



CityLighting
Services Ltd

CITY LIGHTING SERVICES

ILLUMINATIONS

THE STOCK TO SUPPLY | THE KNOWLEDGE TO ASSIST

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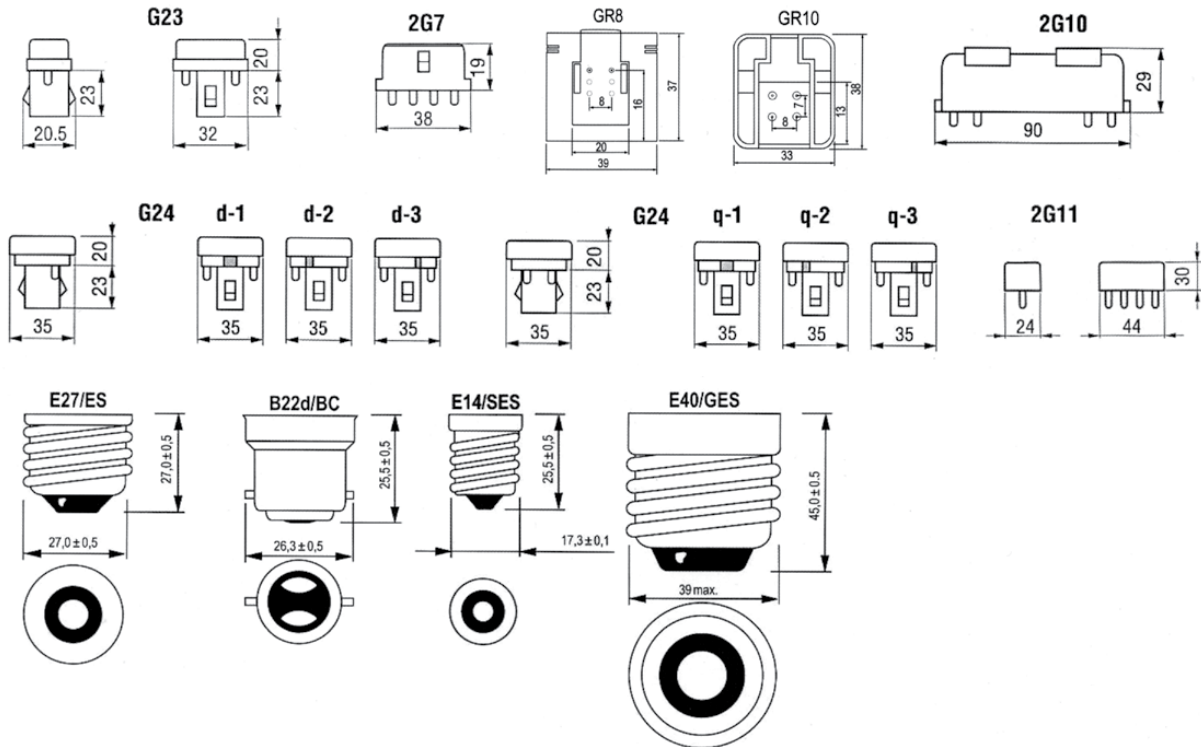
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FOR ALL YOUR LAMP NEEDS

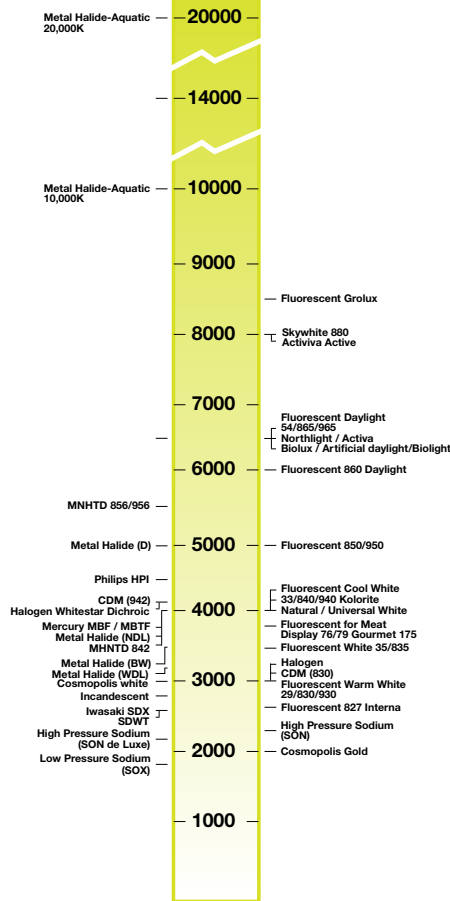
Compact Fluorescent and H.I.D



COLOUR CHARTS

Colour Temperature

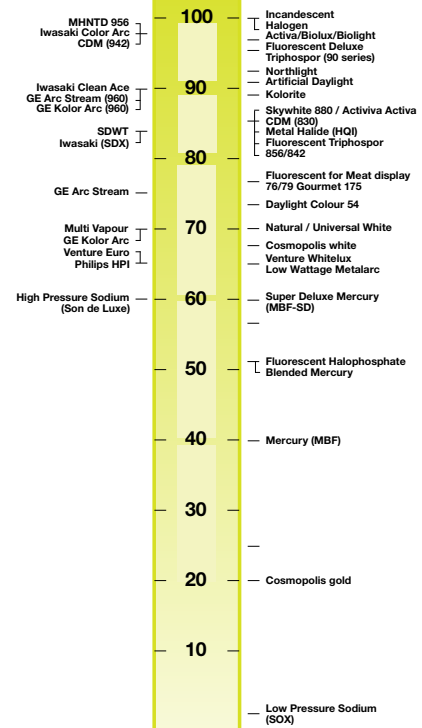
Colour Temperature or Colour Appearance, measured in degrees Kelvin (°K) represents the visual appearance of a light source. The higher the Kelvin rating given to the light source, the cooler its appearance will be.



Colour Rendering

The **Colour Rendering Index (Ra)** defines the ability of a light source to identify colours, and is measured on a scale of 1-100.

Monochromatic light has a rendering of 1, natural sunlight has a rendering of 100. For practical purposes colour rendering indices are divided into levels 1A - 4.



INCANDESCENT

8

LAMPS

A Brief History of the Light Bulb

The electric light, one of the everyday conveniences that most affects our lives, was not “invented” in the traditional sense in 1879 by Thomas Alva Edison, although he could be said to have created the first commercially practical incandescent light. He was neither the first nor the only person trying to invent an incandescent light bulb. In fact, some historians claim there were over 20 inventors of incandescent lamps prior to Edison’s version. However, Edison is often credited with the invention because his version was able to outstrip the earlier versions because of a combination of three factors: an effective incandescent material, a higher vacuum than others were able to achieve and a high resistance that made power distribution from a centralized source economically viable.

1906 The General Electric Company were the first to patent a method of making tungsten filaments for use in incandescent lightbulbs. Edison himself had known tungsten would eventually prove to be the best choice for filaments in incandescent light bulbs, but in his day, the machinery needed to produce the wire in such a fine form was not available.

1910 William David Coolidge of General Electric improved the process of manufacture to make the longest lasting tungsten filaments.

1920s The first frosted lightbulb is produced and adjustable power beam bulbs for car headlamps, and neon lighting.

1930s The thirties saw the invention of little one-time flashbulbs for photography, and the fluorescent tanning lamp.

1940s The first ‘soft light’ incandescent bulbs.

1950s Quartz glass and halogen light bulb are produced

1980s New low wattage metal halides are created

1990s Long life bulbs and Compact Fluorescent bulbs make their debut

We supply all types of incandescent lamps including the types listed below:

- Golfball lamps
- Candle lamps
- GLS lamps including low voltage
- Coloured lamps
- Pygmy lamps
- Striplights
- Oven lamps
- Decorative candles

Due to the impending phase out on the production of incandescent lamps please call us with your requirements.

We can identify your lamp over the phone, we need to know the following information:

Voltage
Wattage
Cap
Size
Shape
Colour

ILLUMINATIONS

HALOGEN

LAMPS

A Brief History of Halogen Lamps

Elmer Fridrich and Emmet Wiley developed the halogen lamp at General Electric in Nela Park, Ohio in 1955. Others had tried to build halogen lamps, however they could not figure out how to stop the blackening of the lamp. Fridrich figured out that one had to use a small amount of iodine surrounding the tungsten filament, which would allow it to burn at elevated temperatures. The early lamps were used and designed to “bake” paint onto metal using the high heat output of the halogen.



We supply all types of halogen lamps including the types listed below:

- Low voltage dichroic lamps
- Halogen Par lamps
- Halogen capsule lamps
- Double ended linear halogen
- Coloured halogen
- G9 Capsules
- Aluminium reflector lamps

We can identify your lamp over the phone, we need to know the following information:

Voltage
Wattage
Cap
Size
Shape
Colour

ILLUMINATIONS



We stock over
60,000
halogen lamps!

FOR ALL YOUR HALOGEN LAMP NEEDS

HALOGEN ECO

12

LAMPS

Halogen Eco Lamps

Our range of Eco-Halogen lamps provide all the benefits of halogen lighting at an affordable price while offering superior light quality. Unlike compact fluorescent lamps, these Eco-Halogen products perform in the same manner as their traditional incandescent counterparts. Available in familiar shapes and styles, Eco-Halogen lamps provide instant brightness while remaining fully dimmable. By reducing energy usage and costs, Eco-Halogen lamps operate more cost effectively than traditional lamps and are ideal for places where standard lamps are currently used.

Features and benefits

- Saves up to 30% in energy costs.
- Halogen capsule improves lamp efficacy.
- Lower wattage energy-saving option to standard incandescent halogen lamps
- Cost effective alternative to LED lamps
- Crisp bright white light
- Familiar shapes with conventional performance
- Dimmable
- 100 CRI (Color Rendering Index)
- Instant on/cold start
- Mercury free

We supply all types of halogen eco lamps including the types listed below:

- Candle lamps
- Gls lamps
- Reflector lamps
- Golf ball lamps
- Linear halogen lamps
- Dichroic lamps
- Capsule lamps

We can identify your lamp over the phone, we need to know the following information:

Voltage
Wattage
Cap
Size
Shape
Colour



ILLUMINATIONS



Halogen
eco lamps...

these lamps will,
in time, completely
replace standard
incandescent lamps

IT'S A FACT!

FOR ALL YOUR HALOGEN ECO LAMP NEEDS

HEAT

LAMPS

Heat Lamps

Heat lamps are used in many applications, we can supply lamps for use in food warming, patio heaters, animal sheds and curing of glues and paints.



Here is a typical example of the types of lamp we can supply:

Clear: Our standard lamp. It is a bare lamp optimising infrared output.

Gold: This lamp is covered with a dichroic coating. It reduces glare and has a gold appearance when switched off.

Jacketed: A quartz sleeve is applied to the lamp for additional safety. They are ideal for catering purposes.

Reflector: These lamps have a white ceramic coating allowing the majority of the heat to be projected forward.

Ruby: A ruby jacket is applied to the lamp which cuts down glare. They are ideal for people heating

Satin: These lamps have a frosted finish reducing glare.

We can identify your lamp over the phone, we need to know the following information:

Voltage
Wattage
Cap
Size
Shape
Colour

Modern
heat lamps...
don't rely on an intermediary
to keep food warm; their
infrared waves pass through
the air and only begin to
heat the food on contact
IT'S A FACT!



FOR ALL YOUR HEAT LAMP NEEDS

FLUORESCENT

16

LAMPS

Fluorescent Lamps

Fluorescent lamps are a low pressure mercury-vapor gas-discharge lamp that uses fluorescence to produce visible light. An electric current in the gas excites mercury vapor which produces short-wave ultraviolet light that then causes a phosphor coating on the inside of the bulb to fluoresce, producing visible light. A fluorescent lamp converts electrical power into useful light much more efficiently than incandescent lamps. The luminous efficacy of a fluorescent light bulb can exceed 100 lumens per watt, several times the efficacy of an incandescent bulb with comparable light output.



We supply all types of fluorescent lamps, including the types listed below:

- T2,T4,T5 and T8 Linear fluorescents
- Compact fluorescent lamps
- Candle lamps
- Golfball lamps
- GLS lamps
- U-tubes
- Seamless tubes
- 2D lamps
- Circular tubes
- Spiral lamps
- 110v site lamps

We can identify your lamp over the phone, we need to know the following information:

Voltage
Wattage
Cap
Size
Shape
Colour

ILLUMINATIONS



17



Fluorescent lamps...
gourmet tubes are specifically designed for enhancing the colour of meat heat the food on contact

IT'S A FACT!

FOR ALL YOUR FLUORESCENT LAMP NEEDS



LED

LAMPS

LED Lamps

LEDs are small light sources or thin chips that become illuminated by the movement of electrons through a semiconductor material. Today, LEDs are available in multiple colours, including the bright, white light consumers are used to seeing from their home lighting. LEDs are embraced for their energy savings and long life. They use up to 75 percent less energy than incandescent sources, last up to 25 times longer than incandescent and halogen light sources and up to three times longer than most CFLs. They also are cooler to the touch, start instantly, and the compact shape of LEDs allows for smaller, design-forward lighting fixtures, as well as illumination in tight areas.

With LED technology moving at such a pace, the stock profile and specification of the lamps changes all the time.

Here at CLS we offer Philips LED lamps as a fit and forget option for most applications, however we are also able offer a range of LED to suit all budgets.



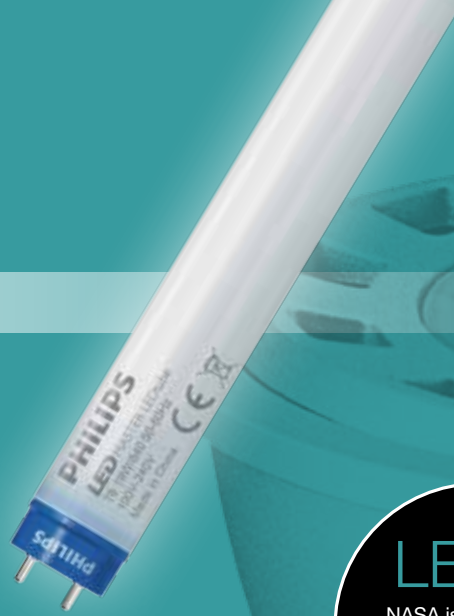
We supply the following LED:

- Low voltage Dichroic and capsule replacement
- GU10
- Ar111
- Par lamps
- Candle, Golfball, GLS
- T8 linear fluorescent
- Corn lamps for Sodium replacement
- G9 capsule
- GX53 flat lamp

We can identify your lamp over the phone, we need to know the following information:

Voltage
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ILLUMINATIONS



LED...

NASA is changing to LED lighting on the space station to help with insomnia!

IT'S A FACT!



FOR ALL YOUR LED LAMP NEEDS

PHILIPS

SON & SOX

20

LAMPS

Son & Sox Lamps

Discharge lamps generate light by sending an electrical discharge through an ionised gas or metal vapour. Depending on the gas with which a lamp is filled, it either radiates visible light directly or converts UV radiation to light through interaction with a fluorescent coating on the inside surface of the glass enclosure. The operating pressure inside a discharge lamp is either low (low pressure discharge lamps known as SOX) or high (high-pressure discharge lamps known as SON).



Examples include:

- Tubular
- Elliptical
- Internal ignitor lamps (50w & 70w)
- Sox
- Sox E

We can identify
your lamp over the phone,
we need to know the following
information:

Voltage
Wattage
Cap
Size
Shape
Colour

ILLUMINATIONS



ONE

of the first public installation of low-pressure sodium light in the UK was on Purley Way in Croydon in December 1932. This location was chosen simply because it was just outside the Philips factory where lamps were manufactured.

IT'S A FACT!

FOR ALL YOUR SON & SOX LAMP NEEDS

MERCURY

22

LAMPS

Mercury Lamps

Standard elliptical MBF/U lamps, these operate on a simple magnetic ballast control gear, another type is a blended lamp, these are known as MBTF or MLL these lamps work directly off mains voltage and do not require any control gear.

Mercury Vapour Lamps have a white light, similar to a halophosphate fluorescent tube.

Types available:

- Reflector
- Elliptical
- Blacklight blue
- 3 pin BC
- 50W – 1000W



We can identify
your lamp over the phone,
we need to know the following
information:

Voltage
Wattage
Cap
Size
Shape
Colour

ILLUMINATIONS



Mercury...
in 1860 John Thomas Way developed a mercury vapour lamp, he tested them on Hammersmith Bridge in London
IT'S A FACT!

FOR ALL YOUR MERCURY LAMP NEEDS

QUARTZ METAL

24

HALIDE LAMPS

Quartz Metal Halide Lamps

This type of lamp is also known as an 'MH or HQI' lamp. It is an HID lamp (High Intensity Discharge), which means it provides most of its light from the electric arc within a small discharge tube. It is becoming increasingly popular due to its good quality white light and good efficiency. The most prominent use of the MH lamp is in stadiums and sports fields. It is also used widely for parking lots and street lighting in urban areas. Its competitors include the HPS lamp, mercury vapour lamp, LPS lamp, halogen lamps, and LEDs. MH lamps have advantages over the rest which make it more useful for certain applications.

The lamp uses mercury vapour to create the powerful light (like the high pressure mercury vapour) but includes other metals (halide salts) to improve the colour.

A Halide is a chemical compound of a halogen combined with an electropositive element, or in the case of lamps: a metal. A halogen is a monovalent element which readily forms negative ions. There are 5 halogens: fluorine, chlorine, bromine, iodine, and astatine.



Types available:

- Dual control gear lamps
- Protected arc tube lamps
- Single and double ended
- Long arc and Short arc
- Tubular and Elliptical
- Clear and coated

We can identify
your lamp over the phone,
we need to know the following
information:

Voltage
Wattage
Cap
Size
Shape
Colour

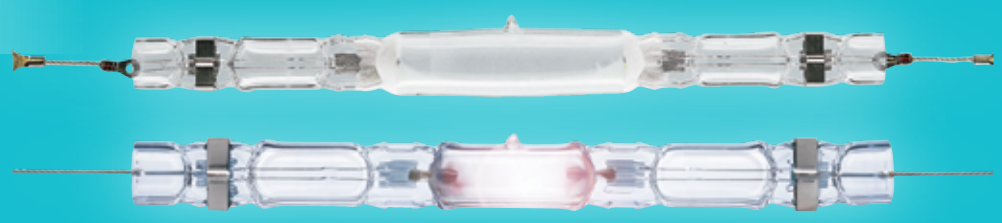
ILLUMINATIONS



Metal halide lamps

are available in colour 20k ! for use in marine applications

IT'S A FACT!



FOR ALL YOUR QUARTZ METAL HALIDE LAMP NEEDS

CERAMIC METAL

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HALIDE LAMPS

The ceramic discharge metal-halide (CDM) lamp, mostly referred to as Ceramic Metal Halide lamp is known by many short form terms, HCI, CDM, CMH.

CDM is a relatively new source of light that is a variation of the metal-halide lamp, which itself is a variation of the old (high-pressure) mercury-vapour lamp. The discharge is contained in a ceramic tube, usually made of sintered alumina, similar to what has been used in the high-pressure sodium lamp. During operation, the temperature of this ceramic tube can exceed 1200 kelvins. The ceramic tube is filled with mercury, argon and metal-halide salts. Because of the high wall temperature, the metal halide salts are partly vaporized. Inside the hot plasma, these salts are dissociated into metallic atoms and iodine.

The metallic atoms are the main source of light in these lamps, creating a bluish light that is close to daylight with a CRI (colour rendering index) of up to 96. The exact correlated colour temperature and CRI depend on the specific mixture of metal halide salts. There are also warm-white CDM lamps, with somewhat lower CRI (78-82) which still give a more clear and natural-looking light than the old mercury-vapour and sodium-vapour lamps when used as street lights, besides being more economical to use.

The ceramic tube is an advantage in comparison to earlier fused quartz. During operation, at high temperature and radiant flux, metal ions tend to penetrate the silica, depleting the inside of the tube. Alumina is not prone to this effect.

CDM lamps use one fifth of the power of comparable tungsten incandescent light bulbs for the same light output (80–117 lm/W) and retain colour stability better than most other gas discharge lamps. Like other high-intensity discharge lamps, they require a correctly rated electrical ballast in order to operate.

Types available:

- Capsule g8.5, GU6.5 and PGJ 5
- Double ended
- G12
- AR111
- MR16
- PAR 20 & PAR 30
- Tubular and elliptical
- Cosmopolis

We can identify
your lamp over the phone,
we need to know the following
information:

Voltage
Wattage
Cap
Size
Shape
Colour

ILLUMINATIONS



Ceramic
metal halide
lamps...

a 50w cdm lamp is now
available as a more
efficient lamp over a 70w

IT'S A FACT!



FOR ALL YOUR CERAMIC METAL HALIDE LAMP NEEDS

UV

LAMPS

UV Lamps

At **CLS**, we can offer a full range of UV lamps for various applications.

Blacklight 368

The energy distribution of the BL368 lamp is a much narrower band concentrated around the spectral peak at 368nm. This is widely accepted as the most important frequency for the attraction of flying insects. The radiation at 368nm is twice as powerful as from BL350 tubes, and because of this the lamp attracts many more insects.

TUV Lamps

TUV lamps are UVC (germicidal) lamps used in professional water and air disinfection units. TUV lamps offer almost constant UV output over their complete lifetime, for maximum security of disinfection and high system efficacy. Moreover, they have a long and reliable lifetime, which allows maintenance to be planned for in advance.

Black Light Blue

BLB are generally used for effect to make white colours fluoresce for example in discos and at parties and to detect forged bank notes. They have an inner envelope coated with a fluorescent powder that emits long-wave UV radiation to excite luminescence, they are always black in colour to look at.

We can identify
your lamp over the phone,
we need to know the following
information:

Voltage
Wattage
Cap
Size
Shape
Colour





UV Lamps...
a housefly can travel up to 4km every day!
IT'S A FACT!



FOR ALL YOUR UV LAMP NEEDS

STAGE, AUTO

30

AND MINIATURE LAMPS

UV Lamps

We stock a full range of auto lamps, a large range of miniature lamps and stage and studio lamps.

There is a huge amount of lamps in these ranges, we can identify and supply a huge amount of these products from stock and we have a fantastic supply network that we can source lamps from all over the globe.



We can identify
your lamp over the phone,
we need to know the following
information:

Voltage
Wattage
Cap
Size
Shape
Colour

ILLUMINATIONS



Miniature
Lamps...
there are over 400,000
different miniature
lamps available
IT'S A FACT!

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FOR ALL YOUR STAGE, AUTO AND MINIATURE LAMP NEEDS

BAG

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CONTROL GEAR AND LED MODULES

BAG Control Gear

CLS are very pleased to have been chosen by BAG as official partner for the UK Market.

We are able to cross reference your current control unit and offer a suitable BAG product from stock at a competitive price.

Bag offer multi watt units for fluorescent lamps which can run T5/T8 and a range of compact lamps from ballast unit.

A full range of control gear units for HID lamps and ignitors to suit.

We have a full product catalogue if needed, please call us with your requirements.

Types available:

- **Dali**
- **HID**
- **T5 Linear and circular**
- **T8 linear**
- **Compact fluorescent**

BAG LED Modules

BAG offers a wide spectrum of electronic control gear for the operation of LED modules with the ZITARES product family, and performance features are primarily aimed at the use of the ECG in professional general lighting applications with white light. The differing versions offer optimal solutions for a wide array of applications for example in the office, school, industry and shop sectors.

Led light engines

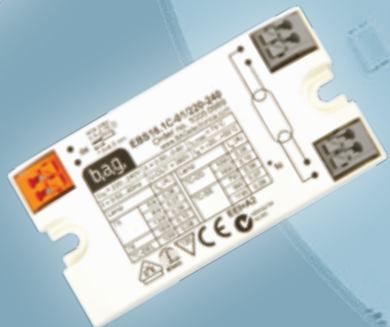
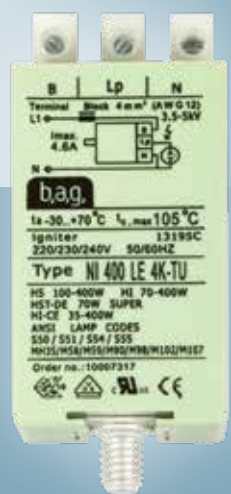
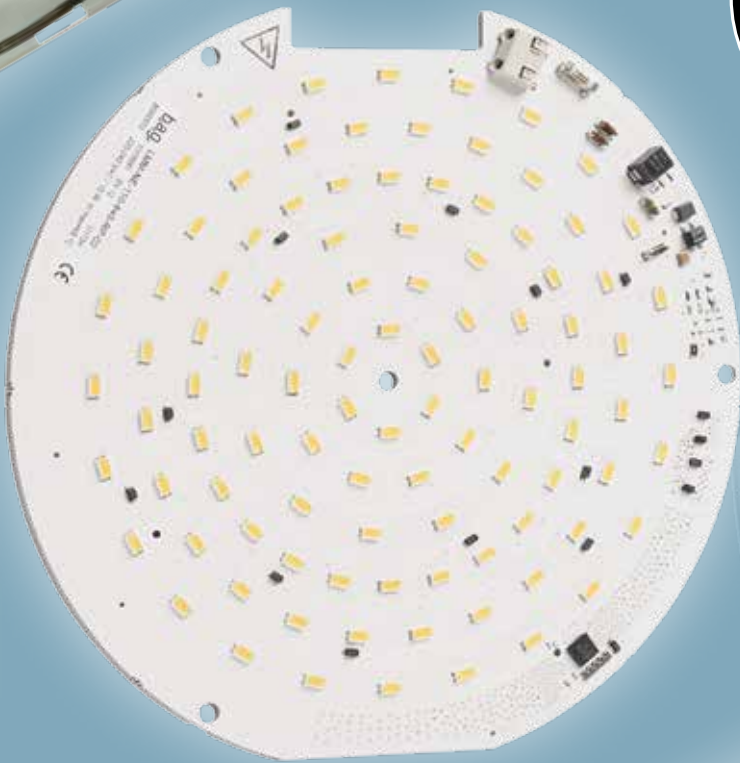
With NEXARES, BAG presents a light engine where LED module and electronic control unit are combined on a PCB, an all-in-one solution. The design has also focused on minimum construction height. With a height of only 8 mm and without the necessity of an additional control gear having to be installed in the luminaire, NEXARES enables maximum flexibility for luminaire design.

CRONIUS offers luminaire manufacturers a simple, flexible solution for using LEDs in luminaires. CRONIUS CFLed is a light engine that makes available light source and control unit in one component.



Bag
 offer control gear solutions
 for instant and reliable
 restart of hot H.I.D lamps

IT'S A FACT!



FOR ALL YOUR BAG CONTROL GEAR & LED MODULES NEEDS

BATTERIES

34

YUASA AND DURACELL

Duracell Batteries

Duracell batteries are available from **CLS**.

The Duracell story begins in the early 1920s with an inventive scientist named Samuel Ruben and an eager manufacturer of tungsten filament wire named Philip Rogers Mallory. Ruben came to the P.R. Mallory Company seeking a piece of equipment he needed for an experiment. But Ruben and Mallory saw an opportunity: Uniting Ruben's inventive genius with Mallory's manufacturing muscle. Their partnership, which would last until Mallory's death in 1975, was the bedrock of Duracell International.

Call us now
for a competitive
price on your
Duracell!

Yuasa Batteries

Yuasa Industrial Batteries are available from **CLS**.

Yuasa are one of the world's largest manufacturers and suppliers of valve regulated lead-acid batteries with global manufacturing plants and an extensive marketing and distribution network throughout the UK and Europe.

Since the early part of the 20th Century Yuasa has been at the forefront of lead-acid battery technology, embracing new developments, applying research and investing in modern production plants to meet the challenges of a power hungry world.

If you are looking for a power source for Security and Alarm Systems; CCTV's; UPS Systems; Emergency Energy Lighting Systems; OEM electrical equipment; Electronic applications or any area where there is a need for a reliable long-life power source, contact us and see why industry is saying 'Yes to Yuasa'!

Types:
- Side by side
- Stick
- NP range



Store batteries in a cool location to minimise self discharge
IT'S A FACT!



FOR ALL YOUR BATTERY NEEDS

NON-SPILL
DESIGNED FOR
VdS No.G18

BATTEN

36

FITTINGS

CLS are able to offer from stock a full range of T5 & T8 battens. The battens are supplied with branded control gear, made up and ready to go from stock including emergency versions on the popular sizes!

- High frequency control gear as standard
- Steel body and polycarbonate end caps
- Integral emergency available
- One size reflector fits twin and single bodies
- Prismatic controllers available
- Battens exclude tubes, choose the colour you need

T5 battens

Part code	Description
-----------	-------------

APL/BAT114	1x14w T5
APL/BAT214	2x14w T5
APL/BAT124	1x24w T5
APL/BAT128	1x28w T5
APL/BAT228	2x28w T5
APL/BAT154	1x54w T5
APL/BAT254	2x54w T5
APL/BAT135	1x35w T5
APL/BAT235	2x35w T5
APL/BAT149	1x49w T5
APL/BAT249	2x49w T5
APL/BAT180	1x80w T5
APL/BAT280	2x80w T5

T8 battens

Part code	Description
-----------	-------------

APL/BAT118	1x18w T8
APL/BAT218	2x18w T8
APL/BAT136	1x36w T8
APL/BAT236	2x36w T8
APL/BAT158	1x58w T8
APL/BAT258	2x58w T8
APL/BAT170	1x70w T8
APL/BAT270	2x70w T8

Add EM3 to code for emergency version

Batten fittings...

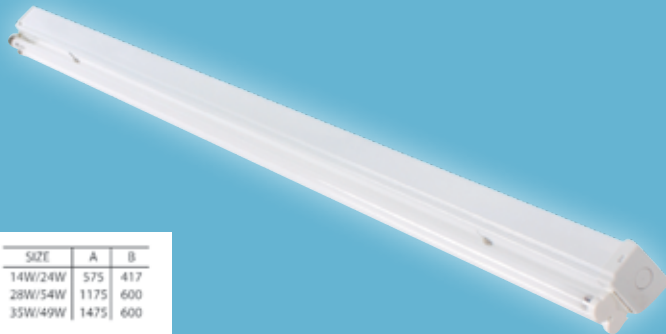
we can convert existing batten fittings to emergency or LED!

IT'S A FACT!

ILLUMINATIONS

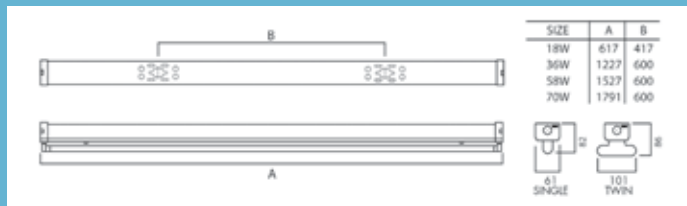
T5 battens

- High frequency control gear as standard
- Steel body and polycarbonate end caps
- Integral emergency
- One size reflector fits twin and single bodies
- Full range of accessories
- Excluding tubes



T8 battens

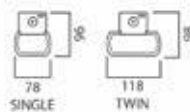
- Switch start or high frequency control gear
- Steel body and polycarbonate end caps
- Integral emergency
- One size reflector fits twin and single bodies
- Full range of accessories
- Excluding tubes



T5



T8



Controller Attachments

- Made from polycarbonate

FOR ALL YOUR BATTEN FITTINGS NEEDS

LED FITTINGS

38

AND CONVERSIONS

CLS can offer from stock a range of LED flood lights in 10w, 20w, 50w and 140w.

With the ever expanding range of LED light fittings, **CLS** are ideally placed to help and source the correct fittings for your application.

As a Philips LED luminaire distributor and with a vast network of suppliers, let us know what you need and we will try to find the right solution.

With a 3 Year warranty, epistar led chips and high lumen outputs these fittings are the perfect solution to many applications.

Code	Type	Lumen output	Colour temp
APL/10WLEDF	10W LED FLOOD	820LM	6000k
APL/10WLEDFP	10W LED FLOOD PIR	820LM	6000k
APL/20WLEDF	20W LED FLOOD	1630LM	6000K
APL/20WLEDFP	20W LED FLOOD PIR	1575LM	6000K
APL/50WLEDF	50W LED FLOOD	4045LM	6000K
APL/50WLEDFP	50W LED FLOOD PIR	3400LM	6000K
APL/140WLEDF	140W LED FLOOD	12200L	6000K

Features in brief

- Energy saving up to 70%
- Even light distribution
- Original Epistar chips
- Instant start, no flicking, no humming.
- Fit and Forget Solution
- Low Lumen depreciation
- 3 year warranty

LED Floodlights are designed to replace the halogen types. This 20w version offers in excess of 1,500lm at 6000k. The quality design of the floodlight offers a stable light output that give even light distribution at 120 degrees. This unit has up to 40,000 hrs of useable light with no maintenance costs, this product is truly a fit and forget solution.



ILLUMINATIONS



**LED
fittings...**
analysts are predicting
that by 2020 70% of all
lighting will be LED.

IT'S A FACT!

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FOR ALL YOUR LED FITTINGS AND CONVERSIONS NEEDS