4348X IEC Ex SIR 06.0108X	High frequency control gear gives 50/60Hz operation, high power factor correction and regulation of lamp output.
Cooing Enclosure	(refer to table for T rating and Ambient) GRP with polycarbonate diffuser and stainless	Long life nickel cadmium batteries
Reflector Entry	steel retaining clips White polyester painted zinc coated steel 2 x 20mm diameter holes, 1 at each end	Switchable mains supply for local operation
Termination	4 core 4mm ² max. conductor with through wiring 16A rating	LED charge indicator
Installation	Two clearance holes for M8 fasteners located on rear of body, sealing washers provided	End of life (EOL) protected
Control Gear Relamping	High Frequency ballast, electronic/inverter Access via front diffuser secured by quick release stainless steel clips	
Burning Position	Universal	
Ingress Protection	IP65 to EN 60529	
Battery Duration	Ni-Cd (6V) 3 hours	International Approvals
Emergency Output	18W 32% of one lamp 36W 14% of one lamp 58W 9% of one lamp	ATEX

Std. Cat No.	Wattage	Voltage	TClass	T°(Dust)	Ambient °C	Weight
ST2N/218/BI/EM	2x18W	220V-254V	T4	85	-20 to +40	4.6kg
ST2N/136/BI/EM	1x36W	220V-254V	T4	85	-20 to +40	5.3kg
ST2N/236/BI/EM	2x36W	220V-254V	T4	85	-20 to +40	5.6kg
ST2N/158/BI/EM	1x58W	220V-254V	T4	85	-20 to +40	5.7kg
ST2N/258/BI/EM	2x58W	220V-254V	T4	85	-20 to +40	6.1kg

Options - Suffix to Catalogue IN	Options	- Suffix	to Ca	taloque	No
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/120	110-130V 50/60Hz AC – 36W & 58W only (Note: Upper ambient, limit of +30°C)	/NM	Non maintained version (Single lamp version only)
/MF	Mains fuse	/BMT	Battery management test



Accessories Should be ordered separately	Catalogue Order Code
Pole mounting bracket assembly (38-42mm diameter poles)	SPOL4-100004
Pole mounting bracket assembly (48-52mm diameter poles)	SPOL4-100005
Pole mounting bracket assembly (58-62mm diameter poles)	SPOL4-100006
Hook type ceiling bracket assembly	\$3004-100003
Ceiling bracket assembly	\$3004-100001
Flush mounting wall bracket assembly	\$3004-100004
18W wall mounting outreach bracket (use with SPOL4-100004)	NPRO4-0008
36W wall mounting outreach bracket (use with SPOL4-100004)	NPRO4-0012
58W wall mounting outreach bracket (use with SPOL4-100004)	NPRO4-0022

STERLING II S/S

EOL Protected

STAINLESS STEEL

Ex n FLUORESCENT

The Sterling II is also available in a stainless steel body version. This incorporates the same design and protection features found in the GRP body Sterling II. The increased durability of its stainless steel construction makes this luminaire ideal for applications where there is a high risk of mechanical damage or exposure to chemical agents.

	Standard Specification	Features
Type of Protection ATEX Classification	Ex nA (Non-sparking) Group II Category 3 GD	Marine grade stainless steel body and polycarbonate diffuser
Area Classification	Zone 2 and Zone 22 areas to EN 60079-10-1 and EN 60079-10-2 with installation to EN 60079-14	Mains connection terminals fixed to body
Certificate	Type Examination Certificate Sira 06ATEX4348X IEC Ex SIR06.0108X	Gear tray suspended and fitted with control gear for ease of maintenance
Coding	II 3 GD Ex nA II T4 (refer to table for T rating and Ambient)	High frequency control gear gives 50/60Hz operation, high power factor
Enclosure	Marine grade 316S31 stainless steel body with polycarbonate diffuser and stainless steel retaining clips	correction and regulation of lamp output.
Reflector	White polyester painted zinc coated steel	
Entry	3 x 20mm diameter holes, 2 at one end and 1 at the other end	
Termination	3 core 4mm ² max. conductor with looping and through wiring 16A rating	
Installation	Two clearance holes for M8 fasteners located on rear of body, sealing washers provided	
Control Gear	High Frequency ballast	
Relamping	Access via front diffuser secured by quick	
	release stainless steel clips	International Approvals
Burning Position	Universal	
Ingress Protection	IP65 to EN 60529	
Electrical Supply	220-254V 50/60Hz (AC/DC)	
		IECEx Compliant

Std. Cat No.	Wattage	TClass(Gas)	T°(Dust)	Ambient °C	Weight
SS2N/218/BI	2x18W	T4	85	-20 to +45	3.6kg
SS2N/136/BI*	1x36W	T4	85	-20 to +45	4.2kg
SS2N/236/BI	2x36W	Τ4	85	-20 to +45	4.8kg
SS2N/158/BI*	1x58W	T4	85	-20 to +45	6.1kg
SS2N/258/BI	2x58W	T4	85	-20 to +45	6.5kg

* Single lamp versions are in twin bodies.

Options – Suffix to Catalogue No.					
/120	110-130V 50/60Hz AC – 36W & 58W only (Note: Upper ambient, limit of +30°C)	/CM	Body c/w ceiling mounting brackets		
/N/IE	Mains fuso	/TE	Threaded entry pads		
/25	3 x 25mm cable entries	/EB	End mounting brackets attached		



Accessories Should be ordered separately	Catalogue Order Code
Pole mounting bracket assembly (38-42mm diameter poles)	SPOL4-100004
Pole mounting bracket assembly (48-52mm diameter poles)	SPOL4-100005
Pole mounting bracket assembly (58-62mm diameter poles)	SPOL4-100006
Hook type ceiling bracket assembly	\$3004-100003
Ceiling bracket assembly	\$3004-100001
Flush mounting wall bracket assembly	\$3004-100004
18W wall mounting outreach bracket (use with SPOL4-100004)	NPRO4-0008
36W wall mounting outreach bracket (use with SPOL4-100004)	NPRO4-0012
58W wall mounting outreach bracket (use with SPOL4-100004)	NPRO4-0022

STERLING II E STAINLESS EMERGENCY Ex n FLUORESCENT

EOL Protected



The Sterling II Emergency is also available in a stainless steel body version. This incorporates the same design and protection features found in the GRP body Sterling II. The increased durability of its stainless steel construction makes this luminaire ideal for applications where there is a high risk of mechanical damage or exposure to chemical agents.

	Standard Specification	Features
Type of Protection ATEX Classification	Ex nA (Non-sparking) Group II Category 3 GD	Marine grade stainless steel body and polycarbonate diffuser
Area Classification Certificate	Zone 2 and Zone 22 areas to EN 60079-10-1 and EN 60079-10-2 with installation to EN 60079-14 Type Examination Certificate	Mains connection terminals fixed to body
Codioo	Sira 06ATEX4348X IEC Ex SIR06.0108X	Gear tray suspended and fitted with control gear for ease of maintenance
Enclosure	(refer to table for T rating and Ambient) Marine grade 316S31 stainless steel body with polycarbonate diffuser and stainless steel retaining clips	High frequency control gear gives 50/60Hz operation, high power factor correction and regulation of lamp output.
Reflector Entry	White polyester painted zinc coated steel 3 x 20mm diameter holes, 2 at one end and 1 at the other end	Long life nickel cadmium batteries
Termination	4 core 4mm ² max. conductor with looping and through wiring 16A rating	Switchable mains supply for local operation
Installation Control Gear Relamping	Two clearance holes for M8 fasteners located on rear of body, sealing washers provided High Frequency ballast, electronic inverter Access via front diffuser secured by quick release stainless steel clips	LED charge indicator
Burning Position	Universal	
Electrical Supply Batteru	220-254V 50/60Hz 6V, 4Ah internal Ni-Cad	International Approvals
Duration	3 hours	
Emergency Output	18W 32% of one lamp, 36W 14% of one lamp,	
	58W 9% of one lamp	IECEx Compliant

Std. Cat No.	Wattage	TClass(Gas)	T°(Dust)	Ambient °C	Weight
SS2N/218/BI/EM	2x18W	T4	85	-20 to +40	4.6kg
SS2N/136/BI/EM*	1x36W	T4	85	-20 to +40	5.3kg
SS2N/236/BI/EM	2x36W	T4	85	-20 to +40	5.6kg
SS2N/158/BI/EM*	1x58W	T4	85	-20 to +40	5.7kg
SS2N/258/BI/EM	2x58W	T4	85	-20 to +40	6.1kg

* Single lamp versions are in twin bodies.

Options – Suffix to Catalogue No.					
/120	110-130V 50/60Hz AC – 36W & 58W only (Note: Upper ambient, limit of +30°C)	/CM	Body c/w ceiling mounting brackets		
/NM	/NM Non-maintained (single lamp version only)	/TE	Threaded entry pads		
		/EB	End mounting brackets attached		
/MF	Mains fuse				
/25	3 x 25mm cable entries	/BMT	Battery management test		



Accessories Should be ordered separately	Catalogue Order Code
Pole mounting bracket assembly (38-42mm diameter poles)	SPOL4-100004
Pole mounting bracket assembly (48-52mm diameter poles)	SPOL4-100005
Pole mounting bracket assembly (58-62mm diameter poles)	SPOL4-100006
Hook type ceiling bracket assembly	\$3004-100003
Ceiling bracket assembly	\$3004-100001
Flush mounting wall bracket assembly	\$3004-100004
18W wall mounting outreach bracket (use with SPOL4-100004)	NPRO4-0008
36W wall mounting outreach bracket (use with SPOL4-100004)	NPRO4-0012
58W wall mounting outreach bracket (use with SPOL4-100004)	NPRO4-0022

800 SERIES

Ex n FLOODLIGHTS



Recommended maximum aiming angle 20° from horizontal plane

The 800 series is a range of stainless steel asymmetrical floodlights. These floods are designed for optimum light output and efficiency to ensure the minimum number of luminaires is required.

220, 230, 240, 254V 50Hz

Electrical Supply



The 864 with anti-glare shield



The 864 with wire guard

Approvals

	Standard Specification	Features
Type of Protection	Ex nR (Restricted Breathing) Group II Category 3 GD	Photometrically superior asymmetric reflector
Area Classification	Zone 2 areas to EN 60079-10-1 and EN 60079-10-2 with installation to EN 60079-14	Marine grade stainless steel body and toughened glass cover
Certificate Coding	Type Examination Certificate BAS98ATEX3378 ﴿ II 3 GD Ex nR II Refer to table overleaf for T rating and Ambient	Quick release fasteners for ease of relamping and maintenance
Enclosure	Marine grade 316S31 stainless steel body	Suspended cover front
	with toughened glass window, silicone rubber gasket	Suitable for low temperature applications (-40°C)
Reflector	Wide beam high purity anodised aluminium	Standard control gear for use
Entry	2 x M20 cable entries	with IEC lamps
Termination	3 core 6mm ² max. conductor with looping	
Installation	Stirrup mounting	
Windage	0.052m² (844), 0.090m² (854), 0.107m² (864)	
Control Gear	Internal copper and iron ballast with ignitor and PFC correction capacitors	
Relamping	Access via front glass cover assembly secured by quick release stainless steel clips	International Approval
Burning Position	Control gear must be level or below lamp position	
Ingress Protection	IP66/67 to EN 60529	ATEX, GB (China), GOST and CEPEL

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Std. Cat No.	Wattage	Lamp	Lampholder	T Class	Ambient °C	Weight
844N/070/MS	70W	HPS/Metal Halide	E27	150°C T3 T4	-40 to +50 -40 to +40	12.0kg
854N/100/HS	100W	HPS	E40	T4	-40 to +55	18.0kg
854N/150/HS	150W	HPS	E40	T3 T4	-25 to +55 -40 to +50	18.0kg
854N/250/MS	250W	HPS/Metal Halide	E40	T4	-25 to +40	19.0kg
854N/400/MS*	400W	HPS/Metal Halide	E40	Т3	-25 to +40	17.0kg
854N/500/TH	500W	Single Ended T/Halogen	E40	T3 T2	-45 to +45 -45 to +60	16.5kg
864N/250/MS	250W	HPS/Metal Halide	E40	Т3	-25 to +55	20.5kg
864N/400/MS	400W	HPS/Metal Halide	E40	Т3	-40 to +50 (HPS) -25 to +40 (MH)	21.0kg
100/120V Cat Nos. The	e following mo	dels are for 120V, 5	60Hz as standard:			
864N/150/HS**	150W	HPS	E40	Т3	-40 to +55	23.0kg
864N/250/HS/120**	250W	HPS	E40	Т3	-40 to +55	23.0kg
864N/400/HS/120***	400W	HPS	E40	Т3	-40 to +55	23.0kg

* Ignitor only fitted within floodlight. Remote gear box required (see Universal Box).

** c/w IEC control gear 110/120V supply.

*** Supplied with remote transformer box for 110/120V supply. (Control gear fitted for IEC lamps).

Optior	is - Suffix to Catalogue No.
/60	60Hz
/M25	M25 cable entries
/N	Narrow beam reflector
/WA	Suitable for wire guard or anti-glare shield
/TAP/CSA	Quad tapped ballast (120, 208, 240, 277V (Internal control gear for NEC lamps only CSA certificate - non ATEX)

Accessories Should be ordered separately

All control gear fitted for use with European lamps (IEC).



Catalogue Order Code

Pole mounting bracket assembly - 844 (50-100mm diameter poles)	S8444-0002
Pole mounting bracket assembly - 854/864 (48-70mm diameter poles)	\$2400-0002
Spigot top mounting bracket assembly - 854/864 (70-82mm diameter poles)	S2400-0007
Wire guard - 844 (requires "WA" suffix when ordering)	\$8444-0005
Wire guard - 854 (requires "WA" suffix when ordering)	\$8544-0004
Wire guard - 864 (requires "WA" suffix when ordering)	\$8644-0004
Anti-glare shield - 844 (requires "WA" suffix when ordering)	\$8444-0001
Anti-glare shield - 854 (requires "WA" suffix when ordering)	\$8544-0002
Anti-glare shield - 864 (requires "WA" suffix when ordering)	\$8644-0002

MICRONEX and 82 MAXINEX

Ex n FLOODLIGHTS



Recommended maximum aiming angle 20° from horizontal plane

The Maxinex is a lightweight asymmetric floodlight. Its compact design ensures low wind resistance so is ideal for high mast applications. The reflector design allows light to be thrown forward long distances whilst still lighting below the pole.

The Micronex is a compact version ideal for directional control lighting at low mounting heights such as perimeter lighting and loading areas.

	Standard Specification	Features
Type of Protection ATEX Classification	Ex nR (Restricted Breathing) Group II Category 3 G	Photometrically superior asymmetric reflector design
Area Classification Certificate	EN 60079-10-2 with installation to EN 60079-14 Maxinex: Type Examination Certificate	Low windage of 0.08m ² (Micronex) and 0.25m ² (Maxinex)
	BAS97ATEX4368 Micronex: Type Examination Certificate	High corrosion resistance
	BAS98ATEX3054	All stainless steel fasteners
Coding	 (£x) II 3 GD Ex nR II (Maxinex) (£x) II 3 G Ex nR II (Micronex) Refer to table for T rating and Ambient 	Hinged front cover for easy access
Enclosure	Black epoxy painted aluminium body and frame with toughened glass window, silicone rubber gasket	Choice of metal halide or high pressure sodium (HPS) lamps
Reflector Entry	Wide beam high purity anodised aluminium Maxinex: 2 x 20mm diameter holes Micronex: 1 x 20mm diameter holes	Suitable for low temperature applications
Termination	Maxinex: 3 core 6mm ² max. conductor with looping Micronex: 3 core 6mm ² max. conductor	Option available for Zone 22 combustable dust environments (Maxinex only)
Installation	Stirrup mounting	
Windage	0.029m ² (Micronex), 0.090m ² (Maxinex)	
Control Gear	Internal copper/iron ballast with ignitor and PFC correction capacitor	
Relamping	Access via front glass cover assembly secured by stainless steel screws	International Approvals
Burning Position	Universal	ATEX and COST
Ingress Protection	IP66/67 to EN 60529	CEPEL (Maxinex only)
Electrical Supply	220, 230, 240, 254V 50Hz	IECEx Compliant (Maxinex only)

	Std. Cat No. \	Nattag	ge Lamp l	Lampholder	TClass	T°C (Dust)	Ambient °C	Weight
	MICN/070/MS	70W	Double Ended HPS/Metal Hali	ide R7s	T3	N/A	-30 to +40	5.9kg
	MAXN/150/MS	150W	HPS/Metal Halide	E40	T4	130	-40 to +55	16.0kg
	MAXN/250/MS	250W	HPS/Metal Halide	E40	Т3	180	-40 to +55	17.0kg
	MAXNI /400 /MS	400\\/	HPS/Metal Halide	F40	Т3	200	-40 to +45 (HPS)	18 5kg
WAAN/400/WIJ	40000	The Sylvietal Halide	L40	Т3	200	-40 to +30 (MH)	10.3Kg	

Note: Please specify voltage at time of enquiry/order

Options – Suffix to Catalogue No.				
/60	60Hz	/IEC	Supplied with IECEx certification label	
/D	Zone 2 and 22 dust applications (Maxinex only)			



Ex n FLOODLIGHT

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600W HPS



1000W Tungsten Halogen

The 503 is a high powered floodlight with a wide ambient temperature range. The high upper ambient and corrosion resistant aluminium constriction, make the 503 ideal for use even in the hottest and hostile environments.

	Standard Specification	Features
Type of Protection	Ex nR (Restricted breathing)	Robust construction
Area Classification	Zone 2 areas to EN 60079-10 with installation to EN 60079-14	Highly resistant to corrosion and mechanical damage
Coding	Ex nR II	All stainless steel fasteners
	Refer to table for T class and Ambient	Extremely efficient reflector system
Enclosure	Marine grade aluminium alloy LM6 body	Lamp support mechanism
	with toughened glass window, silicone rubber gasket	High ambient applications
Reflector	Wide beam high purity anodised aluminium	
Entry	1 x M20 cable entry	
Termination	3 core 4mm ² max. conductor	
Installation	Foot mounted	
Windage	0.227m ²	
Control Gear	Refer to Universal gear-box	
Relamping	Access via end cover secured by stainless steel screws	
Burning Position	Universal	
Ingress Protection	IP66/67 to EN 60529	
Electrical Supply	Refer to Universal gear-box for 600W	

Ex ∩ PROTECTION

ZONE 2 APPLICATIONS

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Std. Cat No.	Wattage	Lamp	TClass	Ambient °C	Weight
503N/600/HS/IG*	600W	HPS	Т3	-40 to +70	25.0kg
503N/1000/TH	1000W	Single Ended T/Halogen	T2	-40 to +60	25.0kg

* Remote gearbox required (see Universal Box), Page 66.

Options – Suffix to Catalogue No.						
/ P	PTFE coating	/N Narrow beam reflector				



Accessories Should be ordered separately	Catalogue Order Code
Pole mounting bracket assembly (64-114mm pole diameter)	S2000-0007
Swinging jib bracket	\$2000-0019
Anti-glare shield	\$5030-0007
Wire guard	\$5030-0008

NEXXUS II

Ex nA LED BULKHEAD



The Nexxus II low power LED bulkhead luminaire is suitable for a wide range of applications and ambient temperatures. The product utilises the latest technology of Light Emitting Diodes (LEDs) to provide an instant white light that is highly visible, overall whilst reducing energy consumption when compared to traditional light sources.

	Standard Specification	Features			
Type of Protection ATEX Classification	Ex mc nA Group II Category 3 GD	Fixing points outside restricted breathing enclosure			
	Group II Category 2 D Zone 2 and Zone 22 area to EN 60079-10-1 and EN 60079-10-2 with installation to EN 60079-14	High corrosion resistance			
Area Classification		Suitable for ceiling or wall mounting			
		Through wire or looping as standard			
Certificate	EC Type Examination Certificate Baseefa11ATEX0031X (Zone 2/22)	Prismatic lens			
	Baseefa11ATEX0032X (Zone 1) IECEx BAS 11.0017X	Suitable for low temperature applications			
Codino		Very low power consumption			
		Ultra long life, no relamping required			
	(tx) II 2 D Ex to IIIC 170°C Dc	Suitable for Zone 21 combustable dust			
	with toughened glass and silicone gasket	environments			
Reflector	Brushed aluminium				
Entry	2 x M20 cable entries				
Termination	3 core 6mm ² max. conductor with looping or through wiring 16A max current rating				
Light Source	12 x 1W light emitting diodes. Colour: white	lataraatioool Acarovala			
Control Gear	Electronic				
Burning Position	Universal				
Ingress Protection	IP66/67 to EN 60529	AIEA			
Electrical Supply	110/254V 50/60Hz	IECEx Compliant			

Std. Cat No.	Wattage	Lamp	TClass	T°C (Dust)	Ambient °C	Weight
NE2N/121/LE	12W	Light Emitting Diode	Τ6	70	-45 to +55	5.0kg
Equivalent to 100W GLS lamp wattage output.						

Options – Suffix to Catalogue No.					
/RDE	Red LEDs	/ADE	Amber LEDs		
/GDE	Green LEDs	/MF	Mains fuse		



Accessories Should be ordered separately

Catalogue Order Code

SNEX1-0001

Wire Guard Assembly

Product design and specifications are subject to change without notice, please check the Chalmit[®] website for latest specifications.

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NEXXUS



The Nexxus is a corrosion resistant bulkhead with a prismatic glass lens. It is available with a range of lamp types and is suitable for low temperature operation (-45°C). For ease of installation and maintenance the fixing points are located outside the restricted breathing enclosure.

	Standard Specification	Features
Type of Protection	Ex nR (Restricted Breathing)	Improved light output
ATEX Classification Area Classification	Group II Category 3 G Zone 2 areas to EN 60079-10-1 with installation to EN 60079-14 Type Examination Certificate BAS99ATEX3012 Type II 3 G EEx nR Refer to table for T rating and Ambient	Easy control gear replacement
Certificate		Fixing points outside restricted breathing enclosure
Coding		High corrosion resistance
Enclosure	Painted LM6 (AC 44100) aluminium alloy body with prismatic glass lens, silicone rubber gasket	Suitable for ceiling or wall mounting
Peflector	and stainless steel fasteners High purity anodised aluminium 3 x M20 cable entries 3 core 6mm ² may, conductor with looping	Through wire or looping as standard
Fotou		
Termination		Prismatic lens
	or through wiring 16A max current rating	Suitable for low temperature
Installation	4 x 7mm clearance holes in body fixing channel	applications
Control Gear	Internal copper/iron ballast with ignitor and PFC correction capacitors as specified	
Relamping	Access via front cover secured by four stainless steel screws	
Burning Position	Universal	
Ingress Protection	IP66/67 to EN 60529	
Electrical Supply	220, 230, 240, 254V 50Hz - 70W 220, 230, 240V 50Hz - 80W	International Approvals
	220-240V 50Hz - 50W, 240V 50Hz - CF 250V max - 160 & 200W	ATEX, GOST and CEPEL

ATEX CATEGORY 3

ZONE 2 APPLICATIONS

Std. Cat No.	Wattage	Lamp	Lampholder	T Class	Ambient °C	Weight
NEXN/050/HS	50W	HPS	E27	T4	-45 to +35	7.2kg
NEXN/070/MS	70W	HPS/Metal Halide	E27	T4	-45 to +35	7.7kg
NEXN/080/MV	80W	Mercury Vapour	E27	150°C T3	-20 to +25	7.2kg
NEXN/160/MB	160W	MBTF	E27	Т3	-25 to +30	5.7kg
NEXN/113/CF	1x13W	CFL	G24q	T5	-20 to +50	6.2kg
NEXN/118/CF	1x18W	CFL	G24q	Т5	-20 to +50	6.2kg
NEXN/126/CF	1x26W	CFL	G24q	T5	-20 to +50	6.2kg
NEXN/213/CF	2x13W	CFL	G24q	Т5	-20 to +30	6.7kg
NEXN/218/CF	2x18W	CFL	G24q	T5	-20 to +30	6.7kg
NEXN/226/CF	2x26W	CFL	G24q	Т5	-20 to +30	6.7kg
NEXN/200/GL	200W max	GLS	E27	150°C T3	-45 to +30**	5.7kg
NEXN/050/HS/NC*	50W	HPS	E27	150°C T3	-45 to +50	7.2kg
NEXN/070/MS/NC*	70W	HPS/Metal Halide	E27	150°C T3	-45 to +50	7.7kg
NEXN/080/MV/NC*	80W	Mercury Vapour	E27	150°C T3	-20 to +50	7.2kg
NEXN/100/HS/NC*	100W	HPS	E27	150°C T3	-45 to +50	8.2kg

* No power factor correction capacitors fitted.

** Other 'T' ratings and ambients available for lower wattages. Contact sales for details.

Options – Suffix to Catalogue No.						
/	Specific voltage (254V) (50W and 80W)	/TI	Timed cut out ignitor			
/60	60Hz (50W, 70W and 80W only)	/MF	Mains fuse			



Accessories Should be ordered separately

Catalogue Order Code

SNEX1-0001

Wire Guard Assembly

ECLIPSE II



First secure the chosen mounting base to the desired wall, ceiling, pole or bulkhead. Mains cables can now be easily terminated into the base using the required cable glands to maintain the IP sealing.



Once the base is secure, hang the main body via the hook on the base. This will remain suspended leaving your hands free to complete the connections to the terminal block.



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The main body can now be swung into place and secured using a screwdriver or nut driver. The terminal chamber is now sealed.

Zone 2 Ex n Well-Glass

The Eclipse II incorporates unique features designed to make installation and maintenance quicker and easier. The lamp chamber utilises the restricted breathing Ex nR concept and lamp access is by means of the screwed cover glass, whilst the control gear area is separated from the lamp chamber by a barrier and is non sparking Ex nA, meaning that no special cable glands are required.

The luminaire makes use of the Swing-Barrel Nut System. This allows users to easily install the mounting base first and complete the mains wiring without the need to support the body and lamps during installation. This simple design saves on both time and labour costs during installation and maintenance activities. The Swing-Barrel Nut System can be tightened with an ordinary screwdriver or nut driver without the need for special tools.

The main body of the Eclipse II also features a built in external attachment point, this allows the luminaire to be secured using a secondary safety cable.



Now safely screw the appropriate lamp into the body.



Finally attach the unique threaded lamp glass and turn until a secure seal is achieved.

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ECLIPSE II

Ex n WELL-GLASS



The Eclipse II wellglass has been designed to make installation quick and simple. The lamp and gear chambers are separated for easy maintenance and require no special cable glands.

The luminaire also features a swing barrel nut system. This allows prior installation and wiring of the mounting base without the need to support the body and lamps. This unique design saves on both time and labour costs.



The Eclipse II c/w external reflector



The Eclipse II c/w glass refractor

	Standard Specification	Features		
Type of Protection	Ex nA nR(Non Sparking Restricted Breathing)	Easy access for wiring and control gear		
ATEX Classification Area Classification	Group II Category 3 G Zone 2 areas to EN 60079-10-1 and EN 60079-10-1 with installation to EN 60079-14	Unrestricted breathing gear enclosure removes the need for special glands or cable		
Certificate	Type Examination Certificate Baseefa04ATEX0393X	Corrosion resistant		
Coding	 II 3 G Ex nA R II Refer to table for T class and Ambient 	High, medium and low bay lighting		
Faclosure	Painted aluminium body with glass globe	Excellent light distribution		
	Silicone rubber gasket. Single stainless steel barrel nut fastener.	Suitable for a wide range of ambient temperatures from -45°C to +55°C, dependant on lamp type and wattage		
Entry	Up to 4 x M20 cable entries			
Termination Lamp Type	3 core 6mm ² max. With looping. Ceiling mounting	Option available for Zone 22 combustable dust environments		
Windage	0.107m ² (up to 150W Glass) 0.134m ² (> 150W Glass) 0.210m ² (Enclosed Reflector)			
Control Gear	Internal copper/iron ballast with ignitor and PFC correction capacitors.			
Relamping	Access via restricted breathing lamp chamber			
Burning Position	Up to 25° off vertical IP66 to EN 60529	International Approvals		
Electrical Supply	220, 230, 240V 50Hz (50, 80, 100 & 125W) 220, 230, 240, 254V 50Hz (70, 150, 250 & 400W)	ATEX and GOST IECEx Compliant		

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Std. Cat No.	Wattage	Lamp	Lampholder	TClass	T°C (Dust)	Ambient °C	Weight
EC2N/050/HS	50W	HPS	E27	T4	110	-45 to +55	7.5kg
EC2N/070/MS	70W	HPS/Metal Halic	le E27	T4	110	-45 to +55	8.0kg
EC2N/100/HS	100W	HPS	E40	T4	110	-45 to +55	9.0kg
EC2N/150/MS	150W	HPS/Metal Halic	le E40	T4	110	-45 to +55	11.0kg
EC2N/250/MS	250W	HPS/Metal Halic	le E40	T4	130	-45 to +50	15.0kg
EC2N/400/MS	400W	HPS/Metal Halic	le E40	Т3	160	-45 to +45	15.5kg
EC2N/080/MV	80W	Mercury Vapou	r E27	Т3	135	-20 to +45	7.5kg
EC2N/125/MV	125W	Mercury Vapou	r E27	Т3	135	-20 to +45	8.0kg
EC2N/250/MV	250W	Mercury Vapou	r E40	Т3	135	-20 to +40	15.0kg
EC2N/400/MV	400W	Mercury Vapou	r E40	Т3	180	-20 to +35	15.5kg

Options – Suffix to Catalogue No.				
/60	60Hz	/ER	Sealed spun reflector	
/M25	M25 cable entries	/ R	Prismatic glass refractor (Up to 150W)	
/WM	Wall mounted version*	/IEC	Supplied with IECEx Certification label	
/ST	Stanchion mounted version*	/ D	Zone 22 dust applications	
/PE	Pendant mounted version*			

* See pages 94 and 95 for details



Accessories Should be ordered separately	Catalogue Order Code
Wire guard for low wattage glass globe (up to 150W)	E0850-0042
Wire guard for high wattage glass globe (250W/400W)	E0850-0044
Wire guard for enclosed reflector	E0850-0043
Dome reflector	SEC20-0001
30° angled reflector	SEC 20-0002

ECLIPSE JUNIOR EX N WELL-GLASS



The Eclipse Junior is a compact wellglass that incorporates the low maintenance features of the Eclipse II. Its low profile design and range of mounting options, offers an all round lighting solution in areas of limited space.

The junior is available with a range up lamp types up to 150W and is suitable for use at low temperatures (-45°C).



The Eclipse Junior c/w external reflector



The Eclipse Junior c/w wire guard

	Standard Specification	
upe of Protection	Ex nA nR (Non-sparking, Restricted Breathing)	Comr
	Croup II Category 2 C	
		Ea
rea Classification	Zone 2 areas to EN 600/9-10-1 and	
	EN 60079-10-2 with installation to EN 60079-14	Ur
Certificate	Type Examination Certificate BAS04ATEX0393X	gear
Coding	🕼 II 3 G Ex nAR II	
	Refer to table for T class and Ambient	
Enclosure	Painted aluminium body with glass globe.	Exce
	Silicone rubber gasket. Stainless steel fasteners	
Fotau	$4 \times M20$ cable entries	amb
		-45°C
I ermination	3 core 6mm ² max. conductor with looping	lar
Installation	Ceiling mounting	Optic
Windage	0.066m ²	combu
Control Gear	Internal copper/iron ballast with ignitor	
	and PFC correction capacitor	
Relamping	Access via sealed lamp chamber	
Burning Position	Up to 25° off vertical	
gress Protection	IP66 to EN 60529	Interno
Electrical Supply	220, 230, 240, 254V 50Hz - 70 & 80W (HID)	
	220, 230, 240V 50Hz - 50, 100 & 125W (HID)	AT
	240V 50Hz - CF, 250Vmax. 150W GLS	

Features

Compact size and low weight

Easy access for wiring and control gear

Unrestricted breathing gear enclosure removes the need for special glands or cable

Corrosion resistant

Excellent light distribution

Suitable for a wide range of ambient temperatures from -45°C to +55°C, dependant on lamp type and wattage

Option available for Zone 22 combustable dust environments

International Approvals

ATEX, GOST and CEPEL

Std. Cat No.	Wattage	Lamp L	_ampholder	TClass	T°C (Dust)	Ambient °C	Weight
ECJN/050/HS	50W	HPS	E27	T4	130	-45 to +50	5.5kg
ECJN/070/MS	70W	HPS/Metal Halide	E27	T4	130	-45 to +50	6.0kg
ECJN/080/MV	80W	MBFU	E27	Т3	135	-20 to +50	6.0kg
ECJN/125/MV	125W	MBFU	E27	Т3	140	-20 to +40	6.5kg
ECJN/113/CF	1x13W	CFL	G24q	T4	130	-20 to +50	5.0kg
ECJN/118/CF	1x18W	CFL	G24q	T4	130	-20 to +50	5.0kg
ECJN/126/CF	1x26W	CFL	G24q	T4	130	-20 to +50	5.0kg
ECJN/150/GL	150W	GLS	E27	T4	100	-45 to +55	5.0kg

Options – Suffix to Catalogue No.				
/	Specific voltage (220,230,254)	/PE	Pendant mounted version	
/60	60Hz	/NC	No capacitors	
/WM	Wall mounted version	/D	Zone 22 dust applications	
/ST	Stanchion mounted version			





Accessories Should be ordered separately	Catalogue Order Code
Wire guard (can be used in conjunction with reflectors)	E0850-0048
Dome reflector	SECL0-0001
30° Angled reflector	SECL0-0002

ECLIPSE RANGE

JUNIOR



ECLIPSE II



MOUNTING VARIATIONS and ACCESSORIES

ECLIPSE II MOUNTING ACCESSORIES

CEILING and FLUSH MOUNTING





WALL MOUNTING



STANCHION MOUNTING





TO SUIT POLE DIAMETER 70mm (11/2" NPT threaded pipe (I/D 44mm max)

PENDANT MOUNTING





PROTECTA

SURFACE MOUNTED FLUORESCENT



The Protecta is a proven and reliable T8 fluorescent luminaire. The Protecta's rugged, corrosion resistant construction (IP66/IP67) combined with an advanced high frequency ballast ensure minimum product maintenance is required.

When access is required the Protecta Industrial features an easy access clamp bar and automatic lamp de-energisation to allow quick and easy re-lamping.

	Standard Specification	Features
Ingress Protection	IP66/67 to EN60529	Simple rugged construction
Enclosure	GRP body with clear polycarbonate diffuser and	Full length easy access diffuser clamp
		Hinged cover
Entries	4 x M20 cable entries (2 each end)	Standard fixing centres
Termination	Quick release mains terminals - 3 core 4mm ² max. conductor with looping and 16A rating through wiring. (6mm ² terminations available -	When fitted high frequency control gear gives 50/60Hz operation, high power factor correction and regulation of lamp output
	/SC option)	Quick release mains terminals
Reflector/Gear-tray	White polyester painted zinc coated steel	DTS-01 deluge tested
Mounting	Two M8 brass inserts on rear of body	Vibration tested to comply with Lloyds/DNV
Control Gear	High Frequency electronic control gear	A copper and iron version is also available. To order substitute
Relamping	Via quick-release diffuser clamp and hinged diffuser	/in with /L3 and specify the voltage
Electrical Supply	110-254V 50/60Hz	

INDUSTRIAL and MARINE APPLICATIONS

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Std. Cat No.	Wattage	Lamp Type	Lampholder	Weight
PRGI/118/BI/HF	1x18W	T8 Fluorescent	G13	6.0kg
PRGI/218/BI/HF	2x18W	T8 Fluorescent	G13	6.1kg
PRGI/136/BI/HF	1x36W	T8 Fluorescent	G13	9.6kg
PRGI/236/BI/HF	2x36W	T8 Fluorescent	G13	9.8kg

Options – Suffix to Catalogue No.				
/	Specific voltage - Copper/iron ballasts: 120, 220, 230, 254V	/3P	3 phase termination facility (not available if looping is required)	
/ES	Electronic start (copper/iron ballast only)	/M25	M25 cable entry	
/60 /EL	60Hz supply (copper/iron ballasts only) Extra live termination (compatible with 4	/SC	Screwed connection terminal block (up to 6mm ² conductors)	
,	core switched emergency models)	/SB	Stainless steel mounting bush	
/MF	Mains fuse	/SE	Spigot entry	



Accessories Should be ordered separately	Catalogue Order Code
Pole mounting bracket assembly (38-42mm diameter poles)	SPOL4-100001
Pole mounting bracket assembly (48-52mm diameter poles)	SPOL4-100002
Pole mounting bracket assembly (58-62mm diameter poles)	SPOL4-100003
Hook type ceiling bracket assembly	SPRO4-0005
Ceiling bracket assembly	SPRO4-0002
Flush mounting wall bracket assembly	SPRO4-0006
Eyebolt mounting assembly	SPRO5-0005
Looping Kit – non emergency version (allows looping from both ends of luminaire)	SPROT-0021
Looping Kit – emergency version (allows looping from both ends of luminaire)	SPROT-0022
18W wall mounting outreach bracket (use with SPOL4-100001)	NPRO4-0008
36W wall mounting outreach bracket (use with SPOL4-100001)	NPRO4-0012

PROTECTA E

EMERGENCY FLUORESCENT



The Protecta Industrial has the same rugged and proven design as the Ex Protecta. This includes high ingress protection with DTS-01 deluge compliance and vibration resistance in accordance with Lloyds/DNV standards.

The Emergency version also features an internal battery to allow operation in the event of mains power failure.

	Standard Specification	Features
Ingress Protection	IP66/67 to EN60529	Simple rugged construction
Enclosure	GRP body with clear polycarbonate diffuser and brass suspension points	Full length easy access diffuser clamp
Entries	4 x M20 cable entries (2 each end)	Standard fixing centres
Termination	Quick release mains terminals - 3 core 4mm ² max. conductor with looping and 16A rating through wiring. (6mm ² terminations available -	High frequency control gear gives 50/60Hz operation, high power factor correction and regulation of lamp output
		Quick release mains terminals
Reflector/Gear-tray	White polyester painted zinc coated steel	DTS-01 deluge tested
Mounting	Two M8 brass inserts on rear of body	Vibration tested to comply with
Control Gear	High Frequency ballast & invertor c/w battery pack	Lloyds/DNV
Relamping	Via quick-release diffuser clamp and hinged diffuser	self-testing control gear
Electrical Supply	220-240V 50/60Hz	
Battery	Ni-Cd (6V)	
Duration	3 Hours to EN 60598-2-22	
Emergency Output	32% of one lamp (18W) 14% of one lamp (36W)	

INDUSTRIAL and MARINE APPLICATIONS

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Std. Cat No.	Wattage	Lamp Type	Lampholder	Weight
PRGI/118/BI/EM	1x18W	T8 Fluorescent	G13	8.1kg
PRGI/218/BI/EM	2x18W	T8 Fluorescent	G13	8.3kg
PRGI/136/BI/EM	1x36W	T8 Fluorescent	G13	12.2kg
PRGI/236/BI/EM	2x36W	T8 Fluorescent	G13	12.4kg

Options – Suffix to Catalogue No.				
/120	0 110-130V		Screwed connection terminal block	
/NM	Non-maintained		(up to 6mm ² conductors)	
(single lamp models only)	(single lamp models only)	/SB	Stainless steel mounting bush	
/MF	Mains fuse	/LBE	Looping both ends	
/3P	/3P 3 phase termination facility (not available if through wiring is required)		Battery monitoring and self-test	
/M25	M25 cable entry	/SE	Spigot entry	



Accessories Should be ordered separately	Catalogue Order Code
Pole mounting bracket assembly (38-42mm diameter poles)	SPOL4-100001
Pole mounting bracket assembly (48-52mm diameter poles)	SPOL4-100002
Pole mounting bracket assembly (58-62mm diameter poles)	SPOL4-100003
Hook type ceiling bracket assembly	SPRO4-0005
Ceiling bracket assembly	SPRO4-0002
Flush mounting wall bracket assembly	SPRO4-0006
Eyebolt mounting assembly	SPRO5-0005
Looping Kit – non emergency version (allows looping from both ends of luminaire)	SPROT-0021
Looping Kit – emergency version (allows looping from both ends of luminaire)	SPROT-0022
18W wall mounting outreach bracket (use with SPOL4-100001)	NPRO4-0008
36W wall mounting outreach bracket (use with SPOL4-100001)	NPRO4-0012

PROTECTA S/S

STAINLESS STEEL FLUORESCENT



The Protecta is also available in a stainless steel body version. This incorporates the same design and monitoring features found in the GRP body Protecta. The increased durability of its stainless steel construction makes this luminaire ideal for applications where there is a high risk of mechanical damage or exposure to chemical agents.

	Standard Specification	Features
Ingress Protection	IP66/67 to EN60529	Simple rugged construction
Enclosure	Marine grade 316S31 stainless steel body with clear polycarbonate diffuser	Hinged cover with easily removeable cover clamps
Entries	4 x M20 cable entries (2 each end)	Standard fixing centres
Termination	Quick release mains terminals - 3 core 4mm ² max. conductor with looping and 16A rating through wiring. (6mm ² terminations available - /SC option)	High frequency control gear gives 50/60Hz operation, high power factor correction and regulation of lamp output
Installation	Two M8 tapped stainless steel inserts located on	Quick release mains terminals
	rear of body	Resistance to voltage fluctuations
Control Gear	High Frequency electronic control gear	Optional battery monitoring and self-testing control gear
Relamping	Via quick-release diffuser clamp and hinged diffuser	A non-emergency copper and iron version is also available.
Electrical Supply	110-254V 50/60Hz Emergency version 220/254V 50/60Hz	/HF with /ES and specify the voltage
Battery	Ni-Cd (6V)	
Duration	3 Hours	
Emergency Output	32% of one lamp (18W) 14% of one lamp (36W)	

INDUSTRIAL and MARINE APPLICATIONS

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Std. Cat No.WattageLamp TypeLampholderWeightPRSI/118/BI/HF1x18WT8 FluorescentG135.9kgPRSI/218/BI/HF2x18WT8 FluorescentG136.2kgPRSI/236/BI/HF1x36WT8 FluorescentG139.6kgPRSI/236/BI/HF2x36WT8 FluorescentG1310.0kgPRSI/118/BI/EM1x18WT8 FluorescentG138.7kgPRSI/218/BI/EM2x18WT8 FluorescentG139.0kgPRSI/136/BI/EM1x36WT8 FluorescentG1312.4kgPRSI/236/BI/EM2x36WT8 FluorescentG1312.8kg					
PRSI/118/BI/HF1x18WT8 FluorescentG135.9kgPRSI/218/BI/HF2x18WT8 FluorescentG136.2kgPRSI/136/BI/HF1x36WT8 FluorescentG139.6kgPRSI/236/BI/HF2x36WT8 FluorescentG1310.0kgPRSI/118/BI/EM1x18WT8 FluorescentG138.7kgPRSI/218/BI/EM2x18WT8 FluorescentG139.0kgPRSI/218/BI/EM1x36WT8 FluorescentG1312.4kgPRSI/236/BI/EM2x36WT8 FluorescentG1312.8kg	Std. Cat No.	Wattage	Lamp Type	Lampholder	Weight
PRSI/218/BI/HF2x18WT8 FluorescentG136.2kgPRSI/136/BI/HF1x36WT8 FluorescentG139.6kgPRSI/236/BI/HF2x36WT8 FluorescentG1310.0kgPRSI/118/BI/EM1x18WT8 FluorescentG138.7kgPRSI/218/BI/EM2x18WT8 FluorescentG139.0kgPRSI/136/BI/EM1x36WT8 FluorescentG1312.4kgPRSI/236/BI/EM2x36WT8 FluorescentG1312.8kg	PRSI/118/BI/HF	1x18W	T8 Fluorescent	G13	5.9kg
PRSI/136/BI/HF1x36WT8 FluorescentG139.6kgPRSI/236/BI/HF2x36WT8 FluorescentG1310.0kgPRSI/118/BI/EM1x18WT8 FluorescentG138.7kgPRSI/218/BI/EM2x18WT8 FluorescentG139.0kgPRSI/136/BI/EM1x36WT8 FluorescentG1312.4kgPRSI/236/BI/EM2x36WT8 FluorescentG1312.8kg	PRSI/218/BI/HF	2x18W	T8 Fluorescent	G13	6.2kg
PRSI/236/BI/HF2x36WT8 FluorescentG1310.0kgPRSI/118/BI/EM1x18WT8 FluorescentG138.7kgPRSI/218/BI/EM2x18WT8 FluorescentG139.0kgPRSI/136/BI/EM1x36WT8 FluorescentG1312.4kgPRSI/236/BI/EM2x36WT8 FluorescentG1312.8kg	PRSI/136/BI/HF	1x36W	T8 Fluorescent	G13	9.6kg
PRSI/118/BI/EM1x18WT8 FluorescentG138.7kgPRSI/218/BI/EM2x18WT8 FluorescentG139.0kgPRSI/136/BI/EM1x36WT8 FluorescentG1312.4kgPRSI/236/BI/EM2x36WT8 FluorescentG1312.8kg	PRSI/236/BI/HF	2x36W	T8 Fluorescent	G13	10.0kg
PRSI/218/BI/EM 2x18W T8 Fluorescent G13 9.0kg PRSI/136/BI/EM 1x36W T8 Fluorescent G13 12.4kg PRSI/236/BI/EM 2x36W T8 Fluorescent G13 12.8kg	PRSI/118/BI/EM	1x18W	T8 Fluorescent	G13	8.7kg
PRSI/136/BI/EM 1x36W T8 Fluorescent G13 12.4kg PRSI/236/BI/EM 2x36W T8 Fluorescent G13 12.8kg	PRSI/218/BI/EM	2x18W	T8 Fluorescent	G13	9.0kg
PRSI/236/BI/EM 2x36W T8 Fluorescent G13 12.8kg	PRSI/136/BI/EM	1x36W	T8 Fluorescent	G13	12.4kg
	PRSI/236/BI/EM	2x36W	T8 Fluorescent	G13	12.8kg

Options - Suffix to Catalogue No.

/120	110-130V High Frequency ballast	/M25	M25 cable entries
/FS	(for /EM Emergency models only)	/SC	Screwed connection terminal block
/	Specific voltage (120*, 220, 230 & 254V	/MF	Mains fuse
	only available copper/iron gear)	/3P	3 phase termination facility
/60	60Hz supply (copper/iron ballasts only)	/I BF	Looping both ends
/EL	Extra live termination (Compatible with four core switched emergency models)	/BMT	Battery monitoring and self-test

* 120V copper/iron gear - non emergency only

Accessories Should be ordered separately



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Pole mounting bracket assembly (38-42mm diameter poles)	SPOL4-100001
Pole mounting bracket assembly (48-52mm diameter poles)	SPOL4-100002
Pole mounting bracket assembly (58-62mm diameter poles)	SPOL4-100003
Hook type ceiling bracket assembly	SPRO4-0005
Ceiling bracket assembly	SPRO4-0002
Flush mounting wall bracket assembly	SPRO4-0006
Eyebolt mounting assembly	SPRO5-0005
Looping Kit – non emergency version (allows looping from both ends of luminaire)	SPROT-0021
Looping Kit – emergency version (allows looping from both ends of luminaire)	SPROT-0022
18W wall mounting outreach bracket (use with SPOL4-100001)	NPRO4-0008
36W wall mounting outreach bracket (use with SPOL4-100001)	NPRO4-0012

STERLING II

SURFACE MOUNTED FLUORESCENT



The Sterling II is a high quality but cost effective fluorescent. Its lightweight and slimline construction make it simple to install and maintain.

The luminaire has copper and iron control gear and is available with single and twin lamp versions.

	Standard Specification	Features
Ingress Protection	IP65 to EN60529	Robust polycarbonate diffuser with stainless steel clips
Enclosure	GRP body with clear polycarbonate diffuser	as standard
	Stainless steel retaining clips	Simple to install and maintain
Entries	2 x 20mm clearance holes (one either end)	Lightweight and slim line construction
Termination	4 core 4mm ² max conductors	
Reflector/Gear-tray	White polyester painted zinc coated steel	
Mounting	8mm clearance holes, sealing washers	
Control Gear	Copper & Iron switch start ballast	
Relamping	Access via front diffuser secured by quick release	
	stainless steel clips	
Electrical Supply	240V 50Hz	
Battery	Ni-Cd (6V)	
Duration	3 Hours	
Emergency Output	32% of one lamp (18W)	
	14% of one lamp (36W)	
	9% of one lamp (58W)	

INDUSTRIAL and MARINE APPLICATIONS

Std. Cat No.	Wattage	Voltage	Lamp Type	Lampholder	Weight
ST2I/118/BI	1x18W	240V 50Hz	T8 Fluorescent	G13	2.5kg
ST2I/218/BI	2x18W	240V 50Hz	T8 Fluorescent	G13	3.2kg
ST2I/136/BI	1x36W	240V 50Hz	T8 Fluorescent	G13	3.6kg
ST2I/236/BI	2x36W	240V 50Hz	T8 Fluorescent	G13	4.2kg
ST2I/158/BI	1x58W	240V 50Hz	T8 Fluorescent	G13	4.2kg
ST2I/258/BI	2x58W	240V 50Hz	T8 Fluorescent	G13	5.1kg
ST2I/118/BI/EM*	1x18W	240V 50Hz	T8 Fluorescent	G13	4.8kg
ST2I/218/BI/EM	2x18W	240V 50Hz	T8 Fluorescent	G13	5.2kg
ST2I/136/BI/EM*	1x36W	240V 50Hz	T8 Fluorescent	G13	5.6kg
ST2I/236/BI/EM	2x36W	240V 50Hz	T8 Fluorescent	G13	6.1kg
ST2I/158/BI/EM*	1x58W	240V 50Hz	T8 Fluorescent	G13	5.7kg
ST2I/258/BI/EM	2x58W	240V 50Hz	T8 Fluorescent	G13	7.1kg

* Emergency single lamp models are in twin lamp bodies

Options – Suffix to Catalogue No.			
/NM	Non maintained emergency version	/Т	Through wired
(single lamp bodies only)	/ES	Electronic starter	
/MF	Mains fuse	/EA	External earth



Accessories Should be ordered separately

Catalogue Order Code

Pole mounting bracket assembly (38-42mm diameter poles)	SPOL4-100004
Pole mounting bracket assembly (48-52mm diameter poles)	SPOL4-100005
Pole mounting bracket assembly (58-62mm diameter poles)	SPOL4-100006
Hook type ceiling bracket assembly	\$3004-100003
Ceiling bracket assembly	\$3004-100001
Flush mounting wall bracket assembly	\$3004-100004
18W wall mounting outreach bracket (use with SPOL4-100004)	NPRO4-0008
36W wall mounting outreach bracket (use with SPOL4-100004)	NPRO4-0012
58W wall mounting outreach bracket (use with SPOL4-100004)	NPRO4-0022

STERLING II H/F SURFACE MOUNTED FLUORESCENT



The Sterling II H/F features the same lightweight design but incorporates high frequency electronic control gear.

	Standard Specification	Features
Ingress Protection Enclosure	IP65 to EN60529 GRP body with clear polycarbonate diffuser	Robust polycarbonate diffuser with stainless steel clips as standard
Entries	Stainless Steel retaining clips 2 x 20mm clearance holes (one either end)	High frequency control gear gives 50/60Hz operation, high power
Termination	4 core 4mm ² max conductors	factor correction and regulation of lamp output
Reflector/Gear-tray	White polyester painted zinc coated steel	Simple to install and maintain
Mounting	8mm clearance holes, sealing washers are provided	Lightweight and slim line construction
Control Gear	High frequency electronic ballast	
Relamping	Access via front diffuser secured by quick release stainless steel clips	
Electrical Supply	Non-emergency version - 120V-254V 50/60Hz 175V-270V DC Emergency version - 220-254V 50/60Hz	
Battery	Ni-Cd (6V)	
Duration	3 Hours	
Emergency Output	32% of one lamp (18W) 14% of one lamp (36W) 9% of one lamp (58W)	

INDUSTRIAL and MARINE APPLICATIONS

Std. Cat No.	Wattage	Voltage	Lamp Type	Lampholder	Weight
ST2I/118/BI/HF	1x18W	120V-254V 50/60Hz	T8 Fluorescent	G13	2.3kg
ST2I/218/BI/HF	2x18W	120V-254V 50/60Hz	T8 Fluorescent	G13	2.6kg
ST2I/136/BI/HF	1x36W	120V-254V 50/60Hz	T8 Fluorescent	G13	3.3kg
ST2I/236/BI/HF	2x36W	120V-254V 50/60Hz	T8 Fluorescent	G13	3.6kg
ST2I/158/BI/HF	1x58W	120V-254V 50/60Hz	T8 Fluorescent	G13	3.7kg
ST2I/258/BI/HF	2x58W	120V-254V 50/60Hz	T8 Fluorescent	G13	4.1kg
ST2I/118/BI/EM/HF*	1x18W	220V-254V 50/60Hz	T8 Fluorescent	G13	4.3kg
ST2I/218/BI/EM/HF	2x18W	220V-254V 50/60Hz	T8 Fluorescent	G13	4.6kg
ST2I/136/BI/EM/HF*	1x36W	220V-254V 50/60Hz	T8 Fluorescent	G13	5.3kg
ST2I/236/BI/EM/HF	2x36W	220V-254V 50/60Hz	T8 Fluorescent	G13	5.6kg
ST2I/158/BI/EM/HF*	1x58W	220V-254V 50/60Hz	T8 Fluorescent	G13	5.7kg
ST2I/258/BI/EM/HF	2x58W	220V-254V 50/60Hz	T8 Fluorescent	G13	6.1kg

* Emergency single lamp models are in twin lamp bodies

Options – Suffix to Catalogue No.							
/120	110-130V 50/60Hz High Frequency ballast (36W) & 58W Emergency version only)	/MF	Mains fuse				
/NM	Non maintained emergency version	/ T	Through wired				
//	(single lamp bodies only)	/EA	External earth				



Accessories Should be ordered separately

Catalogue Order Code

Pole mounting bracket assembly (38-42mm diameter poles)	SPOL4-100004
Pole mounting bracket assembly (48-52mm diameter poles)	SPOL4-100005
Pole mounting bracket assembly (58-62mm diameter poles)	SPOL4-100006
Hook type ceiling bracket assembly	\$3004-100003
Ceiling bracket assembly	\$3004-100001
Flush mounting wall bracket assembly	\$3004-100004
18W wall mounting outreach bracket (use with SPOL4-100004)	NPRO4-0008
36W wall mounting outreach bracket (use with SPOL4-100004)	NPRO4-0012
58W wall mounting outreach bracket (use with SPOI 4-100004)	NPRO4-0022

STERLING II S/S



STAINLESS STEEL

FLUORESCENT

The Sterling II is also available in a stainless steel body version. This incorporates the same design and protection features found in the GRP body Sterling II. The increased durability of its stainless steel construction makes this luminaire ideal for applications where there is a high risk of mechanical damage or exposure to chemical agents.

	Standard Specification	Features		
Ingress Protection	IP65 to EN60529	Marine grade stainless steel body and polycarbonate diffuser		
Enclosure	Marine grade 316S31 stainless steel body, clear polycarbonate diffuser & quick release stainless steel clips	3 clips per side on 18W, 4 on 36W and 5 on 58W		
Reflector/Geartray	White epoxy polyester coated steel	Mains connection terminals fixed to body		
Entries	3 x 20mm entries (2 at one end, 1 at other end)	Gear tray suspended and fitted with control gear for ease of maintenance		
Termination	Looping & through wiring for 3 core 4mm ² conductors (4 core on Emergency models)			
Installation	Access via two 8mm holes on rear of body			
Control Gear	Copper & iron switchstart ballast			
Relamping	Via quick release stainless steel clips			
Electrical Supply	240V 50Hz (Always state V/Hz when ordering)			
Battery	Ni-Cd (6V)			
Duration	3 Hours			
Emergency Output	32% of one lamp (18W) 14% of one lamp (36W) 9% of one lamp (58W)			
Std. Cat No.	Wattage	Lamp Type	Lampholder	Weight
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SS2I/118/BI	1x18W	T8 Fluorescent	G13	4.2kg
SS2I/218/BI	2x18W	T8 Fluorescent	G13	3.6kg
SS2I/136/BI	1x36W	T8 Fluorescent	G13	4.2kg
SS2I/236/BI	2x36W	T8 Fluorescent	G13	4.8kg
SS2I/158/BI	1x58W	T8 Fluorescent	G13	6.1kg
SS2I/258/BI	2x58W	T8 Fluorescent	G13	6.5kg
SS2I/118/BI/EM	1x18W	T8 Fluorescent	G13	7.0kg
SS2I/218/BI/EM	2x18W	T8 Fluorescent	G13	6.4kg
SS2I/136/BI/EM	1x36W	T8 Fluorescent	G13	7.0kg
SS2I/236/BI/EM	2x36W	T8 Fluorescent	G13	7.6kg
SS2I/158/BI/EM	1x58W	T8 Fluorescent	G13	8.9kg
SS2I/258/BI/EM	2x58W	T8 Fluorescent	G13	9.3kg

Options - Suffix to Catalogue No.

/ES	Electronic start (copper/iron ballast only)	/60	Electronic start (copper/iron ballasts only)
/	Specific voltage: 120V - 36W & 58W Emergency	/M25	M25 cable entries
	Frequency (HF) version is available)	/CM	Body c/w ceiling mounting brackets



Accessories Should be ordered separately

Catalogue Order Code

Pole mounting bracket assembly (38-42mm diameter poles)	SPOL4-100004
Pole mounting bracket assembly (48-52mm diameter poles)	SPOL4-100005
Pole mounting bracket assembly (58-62mm diameter poles)	SPOL4-100006
Hook type ceiling bracket assembly	\$3004-100003
Ceiling bracket assembly	\$3004-100001
Flush mounting wall bracket assembly	\$3004-100004
18W wall mounting outreach bracket (use with SPOL4-100004)	NPRO4-0008
36W wall mounting outreach bracket (use with SPOL4-100004)	NPRO4-0012
58W wall mounting outreach bracket (use with SPOL4-100004)	NPRO4-0022

STERLING II S/S H/F STAINLESS FLUORESCENT



The Sterling II H/F is also available in a stainless steel body version. This incorporates the same design and protection features found in the GRP body Sterling II. The increased durability of its stainless steel construction makes this luminaire ideal for applications where there is a high risk of mechanical damage or exposure to chemical agents.

	Standard Specification	Features
Ingress Protection	IP65 to EN60529	Marine grade stainless steel body and polycarbonate diffuser
Enclosure	Marine grade 316S31 stainless steel body, clear polycarbonate diffuser & quick release stainless steel clips	High frequency control gear gives 50/60Hz operation, high power factor correction and regulation of lamp output
Reflector/Geartray Entries	White epoxy polyester coated steel 3 x 20mm entries (2 at one end, 1 at other end)	Mains connection terminals fixed to body
Termination	Looping & through wiring for 3 core 4mm ² conductors (4 core on Emergency models)	Gear tray suspended and fitted with control gear for ease of maintenance
Installation	Access via two 8mm holes on rear of body	
Control Gear	High Frequency electronic control gear	
Relamping	Via quick release stainless steel clips	
Electrical Supply	240V 50Hz (Always state V/Hz when ordering)	
Battery	Ni-Cd (6V)	
Duration	3 Hours	
Emergency Output	32% of one lamp (18W) 14% of one lamp (36W) 9% of one lamp (58W)	

Std. Cat No.	Wattage	Lamp Type	Lampholder	Weight
SS2I/118/BI/HF	1x18W	T8 Fluorescent	G13	4.2kg
SS2I/218/BI/HF	2x18W	T8 Fluorescent	G13	3.6kg
SS2I/136/BI/HF	1x36W	T8 Fluorescent	G13	4.2kg
SS2I/236/BI/HF	2x36W	T8 Fluorescent	G13	4.8kg
SS2I/158/BI/HF	1x58W	T8 Fluorescent	G13	6.1kg
SS2I/258/BI/HF	2x58W	T8 Fluorescent	G13	6.5kg
SS2I/118/BI/EM/HF	1x18W	T8 Fluorescent	G13	7.0kg
SS2I/218/BI/EM/HF	2x18W	T8 Fluorescent	G13	6.4kg
SS2I/136/BI/EM/HF	1x36W	T8 Fluorescent	G13	7.0kg
SS2I/236/BI/EM/HF	2x36W	T8 Fluorescent	G13	7.6kg
SS2I/158/BI/EM/HF	1x58W	T8 Fluorescent	G13	8.9kg
SS2I/258/BI/EM/HF	2x58W	T8 Fluorescent	G13	9.3kg

Options – S	Suffix	to Catal	logue l	No.
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/120	110-130V Emergency only	/M25	M25 cable entries
	(if 120V - 36W & 58W non-emergency is required,		Rody of u soiling mounting brockets
	a High Frequency (HF) version is available)	/CIVI	Body c/w ceiling mounting brackets



Accessories Should be ordered separately

Catalogue Order Code

Pole mounting bracket assembly (38-42mm diameter poles)	SPOL4-100004
Pole mounting bracket assembly (48-52mm diameter poles)	SPOL4-100005
Pole mounting bracket assembly (58-62mm diameter poles)	SPOL4-100006
Hook type ceiling bracket assembly	\$3004-100003
Ceiling bracket assembly	\$3004-100001
Flush mounting wall bracket assembly	\$3004-100004
18W wall mounting outreach bracket (use with SPOL4-100004)	NPRO4-0008
36W wall mounting outreach bracket (use with SPOL4-100004)	NPRO4-0012
58W wall mounting outreach bracket (use with SPOL4-100004)	NPRO4-0022

ACCLAIM

RECESSED FLUORESCENT



The Acclaim is a recessed fluorescent specifically designed for use in solid or plank ceiling types. The luminaire is SOLAS B15 approved and suitable for use in offshore accommodation modules for both task and emergency lighting.

To allow safe and easy maintenance Acclaim features automatic lamp de-energisation upon opening. An emergency version with internal battery is also available.

	Standard Specification	Features
Ingress Protection	IP54 to EN60529	Suitable for various ceiling types
Enclosure	White polyester painted zintec body and frame.	Quick release mains terminals
	Clear polycarbonate diffuser	Resistant to voltage fluctuations
Entries	4 x 20mm clearance holes (supplied plug)	Local switching arrangement as standard
Internal Wiring Termination	Stranded, heat resistant wiring up to 105°C Quick release mains terminals - 3 core 4mm ²	Electronic control gear gives 50/60Hz operation, high power factor correction and regulation of lamp output
	max. conductor with looping and through wiring facility (4 core on emergency).	dc operation (non emergency)
	(6mm ² terminations available - /SC option)	3 hour emergency duration
Mounting	Swing out side arms (also suitable for drop rod mounting through	B15 SOLAS fire rating - appropriate insulation is required over the luminaire
Control Gear	High Frequency	Optional battery monitoring and self-testing control gear
Relamping	Via front cover, secured by pan head screws	
Electrical Supply	110-254V 50/60Hz, 220-254V 50/60Hz (emergency model) Always state V/Hz when ordering	
Battery duration	3 Hours (emergency models)	

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Std. Cat No.	Wattage	Lamp Туре	Lampholder	Weight
ACLI/218/BI	2x18W	T8 Fluorescent	G13	6.0kg
ACLI/236/BI	2x36W	T8 Fluorescent	G13	11.0kg
ACLI/218/BI/EM	2x18W	T8 Fluorescent	G13	8.5kg
ACLI/236/BI/EM	2x36W	T8 Fluorescent	G13	13.5kg

Options – Suffix to Catalogue No.			
/120	Specific voltage (110/130 - Emergency version only)	/SC	Screwed connection terminal block (up to 6mm ² conductors)
/PC	Solid plank ceiling	/DIM	Analogue dimming
/3P	3 phase termination facility (not available if through wiring required)	/LG	Low glare louvre
/EI	Extra live termination facility	/PD	Prismatic diffuser
/CL	(compatible with 4 core switched emergency circuits)	/MF	Mains fuse
/25	25mm cable entries	/BMT	Battery monitoring and self-test

Please refer to pages 32 and 33 for ceiling types



CURIE

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The Curie is a recessed fluorescent specifically designed for use in solid or modular ceiling types. The luminaire is SOLAS B15 approved and suitable for use in offshore accommodation modules for both task and emergency lighting.

	Standard Specification	Features
Ingress Protection	IP44 to EN60598-1 (Front cover only)	Suitable for solid and modular ceiling types
Enclosure	White polyester painted zintec body and frame Prismatic polycarbonate diffuser, c/w stainless steel	B15 SOLAS fire rating - appropriate insulation is required over the luminaire
E∩tries	4 x 20mm clearance holes for cable entries	Option of battery management monitoring & automatic self test
	mounted on the top, 2 at each end	Simple and easy access via front cover for lamp replacement and maintenance
Internal Wiring Termination	Stranded, heat resistant wiring up to 105°C 4 core 4mm ² max conductors	Electronic control gear gives 50/60Hz operation, high power factor correction and regulation of lamp output
Mounting	Side brackets with adjustable arms (solid ceilings)	dc operation (non emergency)
	Rotating cams (Exposed 'T' and Spring 'T' ceilings). There is also a provision for drop rod mounting	Local switching arrangement as standard
Control Gear	High Frequency	Optional battery monitoring and self-testing control gear
Relamping	Via front cover, secured by pan head screws	
Electrical Supply	220-240V 50/60Hz AC/DC	
Battery duration	3 Hours (emergency models)	

Std. Cat No.	Wattage	Lamp Type	Lampholder	Weight
CURI/218/BI*	2x18W	T8 fluorescent	G13	8.0kg
CURI/418/BI	4x18W	T8 fluorescent	G13	8.0kg
CURI/236/BI*	2x36W	T8 fluorescent	G13	14.6kg
CURI/436/BI	4x36W	T8 fluorescent	G13	15.0kg
CURI/218/BI/EM*	2x18W	T8 fluorescent	G13	8.6kg
CURI/418/BI/EM	4x18W	T8 fluorescent	G13	8.6kg
CURI/236/BI/EM*	2x36W	T8 fluorescent	G13	16.6kg
CURI/436/BI/EM	4x36W	T8 fluorescent	G13	18.0kg

*Only available in 600mm x 600mm (2 x 18W) and 600mm x 1200mm (2 x 36W body)

Note: All above standard versions are for non modular ceilings. Modular ceiling types require the /MES suffix. Please specify voltage at time of enquiry/order

Options – Suffix to Catalogue No.					
/MES	Modular – (Spring (T) or Exposed (T) coiling types)	/25	25mm cable entries		
(Spring 1' or Exposed 1' ceiling types) /120 Specific voltage (110/120V)		/LG	Low glare louvre		
/254	Specific voltage (254V)	/BMT	Battery monitoring & self test		
/SC	Screwed connection terminal block (up to 6mm ² conductors)	/ 2L	2 lamp emergency mode		

Please refer to pages 114 and 115 for ceiling types and dimensions



/LG - Low glare louvre

Accessories Should be ordered separately

Catalogue Order Code

SCURI-000002

Adjustable arm mounting kit

CEILING TYPE OPTIONS



View of Exposed "T" Ceiling with integrated luminaire, typical 600mm x 600mm tile grid mounting system (/MES).





View of Spring "T" Ceiling with integrated luminaire, typical 600mm x 600mm tile grid mounting system (/MES).





View of Solid Ceiling with integrated luminaire.

DIMENSIONS

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Exposed "T" and Spring "T" Ceiling types (/MES) dimensions.



Solid Ceiling dimensions.

SOLAS

EMERGENCY LED FLOODLIGHT

The Solas is a new generation of LED lighting ideal for installations where area lighting is required but traditional re-lamping can be difficult.

The product uses ultra bright white LEDs to provide the illumination required for task and working areas. Output is equivalent with a 70W HPS lamp.

The luminaires rugged construction of cast aluminium and toughened flat glass is suitable for the most environmentally challenging areas, offshore and marine environments.

Solas is available as an emergency version which is operable in either maintained mode or non-maintained mode. This gives the flexibility of using the luminaire for both normal lighting and in emergency situations. A remote inhibition facility is also available, an external switch is available upon request.

The LEDs operate at 100% lumen output when the power fails for a duration of 90 minutes. Battery recharge time is 24 hours. They also provide instant on lighting from both mains or battery mode.



Solas c/w external switch

	Standard Specification	i educies
Ingress Protection	IP66/67 to EN 60529	Simple rugged construction
Enclosure	Aluminium alloy LM6	Full length easy access diffuser clamp
Reflector	Toughened glass window	Hinged cover
	All fastenings 316 stainless steel	Standard fixing centres
Entry	2 x M20 cable entries - Non-emergency version: looping for 4mm ² cable Emergency version: single entry only for	High frequency control gear gives 50/60Hz operation, high power factor correction and regulation of lamp output
	4mm² cable	dc operation
Termination	4 core 4mm ² max.	Automatic lamp de-energisation on opening
Installation	Stirrup mounted	Screwless mains terminals
Control Gear	Electronic	DTS-01 deluge tested
Batteries	6V Ni-Cad	Resistant to voltage fluctuations
Light Source Burning Position	34 High power Light Emitting Diodes (LEDs) Universal	Vibration tested to comply with Lloyds/DNV
Electrical Supply	110-254V 50/60Hz	End of life (EOL) protection to IEC 60079-7
Emergency Light Duration	90 minutes (100% output)	(with EOL I and EOL II functionality)
	Maintained as standard	International App <u>rovals</u>

GOST, CSA and CEPEL Approved

IEC Ex Compliant

119

Std. Cat No.	Wattage	Lamp Type	Lampholder	Weight
SOLI/034/LE	34W	Light Emitting Diodes	-55 to +55	24.0kg
SOLI/034/LE/EM	34W	Light Emitting Diodes	-20 to +40	29.0kg
SOLI/034/LE/EM/NM	34W	Light Emitting Diodes	-20 to +55	29.0kg

Options – Suffix to Catalogue No.				
/M25	M25 cable entries	/3H	3 hour emergency operation (50% output)	
/ P	PTFE coating	/SC	Screwed connections (minimum temp	
/N	Narrow beam spread		changes to -50°C)	
/NM	Non-maintained emergency version		 Non emergency version: looping for up to 6mm² cable 	
/LT Low temperature (emergency only)			Non maintained emergency:	
• Non-maintained -55 to +55°C		single entry only for up to 6mm ² cable		
	• Maintained -55 to +40°C		 Maintained emergency version: screwed connections not available 	







Accessories Should be ordered separately	Catalogue Order Code
Pole mounting bracket	S2610-0001
Wire guard	\$2610-0005

Remote switches are available upon request, please contact technical sales (techsupport@chalmit.com)

NexLED

LED Bulkhead

В

Ing

Emer



The NexLED bulkhead utilises the latest LED technology to provide instant illumination. The NexLED requires no re-lamping making it virtually maintenance free and unaffected by low temperatures. This combination makes the NexLED ideal for extreme environmental applications.

Coloured LED options are also available.



NexLED with Exit Sign kit



NexLED with green LED's

Standard Specification

Enclosure	Cast aluminium with toughened glass and silicone gasket
Reflector	Brushed aluminium
Entry	3 x M20 cable entries
Termination	4 core 4mm ² max conductor with looping
Installation	Surface mounted, 4 mounting holes located outside of seal
Lamp Туре	2 x 1W light emitting diodes or 8 x 1W light emitting diodes. Colour: white
Control Gear	Electronic
urning Position	Universal
ess Protection	IP66/67 to EN 60529
gency Duration	3 hours (emergency models)
ectrical Supply	220-240V ac/dc

Features

Highly visible, instant light

Easy to install and maintain

Ultra long life, no relamping required

Very low power consumption

100% output in emergency mode (Up to 3 hours)

Rechargable Ni-mH batteries with charging indication

Compatible with UPS systems

121

/eight
3.5kg
3.5kg
3.5kg
3.5kg

Options – Suffix to Catalogue No.				
/RDE	Red LED's	/ADE	DE Amber LED's	
/GDE	Green LED's	/LT	Low temperature -45°C to +45°C	
/BDE	Blue LED's			



Green exit sign kit (4 labels - up, down, left and right)

SNEL1-0008

NEXXUS

HEAVY DUTY BULKHEAD



The Nexxus is a corrosion resistant bulkhead with a prismatic glass lens. It is available with a range of lamp types and is suitable for low temperature operation. For ease of installation and maintenance the fixing points are located outside the restricted breathing enclosure.

	Standard Specification	Features
Ingress Protection	IP66/67 to EN60529	Improved light output
Enclosure	Epoxy painted aluminium alloy LM6 body with	Easy control gear replacement
	prismatic glass lens, silicone rubber gasket and stainless steel fixings	Fixing points outside restricted breathing enclosure
Entries	3 x M20 cable entries	High corrosion resistance
Termination	3 core 6mm ² max conductors with looping or	Suitable for ceiling or wall mounting
Reflector	through wiring	Through wire or looping as standard
		Prismatic lens
Mounting	4 x 7mm clearance holes in body fixing channel	Suitable for low temperature
Relamping	Access via glass cover secured by 4 stainless steel screws	applications
Control Gear	Internal copper/iron ballast with ignitor and PFC capacitors (HID lamp models)	
Electrical Supply	220-240V 50Hz (50W HPS lamp model) 220-254V 50Hz (70W & 80W models) 240V 50Hz (CFL models) 250V Max ac/dc (50Hz GLS lamp model)	

Std. Cat No.	Wattage	Lamp Type	Lampholder	Weight
NEXI/050/HS	50W	HPS	E27	7.2kg
NEXI/070/MS	70W	HPS/Metal Halide	E27	7.7kg
NEXI/080/MV	80W	Mercury Vapour	E27	7.2kg
NEXI/113/CF	1x13W	CFL	G24	6.2kg
NEXI/118/CF	1x18W	CFL	G24	6.2kg
NEXI/126/CF	1x26W	CFL	G24	6.2kg
NEXI/213/CF	2x13W	CFL	G24	6.7kg
NEXI/218/CF	2x18W	CFL	G24	6.7kg
NEXI/226/CF	2x26W	CFL	G24	6.7kg
NEXI/200/GL	200W	GLS	E27	5.7kg

Options – Suffix to Catalogue No.				
/60	60Hz (50W, 70W and 80W only)	/MF	Mains fuse	



Accessories Should be ordered separately

Catalogue Order Code

SNEX1-0001

Wire Guard Assembly

800 SERIES

FLOODLIGHTS



Recommended maximum aiming angle 20° from horizontal plane

The 800 series is a range of stainless steel asymmetrical floodlights. These floods are designed for optimum light output and efficiency to ensure the minimum number of luminaires is required.



The 864 with anti-glare shield



The 864 with wire guard

	Standard Specification	Features
Ingress Protection	IP66/67 to EN60529	Marine grade stainless steel body and toughened glass cover
Enclosure	Marine grade 316S31 stainless steel body with toughened glass window, silicone rubber gasket	Quick release fasteners for ease of relamping and maintenance
Fotries	2 x M20 cable entries	Suspended cover front
Termination	3 core 4mm ² max conductors	photometrically superior asymmetric reflector
Reflector	Wide beam high purity anodised aluminium	Suitable for low temperature applications
Mounting	Adjustable stirrup bracket	Standard control gear for use with IEC lamps
Windage	0.052m² (844), 0.090m² (854), 0.107m² (864)	
Control Gear	Internal (with remote option using control gear box)	
Relamping	Via front cover (c/w safety chains) and quick release clips	
Electrical Supply	220, 230, 240, 254V 50Hz for SON-T & MBI-T lamp models. 250V Max ac/dc for tungsten halogen lamps	

Std. Cat No.	Wattage	Lamp Type	Lampholder	Weight
844I/070/MS	70W	HPS/Metal Halide	E27	12.0kg
854I/100/HS	100W	HPS	E40	18.0kg
854I/150/MS	150W	HPS/Metal Halide	E40	18.0kg
854I/250/MS	250W	HPS/Metal Halide	E40	19.0kg
854I/400/MS*	400W	HPS/Metal Halide	E40	17.0kg
8641/400/MS	400W	HPS/Metal Halide	E40	21.0kg
854I/500/TH	500W	Single ended T/Halogen	E40	16.5kg
864I/600/HS*	600W	HPS	E40	21.0kg
100/120V Cat Nos. The	e following models are	for 120V, 50Hz as standard:		
864I/150/HS/120**	150W	HPS	E40	18.0kg
864I/250/HS/120**	250w	HPS	E40	19.0kg
864I/400/HS/120***	400W	HPS	E40	17.0kg

* Ignitor only fitted within floodlight.

Remote gear box required (see Universal Box)

** c/w IEC control gear 110/120V supply.

*** Supplied with remote transformer box for 110/120V supply. (Control gear fitted for IEC lamps).

Optio	ns – Suffix to Catalogue No.
/60	60Hz
/M25	2 x M25 cable entries
/N	Narrow beam reflector
/WA	Suitable for wire guard or anti-glare shield
/NEC	NEC control gear (for US lamps only) (120, 208, 240 and 277V)

All control gear fitted for use with European lamps (IEC).

Note: Please specify voltage at time of enquiry/order



Catalogue Order Code

Accessories Should be ordered separately

Pole mounting bracket assembly - 844 (50-100mm diameter poles)	\$8444-0002
Pole mounting bracket assembly - 854/864 (48-70mm diameter poles)	S2400-0002
Spigot top mounting bracket assembly - 854/864 (70-82mm diameter poles)	S2400-0007
Wire guard - 844 (requires "WA" suffix when ordering)	\$8444-0005
Wire guard - 854 (requires "WA" suffix when ordering)	\$8544-0004
Wire guard - 864 (requires "WA" suffix when ordering)	\$8644-0004
Anti-glare shield - 844 (requires "WA" suffix when ordering)	\$8444-0001
Anti-glare shield - 854 (requires "WA" suffix when ordering)	\$8544-0002
Anti-glare shield - 864 (reguires "WA" suffix when ordering)	\$8644-0002

MICRONEX and 126

FLOODLIGHTS



from horizontal plane

The Maxinex is a lightweight asymmetric floodlight. Its compact design ensures low wind resistance so is ideal for high mast applications. The reflector design allows light to be thrown forward long distances whilst still lighting below the pole.

The Micronex is a compact version ideal for directional control lighting at low mounting heights such as perimeter lighting and loading areas.

	Standard Specification	Features
Ingress Protection	IP66/67 to BS EN60529	Lightweight
Enclosure	Aluminium body, glass lens, stainless	High corrosion resistance
	steel fasteners	All stainless steel fasteners
Reflector	Wide beam high purity anodised aluminium	Hinged front cover for
Cable Entry	Maxinex (150W - 400W) - 2 x M20	easy access
	cable entries (looping) Micronex (70W) - 1 x M20 cable entry	High efficiency asymmetric reflector design
Termination	3 core 6mm ² conductors	Low windage of 0.08m² (Micronex) and 0.25m² (Maxinex)
Installation	Via stirrup bracket, fitted as standard	
Windage	0.029m ² (Micronex), 0.090m ² (Maxinex)	pressure sodium (HPS) lamps
Relamping	Via hinged front cover	Suitable for low temperature applications
Control Gear	Internal	
P F Correction	0.85 minimum	
Electrical Supply	220-254V 50Hz	

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Std. Cat No.	Wattage	Lamp	Lampholder	°C	Weight
MICI/070/MS	70W	Double Ended HPS/Metal Halide	Rx7′s	40	5.1kg
MAXI/150/MS	150W	HPS/Metal Halide	E40	55	14.5kg
MAXI/250/MS	250W	HPS/Metal Halide	E40	55	15.5kg
	400\\/	HDS /Motal Halida	E40	45 (HPS)	17.0kg
	40000	nrs/wetal Halide	E40	30(MH)	T7.0Kg

Note: Please specify voltage at time of enquiry/order

		Options – Suffix to Catalogue No.	
/60	60Hz		



Accessories Should be ordered separately	Catalogue Order Code
Pole mounting bracket - Micronex (48-60mm pole diameter)	SMIC1-0001
Pole mounting bracket - Maxinex (48-60mm pole diameter)	SMAX4-0001

DEXLUX STAINLESS STEEL FLOODLIGHT





Dexlux with anti-glare shield

The Dexlux is a stainless steel floodlight that offers high levels of corrosion resistance. It is ideally suited for use in marine or saline environments.

	Standard Specification	Features
Ingress Protection	IP66/67 to EN60529	Lightweight marine grade 316S31 stainless steel body and toughened glass cover
	toughened glass window. Silicone rubber gasket and GRP terminal box	Suspended cover front
Entries	1 x 20mm clearance hole in junction box	
Termination	3 core 6mm ² max conductors	
Reflector	Wide beam high purity anodised aluminium	
Mounting	Stirrup bracket	
Windage	0.047m² (200W), 0.058m² (500W), 0.114m² (1000W)	
Control Gear	N/A	
Relamping	Via front cover and quick release clips	
Electrical Supply	250V Max ac/dc	

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Std. Cat No.	Wattage	Lamp	Lampholder	Weight
DEXI/200/TL	200W	Tungsten-Halogen	R7s	5.0kg
DEXI/500/TL	500W	Tungsten-Halogen	R7s	6.5kg
DEXI/1000/TL	1000W	Tungsten-Halogen	R7s	9.0kg

	Options – Suffix to Catalogue No.			
/25	1 x 25mm cable entry	/WA	Suitable for wire guard or anti-glare shield	



DIMS	200W	500W	1000W
Α	235	290	385
В	275	275	275
С	75	75	75
D	230	325	425
E	200	200	295
F	200	200	235
G	175	175	200
Н	105	105	155
WEIGHT	5.0kg	6.5kg	9.0kg

Accessories Should be ordered separately	Catalogue Order Code
Anti-vibration damper assembly	\$8000-0001
Pole-mounting bracket assembly (48-64mm pole diameter)	\$8134-0002
Anti-glare shield - 200W (requires /WA suffix when ordering)	N8004-0269
Anti-glare shield - 500W (requires /WA suffix when ordering)	N8004-0215
Anti-glare shield - 1000W (requires /WA suffix when ordering)	N8234-0001
Wire Guard - 200W (requires /WA suffix when ordering)	E0850-0024
Wire Guard - 500W (requires /WA suffix when ordering)	E0850-0025
Wire Guard - 1000W (requires /WA suffix when ordering)	E0850-0041

FLOODLIGHT



600W HPS



1000W and 2000W versions

The 503 is a high powered floodlight with a wide ambient temperature range. The high upper ambient and corrosion resistant aluminium construction, make the 503 ideal for use even in the hottest and hostile environments.

	Standard Specification	Features
Ingress Protection	IP66/67 to EN60529	Highly resistant to corrosion and mechanical damage
Enclosure	Marine grade aluminium LM6 alloy body with	All A4 stainless steel fasteners
	toughened glass window, silicone rubber gasket	High ambient applications
Entries	1 x M20 cable entries	
Termination	3 core 4mm ² max conductors	
Reflector	Wide beam high purity anodised aluminium	
Mounting	Foot mounted	
Windage	0.227m²	
Control Gear	Refer to universal control gear box for models	
	with HPS or Metal Halide lamps	
Relamping	Via end cover secured by stainless steel screws	
Electrical Supply	250V Max ac/dc for tungsten halogen lamps	
Reflector Mounting Windage Control Gear Relamping Electrical Supply	 Wide beam high purity anodised aluminium Foot mounted 0.227m² Refer to universal control gear box for models with HPS or Metal Halide lamps Via end cover secured by stainless steel screws 250V Max ac/dc for tungsten halogen lamps 	

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Std. Cat No.	Wattage	Lamp Type	Lampholder	Weight
503I/600/HS/IG*	600W	HPS	E40	25kg
503I/1000/HS/IG*	1000W	HPS	E40	25kg
503I/1000/MH/IG*	1000W	Metal Halide	E40	25kg
503I/2000/MH/IG*	2000W	Metal Halide	E40	25kg
503I/2000/TH	2000W	Single ended T/Halogen	E40	25kg

* Remote gearbox required (see Universal Box), page 134 or (502 box), page 136.

Options – Suffix to Catalogue No.				
/ P	PTFE coating	/N Narrow beam reflector		



Accessories Should be ordered separately	Catalogue Order Code
Pole mounting bracket assembly (64-114mm pole diameter)	S2000-0007
Swinging jib bracket	S2000-0019
Anti-glare shield	\$5030-0007
Wire guard	\$5030-0008

ECLIPSE II



The Eclipse II wellglass has been designed to make installation quick and simple. The lamp and gear chambers are separated for easy maintenance and require no special cable glands.

The luminaire also features a swing barrel nut system. This allows prior installation and wiring of the mounting base without the need to support the body and lamps. This unique design saves on both time and labour costs.



The Eclipse II c/w external reflector



The Eclipse II c/w glass refractor

Features

Ingress Protection	IP66 to EN60529	
Enclosure	Painted aluminium body with glass globe	
	Silicone rubber gasket	
Entry	Single stainless steel barrel nut fastener	
	4 x M20 cable entries	
Termination	3 core 6mm ² max, with looping	
Installation	Ceiling mounting	
Windage	0.107m ² (up to 150W Glass)	
	0.134m ² (> 150W Glass)	
	0.210m ² (Enclosed Reflector)	
Control Gear	Internal copper/iron ballast with ignitor and PFC	
	correction capacitors	
Relamping	Access via lamp chamber	
Burning Position	Up to 25° off vertical	
Electrical Supply	220, 230, 240V 50Hz (50, 80, 100 & 125W)	
	220, 230, 240, 254V 50Hz (70, 150, 250	
	& 400W)	

Standard Specification

Easy access for wiring and control gear

Corrosion resistant

High, medium and low bay lighting

Excellent light distribution

Wide range of mounting options available

WELL-GLASS

Std. Cat No.	Wattage	Lamp Type	Lampholder	Weight
EC2I/050/HS	50W	HPS	E27	7.5kg
EC2I/070/MS	70W	HPS/Metal Halide	E27	8.0kg
EC2I/100/HS	100W	HPS	E40	9.0kg
EC2I/150/MS	150W	HPS/Metal Halide	E40	11.0kg
EC2I/250/MS	250W	HPS/Metal Halide	E40	15.0kg
EC2I/400/MS	400W	HPS/Metal Halide	E40	15.5kg
EC2I/080/MV	80W	Mercury Vapour	E27	7.5kg
EC2I/125/MV	125W	Mercury Vapour	E27	8.0kg
EC2I/250/MV	250W	Mercury Vapour	E40	15.0kg
EC2I/400/MV	400W	Mercury Vapour	E40	15.5kg

For mounting options refer to page 95.

Note: Please specify voltage at time of enquiry/order

Options – Suffix to Catalogue No.			
/60	60Hz	/PE	Pendant mounted version
/M25	M25 cable entries	/ R	Prismatic glass refractor (up to 150W)
/WM	Wall mounted version	/ER	Sealed spun reflector
/ST	Stanchion mounted version		



Accessories Should be ordered separately	Catalogue Order Code
Wire guard for low wattage glass globe (up to 150W)	E0850-0042
Wire guard for high wattage glass globe (250W/400W)	E0850-0044
Wire guard for enclosed reflector	E0850-0043
Dome reflector	SEC20-0001
30° angled reflector	SEC20-0002

ECLIPSE JUNIOR

WELL-GLASS



The Eclipse Junior is a compact wellglass that incorporates the low maintenance features of the Eclipse II.

Its low profile design and range of mounting options, offers an all round lighting solution in areas of limited space.



The Eclipse Junior c/w external reflector



The Eclipse Junior c/w wire guard

	Standard Specification	Features
Ingress Protection	IP66/67 to EN60529	Compact size and low weight
Enclosure	Painted aluminium body with glass globe.	Easy access for wiring and control gear
	Silicone tubber gasket. Stanness steel fasteners	Corrosion resistant
Entries	4 x M20 cable entries	Excellent light distribution
Termination	3 core 6mm ² max conductors with looping	
Reflector	Wide beam high purity anodised aluminium	
Mounting	Ceiling mounted	
Windage	0.066m²	
Control Gear	Refer to universal control gear box for models with HPS or Metal Halide lamps	
Relamping	Via end cover secured by stainless steel screws	
Electrical Supply	250V Max ac/dc for tungsten halogen lamps	

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Std. Cat No.	Wattage	Lamp Type	Lampholder	Weight
ECJI/050/HS	50W	HPS	E27	5.5kg
ECJI/070/MS	70W	HPS/Metal Halide	E27	6.0kg
ECJI/080/MV	80W	MBFU	E27	6.0kg
ECJI/125/MV	125W	MBFU	E27	6.5kg
ECJI/150/GLS	150W	GLS	E27	5.0kg

For mounting options refer to page 94.

Note: Please specify voltage at time of enquiry/order

Options – Suffix to Catalogue No.			
/60	60Hz	/ST	Stanchion mounted version
/WM	Wall mounted version	/ PE	Pendant mounted version



Accessories Should be ordered separately	Catalogue Order Code
Wire guard (can be used in conjunction with reflectors)	E0850-0048
Dome reflector	SECL0-0001
30° Angled reflector	SECL0-0002

STREET LANTERN

CHIEFTAIN II



The Chieftain II is a dedicated street lantern that provides high levels of diffused light. The body features integrated control gear and quick release fasteners to allow simple maintenance and re-lamping.

	Standard Specification	Features
Ingress Protection	IP66	Control gear hosed within main body
Enclosure	Body in cast aluminium, polyester powder finish	Quick release fasteners for easy access and maintenance
Diffuser	Tempered glass	Suitable for 48-60mm diameter poles
Reflector	Removable, high purity aluminium, anodised and highly polished	
Installation	Spigot Entry	
Pole Diameter	48-60mm	
Relamping	Quick release clips	
Lampholder	E40	
Burning Position	Universal	
Electrical Supply	220/230/240/254V 50Hz (HPS/Metal Halide) 220/230/240V 50Hz (MBFU)	

Std. Cat No.	Wattage	Lamp	Lampholder	Weight
CH2I/150/MS	150	HPS/Metal Halide	E40	10.5kg
CH2I/250/MS	250	HPS/Metal Halide	E40	11.5kg
CH2I/250/MV	250	MBFU	E40	11.5kg

Other streetlighting options available upon request. Please contact technical sales (techsupport@chalmit.com)

Options – Suffix to Catalogue No. /60 60Hz supply



UNIVERSAL BOX CONTROL BOX

138



The Universal is a lamp control and transformer box for use in Industrial areas. It can be used as a control box for up to 600W HID lamp sources. The Universal box can also be specified as a 120V transformer box up to 1000VA.

	Standard Specification	Features
Ingress Protection	IP66/67 to EN 60529	Marine grade stainless steel construction
Enclosure	316S31 Marine grade stainless steel with	Easy to install and maintain
	silicone rubber gasket	Hinged lid with three captive fixing screws
Entry	3 x M20 cable entries	Lightweight
Termination	3 core 6mm ² max. conductor with looping	Control gear easily accessed and can be replaced
Installation	Base mounting straps	Thermal cut-outs fitted on ballast and transformer
Control Gear	Internal copper/iron and PFC correction capacitor as required	
Operating Position	Cable entries on lower end, if mounted vertically	
Electrical Supply	220-254V 50Hz - Control box version, 120V 50-60Hz - Transformer box version	

Std. Cat No.	Wattage	Lamp	Weight
UNII/150/MS	150W	HPS/Metal Halide	10.5kg
UNII/250/MS	250W	HPS/Metal Halide	11.5kg
UNII/400/MS	400W	HPS/Metal Halide	12.0kg
UNII/600/HS	600W	HPS	14.0kg
UNII/500/TF*	500VA	Transformer	11.0kg
UNII/1000/TF*	1000VA	Transformer	12.0kg

*120 to 240V step up transformer boxes for fixed applications only. (Not portable).

		Options – Suffix to Cat	alogue No.	
/60	60Hz	/MF	Mains fuse	
/M25	M25 cable entries	/3P	3 Phase termination	



502

502 CONTROL BOX



The 502 control gearbox is designed for use with high wattage High Pressure Sodium and Metal Halide lamp types. The 502 is manufactured from marine grade stainless steel making it suitable for use in corrosive and saline environments.

	Standard Specification	Features
Ingress Protection	IP66/67 to EN60529	Marine grade stainless steel construction
Enclosure	316S31 marine grade stainless steel construction	Easy to install and maintain
Entries	3 x 20mm cable entries	Hinged lid with three captive fixing screws
Termination	3 core 4mm ² max conductors	Lightweight
Mounting	Base mounted straps	Control gear easily accessed and can be replaced
Control Gear	Internal copper/iron multi-tapped ballast and PFC capacitors	Thermal cut-outs fitted on ballast and transformer
	(Ignitor not fitted on standard models)	
Electrical Supply	220, 230, 240, 254V 50Hz (Always state V/Hz when ordering)	

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Std. Cat No.	Wattage	Lamp	Weight
502I/1000/MH	1000W	Metal Halide	32.0kg
502I/1000/HS	1000W	HPS	32.0kg
502I/2000/MH	2000W	Metal Halide	36.0kg

Options – Suffix to Catalogue No.
/6060Hz supply/NCNo capacitors
/M25 M25 cable entries



EPDM BULKHEAD

142



The 279 is a lightweight bulkhead, its EPDM rubber construction provides excellent vibration resistance and is particularly suited to marine environments. The 279 is designed for use with energy efficient compact fluorescent lamps.

	Standard Specification	Features
Ingress Protection	IP65 to EN60529	Lightweight EPDM construction
Enclosure	EPDM rubber with polycarbonate lens	High impact protection
-		Ideal for marine applications
Entries	2 x 10mm cable compression entry points complete with cable clamps	Double insulated
Tomiostico	2 coro 1 5mm conductor	
i el minación	(through wiring 2 x 1mm)	
Mountino	Via 4 x 8mm clearance holes on two stainless	
	steel mounting straps	
Control Gear	Copper/iron control gear	
	(compact fluorescent models)	
Electrical Supply	240V 50Hz (Compact fluorescent)	
	12V-250V ac/dc (GLS)	

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Std. Cat No.	Wattage	Lamp Type	Lampholder	Weight
279I/107/CF	1x7W	PL-S/2P	G23	1.0kg
279I/207/CF	2x7W	PL-S/2P	G23	1.2kg
279I/060/GL	60W	GLS	E27	9.6kg

	Options – Suffix to Catalogue No.
/SP	IP68 Submersible version



EPDM FLOODLIGHT

144



The 458 is a compact, weatherproof floodlight. Its EPDM rubber construction provides excellent vibration resistance and is particularly suited to marine environments. The 458 is designed for use with self ballasted compact fluorescent lamps. Ideal for portable lighting applications with a range of mounting arrangements.

	Standard Specification	Features
Ingress Protection	IP65 to EN60529	High wattage lamp options
Enclosure	EPDM rubber with toughened front glass	Resistant to high impact & vibration
		Ideal for marine applications
Entries	I x 10mm cable compression entry point complete with cable clamp	Double insulated
Termination	2 core 1.5mm ² max conductors	
Mounting	Standard fixing is via lifting hook for portable use Base-mounted or pole-mounted	
	versions available	
Control Gear	N/A	
Electrical Supply	250V Max ac/dc (Always state V/Hz when ordering)	
Protection	Class II	
INDUSTRIAL and MARINE APPLICATIONS

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Std. Cat No.	Wattage	Lamp Туре	Lampholder	Weight
458I/150/HS	150W	HPS	E40	4.2kg
458I/250/HS	250W	HPS	E40	4.2kg
458I/300/GL	300W	GLS	GLS	4.2kg

Options – Suffix to Catalogue No.					
/B	Base-mounted	/PM	Pole mounted		



Although all Chalmit products are made to the highest standard using quality materials and workmanship, over time these may need to be replaced. A detailed list below has been compiled for the most commonly requested spare parts for our entire product range.

If you need to replace an item that is not listed below, please contact your local agent or directly to info@chalmit.com

ZONE 1

PROTECTA					
Wattage	Spare	Partcode	Description		
	Ballast	G7536-2240	220-254V 50/60Hz		
	Ballast	G7536-2120	110-120V 50/60Hz		
	Em ballast - 90 min	G7618-5240	220-254V 50/60Hz		
2x18watt	Em ballast - 90 min	G7618-5120	110-120V 50/60Hz		
	Em ballast - 3 hour (/3H)	G7618-1240	220-254V 50/60Hz		
	Em ballast - 3 hour (/3H)	G7618-1120	110-120V 50/60Hz		
	Battery	PROT2-0005	4Ah - (90 min)		
			4Ah - /3H (180 min)		
	Ballast	G7536-2240	220-254V 50/60Hz		
	Ballast	G7536-2120	110-120V 50/60Hz		
	Em ballast - 90 min	G7636-4240	220-254V 50/60Hz		
	Em ballast - 90 min	G7636-4120	110-120V 50/60Hz		
	Em ballast - 3 hour (/3H)	G7636-1240	220-254V 50/60Hz		
2x36watt	Em ballast - 3 hour (/3H)	G7636-1110	110-120V 50/60Hz		
	Em ballast - 90 min (/HEO)	G7636-5240	220-254V 50/60Hz		
	Em ballast - 90 min (/HEO)	G7636-5120	110-120V 50/60Hz		
	Battery	PROT2-0005	4Ah (90 min)		
	Battery		7Ah - /3H (180 min)		
	battery	11012-0000	7Ah - /HEO (90 min)		

ACCLAIM					
Wattage	Spare	Partcode	Description		
	Ballast	G7536-2240	220-254V 50/60Hz		
	Ballast	G7536-2120	110-120V 50/60Hz		
	Em ballast - 90 min	G7618-5240	220-254V 50/60Hz		
2x18watt	Em ballast - 90 min	G7618-5120	110-120V 50/60Hz		
	Em ballast - 3 hour (/3H)	G7618-1240	220-254V 50/60Hz		
	Em ballast - 3 hour (/3H)	G7618-1120	110-120V 50/60Hz		
	Battery	PROT2-0005	4Ah - (90 min)		
			4Ah - /3H (180 min)		
	Ballast	G7536-2240	220-254V 50/60Hz		
	Ballast	G7536-2120	110-120V 50/60Hz		
	Em ballast - 90 min	G7636-4240	220-254V 50/60Hz		
	Em ballast - 90 min	G7636-4120	110-120V 50/60Hz		
	Em ballast - 3 hour (/3H)	G7636-1240	220-254V 50/60Hz		
2x36watt	Em ballast - 3 hour (/3H)	G7636-1110	110-120V 50/60Hz		
	Em ballast - 90 min (/HEO)	G7636-5240	220-254V 50/60Hz		
	Em ballast - 90 min (/HEO)	G7636-5120	110-120V 50/60Hz		
	Battery	PROT2-0005	4Ah (90 min)		
	Batteny	PROT2-0006	7Ah - /3H (180 min)		
	Battery		7Ah - /HEO (90 min)		

CURIE ELITE				
Wattage	Spare	Partcode	Description	
	Ballast	G7536-2240	220-277V 50/60Hz	
- 10	Em ballast - 90 min	G7618-5240	220-277V 50/60Hz	
2x18watt	Em ballast - 3 hour (/3H)	G7618-1240	220-277V 50/60Hz	
	Dattanı		4Ah - (90 min)	
	Battery	PR012-0005	4Ah - /3H (180 min)	
	Ballast	G7536-2240	220-277V 50/60Hz	
	Em ballast - 90 min	G7636-5240	220-277V 50/60Hz	
22(Em ballast - 3 hour (/3H)	G7636-1240	220-277V 50/60Hz	
ZX36Wall	Battery	PROT2-0005	4Ah (90 min)	
_	Battery	PROT2-0006	7Ah - /3H (180 min)	
			7Ah - /HEO (90 min)	
	Ballast	G7536-2240	220-277V 50/60Hz	
4v19vvott	Em ballast - 90 min	G7618-5240	220-277V 50/60Hz	
4XTOWALL	Em ballast - 3 hour (/3H)	G7618-1240	220-277V 50/60Hz	
	Battery	PROT2-0005	4Ah (180 min)	
	Ballast	G7536-2240	220-277V 50/60Hz	
	Em ballast - 90 min	G7636-5240	220-277V 50/60Hz	
4x36watt	Em ballast - 3 hour (/3H)	G7636-1240	220-277V 50/60Hz	
	Battery	PROT2-0005	4Ah (90 min)	
	B. H		7Ah - /3H (180 min)	
	Battery	PRO12-0006	7Ah - /HEO (90 min)	

LOMOND				
Wattage	Spare	Partcode	Description	
	Em Inverter	SLOMD-000022	230/240V 50/60Hz (Non Maintained)	
10	Em Inverter	SLOMD-000023	230/240V 50/60Hz (Maintained)	
Tx8watt	Ballast	SLOMD-000031	220-240V 50/60Hz	
	Battery Assembly	SLOMD-000024	4Ah (180 min)	
2,20,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,	Ballast	SLOMD-000032	220-240V 50/60Hz	
ZXOWALL	1ft Lamp Glass Assembly	SLOMD-000014	1ft Lamp Glass Assembly	
	Ballast	SLOMD-000028	220-254V 50/60Hz	
	Em Ballast/Inverter	SLOMD-000029	220-254V 50/60Hz	
2v19vvatt	Ballast Low Voltage	SLOMD-000028	110-130V 50/60Hz	
ZXTOWALL	Ballast/Inverter Low Voltage	SLOMD-000034	110-130V 50/60Hz	
	2ft Lamp Glass Assembly	SLOMD-000013	2ft Lamp Glass Assembly	
	Battery Assembly	SLOMD-000027	4Ah (180 min)	
1x36watt	Ballast	SLOMD-000025	220-254V 50/60Hz	
	Ballast	SLOMD-000015	220-254V 50/60Hz	
	Em Ballast/Inverter	SLOMD-000016	220-254V 50/60Hz	
22 (Ballast Low Voltage	SLOMD-000033	110-130V 50/60Hz	
ZX36Wall	Ballast/Inverter Low Voltage	SLOMD-000036	110-130V 50/60Hz	
	4ft Lamp Glass Assembly	SLOMD-000012	4ft Lamp Glass Assembly	
	Battery Assembly	SLOMD-000027	4Ah (180 min)	
1	Ballast	SLOMD-000035	220-254V 50/60Hz	
TXS8Wall	Battery Assembly	SLOMD-000027	4Ah (180 min)	
	Ballast	SLOMD-000017	220-254V 50/60Hz	
2.50	Em Ballast /Inverter	SLOMD-000018	220-254V 50/60Hz	
ZXJØWall	5ft Lamp Glass Assembly	SLOMD-000011	5ft Lamp Glass Assembly	
	Battery Assembly	SLOMD-000027	4Ah (180 min)	

Wattage	Spare	Partcode	Description	
	Ballast	SEV21-100220	150W Kit 220-254V 50Hz	
= =	Ballast	SEV21-100223	150W Kit 220-254V 60Hz	
EV2D/150/1015 -	Capacitor	CAP 20MFD EVO	20µF	
-	Ignitor	SEV01-0024	150W Assembly	
	Ballast	SEV21-100221	250W Kit 220-254V 50Hz	
EV/2D/250/MS	Ballast	SEV21-100224	250W Kit 220-254V 60Hz	
	Capacitor	CAP 30MFD EVO	30 µF	
	Ignitor	SEV01-0022	250W Assembly	
	Ballast	SEV21-100222	400W Kit 220-254V 50Hz	
	Ballast	SEV21-100225	400W Kit 220-254V 60Hz	
EV2D/400/1015 -	Capacitor	CAP 40MFD EVO	40 µF	
-	Ignitor	SEV01-0022	400W Assembly	
	Ballast	N/A	N/A	
EV2D/600/MS	Capacitor	N/A	N/A	
	Ignitor	SEV01-100244	600W Assembly	

EVOLUTION				
Wattage	Spare	Partcode	Description	
	Ballast	SEVO1-0019	150W Kit 220-254V 50Hz	
	Ballast	SEVO1-0020	150W Kit 220-254V 60Hz	
EVOD/130/1013	Capacitor	CAP 20MFD EVO	20µF	
	Ignitor	SEV01-0024	150W Assembly	
	Ballast	SEVO1-0017	250W Kit 220-254V 50Hz	
	Ballast	SEVO1-0018	250W Kit 220-254V 60Hz	
EVOD/230/1013	Capacitor	CAP 30MFD EVO	30 µF	
	Ignitor	SEV01-0022	250W Assembly	
	Ballast	SEVO1-0006	400W Kit 220-254V 50Hz	
	Ballast	SEVO1-0012	400W Kit 220-254V 60Hz	
2000/400/1013	Capacitor	CAP 40MFD EVO	40 µF	
	Ignitor	SEV01-0022	400W Assembly	
	Ballast	N/A	N/A	
EVOD/600/MS	Capacitor	N/A	N/A	
	Ignitor	SEV01-100244	600W Assembly	

EVOLUTION JUNIOR					
Wattage	Spare	Partcode	Description		
 EVJD/070/MS	Ballast	BALL 70W MS TAP 50	70W 220-254V 50Hz		
	Ballast	BALL 70W MS TAP 60	70W 220-254V 60Hz		
	Capacitor	CAP 10MFD 254V M8	10 µF		
	Ignitor	SEVJR-0006	70W Assembly		

		NEVIS	
Wattage	Spare	Partcode	Description
	Ballast	BALL 50W MS TAP 50	50W 220-240V 50Hz
NEVD/050/HS	Capacitor	CAP 10MFD 254V M8	10µF
	Ignitor	IGN TIMED 35-70W ZRM2-ES CT	50W (PXE070255 old code)
	Ballast	BALL 70W MS TAP 50	50W 220-254V 50Hz
	Ballast	BALL 70W MS TAP 60	50W 220-254V 60Hz
	Capacitor	CAP 10MFD 254V M8	10µF
	Ignitor	IGN TIMED 35-70W ZRM2-ES CT	70W (PXE070255 old code)
	Ballast	BALL 80W MV TAP 50	80W 220-240V 50Hz
NEVD/080/MV	Capacitor	CAP 10MFD 254V M8	10µF
	Ignitor	N/A	N/A
	Ballast	BALL 125W MV TAP 50	125W 220-240V 50Hz
NEVD/125/MV	Capacitor	CAP 10MFD 254V M8	10µF
	Ignitor	N/A	N/A
	Ballast	BALL 118 HF 240 TCD PRO	18W 220-240V 50/60Hz
NEVD/118/CF	Capacitor	N/A	N/A
	Ignitor	N/A	N/A
	Ballast	BALL 126 HF 240 LUX	26W 220-240V 50/60Hz
NEVD/126/CF	Capacitor	N/A	N/A
	Ignitor	N/A	N/A
	Ballast	QL 55 GEN LAMP 240 84	55W 220-240V 50/60Hz
NEVD/055/QL	Capacitor	N/A	N/A
	Ignitor	N/A	N/A

Wattage	Spare	Partcode	Description
	Ballast	BALL 50W HS TAP 50	50W 220-240V 50Hz
21 (D/050/US	Ballast	BALL 50W HS TAP 60	50W 220-240V 60Hz
216D/030/H3	Capacitor	CAP 10MFD 254V M8	10µF
	Ignitor	IGN TIMED 35-70W ZRM2-ES CT	50W (PXE070255 old code)
	Ballast	BALL 70W HS TAP 50	70W 220-254V 50Hz
21 (D/070/US	Ballast	BALL 70W HS TAP 60	70W 220-254V 60Hz
210D/070/П3 ——	Capacitor	CAP 10MFD 254V M8	10µF
	Ignitor	IGN TIMED 35-70W ZRM2-ES CT	70W (PXE070255 old code)
	Ballast	BALL 80W MV TAP 50	80W 220-240V 50Hz
2160/090/\/	Ballast	BALL 80W MV TAP 60	80W 220-254V 60Hz
210D/060/1010	Capacitor	CAP 10MFD 254V M8	10µF
	Ignitor	N/A	N/A
	Ballast	BALL 113 HF 240 LUX	13W HF 220-240V 50/60Hz
216D/113/CF	Capacitor	N/A	N/A
	Ignitor	N/A	N/A
	Ballast	BALL 118 HF 240 LUX	18W HF 220-240V 50/60Hz
216D/118/CF	Capacitor	N/A	N/A
	Ignitor	N/A	N/A
	Ballast	BALL 126 HF 240 LUX	26W HF 220-240V 50/60Hz
216D/126/CF	Capacitor	N/A	N/A
	Ignitor	N/A	N/A
	Ballast x 2	BALL 113 HF 240 LUX	13W HF 220-240V 50/60Hz
216D/213/CF	Capacitor	N/A	N/A
	Ignitor	N/A	N/A
	Ballast x 2	BALL 118 HF 240 LUX	18W HF 220-240V 50/60Hz
216D/218/CF	Capacitor	N/A	N/A
	Ignitor	N/A	N/A

		238	
Wattage	Spare	Partcode	Description
y-	Ballast	BALL 70W MS TAP 50	70W 220-254V 50Hz
-	Ballast	BALL 70W MS TAP 60	70W 220-254V 60Hz
238D/070/HS -	Capacitor	CAP 10MFD 254V M8	10µF
-	Ignitor	IGN TIMED 35-70W ZRM2-ES CT	70W (PXE070255 old code)
	Ballast	BALL 100W MS TAP 50	100W 220-240V 50Hz
- 238D/100/HS	Capacitor	CAP 12MFD 254V M8	12µF
-	Ignitor	IGN TIMED 100-400W ZRM4.5-ES CT	100W (PAE400255 old code)
	Ballast	BALL 150W MS TAP 50	150W 220-254V 50Hz
-	Ballast	BALL 150W MS TAP 60	150W 220-254V 60Hz
238D/150/MIS -	Capacitor	CAP 20MFD 254V M8	20µF
-	Ignitor	IGN TIMED 100-400W ZRM4.5-ES CT	150W (PAE400255 old code)
-	Ballast	BALL 250W MS TAP 50 2	250W 220-254V 50Hz
-	Ballast	BALL 250W MS TAP 60 2	250W 220-254V 60Hz
238D/250/MS	Capacitor	CAP 10MFD 254V M8	10µF
	Capacitor	CAP 20MFD 254V M8	20µF
	Ignitor	IGN TIMED 100-400W ZRM4.5-ES CT	250W (PAE400255 old code)
	Ballast	BALL 80W MV TAP 50	80W 220-240V 50Hz
238D/080/MV	Capacitor	CAP 10MFD 254V M8	10µF
	Ignitor	N/A	N/A
	Ballast	BALL 125W MV TAP 50	125W 220-240V 50Hz
	Ballast	BALL 125W MV TAP 60	125W 220-240V 60Hz
2300/123/1010	Capacitor	CAP 10MFD 254V M8	10µF
	Ignitor	N/A	N/A
	Ballast	BALL 250W MV 220-240 50	250W 220-240V 50Hz
2380/250/M/	Ballast	BALL 250W MV 220-240 60	250W 220-240V 60Hz
2300/230/1010	Capacitor	CAP 20MFD 254V M8	20µF
	Ignitor	N/A	N/A
	Ballast	QL 85 GEN LAMP 240 83	85W 240V 50/60Hz
238D/085/QL	Capacitor	N/A	N/A
	Ignitor	N/A	N/A

		261	
Wattage	Spare	Partcode	Description
	Ballast	BALL 150W MS TAP 50 S	150W 220-254V 50Hz
2(10/1/0/1)	Ballast	BALL 150W MS TAP 60 S	150W 220-254V 60Hz
201D/150/H5 —	Capacitor x 2	CAP 20MFD 254V M8	20µF
	Ignitor	IGN TIMED 100-400W ZRM4.5-ES	150W (PAE400255 old code)
	Ballast	BALL 250W MS TAP 50 S	250W 220-254V 50Hz
	Ballast	BALL 250W MS TAP 60 S	250W 220-254V 60Hz
261D/250/HS	Capacitor x 1	CAP 10MFD 254V M8	10µF
	Capacitor x 1	CAP 20MFD 254V M8	20µF
	Ignitor	IGN TIMED 100-400W ZRM4.5-ES	250W (PAE400255 old code)
	Ballast	BALL 400W MS TAP 50 S	400W 220-254V 50Hz
2(1D/400/US	Ballast	BALL 400W MS TAP 60 S	400W 220-254V 60Hz
261D/400/HS —	Capacitor x 2	CAP 20MFD 254V M8	20µF
	Ignitor	IGN TIMED 250-600W ZRM12-ES	400W (PAE400255 old code)

261 Continued			
Wattage	Spare	Partcode	Description
	Ballast	BALL 125W MV TAP 50	125W 220-254V 50Hz
261D/125/N/	Ballast	BALL 125W MV TAP 60	125W 220-254V 60Hz
2010/123/1010	Capacitor	CAP 10MFD 254V M8	10µF
	Ignitor	N/A	N/A
	Ballast	BALL 250W MV 220-240 50	250W 220-254V 50Hz
261D/250/N/V	Ballast	BALL 250W MV TAP 60 F2	250W 220-254V 60Hz
2010/230/1010	Capacitor	CAP 15MFD 254V M8	15µF
	Ignitor	N/A	N/A
	Ballast	BALL 400W MV TAP 50Hz	400W 220-254V 50Hz
	Ballast	BALL 400W MV TAP 60Hz	400W 220-254V 60Hz
261D/400/MV	Capacitor	CAP 20MFD 254V M8	20µF
	Ignitor	N/A	N/A
	Ballast	BALL 250W MS TAP 50 S	250W 220-254V 50Hz
	Ballast	BALL 250W MS TAP 60 S	250W 220-254V 60Hz
261D/250/MH	Capacitor x 1	CAP 10MFD 254V M8	10µF
	Capacitor x 1	CAP 20MFD 254V M8	20µF
	Ignitor	IGN TIMED 100-400W ZRM4.5-ES	250W (PAE400255 old code)
	Ballast	BALL 400W MS TAP 50 S	400W 220-254V 50Hz
2610/400/041	Ballast	BALL 400W MS TAP 60 S	400W 220-254V 60Hz
201D/400/IVIH	Capacitor x 2	CAP 20MFD 254V M8	20µF
	Ignitor	IGN TIMED 250-600W ZRM12-ES	400W (PAE400255 old code)

		261E	
Wattage	Spare	Partcode	Description
	Lamp Unit	S2610-0008	70W 220-254V 50/60Hz
2615/070/45/514	Charger Unit	S2610-0009	70W 220-254V 50/60Hz Charger Unit
201E/070/H3/EM —	Flatglass Covers Assembly	P2611-0002	
	Lampholder	LHDR E27 PORCELAIN	E27
	Lamp Unit	S2610-0008	70W 220-254V 50/60Hz Lamp Unit
	Charger Unit	S2610-0009	70W 220-254V 50/60Hz Charger Unit
2012/07/0/10/3/201 —	Flatglass Covers Assembly	P2611-0002	
	Lampholder x 2	LHDR RX7s PORCELAIN	RX7s

723 BATTERY BOX				
Wattage	Spare	Partcode	Description	
723 Battory Box	Potted Fuse	FUSE 3A ENCAP 723	3Amp	
725 Dattery BOX	Battey Pack	BATT 6V 7Ah PACK 723	7Ah (90 min)	

NEXLED			
Wattage	Spare	Partcode	Description
	LED White Reflector Array	SNEL1-0023	100-254V 50/60/0Hz
	LED Green Reflector Array	SNEL1-0025	100-254V 50/60/0Hz
	Driver Assembly	SNEL1-0026	100-254V 50/60/0Hz
2x1watt	Emerg. Driver Assembly	SNEL1-0027	100-254V 50/60/0Hz
	Low Temp. Emerg. Driver Assembly	SNEL1-0028	100-254V 50/60/0Hz
	Battery	SNEL1-0029	4Ah (180 min)
	Low Temp. Battery Assembly	SNEL1-0030	4Ah (180 min)
	LED White Reflector Array	SNEL1-0022	100-254V 50/60/0Hz
	LED Green Reflector Array	SNEL1-0024	100-254V 50/60/0Hz
	Driver Assembly	SNEL1-0026	100-254V 50/60/0Hz
8x1watt	Emerg. Driver Assembly	SNEL1-0027	100-254V 50/60/0Hz
	Low Temp. Emerg. Driver Assembly	SNEL1-0028	100-254V 50/60/0Hz
	Battery	SNEL1-0029	4Ah (90 min)
	Low Temp. Battery Assembly	SNEL1-0030	4Ah (90 min)

UNIVERSAL BOX

Wattage	Spare	Partcode	Description
	Ballast	BALL 150W MS BK4 TAP 50	220/230/240/254V 50Hz
150W	Ballast	BALL 150W MS BK4 TAP 60	220/230/240/254V 60Hz
	Capacitor	CAP 20MFD UNIE	20µF
	Fuse	FUSE 4A ENCAP UNIE	4 Amp Assembly
	Ballast	BALL 250W MS BK4 TAP 50	220/230/240/254V 50Hz
250W	Ballast	BALL 250W MS BK4 TAP 60	220/230/240/254V 60Hz
	Capacitor	CAP 30MFD UNIE	30µF
	Fuse	FUSE 4A ENCAP UNIE	4 Amp Assembly
	Ballast	BALL 400W MS BK4 TAP 50	220/230/240/254V 50Hz
400W	Ballast	BALL 400W MS BK4 TAP 60	220/230/240/254V 60Hz
	Capacitor	CAP 40MFD UNIE	40µF
	Fuse	FUSE 4A ENCAP UNIE	4 Amp Assembly
	Ballast	BALL 600W MS BK4 TAP 50	220/230/240/254V 50Hz
600W	Ballast	BALL 600W MS BK4 TAP 60	220/230/240/254V 60Hz
	Capacitor x 2	CAP 30MFD UNIE	30µF
-	Fuse	FUSE 4A ENCAP UNIE	4 Amp Assembly
500VA _	500VA Transformer	XFMR 500VA 110/220V STEP-UP	120-240V 50/60Hz Auto step-up
	Fuse	FUSE 4A ENCAP UNIE	4 Amp Assembly
1000VA	1000VA Transformer	XFMR 1KVA 120/240V STEP-UP	120-240V 50/60Hz Auto step-up
1000VA	Fuse	FUSE 4A ENCAP UNIE	4 Amp Assembly

ZONE 2

		PROTECTA n	
Wattage	Spare	Partcode	Description
	Ballast	BALL 118 HF 240 Z2C	220-254V 50/60Hz
1x18watt	Em Inverter	INV Exn 18W 240V ASSY	220-254V 50/60Hz
	Diffuser	E0100-8005	Clear Polycarbonate
	Battery	BATT 6V 4Ah B Exn	4Ah (180 min)

PROTECTA n Continued				
Wattage	Spare	Partcode	Description	
	Ballast	BALL 218 HF 240 Z2C	220-254V 50/60Hz	
	Transformer – Low Voltage	XFMR C120VA 110/240V STEP-UP	110-130V 50/60Hz	
2x18watt	Em Inverter	INV Exn 18W 240V ASSY	220-254V 50/60Hz	
	Diffuser	E0100-8005	Clear Polycarbonate	
	Battery	BATT 6V 4Ah B Exn	4Ah (180 min)	
	Ballast	BALL 136 HF 240 Z2C	220-254V 50/60Hz	
	Transformer – Low Voltage	XFMR C120VA 110/240V STEP-UP	110-130V 50/60Hz	
	Em Inverter	INV Exn 36W 240V ASSY	220-254V 50/60Hz	
	Em Inverter - Low Voltage	INV Exn 36W 120V ASSY	110-130V 50/60Hz	
	Diffuser	E0100-8006	Clear Polycarbonate	
	Battery	BATT 6V 4Ah B Exn	4Ah (180 min)	
-	Ballast	BALL 236 HF 240 Z2C	220-254V 50/60Hz	
	Transformer – Low Voltage	XFMR C120VA 110/240V STEP-UP	110-130V 50/60Hz	
	Em Inverter	INV Exn 36W 240V ASSY	220-254V 50/60Hz	
ZX36Wall	Em Inverter - Low Voltage	INV Exn 36W 120V ASSY	110-130V 50/60Hz	
	Diffuser	E0100-8006	Clear Polycarbonate	
-	Battery	BATT 6V 4Ah B Exn	4Ah (180 min)	

STERLING II

Wattage	Spare	Partcode	Description
	Ballast	BALL 118 HF 240 Z2	220-254V 50/60Hz
1.10	Em Inverter	INV Exn 18W 240V ASSY	220-254V 50/60Hz
1x18watt	Diffuser	B0801-0101	Prismatic Polycarbonate
	Battery	BATT 6V 4Ah B Exn	4Ah (180 min)
	Ballast	BALL 218 HF 240 Z2	220-254V 50/60Hz
	Transformer – Low Voltage	XFMR C120VA 110/240V STEP-UP	110-130V 50/60Hz
2x18watt	Em Inverter	INV Exn 18W 240V ASSY	220-254V 50/60Hz
	Diffuser	B0801-0104	Prismatic Polycarbonate
	Battery	BATT 6V 4Ah B Exn	4Ah (180 min)
	Ballast	BALL 136 HF 240 Z2	220-254V 50/60Hz
	Transformer – Low Voltage	XFMR C120VA 110/240V STEP-UP	110-130V 50/60Hz
1.26.50	Em Inverter	INV Exn 36W 240V ASSY	220-254V 50/60Hz
TX36Watt	Em Inverter - Low Voltage	INV Exn 36W 120V ASSY	110-130V 50/60Hz
	Diffuser	B0801-0102	Prismatic Polycarbonate
	Battery	BATT 6V 4Ah B Exn	4Ah (180 min)
	Ballast	BALL 236 HF 240 Z2	220-254V 50/60Hz
	Transformer – Low Voltage	XFMR C120VA 110/240V STEP-UP	110-130V 50/60Hz
22 (Em Inverter	INV Exn 36W 240V ASSY	220-254V 50/60Hz
ZX36Wall	Em Inverter - Low Voltage	INV Exn 36W 120V ASSY	110-130V 50/60Hz
	Diffuser	B0801-0105	Prismatic Polycarbonate
	Battery	BATT 6V 4Ah B Exn	4Ah (180 min)
	Ballast	BALL 158 HF 240 Z2	220-254V 50/60Hz
	Transformer – Low Voltage	XFMR C120VA 110/240V STEP-UP	110-130V 50/60Hz
1	Em Inverter	INV Exn 58W 240V ASSY	220-254V 50/60Hz
TX58Wall	Em Inverter – Low Voltage	INV Exn 58W 120V ASSY	110-130V 50/60Hz
	Diffuser	B0801-0103	Prismatic Polycarbonate
	Battery	BATT 6V 4Ah B Exn	4Ah (180 min)
	Ballast	BALL 258 HF 240 Z2	220-254V 50/60Hz
_	Transformer - Low Voltage	XFMR C120VA 110/240V STEP-UP	110-130V 50/60Hz
2	Em Inverter	INV Exn 58W 240V ASSY	220-254V 50/60Hz
ZXS8Wall	Em Inverter – Low Voltage	INV Exn 58W 120V ASSY	110-130V 50/60Hz
	Diffuser	B0801-0106	Prismatic Polycarbonate
	Battery	BATT 6V 4Ah B Exn	4Ah (180 min)

		800 SERIES	
Wattage	Snaro	Partcode	Description
wattage	Ballast	BALL ZOW MS TAP 50	220-230-240-254V 50Hz
	Ballast	BALL 70W MS TAP 60	220-230-240-254V 60Hz
- 70watt	Capacitor	CAP 10MED 254V M8	10uF
	lanitor	IGN TIMED 35-70W Ex Na	70W (PXA070 old code)
	Lampholder	LHDR E27 CERAMIC	E27
	Ballast	BALL 100W MS TAP 50	220-230-240-254V 50Hz
	Ballast	BALL 100W MS TAP 60	220-230-240-254V 60Hz
100watt	Capacitor	CAP 10MFD 254V M8	10µF
	Ignitor	IGN TIMED 100-400W Ex nA	100W (PXA000 old code)
	Lampholder	LHDR E40 CERAMIC	E40
	Ballast	BALL 150W MS TAP 50	220-230-240-254V 50Hz
	Ballast	BALL 150W MS TAP 60	220-230-240-254V 60Hz
	Ballast	BALL 150W MS TAP 50 S	220-230-240-254V 50Hz for 110-120V versions
150watt	Ballast	BALL 150W MS TAP 60 S	220-230-240-254V 60Hz for 110-120V versions
-	Transformer (110-120V)	XFMR 500VA F2S 110/220V STEP	PUP Low to High voltage
_	Capacitor	CAP 20MFD 254V M8	20µF
	Ignitor	IGN TIMED 100-400W Ex nA	150W (PXA000 old code)
	Lampholder	LHDR E40 CERAMIC	E40
	Ballast	BALL 250W MS TAP 50	220-230-240-254V 50Hz
	Ballast	BALL 250W MS TAP 60	220-230-240-254V 60Hz
	Ballast	BALL 250W MS TAP 50 S	220-230-240-254V 50Hz for 110-120V versions
250watt	Ballast	BALL 250W MS TAP 60 S	220-230-240-254V 60Hz for 110-120V versions
230Wall -	Capacitor	CAP 30MFD 254V M8	30µF
	Ignitor	IGN TIMED 100-400W Ex nA	250W (PXA000 old code)
	Transformer (110-120V)	XFMR 500VA F2S 110/220V STEP	PUP Low to High voltage
	Lampholder	LHDR E40 CERAMIC	E40
	Ballast	BALL 400W MS TAP 50 LL	220-230-240-254V 50Hz
	Ballast	BALL 400W MS TAP 60	220-230-240-254V 60Hz
	Ballast	BALL 400W MS TAP 50 S	220-230-240-254V 50Hz for 110-120V versions
400watt	Ballast	BALL 400W MS TAP 60 S	220-230-240-254V 60Hz for 110-120V versions
400watt	Capacitor x 2	CAP 20MFD 254V M8	20µF
	Ignitor	IGN TIMED 250-600W Ex nA	400W (PXA000 old code)
	Transformer (110-120V)	XFMR 500VA F2S 110/220V STEP	PUP Low to High voltage
	Lampholder	LHDR E40 CERAMIC	E40
500watt	Lampholder	LHDR E40 CERAMIC	E40

MICRONEX/MAXINEX

Wattage	Spare	Partcode	Description
	Ballast	BALL 70W MS TAP 50	220-230-240-254V 50Hz
	Ballast	BALL 70W MS TAP 60	220-230-240-254V 60Hz
	Capacitor	CAP 10MFD 254V M8	10µF
70watt	Ignitor	IGN TIMED 35-70W Ex Na	70W (PXA070 old code)
	Lampholder x 2	LHDR RX7s CERAMIC	RX7s
	Ballast	BALL 150W MS TAP 50 S	220-230-240-254V 50Hz
	Ballast	BALL 150W MS TAP 60 S	220-230-240-254V 60Hz
	Capacitor	CAP 20MFD 254V M8	20µF
150watt	Ignitor	IGN TIMED 100-400W Ex nA	150W (PXA000 old code)
	Lampholder	LHDR E40 CERAMIC	E40
	Ballast	BALL 250W MS TAP 50 S	220-230-240-254V 50Hz
	Ballast	BALL 250W MS TAP 60 S	220-230-240-254V 60Hz
	Capacitor x 2	CAP 15MFD 254V M8	15µF 220/254V 50/60Hz
250watt	Ignitor	IGN TIMED 100-400W Ex nA	250W (PXA000 old code)
	Lampholder	LHDR E40 CERAMIC	E40

MAXINEX / MICRONEX Continued

Wattage	Spare	Partcode	Description
	Ballast	BALL 400W MS TAP 50 S	220-230-240-254V 50Hz
	Ballast	BALL 400W MS TAP 60 S	220-230-240-254V 60Hz
	Capacitor x 2	20MFD 254V M8	20µF
400watt	Ignitor	IGN TIMED 250-600W Ex nA	400W (PXA000 old code)
	Lampholder	LHDR E40 CERAMIC	E40

NEXXUS II

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NEXXUS

Wattage	Spare	Partcode	Description
	Ballast	BALL 50W MS TAP 50	220-230-240V 50Hz
50watt	Ballast	BALL 50W MS TAP 60	220-230-240-254V 60Hz
	Capacitor	CAP 10MFD 254V M8	10µF
	Ignitor	IGN TIMED 35-70W Ex Na	50W (PXA070 old code)
	Lampholder	LHDR E27 CERAMIC	E27
	Ballast	BALL 70W MS TAP 50	220-230-240-254V 50Hz
	Ballast	BALL 70W MS TAP 60	220-230-240-254V 60Hz
70watt	Capacitor	CAP 10MFD 254V M8	10µF
	Ignitor	IGN TIMED 35-70W Ex Na	70W (PXA070 old code)
	Lampholder	LHDR E27 CERAMIC	E27
	Ballast	BALL 80W MV TAP 50	220-230-240V 50Hz
90wott	Ballast	BALL 80W MV TAP 60	220-230-240V 60Hz
oowall	Capacitor	CAP 10MFD 254V M8	10µF
	Lampholder	LHDR E27 CERAMIC	E27
160watt	Lampholder	LHDR E27 CERAMIC	E27
200watt	Lampholder	LHDR E27 CERAMIC	E27
	Ballast	BALL 13W C102K 240 50	240V 50Hz
1 12	Capacitor	CAP 4MFD 254V M8	4μF
TXT3Watt —	Starter	STARTER EFS120P 18W	13W (EFS120P)
	Lampholder	LHDR G24q-1 13W PL	G24q-1
-	Ballast	BALL 18W LC502K 240 50	240V 50Hz
1.10	Capacitor	CAP 4MFD 254V M8	4µF
TXT8Watt —	Starter	STARTER EFS120P 18W	18W (EFS120P)
	Lampholder	LHDR G24q-2 18W PL	G24q-2
	Ballast	BALL 18W LC502K 240 50	240V 50Hz
	Capacitor	CAP 4MFD 254V M8	4µF
Tx26watt —	Starter	STARTER EFS120P 18W	26W (EFS120P)
	Lampholder	LHDR G24q-3 18W PL	G24q-3
	Ballast x 2	BALL 13W C102K 240 50	240V 50Hz
	Capacitor	CAP 4MFD 254V M8	4µF
2x13watt —	Starter x 2	STARTER EFS120P 18W	2x13W (EFS120P)
	Lampholder x 2	LHDR G24q-1 13W PL	G24q-1
	Ballast x 2	BALL 18W LC502K 240 50	240V 50Hz
	Capacitor	CAP 4MFD 254V M8	4µF
2x18watt —	Starter x 2	STARTER EFS120P 18W	2x18W (EFS120P)
	Lampholder x 2	LHDR G24q-2 18W PL	G24g-2

		ECLIPSE II	
Wattage	Spare	Partcode	Description
-	Ballast	BALL 50W HS TAP 50	220/230/240V 50Hz
	Ballast	BALL 50W HS TAP 60	220/230/240V 60Hz
SOwatt HS —	Capacitor	CAP 10MFD 254V M8	10µF
	Ignitor	IGN TIMED 35-70W Ex nA	70W/100W
	Ballast	BALL 70W MS TAP 50	220/230/240/254V 50Hz
	Ballast	BALL 70W MS TAP 60	220/230/240/254V 60Hz
70watt MS —	Capacitor	CAP 10MFD 254V M8	10µF
	Ignitor	IGN TIMED 35-70W Ex nA	70W/100W HS
	Ballast	BALL 80W MV TAP 50	220/230/240V 50Hz
80watt MV	Ballast	BALL 80W MV TAP 60	220/230/240V 60Hz
	Capacitor	CAP 10MFD 254V M8	10µF
	Ballast	BALL 100W MS TAP 50	220/240V 50Hz
100	Ballast	BALL 100W MS TAP 60	220/240V 60Hz
TOOWATE MS	Capacitor	CAP 10MFD 254V M8	10µF
	Ignitor	IGN TIMED 100-400W Ex nA	70W/100W
	Ballast	BALL 125W MV TAP 50	220/230/240V 50Hz
125watt MV	Ballast	BALL 125W MV TAP 60	220/230/240V 60Hz
	Capacitor	CAP 10MFD 254V M8	10µF
	Ballast	BALL 150W MS TAP 50 S	220/230/240/250V 50Hz
150	Ballast	BALL 150W MS TAP 60 S	220/230/240/250V 60Hz
ISOwatt MS —	Capacitor	CAP 20MFD 254V M8	20µF
	Ignitor	IGN TIMED 100-400W Ex nA	150W/250W/400W
	Ballast	BALL 250W MS TAP 50 S	220/230/240/254V 50Hz
	Ballast	BALL 250W MS TAP 60 S	220/230/240/254V 60Hz
250watt MS	Capacitor	CAP 10MFD 254V M8	10µF
	Capacitor	CAP 20MFD 254V M8	20µF
	Ignitor	IGN TIMED 100-400W Ex nA	150W/250W/400W
	Ballast	BALL 250W MV TAP 50 F2	220/230/240V 50Hz
250watt MV	Ballast	BALL 250W MV TAP 60 F2	220/230/240V 60Hz
	Capacitor	CAP 20MFD 254V M8	20µF
	Ballast	BALL 400W MS TAP 50 S	220/230/240/254V 50Hz
	Ballast	BALL 400W MS TAP 60 S	220/230/240/254V 60Hz
400watt MS —	Capacitor x 2	CAP 20MFD 254V M8	20µF
	Ignitor	IGN TIMED 250-600W Ex nA	150W/250W/400W
	Ballast	BALL 400W MV TAP 50	220/230/240V 50Hz
400watt MV	Ballast	BALL 400W MV TAP 60	220/230/240V 60Hz
	Capacitor x 2	CAP 20MFD 254V M8	20uF

ECLIPSE JUNIOR

Wattage	Spare	Partcode	Description
	Ballast	BALL 50W HS TAP 50	220-230-240-254V 50Hz
50watt	Ballast	BALL 50W HS TAP 60	220-230-240-254V 60Hz
	Capacitor	CAP 10MFD 254V M8	10µF
	Ignitor	IGN TIMED 35-70W Ex nA	50W (PXA070 old code)
	Ballast	BALL 70W MS TAP 50	220-230-240-254V 50Hz
70watt	Ballast	BALL 70W MS TAP 60	220-230-240-254V 60Hz
	Capacitor	CAP 10MFD 254V M8	10µF
	Ignitor	IGN TIMED 35-70W Ex nA	80W (PXA070 old code)
00	Ballast	BALL 80W MV TAP 50	220-230-240V 50Hz
SUWALL	Ballast	BALL 80W MV TAP 60	220-230-240V 60Hz
	Capacitor	CAP 10MFD 254V M8	10µF
125watt	Ballast	BALL 125W MV TAP 50	220-230-240V 50Hz
	Ballast	BALL 125W MV TAP 60	220-230-240V 60Hz
	Capacitor	CAP 10MFD 254V M8	10µF

ECLIPSE JUNIOR Continued

Wattons	(mayo	Deuteede	Description
wattage	spare	Partcoue	Description
	Ballast	BALL 13W C102K 240 50	240V 50Hz
1x13watt	Capacitor	CAP 4MFD 254V M8	4µF
	Starter	STARTER EFS120P 18W	13W (EFS120P)
	Ballast	BALL 18W LC502K 240 50	240V 50Hz
1x18watt	Capacitor	CAP 4MFD 254V M8	4µF
	Starter	STARTER EFS120P 18W	18W (EFS120P)
1x26watt	Ballast	BALL 18W LC502K 240 50	240V 50Hz
	Capacitor	CAP 4MFD 254V M8	4µF
	Starter	STARTER EFS120P 18W	26W (EFS120P)

		503	
Wattage	Spare	Partcode	Description
400watt –	Ignitor (S.I.P)	IGN TIMED 250-600W Ex nA	400W (PXA000 old code)
	Lampholder	LHDR E40 CERAMIC	E40
600watt –	Ignitor (S.I.P)	IGN TIMED 250-600W Ex nA	600W (PXA000 old code)
	Lampholder	LHDR E40 CERAMIC	E40

INDUSTRIAL

PROTECTA			
Wattage	Spare	Partcode	Description
	Ballast	BALL 18W LC502K 240 50	240V 50Hz
	Ballast - Low Voltage	BALL 118/36 HF 120-254	110-254V 50/60Hz
	Em Ballast - Low Voltage	BALL 118/36 HF 120-254	110-254V 50/60Hz
	Starter	STARTER EFS120 18W	18W (EFS120)
1x18watt	Capacitor	CAP 4MFD 254V M8	4μF
	Inverter	INV ZT.3G/A 240 18-58	220-240V 50/60Hz
	Inverter - Low Voltage	INV ZT.3G/A 120 18-58	110-130V 50/60Hz
	Battery	BATT 6V 4Ah B 200M	BATT 6V 4Ah B 200M
	LED Indicator	LED GREEN INDICATOR	LED GREEN INDICATOR
	Ballast	BALL 36W LC502K 240 50	240V 50Hz
	Em Ballast - Low Voltage	BALL 218/36 HF 120-254	110-254V 50/60Hz
	Starter x 2	STARTER EFS120 18W	18W (EFS120)
2.10	Capacitor	CAP 4MFD 254V M8	4μF
ZXI8Watt	Inverter	INV ZT.3G/A 240 18-58	220-240V 50/60Hz
	Inverter - Low Voltage	INV ZT.3G/A 120 18-58	110-130V 50/60Hz
	Battery	BATT 6V 4Ah B 200M	BATT 6V 4Ah B 200M
	LED Indicator	LED GREEN INDICATOR	LED GREEN INDICATOR
	Ballast	BALL 36W LC502K 240 50	240V 50Hz
	Ballast - Low Voltage	BALL 118/36 HF 120-254	110-254V 50/60Hz
	Em Ballast - Low Voltage	BALL 118/36 HF 120-254	110-254V 50/60Hz
	Starter	STARTER EFS600 36/58W	36W (EFS600)
1x36watt	Capacitor	CAP 4MFD 254V M8	4μF
	Inverter	INV ZT.3G/A 240 18-58	220-240V 50/60Hz
	Inverter - Low Voltage	INV ZT.3G/A 120 18-58	110-130V 50/60Hz
	Battery	BATT 6V 4Ah B 200M	BATT 6V 4Ah B 200M
	LED Indicator	LED GREEN INDICATOR	LED GREEN INDICATOR
	Ballast x 2	BALL 36W LC502K 240 50	240V 50Hz
	Ballast - Low Voltage	BALL 218/36 HF 120-254	110-254V 50/60Hz
	Em Ballast - Low Voltage	BALL 218/36 HF 120-254	110-254V 50/60Hz
	Starter x 2	STARTER EFS600 36/58W	36W (EFS600)
2x36watt	Capacitor	CAP 4MFD 254V M8	4µF
	Inverter	INV ZT.3G/A 240 18-58	220-240V 50/60Hz
	Inverter - Low Voltage	INV ZT.3G/A 120 18-58	110-130V 50/60Hz
	Battery	BATT 6V 4Ah B 200M	BATT 6V 4Ah B 200M
_	LED Indicator	LED GREEN INDICATOR	LED GREEN INDICATOR

STERLING II			
Wattage	Spare	Partcode	Description
	Ballast	BALL 18W LC502K 240 50	240V 50Hz
1x18watt	Ballast (HF)	BALL 118/36 HF 120-254	120-280V 50/60 Hz
	Capacitor	CAP 4MFD 254V M8	4µF
-	Ballast	BALL 36W LC502K 240 50	240V 50Hz
2x18watt	Ballast (HF)	BALL 218/36 HF 120-254	120-254V 50/60Hz
	Capacitor	CAP 4MFD 254V M8	4µF
-	Ballast	BALL 36W LC502K 240 50	240V 50Hz
1x36watt	Ballast (HF)	BALL 118/36 HF 120-254	120-254V 50/60Hz
	Capacitor	CAP 4MFD 254V M8	4µF
	Ballast	BALL 36W LC502K 240 50	240V 50Hz
2x36watt	Ballast (HF)	BALL 218/36 HF 120-254	120-254V 50/60Hz
	Capacitor	CAP 8MFD 254V M8	8µF
	Ballast	BALL 58W C502K 240 50	240V 50Hz
1x58watt	Ballast (HF)	BALL 158 HF 120-254	120-254V 50/60Hz
	Capacitor	CAP 6MFD 254V M8	6µF
	Ballast	BALL 58W C502K 240 50	240V 50Hz
2x58watt	Ballast (HF)	BALL 258 HF 120-254	120-254V 50/60Hz
	Capacitor	CAP 12MFD 254V M8	12µF

ACCLAIM			
Wattage	Spare	Partcode	Description
	Ballast	BALL 218/36 HF 120-254	110-254V 50/60Hz
	Em Ballast	BALL 218/36 HF 120-254	110-254V 50/60Hz
2x18watt	Inverter	INV S5CHE 240 18/36/58	220-240V 50/60Hz
	Inverter	INV S5CHE 110 18/36/58	110-130V 50/60Hz
	Battery	BATT 6V 4Ah B IND	4Ah (180 min)
	LED Indicator	LED GREEN INDICATOR	N/A
	Ballast High Frequency	BALL 218/36 HF 120-254	110-254V 50/60Hz
	EM Ballast	BALL 218/36 HF 120-254	110-254V 50/60Hz
2x36watt -	Inverter	INV \$5CHE 240 18/36/58	220-240V 50/60Hz
	Inverter	INV S5CHE 110 18/36/58	110-130V 50/60Hz
	Battery	BATT 6V 4Ah B IND	4Ah Battery (180 min)
	LED Indicator	LED GREEN INDICATOR	N/A

		CURIE	
Wattage NON DIMMABLE	Spare	Partcode	Description
2.10	Ballast	BALL 218 HF 240 PC PRO	220-240V 50/60Hz
	Em Inverter	INV S5CHE 240 18/36/58	240V 50Hz
ZATOWALL	Battery	BATT 6V 4Ah B IND MW	4Ah (180 min)
	LED Indicator	LED GREEN INDICATOR	N/A
2x36watt	Ballast	BALL 236 HF 240 PC PRO	220-240V 50/60Hz
	Em Ballast	BALL 236 HF 240 COMBO	220-240V 50/60Hz
	LED Indicator	LED GREEN INDICATOR	N/A
	Battery	BATT 3.6V 4Ah B IND	4Ah (180 min)

	CU	RIE Continued	
Wattage NON DIMMABLE	Spare	Partcode	Description
	Ballast	BALL 418 HF 240 PC PRO	220-240V 50/60Hz
-	Em Ballast	BALL 418 HF 240 COMBO	220-240V 50/60Hz
4x18watt -	LED Indicator	LED GREEN INDICATOR	N/A
-	Battery	BATT 3.6V 4Ah B IND	4Ah (180 min)
	Ballast - Low Voltage	BALL 218/36 HF 120-254	120-254V 50/60Hz
-	Em Invertor - Low Voltage	INV S5CHE 110 18/36/58	110V 50Hz
- 4x18watt (120V)	LED Indicator	LED GREEN INDICATOR	N/A
` ´ -	Battery	BATT 6V 4Ah B IND MW	4Ah (180 min)
-	Battery Connection	BATT SKT & LEAD	Socket
	Ballast (2 per fitting)	BALL 236 HF 240 PC PRO	220-240V 50/60Hz
-	Em Inverter/Ballast (1 per fitting)	BALL 236 HF 240 COMBO	220-240V 50/60Hz
- 4x36watt	Ballast for Em (1 per fitting)	BALL 236 HF 240 PC PRO	220-240V 50/60Hz
-	LED Indicator	LED GREEN INDICATOR	N/A
-	Battery	BATT 3.6V 4Ah B IND	4Ah (180 min)
	Ballast - Low Voltage	BALL 218/36 HF 120-254	120-254V 50/60Hz
_	Em Inverter	INV \$5CHE 110 18/36/58	110V 50Hz
- 4x36watt	LED Indicator	LED GREEN INDICATOR	N/A
-	Batterv	BATT 6V 4Ah B IND MW	4Ah (180 min)
-	Battery Connection	BATT SKT & LEAD	Socket
DIMMABLE			
	Ballast	BALL 236 HF 240 PC PRO	220-240V 50/60Hz
-	Em Inverter	INV \$5CHE 240 18/36/58	240V 50Hz
2x18watt -	Batterv	BATT 6V 4Ah B IND MW	4Ah (180 min)
-	Battery Connection	BATT SKT & LEAD	Socket
	Ballast	BALL 418 HF 240 DIG DIM	220-240V 50/60Hz
-	Em Inverter	INV \$5CHE 240 18/36/58	240V 50Hz
4x18watt -	Battery	BATT 6V 4Ah B IND MW	4Ah (180 min)
-	Battery Connection	BATT SKT & LEAD	Socket
	Ballast - Low Voltage	BALL 218/36 HF 120-254 DIM	120-254V 50/60Hz
-	Em Invertor - Low Voltage	INV \$5CHF 110 18/36/58	110V 50Hz
4x18watt (120V) -	Battery	BATT 6V 4Ah B IND MW	4Ah (180 min)
-	Battery Connection	BATT SKT & LEAD	Socket
	Ballast	BALL 236 HE 240 PC PRO	220-240V 50/60Hz
-	Em Inverter	INV \$5CHE 240 18/36/58	240V 50Hz
4x36watt -	Battery	BATT 6V 4Ah B IND MW	4Ah (180 min)
-	Battery Connection	BATT SKT & LEAD	Socket
	Ballast - Low Voltage	BALL 218/36 HF 120-254 DIM	120-254V 50/60Hz
-	Em Invertor - Low Voltage	INV S5CHE 110 18/36/58	110V 50Hz
4x36watt (120V) -	Batterv	BATT 6V 4Ah B IND MW	4Ah (180 min)
-	Battery Connection	BATT SKT & IFAD	Socket
			Joeket

NEXLED

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		NEXXUS	
Wattage	Spare	Partcode	Description
	Ballast	BALL 50W HS TAP 50	220-230-240V 50Hz
	Ballast	BALL 50W HS TAP 60	220-230-240V 60Hz
50watt	Capacitor	CAP 10MFD 254V M8	10µF
	Ignitor	IGN TIMED 35-70W ZRM2-ES CT	50W (PXE070 old code)
	Lampholder	LHDR E27 CERAMIC	E27
	Ballast	BALL 70W MS TAP 50	220-230-240-254V 50Hz
	Ballast	BALL 70W MS TAP 60	220-230-240-254V 60Hz
70watt	Capacitor	CAP 10MFD 254V M8	10µF
	Ignitor	IGN TIMED 35-70W ZRM2-ES CT	70W (PXE070 old code)
	Lampholder	LHDR E27 CERAMIC	E27
	Ballast	BALL 80W MV TAP 50	220-230-240V 50Hz
	Ballast	BALL 80W MV TAP 60	220-230-240V 60Hz
80watt	Capacitor	CAP 10MFD 254V M8	10µF
	Ignitor	N/A	N/A
	Lampholder	LHDR E27 CERAMIC	E27
	Ballast	BALL 13W C102K 240 50	240V 50Hz
11.2	Capacitor	CAP 4MFD 254V M8	4uF
TXT3Wall	Starter	STARTER EFS120 18W	13W (EFS120)
	Lampholder	LHDR G24q-1 13W PL	G24q-1
	Ballast	BALL 18W LC502K 240 50	18W 240V 50Hz
1v10vvott	Capacitor	CAP 4MFD 254V M8	4µF
TXTOWALL	Ignitor	N/A	N/A
	Starter	STARTER EFS120 18W	18W (EFS120)
	Lampholder	LHDR G24q-2 18W CF	G24q-2
	Ballast	BALL 18W LC502K 240 50	240V 50Hz
	Capacitor	CAP 4MFD 254V M8	4µF
1x26watt	Ignitor	N/A	N/A
	Starter	STARTER EFS120 18W	26W (EFS120)
	Lampholder	LHDR G24q-3 26W CF	G24q-3
	Ballast x 2	BALL 13W C102K 240 50	240V 50Hz
	Capacitor	CAP 6MFD 254V M8	6uF
2x13watt	Ignitor	N/A	N/A
_	Starter x 2	STARTER EFS120 18W	2x13W (EFS120)
	Lampholder x 2	LHDR G24q-1 13W CF	G24q-1
	Ballast x 2	BALL 18W LC502K 240 50	240V 50Hz
	Capacitor	CAP 6MFD 254V M8	6uF
2x18watt	Ignitor	N/A	N/A
	Starter x 2	STARTER EFS120 18W	2x18W (EFS120)
	Lampholder x 2	LHDR G24q-2 18W CF	G24q-2

800 SERIES

Wattage	Spare	Partcode	Description
	Ballast	BALL 70W MS TAP 50	220-230-240-254V 50Hz
	Ballast	BALL 70W MS TAP 60	220-230-240-254V 60Hz
70watt	Capacitor	CAP 10MFD 254V M8	10µF
	Ignitor	IGN TIMED 35-70W ZRM2-ES CT	70W (ZRM.2ES)
	Lampholder	LHDR E27 CERAMIC	E27
100watt	Ballast	BALL 100W MS TAP 50	220-230-240-254V 50Hz
	Ballast	BALL 100W MS TAP 60	220-230-240-254V 60Hz
	Capacitor	CAP 10MFD 254V M8	10µF
	Ignitor	IGN TIMED 100-400W ZRM4.5-ES CT	100W (ZRM.6ES old code)
	Lampholder	LHDR E40 CERAMIC	E40

		800 SERIES	
Wattage	Spare	Partcode	Description
	Ballast	BALL 150W MS TAP 50	220-230-240-254V 50Hz
	Ballast	BALL 150W MS TAP 60	220-230-240-254V 60Hz
	Ballast	BALL 150W MS TAP 50 S	220-230-240-254V 50Hz for 110-120V versions
150watt	Ballast	BALL 150W MS TAP 60 S	220-230-240-254V 60Hz for 110-120V versions
TJUWALL	Transformer (110-120V)	XFMR 500VA F2S 110/220V STEP	UP Low to High voltage
	Capacitor	CAP 20MFD 254V M8	20µF
	Ignitor	IGN TIMED 100-400W ZRM4.5-ES	CT 150W (ZRM.6ES old code)
	Lampholder	LHDR E40 CERAMIC	E40
	Ballast	BALL 250W MS TAP 50	220-230-240-254V 50Hz
	Ballast	BALL 250W MS TAP 60	220-230-240-254V 60Hz
	Ballast	BALL 250W MS TAP 50 S	220-230-240-254V 50Hz for 110-120V versions
250watt	Ballast	BALL 250W MS TAP 60 S	220-230-240-254V 60Hz for 110-120V versions
250Watt	Capacitor	CAP 30MFD 254V M8	30µF
	Ignitor	IGN TIMED 100-400W ZRM4.5-ES	CT 250W (ZRM.6ES old code)
	Transformer (110-120V)	XFMR 500VA F2S 110/220V STEP	UP Low to High voltage
	Lampholder	LHDR E40 CERAMIC	E40
	Ballast	BALL 400W MS TAP 50 LL	220-230-240-254V 50Hz
	Ballast	BALL 400W MS TAP 60	220-230-240-254V 60Hz
	Ballast	BALL 400W MS TAP 50 S	220-230-240-254V 50Hz for 110-120V versions
400watt	Ballast	BALL 400W MS TAP 60 S	220-230-240-254V 60Hz for 110-120V versions
400watt	Capacitor x 2	CAP 20MFD 254V M8	20µF
	Ignitor	IGN TIMED 250-600W ZRM12.ES	CT 400W (ZRM.6ES old code)
	Transformer (110-120V)	XFMR 500VA F2S 110/220V STEP	UP Low to High voltage
	Lampholder	LHDR E40 CERAMIC	E40
500watt	Lampholder	LHDR E40 CERAMIC	E40

MICRONEX/MAXINEX

Wattage	Spare	Partcode	Description
	Ballast	BALL 70W MS TAP 50	220-230-240-254V 50Hz
	Ballast	BALL 70W MS TAP 60	220-230-240-254V 60Hz
70watt	Ignitor	IGN TIMED 35-70W ZRM2-ES CT	70W (ZRM.2ES old code)
	Capacitor	CAP 10MFD 254V M8	10µF
	Lampholder x 2	LHDR RX7s CERAMIC	RX7s
	Ballast	BALL 150W MS TAP 50 S	220-230-240-254V 50Hz
	Ballast	BALL 150W MS TAP 60 S	220-230-240-254V 60Hz
150watt	Ignitor	IGN TIMED 100-400W ZRM4.5-ES CT	150W (ZRM.6ES old code)
	Capacitor	CAP 20MFD 254V M8	20 µF
	Lampholder	LHDR E40 CERAMIC	E40
	Ballast	BALL 250W MS TAP 50 S	220-230-240-254V 50Hz
	Ballast	BALL 250W MS TAP 60 S	220-230-240-254V 60Hz
250watt	Ignitor	IGN TIMED 100-400W ZRM4.5-ES CT	250W (ZRM.6ES old code)
	Capacitor x 2	CAP 15MFD 254V M8	15µF
	Lampholder	LHDR E40 CERAMIC	E40
	Ballast	BALL 400W MS TAP 50 S	220-230-240-254V 50Hz
	Ballast	BALL 400W MS TAP 60 S	220-230-240-254V 60Hz
400watt	Ignitor	IGN TIMED 250-600W ZRM12.ES CT	400W (ZRM.6ES old code)
	Capacitor x 2	CAP 20MFD 254V M8	20µF
	Lampholder	LHDR E40 CERAMIC	E40

DEXLUX

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Wattage	Spare	Partcode	Description
600watt	Ignitor (S.I.P)	IGN TIMED 250-600W ZRM12.ES CT	600W (PXA000 old code)
ooowatt —	Lampholder	LHDR E40 CERAMIC	E40
1000	Ignitor (S.I.P)	IGN TIMED 1000W ZRM	1000W (PXA000 old code)
1000watt —	Lampholder	LHDR E40 CERAMIC	E40

ECLIPSE II

Wattage	Spare	Partcode	Description
	Ballast	BALL 50W HS TAP 50	220/230/240V 50Hz
	Ballast	BALL 50W HS TAP 60	220/230/240V 60Hz
50watt	Capacitor	CAP 10MFD 254V M8	10µF
	Ignitor	IGN TIMED 35-70W ZRM 4.5-ES CT	70W
	Timed Ignitor	IGN TIMED 35-70W ZRM 4.5-ES CT	70W
	Ballast	BALL 70W MS TAP 50	220/230/240/254V 50Hz
	Ballast	BALL 70W MS TAP 60	220/230/240/254V 60Hz
70watt	Capacitor	CAP 10MFD 254V M8	10µF
	Ignitor	IGN TIMED 35-70W ZRM2-ES CT	70W
	Timed Ignitor	IGN TIMED 35-70W ZRM2-ES CT	70W
	Ballast	BALL 80W MV TAP 50	220/230/240V 50Hz
80watt	Ballast	BALL 80W MV TAP 60	220/230/240V 60Hz
	Capacitor	CAP 10MFD 254V M8	10µF
	Ballast	BALL 100W HS TAP 50	220/240V 50Hz
	Ballast	BALL 100W MS TAP 60	220/240V 50Hz
100watt	Capacitor	CAP 10MFD 254V M8	10µF
	Ignitor	IGN TIMED 100-400W ZRM 4.5-ES CT	100/400W
	Timed Ignitor	IGN TIMED 100-400W ZRM 4.5-ES CT	100/400W
	Ballast	BALL 125W MV TAP 50	220/230/240V 50Hz
125watt	Ballast	BALL 125W MV TAP 60	220/230/240V 60Hz
	Capacitor	CAP 10MFD 254V M8	10µF
	Ballast	BALL 150W MS TAP 50 S	220/230/240/250V 50Hz
	Ballast	BALL 150W MS TAP 60 S	220/230/240/250V 50Hz
150watt	Capacitor	CAP 20MFD 254V M8	20µF
	Ignitor	IGN TIMED 100-400W ZRM 4.5-ES CT	150W/250W/400W
	Timed Ignitor	IGN TIMED 100-400W ZRM 4.5-ES CT	100/400W
	Ballast	BALL 250W MS TAP 50 S	220/230/240/254V 50Hz
	Ballast	BALL 250W MS TAP 60 S	220/230/240/254V 60Hz
	Capacitor	CAP 10MFD 254V M8	10µF
250watt —	Capacitor	CAP 20MFD 254V M8	20µF
	Ignitor	IGN TIMED 100-400W ZRM 4.5-ES CT	150W/250W/400W
	Timed Ignitor	IGN TIMED 100-400W ZRM 4.5-ES CT	100/400W
	Ballast	BALL 250W MV TAP 50 F2	220/230/240V 50Hz
250watt	Ballast	BALL 250W MV TAP 50 F2	220/230/240V 60Hz
	Capacitor	CAP 20MFD 254V M8	20µF
	Ballast	BALL 400W MS TAP 50 S	220/230/240/254V 50Hz
	Ballast	BALL 400W MS TAP 60 S	220/230/240/254V 60Hz
400watt	Capacitor	CAP 20MFD 254V M8	20uF
	lanitor	IGN TIMED 250-600W ZRM12.ES CT	150W/250W/400W
	Timed Ignitor	IGN TIMED 250-600W ZRM12.ES CT	100/400W
	Ballast	BALL 400W MV TAP 50	220/230/240V 50Hz
400watt	Ballast	BALL 400W MV TAP 60	220/230/240V 60Hz
	Capacitor	CAP 20MFD 254V M8	

		ECLIPSE JUNIOR	
Wattage	Spare	Partcode	Description
	Ballast	BALL 50W HS TAP 50	220-230-240-254V 50Hz
	Ballast	BALL 50W HS TAP 60	220-230-240-254V 60Hz
50watt	Capacitor	CAP 10MFD 254V M8	10µF
	Ignitor	IGN TIMED 35-70W ZRM2-ES CT	70W
	Timed Ignitor	IGN TIMED 35-70W ZRM2-ES CT	70W
	Ballast	BALL 70W MS TAP 50	220-230-240-254V 50Hz
	Ballast	BALL 70W MS TAP 60	220-230-240-254V 60Hz
70watt	Capacitor	CAP 10MFD 254V M8	10µF
	Ignitor	IGN TIMED 35-70W ZRM2-ES CT	70W
	Timed Ignitor	IGN TIMED 35-70W ZRM2-ES CT	70W
	Ballast	BALL 80W MV TAP 50	220-230-240V 50Hz
80watt	Ballast	BALL 80W MV TAP 60	220-230-240V 60Hz
	Capacitor	CAP 10MFD 254V M8	10µF
	Ballast	BALL 125W MV TAP 50	220-230-240V 50Hz
125watt	Ballast	BALL 125W MV TAP 60	220-230-240V 60Hz
	Capacitor	CAP 10MFD 254V M8	10µF
	Ballast	BALL 13W C102K 240 50	240V 50Hz
1x13watt	Capacitor	CAP 4MFD 254V M8	4µF
	Starter	STARTER EFS120 18W	13W (EFS120)
	Ballast	BALL 18W LC502K 240 50	240V 50Hz
1x18watt	Capacitor	CAP 4MFD 254V M8	4µF
	Starter	STARTER EFS120 18W	18W (EFS120)
	Ballast	BALL 18W LC502K 240 50	240V 50Hz
1x26watt	Capacitor	CAP 4MFD 254V M8	4µF
	Starter	STARTER EFS120 18W	26W (EFS120)

Wattage	Spare	Partcode	Description
	Ballast	BALL 150W MS TAP 50 S	220-230-240-254V 50Hz
150watt	Ballast	BALL 150W MS TAP 60 S	220-230-240-254V 60Hz
TSOWALL	Capacitor	CAP 15MFD 254V M8	15µF
	Ignitor	IGN TIMED 100-400W ZRM 4.5-ES CT	150W (PAE400255)
- 250watt -	Ballast	BALL 250W MS TAP 50 S	250W 220-254V 50Hz
	Ballast	BALL 250W MS TAP 60 S	250W 220-254V 60Hz
	Capacitor	CAP 30MFD 254V M8	30µF
	Ignitor	IGN TIMED 100-400W ZRM 4.5-ES CT	20W (PAE400255)

UNIVERSAL BOX			
Wattage	Spare	Partcode	Description
	Ballast	BALL 150W MS BK6 TAP 50	220-230-240-254V 50Hz
150watt	Ballast	BALL 150W MS BK6 TAP 60	220-230-240-254V 60Hz
	Capacitor	CAP 20MFD 254V M8	20µF
	Ballast	BALL 250W MS BK6 TAP 50	220-230-240-254V 50Hz
250watt	Ballast	BALL 250W MS BK6 TAP 60	220-230-240-254V 60Hz
	Capacitor	CAP 30MFD 254V M8	30µF

UNIVERSAL BOX Continued			
Wattage	Spare	Partcode	Description
	Ballast	BALL 400W MS BK6 TAP 50	220-230-240-254V 50Hz
400watt	Ballast	BALL 400W MS BK6 TAP 60	220-230-240-254V 60Hz
	Capacitor	CAP 40MFD 254V M8	40µF
	Ballast	BALL 600W MS BK6 TAP 50	220-230-240-254V 50Hz
600watt	Ballast	BALL 600W MS BK6 TAP 60	220-230-240-254V 60Hz
	Capacitor x 2	CAP 30MFD 254V M8	30µF

		502	
Wattage	Spare	Partcode	Description
	Ballast x 2	BALL 1000 HS TAP 50	220-230-240V 50Hz Half Ballast
1000watt (HS)	Ballast x 2	BALL 1000 HS TAP 60	220-230-240V 60Hz Half Ballast
	Capacitor x 5	CAP 20MFD 254V M8	20µF
	Ballast	BALL 1000 MS TAP 50	220-230-240V 50Hz
1000W MBI	Ballast	BALL 1000 MS TAP 60	220-230-240V 60Hz
	Capacitor x 5	CAP 20MFD 254V M8	20µF

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Wattage	Spare	Partcode	Description
1 x 7watt DI	Ballast	BALL 7W EC09 240 50	240V 50Hz
	Lampholder	LHDR G23 2PIN 7-11W	G23
2 x 7watt DI	Ballast	BALL 13W EC13 240 50	240V 50Hz
2 X / Wall PL	Lampholder	LDHR G23 2PIN 7-11W	G23

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COMMON LAMP TERMINOLOGY

HID	High Intensity Discharge	MBI	Metal Halide
CFL	Compact Fluorescent	HQI	Metal Halide
тн	Tungsten Halogen (Single Ended)	MBFU	Mercury Vapour
TL	Tungsten Halogen Linear (Double Ended)	MBTF	Blended Mercury Vapour
HPS	High Pressure Sodium	QL	Induction Lamp
SON-E	High Pressure Sodium (Eliptical)	LED	Light Emitting Diode
SON-T	High Pressure Sodium (Tubular)	GLS	General Lighting Service

ORDERING INFORMATION

Catalogue Logic

All Chalmit[®] luminaires are identified and ordered using a standard catalogue logic that combines the standard catalogue number (Std Cat No.) and the options which are added as a suffix to the standard number.

Detailed below is an example of the logic and how to use it:

Example one: A Protecta, 2 x 18W, bi-pin emergency with M25 entries would be ordered as follows -



Example two: An Evolution II, 400W, Metal Halide, PTFE coated and narrow beam



For CSA, CEPEL and IEC Ex versions add the following suffix: /CSA, /CEPEL, /IEC

The Chalmit[®] customer service team is trained to help you solve all your hazardous lighting requirements. In addition to progressing your order, Chalmit[®] can assist you with any questions you may have regarding selection, installation and maintenance of Chalmit[®] products.

In order that we may provide you with the best possible service, it is important that the following information accompanies any enquiry or order.

1.	Catalogue number/description	7.	Mounting arrangement
2.	Number of lamps, type and wattage	8.	Any special requirements i.e. options,
3.	Supply voltage and frequency		packing or delivery details.
4.	Method of protection or ATEX Category	9.	Delivery date required.
5.	T rating and T ambient °C	10.	Project name if known.

6. Material and any special finish if required

Please note, Chalmit[®] luminaires are not supplied with cable glands fitted. Chalmit[®] luminaires are shipped as standard with a travel plug and Ex e blanking plugs if there are additional entries. If cable glands are required these should be ordered in addition to the luminaire, please contact sales for details.

It should be noted that Chalmit[®] will only proceed with orders once written confirmation has been received. Quotation numbers if applicable should be stated on all orders.

If at any time you wish to progress the status of an order, it is vital that the sales order number is quoted in all correspondence. This can be found on your order acknowledgement which will be despatched to you on acceptance of your order.

Chalmit[®] Standard Conditions of Sale will always apply. These are available on request and are printed on the rear of the order acknowledgement.

All luminaires shown in this catalogue are available as safe area luminaires for use in non-hazardous areas. These versions are ideal for adverse conditions where luminaires from standard / industrial lighting suppliers will not suffice.

Disclaimer

The technical and commercial information in this catalogue must be used as guidance only, Chalmit[®] does not accept any liability arising from it's use.

LAMPS AVAILABLE FROM CHALMIT

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A SELECTED RANGE OF LAMPS SUITABLE FOR USE IN CHALMIT PRODUCTS

In addition to luminaires, Chalmit[®] can supply all lamps as part of an order. Listed below are details of a selection of quality lamps which are available from stock or on short delivery times from Chalmit[®] in Glasgow. The list contains some common lamps and others that are not so easily available from stockists.

Part code	Lamp type	Wattage	Cap/Colour
Fluorescent			
FLBI/018/G13/T8-84	Fluorescent Bi-pin T8 standard	18	G13 White
FLBI/036/G13/T8-84	Fluorescent Bi-pin T8 standard	36	G13 White
FLBI/058/G13/T8-84	Fluorescent Bi-pin T8 standard	58	G13 White
FLMO/018/FA6/T8-84	Fluorescent Mono-pin T8 standard	18	Fa6 Cap White
FLMO/036/FA6/T8-84	Fluorescent Mono-pin T8 standard	36	Fa6 Cap White
FLBI/018/G13/T8/LL-84	Fluorescent T8 long life (Aura)	18	G13 White
FLBI/036/G13/T8/LL-84	Fluorescent T8 long life (Aura)	36	G13 White
FLBI/058/G13/T8/LL-84	Fluorescent T8 long life (Aura)	58	G13 White
High Pressure Sodium			
SOND/070/RX7S	SON/T standard	70	R7s
SONT/070/E27	SON/T standard	70	E27
SONT/150/E40	SON/T standard	150	E40
SONT/250/E40	SON/T standard	250	E40
SONT/400/E40	SON/T standard	400	E40
SONT/600/E40	SON/T standard	600	E40
SONT/070/E27/TA	SON/T Twin arc	70	E27
SONT/150/E40/TA	SON/T Twin arc	150	E40
SONT/250/E40/TA	SON/T Twin arc	250	E40
SONT/400/E40/TA	SON/T Twin arc	400	E40
SONE/050/E27	SON/E Standard	50	E27
SONE/070/E27	SON/E Standard	70	E27
SONE/100/E40	SON/E Standard	100	E40
SONE/150/E40	SON/E Standard	150	E40
SONE/250/E40	SON/E Standard	250	E40
SONE/400/E40	SON/E Standard	400	E40
Metal Halide			
MBIT/070/E27	MBI/T	70	E27
MBIT/100/E40	MBI/T	100	E40
MBIT/150/E40	MBI/T	150	E40
MBIT/250/E40	MBI/T	250	E40
MBIT/400/E40	MBI/T	400	E40
Tungsten-Halogen			
THAL/500/R7S	Double Ended	500	R7s
THAL/1000/R7S	Double Ended	1000	R7s
THAL/500/E40	Single Ended, Double Ended	500	E40
Mercury Vapour			
MBFU/050/E27	ES MBFU	50	E27
MBFU/080/E27	ES MBFU	80	E27
MBFU/125/E27	es mbfu	125	E27
MBFU/125/E40	GES MBFU	125	E40
MBFU/250/E40	GES MBFU	250	E40
MBFU/400/F40	GES MBEU	400	F40

The Metal Halide lamps are for use on HPS control gear. For detailed information on the selection of Metal Halide lamps refer to the lamp section of the technical introduction.

We are pleased to offer help with the selection of lamps for your Chalmit[®] luminaires. Please contact our sales department.

Chalmit[®] luminaires use the same control gear for MBI and SON-T lamps.

MATRIX OF LAMP TYPES TO USE WITH CHALMIT LUMINAIRES

The matrix below provides an easy cross reference guide to the different lamp types that can be used with individual Chalmit[®] products.

	SON-E (HPS)	SON-T (HPS)	SON-TD (HPS D/Ended)	MBI-E (Metal Halide)	MBI-T (Metal Halide)	MBI-TD (Metal Halide)	T-HAL Single Ended (Tungsten Halogen)	T-HAL Double Ended (Tungsten Halogen)	GLS (General Lighting Service)	MBTF (Mercury Blended Tungsten Filament)	MBFU (Mercury Vapour)	Bi-Pin Fluorescent	Mono-Pin Fluorescent	4-Pin PL (Compact Fluorescent)	QL	LED (Light Emitting Diode)
Protecta III												•				
Protecta III Stainless Steel												•	•			
Acclaim												•				
Curie Elite												•				
Lomond												•				
Evolution II		•			•		•	•								
Evolution		•			•		•	•								
Evolution Jnr																
Nevis									•	•	•					
216									•		•					
238	•			•					•	•	•				•	
261	•			•					•		•					
261E & 723		•			•	•										
Solas																•
NexLED																•
Sterling II												•				
Sterling II Stainless Steel												•				
Protecta Zone 2																
844		•														
854		•			•		•									
864					•											
Micronex			•		•											
Maxinex		•			•											
Nexxus II																•
Nexxus		•							•	•	•			•		
Eclipse II	•	•		•	•						•					
Eclipse Jnr	•	•		•	•				•		•			•		
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With the impending EU withdrawal of Incandescent (GLS) lamps from sale, users should be aware that by January 2011,GLS lamps will no longer be available in any wattages.

HAWKE - CABLE GLANDS

Chalmit[®] is a division of Hubbell Ltd and part of the Hubbell group of companies. Through its market leading brands, Hubbell can also offer a range of related electrical connection and lighting products.



Most types of hazardous and industrial lighting requires a secure interface between the luminaire and the electrical supply cable. Chalmit[®] therefore recommends the use of Hawke International cable glands. The following is a selection from the range of Hawke glands available for further information visit **www.ehawke.com**

501/421

The 501/421 cable gland provides a seal on the outer cable sheath and is intended for use on non-armoured elastomer and plastic insulated cables.

The cable gland is dual certified EExd and EExe and is suitable for installation in Zone 1 (21) and Zone 2 (22) hazardous areas.



501/453/UNIVERSAL



The 501/453/Universal cable gland provides a flameproof seal on the inner cable sheath and an IP seal on the outer sheath. It utilises reversible armour clamp (RAC) technology and can therefore accommodate all types of armoured or braided cables (W, X and Z). An outer deluge boot also helps prevent moisture ingress (DTS-01). The cable gland is particularly suitable for use on 'soft' inner cable sheaths that exhibit "Cold Flow" characteristics as the inner diaphragm seal will not damage the cable bedding. The cable gland is dual certified EExd and EExe and is suitable for installation in Zone 1 (21) and Zone 2 (22) hazardous areas.

501/453/RAC

The 501/453/RAC cable gland provides a flameproof seal on the inner cable sheath and an IP seal on the outer sheath. It utilises reversible armour clamp (RAC) technology and can therefore accommodate all types of armoured or braided cables (W, X and Z).

The cable gland is dual certified EExd and EExe and is suitable for installation in Zone 1 (21) and Zone 2 (22) hazardous areas.



Suitable for restricted breathing applications.

ICG 653/UNIVERSAL



Suitable for restricted breathing applications.

The ICG 653/Universal cable gland provides a flameproof barrier seal on the individual insulated cable cores and prevents entry of the products of an explosion into the cable's surrounding environment. It also provides an IP seal on the cable outer sheath. The cable gland is suitable for cables that are not effectively filled and for cables with a 'soft' inner sheath that exhibit "Cold Flow" characteristics. The cable gland is dual certified EExd and EExe and is suitable for installations in Zone 1 (21) and Zone 2 (22) hazardous areas, where the enclosure is greater than 2 litres in volume and contains an ignition source and requires IIC apparatus.

HAWKE - CABLE GLANDS



Hawke International ATEX approved connectors are ideal for explosive environments commonly found in Oil and Gas exploration, production and process plants. Their features, however, also offer numerous benefits in explosive dust environments as well as harsh and hostile non-explosive applications where temporary but safe disconnection of power is critical.

Hawke International's Ex range of connectors permit the safe and rapid service, repair and replacement of key plant, provide quick connection to temporary equipment and greatly reduce hook-up time in capital-intensive processes.

The Ex range of connectors cover three main application areas: Instrumentation, Control and Power.

For a guide as to which Ex connector may be best suited to an individual application the table below outlines the main variables.

SELECTION OVERVIEW

Connector Type	Minimum Number of Pins	Maximum Number of Pins	Minimum Conductor Size	Maximum Conductor Size	Maximum Voltage	Maximum Current (amps)	Live Demate
Instrum 🐼	4	8	0.14	2.5	250V	10	1
Control 🕢	3	60	1.5	35	660V	125	X
Power (Ex)	1	4	50	630	750V*	780	X

* Other voltages available on special request.

INSTRUM Ex



This revolutionary design allows the live de-mating of signal and power in hazardous areas safely and quickly. The Instrum (a) connector is available with two insert options: the 4-way option will accept cores ranging between 0.5mm² and 2.5mm² and can operate up to a maximum current of 10A at 250V AC. The 8-way option, designed predominantly for Ethernet applications, will accept cores ranging between 0.14mm² and 0.37mm²

and can carry 1A at 250V. Instrum $\textcircled{}{}$ connectors include an integral Hawke cable gland for easy termination of both armoured and un-armoured cables.

CONTROL Ex

The 3rd generation of Control (connectors include many features and refinements as a result of consumer feedback. And are suitable for control and low/medium power applications. The robust stainless steel body can hold up to 60 contacts and will accept conductor sizes ranging between 0.5mm² and 35mm², operating up to 125A and 600V. Further information on recommended cable glands for use with the ControlEx connectors can be found at www.ehawke.com



POWER Ex



The Power range of connectors have been designed specifically for the extremely demanding requirements of higher power applications. Inserts are available with 1 to 4 contacts with a conductor acceptance range of between 50mm² and 630mm² operating up to 125A and 660V.

There are several innovative features common across the range of Hawke ATEX connectors. Despite their highly advanced design and technical features, the range is extremely simple to use and quick to terminate.



Impossible to cross mate

The unique mechanical keying system prevents contact damage and ensures safe use by eliminating the possibility of misconnection of circuits. Machined key and keyway also ensures connector alignment.

High reliability contacts

Each pin and socket is fitted with multilam technology to ensure reliable low resistance connection on each coupling.



All Hawke ATEX connectors meet the requirements of IP66 and IP67 to IEC60529.

Ingress and deluge protected

They are also deluge protected to DTS01 offering long term protection in onerous environments.

Robust design

Designed and constructed for the most demanding environments, Hawke connectors are durable in almost any environment, requiring no routine maintenance to ensure continued performance.

www.ehawke.com

HAWKE HAZARDOUS AREA ENCLOSURES

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GRP RANGE

STAINLESS STEEL RANGE



Features

The Ultimate in Robust GRP Construction Designed to withstand impact resistance up to 20Nm. GRP Construction provides a high degree of resistance to corrosive atmospheres.

Integral Steel Earth Continuity Plate (PL7 Series) Provides internal/external earth continuity through to the two external mounting feet.

Anti-Static Properties

Removes the risk of ignition sources through static induced sparking. Insulation Resistance in accordance with EN 50014 : 1998, which does not exceed 1 G .

External Mounting Feet Eliminates the need to remove the lid when mounting the enclosure on the wall.

Corrosion Resistant Stainless Steel Lid Fixing Screws with Nylon Retaining Washers Prevents loss of screws during assembly and maintenance.

One Piece Durable Captive Moulded Silicone Gasket

DTS01 deluge protection witnessed by EECS. Provides Ingress Protection to IP66. Optimum performance at low and high temperature extremes.

Stainless Steel Rating Label Highly durable and corrosion resistant.



Features

Robust Stainless Steel Construction Enclosure material thickness ranges between 1.2 - 2.0mm with 3mm thick gland plates. Durable stainless steel rating label.

Electropolished Surface Finish Provides high levels of corrosion resistance.

Softer Finished Rounded Edges Safer manual handling of enclosure and gland plates.

Rigid Slotted External Mounting Feet Allows enclosure to be hung onto the structure.

Corrosion Resistant Stainless Steel Lid Fixing Screws with Nylon Retaining Washers Prevents loss of screws during assembly and maintenance.

Superior Silicone Sponge Gasket DTS01 deluge protection witnessed by EECS. Provides ingress protection to IP66. Durable with excellent UV stability and chemical resistance. Good chemical resistance - EMC mesh option.

Extensive Range of Enclosure Sizes Available Nine enclosure sizes available. Sizes range from 153 x 233 x 130 to 740 x 1000 x 210. Gland plates offered on two side faces and bottom face of each enclosure.

EZE SERIES STAINLESS STEEL



- Better access for faster installation, easier inspection and on-site modification.
- Solid back plate and base frame with a removable clamshell style lid.
- Seals shielded from the environment.
- Clip-in quick release gland plate.
- Under-wiring possible.
- Superior Silicone Compression Gasket.
- Large Terminal Capacity.

EXPLOSION PROOF and ENCLOSED and GASKETTED CLASSI DIVISION 1 and 2 CLASS II DIVISION 1 and 2 CLASS III APPLICATIONS



KILLARK® ELECTRICAL CONSTRUCTION PRODUCTS











Killark is a leading manufacturer of NEC electrical construction products for standard, harsh and hazardous installations, The company has over 85 years of manufacturing experience and is a major participant in the OEM, commercial and industrial construction material markets.

The Killark range encompasses industrial and explosion proof fittings in both iron and aluminium including: HID & fluorescent lighting, emergency lighting, floodlights, enclosures & controls, plugs and receptacles, motor starters and distribution equipment.

Killark became a division of Hubbell in 1985 and since then, increased levels of capital investment have funded major new product initiatives enabling the group to compete worldwide with an extensive electrical construction product range covering, conduit raceway fittings, junction boxes, enclosures, standard and custom control assemblies, lighting fixtures as well as plugs and sockets.

As part of Hubbell, the strengths of Killark and Chalmit[®] are now combined. This partnership has created the largest, most comprehensive range of lighting products and associated apparatus for hazardous locations available within the global market.

Hubbell and Killark are well represented on Codes and Standards committees in the US, Canada, Mexico and internationally. This affords the most cost competitive solutions to be offered to user requirements on a world wide basis, regardless of locality or installation constraints.

Both companies have reputations for customer specific solutions to complex and challenging hazardous location requirements, utilising proven designs and value added engineering input, and these solutions are enhanced by access to comprehensive laboratory facilities. In house testing laboratories allow product development efforts to continually support new product development and solutions to specific user defined requirements.

With a Total Quality Management programme and ISO 9001:2008 accreditation, Killark and Chalmit[®] are dedicated to meeting customer needs, with engineering solutions, new product development and on-time delivery in every phase of the project. This underlines an already proven ability to supply lower cost total system solutions and savings over the entire lifetime of a project.

For further information on this NEW expanded range of products or to obtain a dedicated Killark brochure, simply refer to your usual Chalmit[®] personnel. Photometric data on the Killark range is also available from the Chalmlite[®] lighting design software.





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LIGHTING DESIGN

OVERVIEW

The core business of Chalmit[®] centres on hazardous area lighting, both offshore and land based, as well as heavy industry and marine installations. The lighting design techniques for such wide and varied applications differ accordingly and are something which Chalmit[®] has developed expertise in over the past 25 years.

CHAMLITE ™

Chalmit[®] have developed a user friendly programme to allow our customers the freedom of producing their own lighting designs. This package, CHALMLITE[®] is free of charge and allows users the ability to design lighting layouts that range from very simple to extremely complex.

CHALMLITE[®] utilises a simple Windows-based user interface making it easy to use. The package now includes interior, exterior and aisle lighting quantity estimators allowing luminaire quantities to be determined quickly for budgetary purposes prior to a detailed design being done at a later date.

Some key features of CHALMLITE[®] include:

- The incorporation of interior and exterior components in a single scheme
- Ability to account for shadowing and effects of reflection
- Shortcut icons for:
 - Turning individual fittings on/off or assess in emergency mode
 - Move, change or delete luminaires easily
 - Identify individual fittings
 - Re-size icons to suite the scale of your project
- Use scrolling wheel mouse to zoom in/out
- Import and export to CAD packages (DXF format)
- Print to a pdf or hardcopy (A0 to A4 sizes)
- Ability to produce Isolux 'footprint'

DESIGN

Chalmit[®] also offers a free lighting design service. Designs created can be interfaced with actual installation AutoCAD drawings to build up sophisticated lighting presentations. Customers requiring further details of this service or of the Chalmlite[®] Lighting design software should contact their nearest Chalmit[®] Sales Engineer or Head office Lighting Applications.

CHALMLITE



Sample lighting scheme



3D view of scheme

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Photometric data



Icon method for selecting luminaires

CHALMIT

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QUALITY AND APPROVALS



Chalmit[®] offers both safety and security. Chalmit[®] luminaires can be specified with complete confidence. The company is currently assessed by Lloyds and is ISO 9001:2008 compliant. Chalmit[®] has also been assessed in accordance with EN 13980 for products manufactured to ATEX.

QUALITY

SERVICE

TECHNOLOGY

In addition to certification to British and CENELEC standards Chalmit[®] also holds product approvals to Canadian (CSA), Russian (GOST R), China, Brazilian (CEPEL) and international (IECEx) standards.

Chalmit[®] uses third party assessment for the provision of lighting design and environmental test data.

PRODUCT INNOVATION

Chalmit[®] has attained a position of market pre-eminence through a rigorous programme of continuous product development. This has resulted in products being the first to use a concept which later became the accepted "state of the art".

The employment of the the latest technology in conjunction with emerging light sources and controls, and using computer aided design allied to the latest in photometric and mechanical test techniques underpins Chalmit's ability to produce internationally accepted products. Utilising the latest in CNC and manufacturing technology ensures that the quality of Chalmit[®] luminaires is assured every time.



TECHNICAL SUPPORT



From the centre of excellence in Glasgow, Scotland, and our operations around the world, clients can be assured of our extensive technical and after sales support.

This service encompasses application advice, advanced Windows-based lighting design software and informed guidance on the selection, installation and maintenance of luminaires. Chalmit[®] provides the full back up service expected from a major international supplier and the immediately available knowledge covers both hazardous and other applications. This results in a breadth of expertise that can solve both routine and complex problems arising in lighting applications.

techsupport@chalmit.com

THE COMPLETE SOLUTION

Chalmit[®] offers the complete solution to all your lighting needs. We can claim to be a truly international business and with a network of agents and distributors in over 40 countries world wide we have an enviable reputation for a world class service.

Also based in Glasgow is the Hubbell sister company Transtar. Transtar specialise in the design and manufacture of fluorescent and HID lighting control gear. The company is also Lloyds certified ISO 9001:2008. This association gives Chalmit[®] the unique ability to specify ballasts that are tailored to meet the different requirements of individual luminaires. Upon request, Transtar can also offer custom ballast design services.

As well as drawing from our own and other Hubbell Harsh & Hazardous group company resources, we have well established links with other lighting and lamp manufacturers. This position within the lighting industry means that Chalmit[®] can offer a complete package of lighting for end users, large and small projects, and for any application which calls for a diverse range of lighting products.







Partices Harsh and Hazardous Environmental Specialist Applications Emergency Lighting Petrochemical Temporary Marine Partices Petrochemical Temporary Marine Petrochemical Temporary Marin



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Chalmit[®], A leading supplier of Hazardous Area, Industrial and Marine lighting products.

Your Distributor is;



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