

LumisphereTM Products Ltd



Delivering Decorative Lighting Festoons

www.lumisphere.co.uk

LUMISPHERE™ Standard Festoon Systems

X12, X24 Xenon Systems,
Orbical, Eco and Carnival LED Systems

ADVANTAGES

The Lumisphere™ patented Low Voltage Festoon lighting system has been designed to provide a safe multipurpose energy saving system. It offers an attractive alternative to standard mains voltage festoon lighting which normally has inherently high maintenance and power costs.

QUALITY & MAINTENANCE

The Lumisphere™ system is pressure watertight conforming to IP68, and may be used in adverse conditions and in areas of high humidity, including complete saturation in saline water, subject to the installation being installed in accordance with the appropriate code and regulations. The components are manufactured from high quality, non-corrosive and impact resistant materials suitable for long term atmospheric exposure. Festoons are UL2108 compliant. Other than lamp replacement at long intervals, virtually no maintenance is required.

ENERGY

Energy costs are greatly reduced. As an example, 1 kilometre of festoon at 1metre spacing operating for 2000hrs use, expressed in units of electricity (kilowatt/hrs) 240 volt 25watt Mains system - 50,000 units of electricity
12volt 5watt Lumisphere™ Xenon system - 10,000 units of electricity
12 volt 1watt Lumisphere™ Orbical 8 LED System - 1000 units of electricity.

SAFETY

The Lumisphere™ festoon system running at extra low voltage is ideally suited for permanent and temporary use in all environments particularly where accessible to the public. All materials used have high electrical and insulating qualities coupled with excellent flame retardant and flammability specifications. Lumisphere™ systems may be used where mains voltage festoons would not comply with electrical safety regulation.



Albert Bridge X24 System

APPLICATIONS

Coastal promenades – Street and Building Decorations – Theme Parks – Pub and Restaurant Gardens – Barbeques – Ornamental Gardens and Lakes – Trees - Swimming Pool Areas – Car Parks – Piers – Bridges and Structures - Shops and Shopping Malls - Pedestrian Precincts - Hotels - Concert Halls and Parks - Building Sites - Tunnels - Road Works -Camp Sites - Emergency Lighting - Rescues etc.

GENERAL

The Lumisphere™ festoon system comprises a special twin core cable sheathed in H.O.F.R (heat, oil, flame, resistant) rubber with 3.0mm² tinned copper multi-strand conductors. The cable is compressed into uniquely engineered nylon lamp holders into which 60mm dia shatterproof polycarbonate globes are retained by high pressure O-rings and are removable for lamp replacement. Where the system is installed within reach of the public, however, i.e. low branches of Christmas trees, anti-vandal type lamp holders may be specified to prevent unauthorised removal. The lamps are located centrally in the globes to enhance the luminance. (Standard spacings are 20cm, 25cm, 33.3cm, 50 cm and 100cm. Non-standard spacing may be specified). The system can also be supplied in component form for on-site assembly where lamp centres are irregular. A special hand assembly press can be supplied for this purpose. The maximum number of light units per string is dependant on spacing and lamp wattage (refer to 'selection and installation guide').
The Lumisphere™ festoon system has been

tested by B.S.I . and certified to BS EN 60598-2-20:192, IEC 598-2-20:1982 and BS EN 60598-1:1993 for classification of IP68 Dust-tight/protected against submersion and is UL and ULC listed No. E173173(M).

LUMISPHERE™ LED SYSTEMS

Lumisphere's comprehensive range of high quality LED plug in light modules are designed to meet all applications. Three types of LED are available:

- Lumisphere™ Eco range of LEDs
- Lumisphere™ Carnival Range of LEDs
- Lumisphere™ Orbical range of LEDs.
- Standard Lumisphere™ system supplied in Black or White

Existing Lumisphere™ X24 and X12 (TH12) systems can be simply converted to LED by using the appropriate LED plug in light module and the fitting of a Lumisphere™ weatherproof LED power supplies in place of the existing Lumisphere™ transformer, thus avoiding the need for costly festoon harness replacement.

LUMISPHERE™ TRANSFORMERS

The Lumisphere™ WP range of safely isolating 12 and 24volt transformers have been specially designed for exterior use and provide a precise power source to enable the circuit design voltages for the Lumisphere™ low voltage festoon lighting systems. Tested by Namas accredited laboratories. Certified to BS3535 1.0 1990/IEC742/EN 60-742 CLAUSE 7-26 IP Rating of IP55.

LUMISPHERE™ LED
DRIVER UNITS

The Lumisphere™ WP range of constant voltage 12volt DC LED driver units provide a precise power supply to enable the voltage to the LED light units to be controlled accurately. Stainless steel brackets can be fitted to the units for easy installation on lighting columns and trees.

See section on Transformers and LED driver units for full details



GLOBES

The Lumisphere™ Globes are manufactured from UV stabilised polycarbonate. Two types are available A type or G type, both are interchangeable with each other.



Chelsea Bridge X24 System, Photo by: David Sim



London South Bank Quad LED System

ELECTRICAL, SAFETY & FLAMMABILITY SPECIFICATIONS

LAMP HOLDERS	Material Flammability	Nylon 66 Self Extinguished Grade UV stabilised Flammability rating to ASTN D 635 U.L. V2 UL Listing E170572 UL2108 compliant
GLOBE	Material Flammability Tensile Strength Impact Resistance	Polycarbonate UV stabilised Flame retardant grade U.L. V2 700KKG/CM2 80KG CM/CM
LAMPS	X12 X24 LED's	12v 5w specially modified Xenon Light Capsules Lumisphere Special Xenon Gas Filled Lamps 24v; 5w, 8.5w and 10w LEDs Orbical, Eco and Carnival ranges
CABLE	Material Flammability	Twin conductor stranded tinned copper 60/0.25 3.00mm2 Sheath – heat, oil and flame retardant rubber UV stabilised Conforms to BS4066 Part 1. EIC 332-1. UL. listed No. E168888(M) UL Listing E168888
TRANSFORMERS	Type WP Range Flammability	Lumisphere™ Safety Isolating Transformer Comply with BS 3535 1.0 1990/IEC 742/EN 60-742 Clauses 7-26 IP55 Windings – Encapsulated in self-extinguishing grade urethane

LUMISPHERE™ Standard Festoon Systems

Xenon X12



Specifications

Supply	12VAC SELV
Lamps	12volt bi pin 5 watt Xenon
Average Lamp life	8,000hrs @ the design voltage
IP rating	IP68
Globes	G type or A type
Conformity	BS EN 60958 CE, UL Listed

X12 FORMERLY TH12

The Lumisphere™ X12 Low Voltage System incorporates as standard, a special 12v 5w Xenon Light Capsule with a light output of 45 lumens and life expectancy in excess of 8,000 hours at the design voltage of 11.2v. The Xenon Light Capsule is extremely robust and has a universal burning position. Not affected by vibration, it can be used in the roughest conditions i.e. trees, swinging festoons, bridges etc. Having a colour temperature of 3000k gives an extremely bright luminance with very low power consumption.

Xenon X24



Specifications

Supply	24VAC SELV
Lamps	24volt rigid loop Xenon lamps available 5, 8.5 and 10watts
Average Lamp life	20,000hrs @ the design voltage
IP rating	IP68
Globes	G type or A type
Conformity	BS EN 60958 CE, UL Listed

X24

The Lumisphere™ X24 Low Voltage System incorporates 24 volt Xenon Gas Filled Lamps of wattages of 5, 8.5 and 10w. These lamps have an exceptionally long life expectancy of approximately 20,000 hours at the appropriate circuit design voltage and are also extremely efficient with a colour temperature of 2700K. The X24 system is particularly suitable for permanent installation on buildings and structures where access for lamp changing is difficult. The lamps are multi position burning and resistant to vibration.

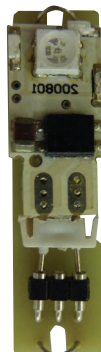
Flasher Modules



Specifications

LFM Xenon Version	
Supply	12 or 24V/AC nominal SELV
Lamps	12V 5watt Xenon 24V 5watt Xenon
Flashing rates	0.5 1.0 1.5sec
LFM Orbital 8 LED version	
Supply	12V AC/DC SELV
Light Source	1.0 watt LED
Env Prot	IP68
STD Flashing Rate	0.5 1.0 1.5sec

X24 Retrofit LED Module



Specifications

Supply	24v AC SELV
Light Source	Orbital/8 1watts Retrofit for Xenon system
Env. Prot.	IP68
Conformity	BS EN 60958 CE UL Listed

FLASHER MODULES

Lumisphere™ Flasher Modules are designed to create movement within a static Lumisphere festoon. LFM can be retro fitted into existing X12, X24 and LED Lumisphere™ systems. Any number of existing lamps or LEDs can be replaced with LFM which are manufactured to bespoke flash rates. Complete strings of festoons with LFM fitted can create random flashing effects.

X24 RETROFIT LED REPLACEMENT

Lumisphere™ Retrofit modules are designed to be a simple replacement LED module for clients with the existing X24 festoon system. The conversion to LED does not require any replacements of existing transformers.



CLEAR, FROSTED
and WHITE G type
globes



UV Stabilised WHITE
lampholder and
WHITE cable

LUMISPHERE™ Standard Festoon Systems

Orbical 8 LED



Specifications

Supply	12V AC DC SELV
Light Source	Orbical/8 1watts
Env. Prot.	IP68
Conformity	BS EN 60958 CE UL Listed

ORBICAL LED

The Lumisphere™ Orbical 8 LED is a plug in LED light module which uses 8 SMD LEDs to create an around light source with similar light appearance to a traditional light bulb. The 8 module LED light unit consuming 1.0watts is designed as a simple retro fit LED for any Lumisphere™ existing X12 installation.

Colours:- Warm White, Cool White, Red, Blue, Amber, Green

Colour Temp

Cool White 5500-6800K

Warm White 2800-3200K

LEDS IN THE ORBICAL RANGE

8 SMD module rated at 1 watt.

9 SMD module rated at 1.5watts.

18SMD module rated at 2.4watts.



The Lumisphere™ Orbical 360/8 Festoon in Warm White installed at Fort Leicester, Jersey. (c.l.)



Carnival LED range in Premium colours with White G Type Polycarbonate Globes.

ECO LED



Specifications

Supply	12V DC SELV
Light Source	0.2watts LED
Env. Prot.	IP68
Conformity	BS EN 60958 CE UL Listed
Average Life	50,000hrs

ECO LED

The Lumisphere™ ECO LED is a plug in LED light module which uses 2 x 5mm high brightness light emitting diodes mounted on a gold plated heavy duty PCB with plug in connector, ensuring a highly visible wide angle light source with low power consumption. The units are designed to operate at low temperature and drive currents to achieve maximum performance.

Colours:- Warm White, Cool White, Red, Blue, Amber, Green

Carnival LED



Specifications

Supply	12V AC/DC SELV
Dimmable	
Light Source	0.6watts LED
Env. Prot.	IP68
Conformity	BS EN 60958 CE UL Listed
Average Life	50,000hrs

CARNIVAL LED

The Lumisphere™ Carnival range of LEDs is a fully Dimmable AC/DC LED plug in light module which uses 4 x 5mm high brightness light emitting diodes mounted onto to a conformal coated heavy duty PCB, with plug in connector ensuring a highly visible wide angle light source with low power consumption. The units are designed to operate at low temperature and drive currents to achieve maximum performance.

Standard Colours:- Warm White, Cool White, Red, Blue, Amber and Green

Premium Colours:- Lemon Twist, Ice Blue, Pink Haze, Rose, Purple Mist and Cool Lime, Champagne and Crystal Ice.

LUMISPHERE™ Selection and Installation Guide

Lumisphere™ Low Voltage Lighting Systems are designed to operate at extra low voltage. The X12 system operates at a nominal 12 volts and the X24 system operates at a nominal 24 volts. Due to the characteristic of a low voltage system a voltage drop occurs in the system which imposes some limitations on the number of lamps that can be used on one string to achieve the optimum lamp performance and life. The variables that effect the system voltage are the - number of lights and rating - spacing of lights - transformer rating - mains voltage - and the choice of supply tapping on the transformer. These variables must be taken into account in circuit designs. The following general rules may be applied with regard to the number and spacing of lamps.

X12 - 12V SYSTEM, 5W LAMPS

With lead to the first light approximately 1 metre

25 lights with 1metre spacing may be used

36 lights with 50cm spacing may be used

43 lights with 33cm spacing may be used

50 lights with 25cm spacing may be used

Maximum number of lights per transformer is achieved by using two or more strings per transformer. Long runs may be achieved by mounting transformer centrally and spanning in both directions.

Note: Individual transformer circuits must not be inter-connected.

X24 - 24V SYSTEM

Maximum number of lamps with 2 metres to first light

SPACING	5w	8.5w	10w
100cm	50	35	25
50cm	72	51	36
33cm	86	60	43
25cm	100	70	50

LED SYSTEMS

Maximum number of lamps with 2 metres to first light

SPACING	1w	0.6w
100cm	125	310
50cm	180	450
33cm	215	530
25cm	250	625

Note: Total load on cable fed from one end should not exceed 275 watts for the 12v system and 550 watts for the 24v system (23 Amperes max).

Select transformer required by multiplying lamp wattage by the number of lamps used ie. 100x5w lamps = 500VA transformer. For further information on the above, contact Lumisphere Products Ltd. Technical Department who can provide full circuit designs and advice for given projects.

GENERAL NOTES ON INSTALLATION

Where it is required that the transformers and mains supply are to be some distance from the festoons ie. transformers located in pit adjacent to large Christmas tree, 6mm² csa. low voltage supply cables and distribution boxes are available.

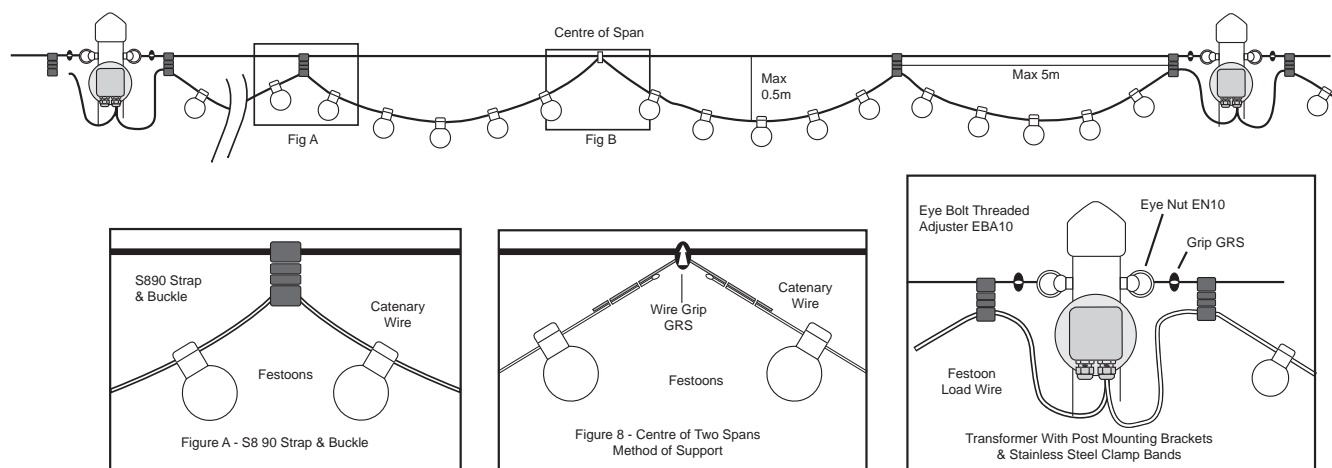
The end of the Lumisphere™ cable should be sealed with end cap EC1 and silicone rubber sealant.

The Lumisphere™ system may also be used for illuminating trees and other structures. Methods of fixing will be dependant upon conditions and expected duration of installation. See straps & buckles section.

LOOPS

The Lumisphere™ system may be used as a freely suspended festoon between fixed points at not more than 5metre centres to form loops not exceeding 30cm in depth. If spans of greater distance are required a catenary wire should be used and the Lumisphere™ cable firmly strapped to it either to form shallow loops not longer than 5 metres using strap and buckle fixing SB90, or strapped tightly to the straining wire at approximately 50cm centres using nylon tie NT100; see figures A, B below. Care should be taken to ensure chaffing does not occur.

It is recommended that the Lumisphere™ cable be firmly attached to buildings and structures by means of backplate BP60 or cable clips or ties on either side of the lampholder at not more than 50cm spacings. For fixings to fascias and boards see diagrams figures C, D, E.



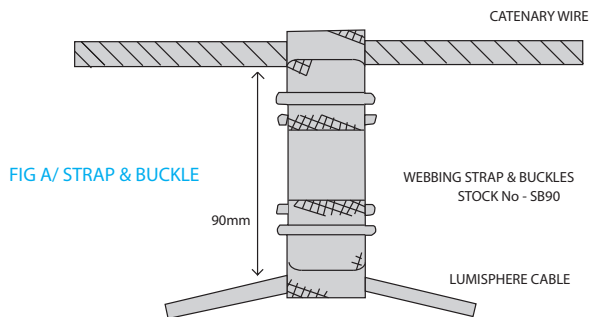


FIG A/ STRAP & BUCKLE

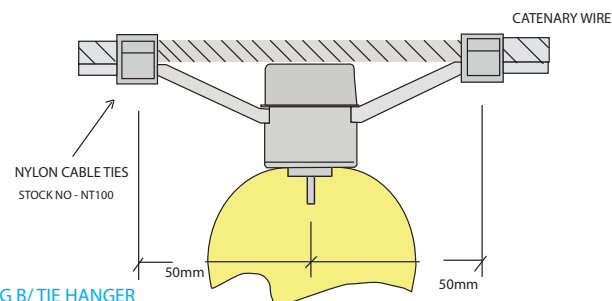


FIG B/TIE HANGER

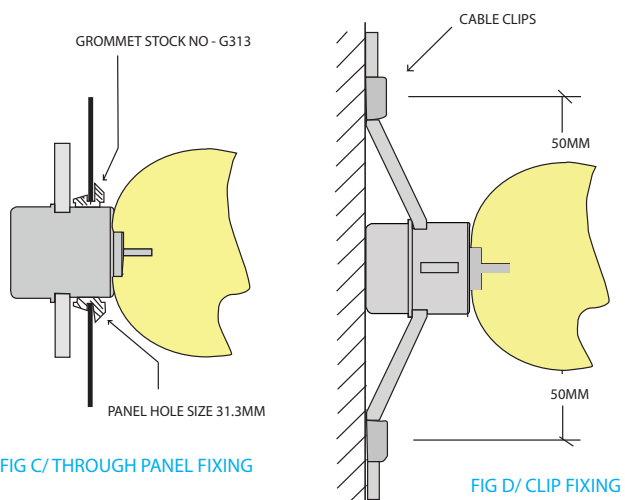


FIG C/THROUGH PANEL FIXING

FIG D/CLIP FIXING

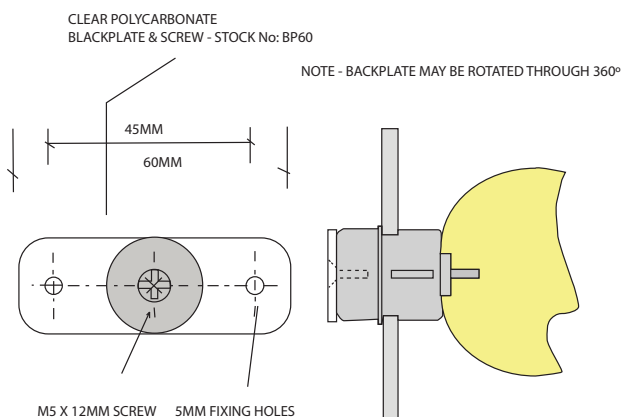
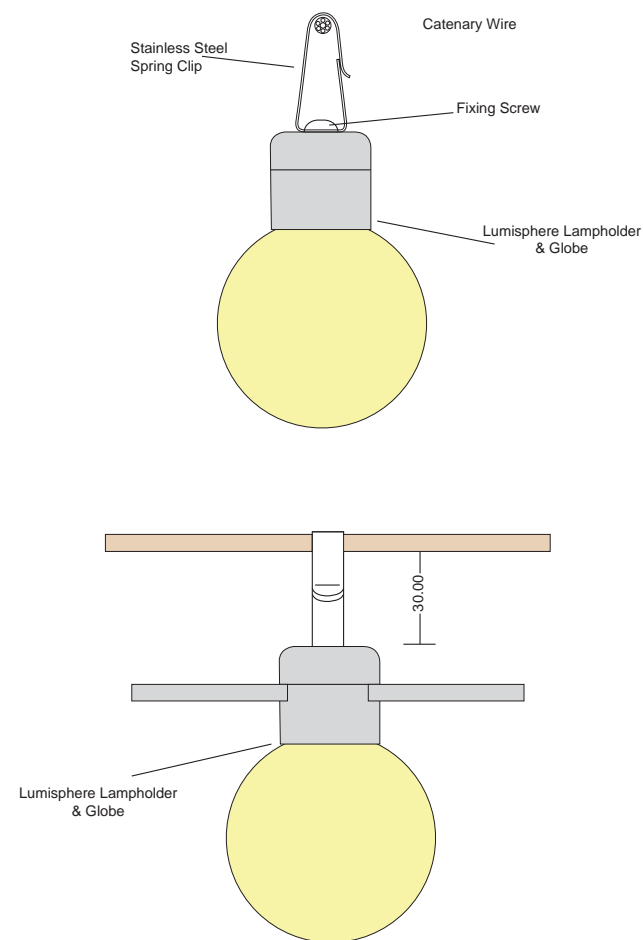


FIG E/ BACKPLATE FIXING



MOUNTING OPTIONS

Figure A: The strap type hanger is manufactured of nylon webbing and hard nylon buckles to provide a flexible mounting to a taut catenary wire where drapes are made with the festoon. It prevents damage to the festoon cable from abrasion and twisting. For use at a maximum of 5m centres. Stock No: SB 90

Figure B: The festoon may be attached to the catenary wire with nylon ties both sides of the lampholder where it is held tight against it. Where lamp spacing exceeds 0.5m additional fixings are required. Stock No: NT100

Figure C: The lamp holders may be mounted through a panel sign board or trunking using a special grommet to enclose the lampholder and cable. Stock No: G 313

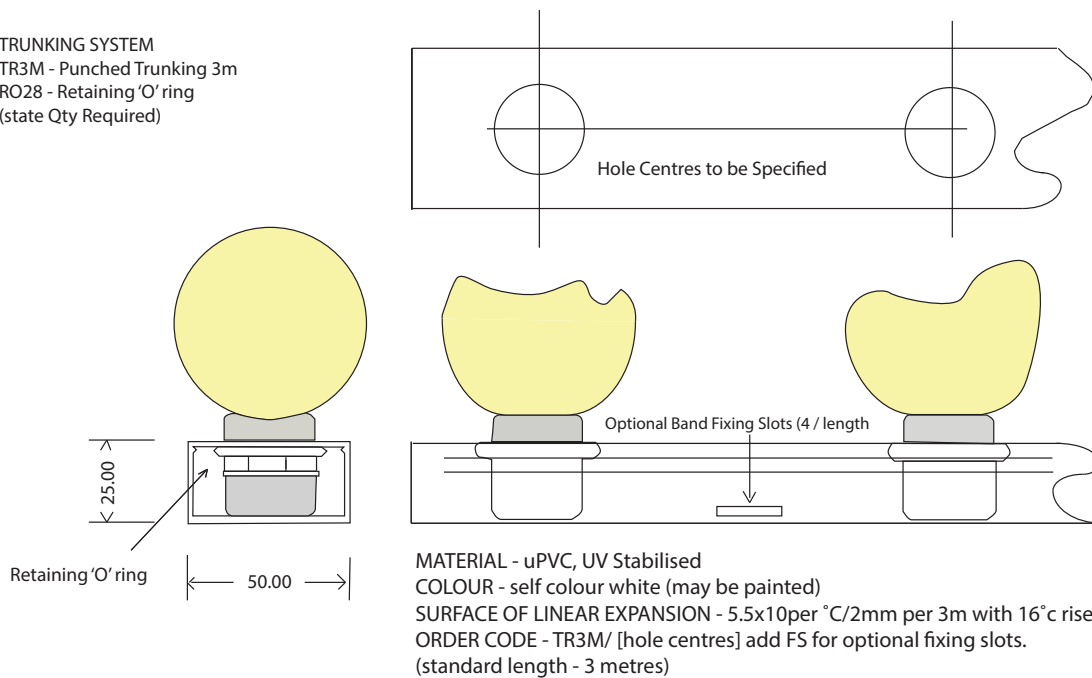
Figure D: The festoon may be held tight against a flat surface such as a fascia using standard cable clips 50 mm either side of the lampholder.

Figure E: Backplate may be used to attach the lampholders to surfaces such as brick & board. The plate is manufactured in clear polycarbonate to reduce its visibility and is supplied complete with a nickel plated brass lampholder screw. Stock No: BP 60

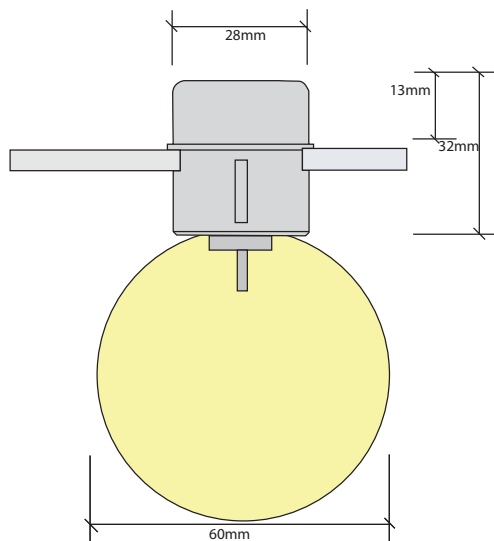
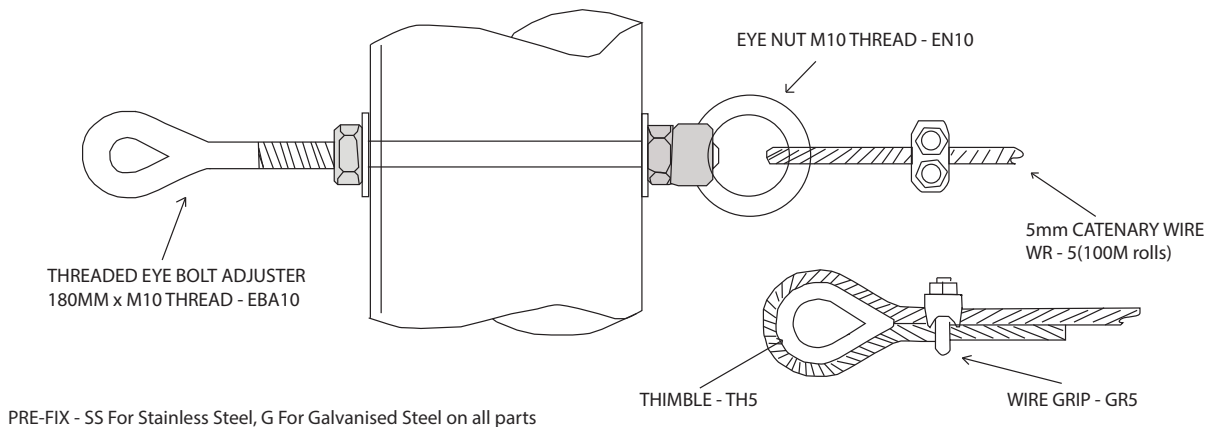
Figure F: A special Lumisphere™ Stainless steel snap on hanger for clipping each lampholder onto a wire rope – ideal for ships rigging.

General notes on installation cont...

TRUNKING SYSTEM
TR3M - Punched Trunking 3m
RO28 - Retaining 'O' ring
 (state Qty Required)

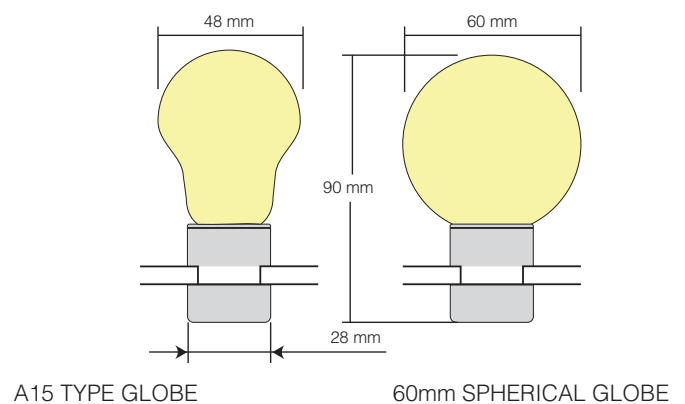


CATENARY WIRE & ACCESSORIES



LIGHT ASSEMBLY DIMENSIONS

GENERAL DIMENSIONS



LUMISPHERE™ Gallery

Meadowhall Shopping Mall, 2012 refurbishment. Lumisphere retrofit Orbical 360/8 chip led modules replacing the existing Lumisphere X24 xenon light source. The skyline transformed with Cool White LEDs

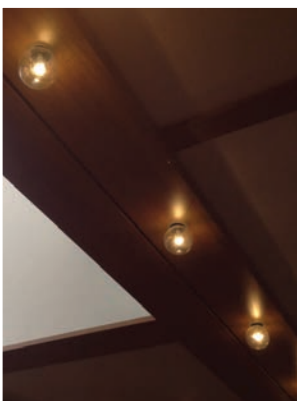


Perfect examples of the Lumisphere™ Small Harness festoons. Permanent installation of the Lumisphere™ ECO LED system at Fishergate, Preston site and temporary Christmas installation as part of the Cork, Ireland festive lighting scheme. The Lumisphere™ small harness lighting system is also shown at its best at Redcar, Yorkshire.



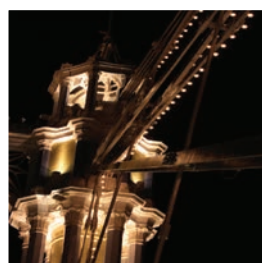
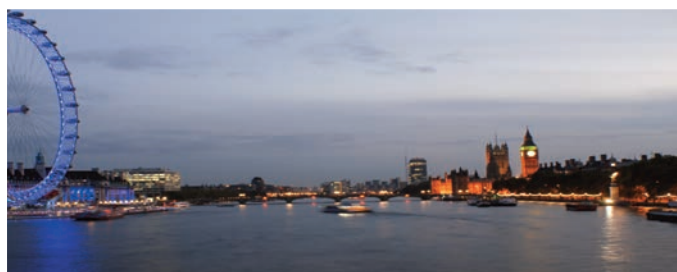
LUMISPHERE™ Lighting the World's Oceans

Lumisphere™ Festoon lighting bringing a luxurious experience onboard the worlds largest cruise liners



LUMISPHERE™ Lighting Both Sides of River Thames

Lumisphere™ Festoon Lighting, throughout London, bringing the Capital to Life



LUMISPHERE™ Low Voltage Safety Isolating Lighting Transformers



Specifications

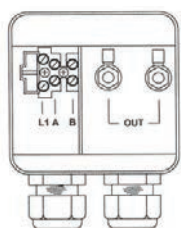
Voltage	Input Voltage 230-250V, 50Hz AC. Output voltage 12V nominal for WP12 & WP12LP ranges, 24V nominal for WP24 & WP24LP ranges.	Terminal Box	Conforms to IP55. Entry glands accept cables 6-12mm diameter or multiple Lumisphere™ cables. Input and output terminal blocks are separated by insulating divider for safety. Primary anti-surge type fuse housed in terminal block in removable fuse carrier. See diagrams below.
Case	Manufactured from polyimide (30% glass filled nylon) complete with galvanised steel mounting bracket. Optional stainless steel mounting brackets and post clamp bands available.	Environmental Working Conditions	Lumisphere™ transformers are suitable for use in adverse environmental conditions, i.e. damp, saline, or dusty conditions and can be mounted in exposed positions where severe weather conditions may occur.
Winding	High quality toroid winding is fully encapsulated in self extinguishing grade rigid urethane resin with high electrical and mechanical properties and good resistance to thermal and mechanical shock. Insulation class B 130°C	Temperature	Maximum temperature rise 50°C, Ambient temperature range up to 40°C with free air circulation around transformer. Maximum case temperature - 90°C.
Protection	Double protection with self-resetting thermal fuse (120°C) incorporated in windings and replaceable anti-surge type fuse housed in terminal block. Isolation class 2 (double insulated).		

LIGHTING TRANSFORMERS

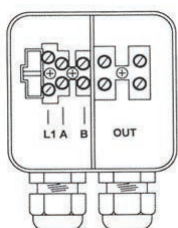
The Lumisphere™ range of patented weatherproof low voltage lighting transformers have been designed especially for use with the Lumisphere™ festoon system. The high quality of construction and combination of many unique features make it an ideal choice for most low voltage single or multi-light applications, especially for use in adverse environmental conditions. Lumisphere™ transformers have been independently tested by NAMAS accredited laboratories and comply with - BS3535 1.0 1992, - IEC 742 - EN60-742, 1989.

SPECIAL FEATURES

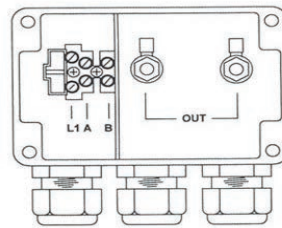
- Fully weatherproof compact design suitable for exposed exterior mounting complete with wall mounting bracket.
- Integral terminal box conforming to IP55 with special cable glands to accept cables 6mm - 12mm diameter.
- Double Protection with self-resetting thermal fuse incorporated in windings and replaceable anti-surge fuse housed in terminal block.
- Alternative mains connections are provided to regulate output voltage.
- Optional stainless steel post clamp bands available for column mounting.



STANDARD
TERMINAL
ENCLOSURE
(160VA TO
750VA
inclusive)

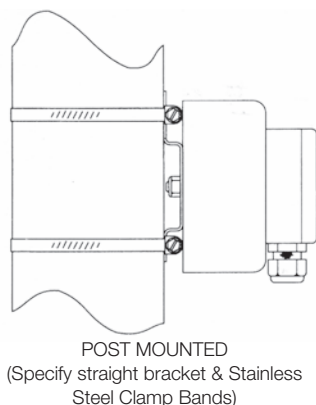


STANDARD
TERMINAL
ENCLOSURE
(80VA TO
120VA
inclusive)



OPTIONAL 3
GLAND BOX (MF
BOX)
(500VA TO 750VA
inclusive)

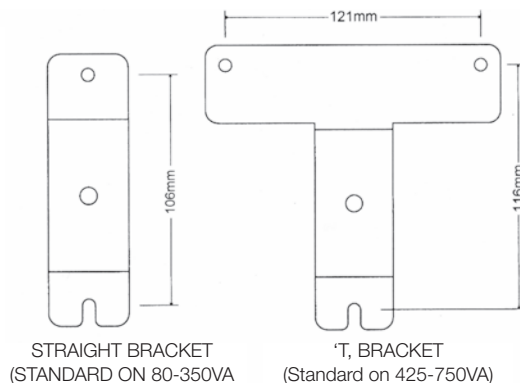
CONNECTIONS: Live to L1/Neutral to 'A' or 'B' (dependent on required output voltage) / Output 12 or 24V terminals as appropriate



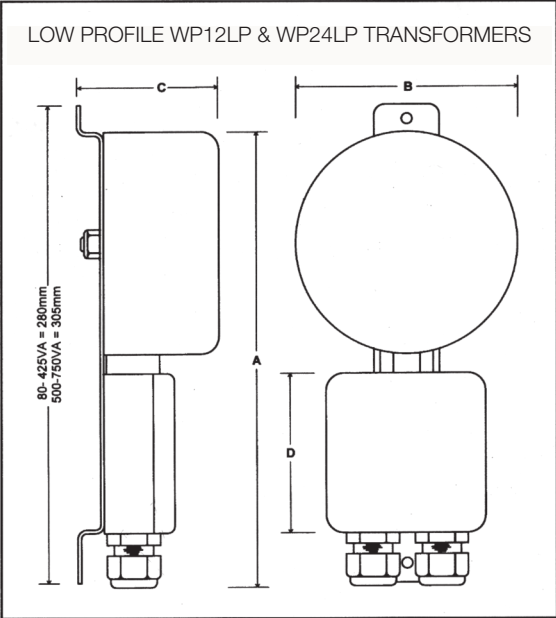
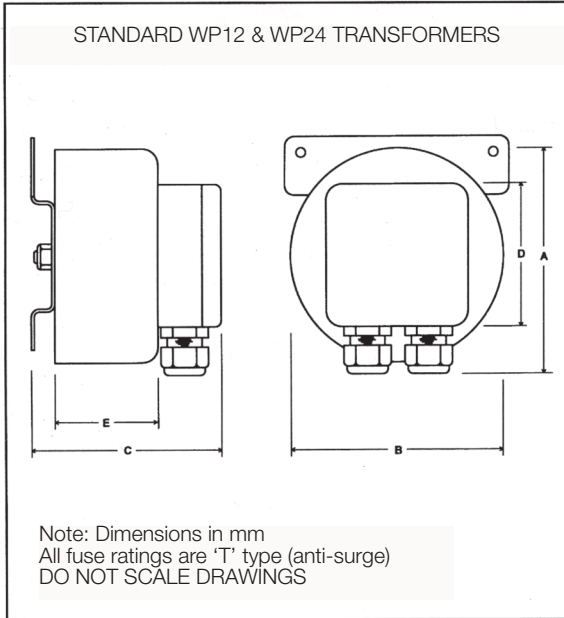
TRANSFORMER MOUNTING

80-350VA transformers are fitted, as standard, with STRAIGHT BRACKETS for post or wall mounting. When post mounting is intended please order stainless steel clamp bands

425-750VA transformers are fitted, as standard, with 'T' BRACKETS for wall (or flat structure) mounting only. When post mounting is intended please specify STRAIGHT BRACKETS and order stainless steel clamp bands



TRANSFORMER DIMENSIONS AND MOUNTINGS OPTIONS

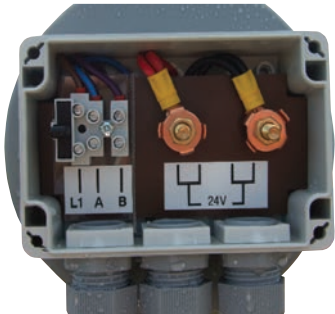
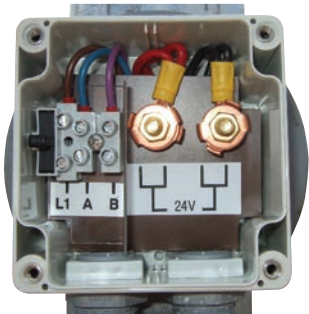


DIM VA	WP12 & WP24 RANGE					WP12LP & WP24LP RANGE				BOTH TYPES	
	A	B	C	D	E	A	B	C	D	Fuse	Weight
80	115	105	105	75	45	225	105	60	75	0.65A	1.3Kg
120	115	105	110	75	50	225	105	65	75	1.0A	1.6Kg
160	130	125	110	75	50	245	125	65	75	1.6A	2.3Kg
200	135	125	125	90	65	260	125	80	90	1.6A	2.6Kg
250	135	125	125	90	65	260	125	80	90	2.5A	2.8Kg
300	135	125	125	90	65	260	125	80	90	2.5A	3.0Kg
350	135	125	125	90	65	260	125	80	90	3.1A	3.2Kg
425	135	135	135	90	65	270	135	80	90	5.0A	4.8Kg
500	150	150	145	90	80	285	150	95	90	6.3A	6.8Kg
600	150	150	145	90	80	285	150	95	90	6.3A	7.0Kg
750	150	150	145	90	80	285	150	95	90	8.0	7.2Kg

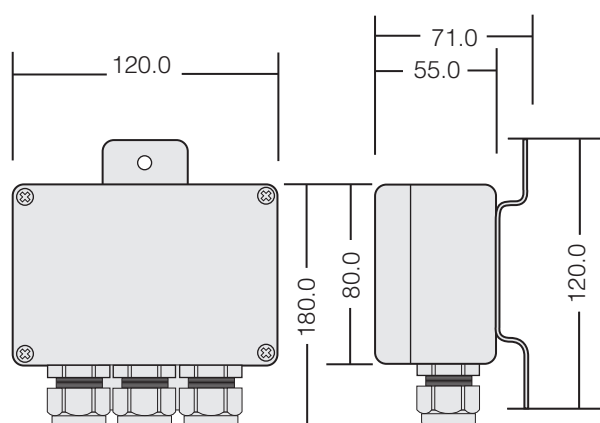
'On Load' Output Voltage Table

Example - Transformer 120VA. Load 110W. Mains 240V Load is 10W under the rated load. - Go to Minus - 10W column. Read across to 240V Primary Voltage. Output Voltage will be shown i.e. 12.4V using 'A' tapping, 11.9V using 'B' tapping.

WP12 & WP12LP (12V Range)										WP24 & WP24LP (24V Range)							
Actual Load Vs. Rated Load		Rated Load Minus -20W		Rated Load Minus -10W		at Rated Load		Rated Load Plus +10W		Rated Load Minus -20W		Rated Load Minus -10W		at Rated Load		Rated Load Plus +10W	
Pri mary Volt age	230	12.0	11.5	11.9	11.4	11.8	11.3	11.7	11.2	23.2	22.2	23.1	22.1	23.0	22.0	22.9	21.9
	240	12.5	12.0	12.4	11.9	12.3	11.8	12.2	11.7	24.2	23.2	24.1	23.1	24.0	23.0	23.9	22.9
	250	13.0	12.5	12.9	12.3	12.7	12.3	12.7	12.2	24.2	24.2	25.1	24.1	25.0	24.0	24.9	23.9
Primary Tap		A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B



LUMISPHERE™ Simultaneous Switching Unit (SSUs)

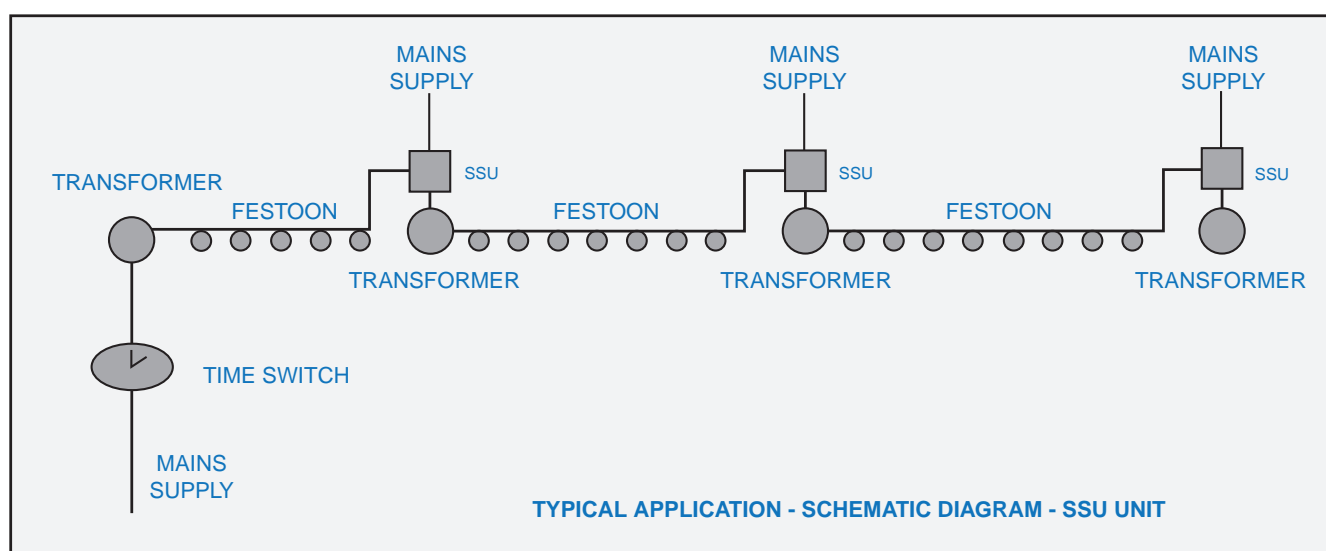


Specifications

Supply	220/240V AC (50Hz)
Load	8A inductive max. (1900W)
Switch Sense	9 to 27V AC, 20mA load
Zero Switching	±34V max.
Ambient Temp.	40°C max.
Isolation	Maintains BS3535 (4kV) isolation. Switch line to mains supply.
Enclosure	Impact/temperature resistant polycarbonate
Environmental Protection	IP65
Mounting bracket	Column and wall

SSU-8A SIMULTANEOUS SWITCH UNIT

The SSU-8A is a high quality, solid state switching device that can be used to control multiple loads simultaneously from one switching point. The device operates using the low voltage signal from the end of a lighting loom to switch the mains power to the next transformer in turn. The advanced electronic control utilises zero-volt switching techniques to minimise the surge load on mains feed at switch, maintaining complete isolation from the low voltage supply. The major advantage of using the SSU units in place of multiple time-clocks is that all interconnected circuits, irrespective of phase will be switched simultaneously from one time / photocell control, eliminating the need for multiple clock adjustments and manual synchronisation. The unit is housed in a tough, impact resistant polycarbonate enclosure with high quality cable glands and environmental protection to IP65, complete with post/wall mounting bracket for strap fixing to columns.



LUMISPHERE™ WP CV LED Driver Units

LED DRIVER UNITS

The Lumisphere™ range of weatherproof constant voltage driver units have been designed to complement the full range of Lumisphere™ LED lighting systems. The constant voltage driver units have an IP55 rated enclosure (when mounted in the vertical position) and are suitable for column or wall mounting.



75Watt & 35Watt
LED driver
enclosures



Specifications

Input Voltage	100-240volts
Frequency	50/60Hz
Output Voltage	12 volts DC
Output Power	35,50,75,100,150watt available
Protection	Short circuit and overload protection
Environmental Working Conditions	Saline or dusty conditions, can be mounted in exposed positions where severe weather conditions may occur

Dimensions	35 watt - L180mm x W120mm x D80mm 50 watt - L180mm x W120mm x D85mm 75 watt - L180mm x W120mm x D65mm 100watt - L202mm x W162mm x D82mm 150watt - L240mm x W160mm x D90mm
CE conformity Order ref	ICE 60950-1 : 2001 WPLED35 for 35 watt driver WPLED50 for 50watt driver WPLED75 for 75watt driver WPLED100 for 100watt driver WPLED150 for 150watt driver

LUMISPHERE™ Dimming Pack

1-10V-100W DIMMING PACK

WPLED100-DP: 100w DC Driver for use with the Lumisphere™ dimmable LED festoons. Fully encased in weatherproof enclosure, with rotary switch (to be sited in an interior location) for seamless control.



LUMISPHERE™ Internal Power Units



24VOLT ELECTRONIC TRANSFORMERS

MET24V 105 electronic transformer	dimension 35 x 150 x 49mm
MET24V 150 electronic transformer	dimension 41 x 190 x 54mm
MET24V 210 electronic transformer	dimension 41 x 190 x 54mm
MET24V 255 electronic transformer	dimension 42 x 270 x 65mm
MET24V 315 electronic transformer	dimension 42 x 270 x 65mm



12VDC CONSTANT VOLTAGE ELECTRONIC LED DRIVER

MPL12V 20 Constant voltage LED driver	dimension 28 x 149 x 39mm
MPL12V 30 Constant voltage LED driver	dimension 30 x 145 x 47mm
MPL12V 60 Constant voltage LED driver	dimension 35 x 181 x 62mm
MPL12V 100 Constant voltage LED driver	dimension 35 x 200 x 71mm

LUMISPHERE™ Low Profile Festoon Systems

Multi-Light, Multi-LED & ECO LED Systems

ADVANTAGES

The Lumisphere™ Multi-light, Multi-LED and ECO LED Systems are designed for where a smaller more discrete harness is required, ideal for the illumination of young to medium size trees and building profiles. They are high quality fully weatherproof systems (IP68) comprising a flat twin HPN insulated cable with moulded light units attached at pre determined centres, providing a flexible lighting for a variety of decorative purposes. The Systems are particularly un-obtrusive when not in use.

LUMISPHERE POWER SOURCES

There is an extensive range of Lumisphere™ weatherproof transformers and LED driver units to provide a correctly matched power source to match the number of lights ensuring exceptionally long lamp life.

APPLICATIONS

Coastal Promenade, Medium to Young Trees, Street and Building Decorations Signs, Theme Parks, Pub and Restaurant Gardens, Swimming Pool Areas etc



GLOBE OPTION

Round diameter, clear polycarbonate covers available for all Low Profile Festoon Systems.

Electrical, Safety & Flammability Specifications

Lampholder:	Black UV stabilised Nylon 66
Lamp cover:	Dome shape UV Stabilised polycarbonate moulding, screw fit with a silicone rubber gasket. Colours available, Clear, Red, Blue, Green and Amber.
Cable:	Flat twin Black UV stabilised UL Style name: HPN UL File No. E94325 Heat resistance: 105 deg. C Voltage
Rating:	600V Insulating material: NEOPRENE HYPALON with 1.25mm ² copper stranded conductors
Conformity:	Lumisphere™ Multilight system has been tested by BSI and found to comply with the relevant sections of BS EN 60598-2-2 1992 BS EN 60598-1 1003 for the classification IP68 dust/watertight – protected against submersion.

Multi-Light



Specifications

Lamps	12V - Wedge base 3W Xenon, 12,000 hour average life 24V - Wedge base 3W Incandescent, 8,000 hour average life
Env Protection	IP 68

MULTI-LIGHT SYSTEM

A high quality, fully weatherproof system comprising of a flat twin HPN insulated cable on which moulded light units are attached at pre-determined centres providing flexible lighting for a variety of decorative purposes. The lights operate at extra low voltage for safety and efficiency. The system is particularly un-obtrusive when not in use. The extensive range of Lumisphere™ weatherproof transformers which provide the power source enable the power to be correctly matched to the number of lights ensuring exceptionally long lamp life.

LUMISPHERE™ Low Profile Festoon Systems

Multi-Led System



Specifications

Supply	12VDC SELV (nominal)
Light-Source	Twin solid state LED emitters on gold plated heavy duty PCB to fit wedge base lampholder
Env. Prot	IP68



GLOBE OPTION

Round diameter, clear polycarbonate covers available for all Low Profile Festoon Systems.



MULTI-LED SYSTEM

A high quality fully weatherproof (IP68) system comprising a flat twin HPN insulated cable, on which moulded light units are attached at predetermined centres, providing flexible linear lighting for a variety of decorative purposes. The light source in each unit is composed of highly efficient solid state LED on a specially developed gold plated PCB forming a complete wedge base light module to plug into the lampholder assembly. The high intensity emitters are specially selected and surface treated to give a maximum viewing angle. The light modules operate at extra low voltage for safety and efficiency, each light unit consuming approximately 0.2W at a maximum of 12V.

LEDs are monochromatic and do not require coloured globes or filters.

ECO LED Systems



Specifications

Supply	12VDC SELV
Light source	Twin chip LED
	-0.2watts
Env. Prot	IP68



ECO LED

These units are designed to operate at low temperature and drive currents to ensure maximum performance characteristics with a calculated average 50,000 hour life subject to correct operating conditions.

The ECO LED light modules have been specially designed to plug into the Lumisphere™ Multilight lampholders which are protected by a screw on polycarbonate clear cover to IP68. .

Lumisphere™ Constant Voltage DC drivers units are available for both external and internal use to match the design load of the system.

The Lumisphere ECO LED system is designed to provide a cost effective, highly efficient LED lighting system for decorative lighting applications. The quality of the light and saturation of available colour makes the product ideally suited to trees, high profile buildings and structures. Particularly suited to use in applications where low running costs, low maintenance levels and reduced electrical loads are required.

LUMISPHERE Lumi-Flex™ Xenon and LED Systems



Lumisphere™ Lumi-Flex system complete with Cool White and Warm White LED modules



Specifications

Lampholder	White UV stabilised Polycarbonate with a unique convex metalised Reflector on the base plane which enhances the forward illumination intensity. A range of further reflectors give further control of the light spread.	Lamp Cover	markings for self assembly Clear or coloured Polycarbonate. Can only be used with track or Lampholder clip system.
Light Sources	Xenon - 12 or 24 volt loop ended lamps clear or frosted, colours are available 5watt, 8.5watt and 10watt in 24volt (20,000r life) LED - loop ended 0.6watt Cool and Warm white only (50,000hr life)	Transformers	Lumisphere safety isolating steel cased toroidal transformers (See transformer literature for specifications)
Cable	White Flat twin 2.0mm core PVC sheathed 105 degree with distance	Power Supply	Xenon systems 12 or 24 volt Lumisphere range of safety isolating Electronic or toroidal transformers LED System 12 volt DC constant voltage LED drivers.

LUMI-FLEX SYSTEM

The Lumisphere Lumi-Flex™ is a high quality, linear lighting system comprising a flat twin PVC insulated cable on which moulded light units are attached at pre-determined centres providing flexible lighting for a variety of decorative purposes. The highly efficient xenon lamps operate at extra low-voltage for safety and efficiency. Lampholders may be fixed using track sections, clips or self adhesive tape as required.

The extensive range of Lumisphere™ transformers and LED drivers provide a wide variety of power sources, enabling the power to be matched to the number of lights thus ensuring long lamp lives.

CONFIGURATIONS

Lumi-Flex™ can be supplied in several configurations to suit a multitude of uses, and different applications, or in component form for site assembly.

STANDARD LUMI-FLEX™

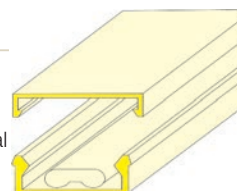
Standard flexible system to suit curves and shapes. The standard system is particularly suited to complex curved areas such as columns, bars and reception desks, outlining signs etc. The flexible cable allows attachment by cable clip or 50mm track sections enabling the system to be 'moulded' to the shape required.

LUMI-FLEX™ TRACK SYSTEM

Extruded click in track system to secure light units in linear spans. Supplied in 1 metre lengths the PVC track is designed to both secure the system and maintain straight linear light runs for applications such as coves and vaulted ceilings, balustrades etc. The track can be pinned, screwed or secured using self adhesive tape (where surface allows) simplifying installation in large areas.

TRACK COVER

Extruded cover section to fit in between lampholders enclosing the cable within the track, when required to prevent lateral movement of lamp covers.

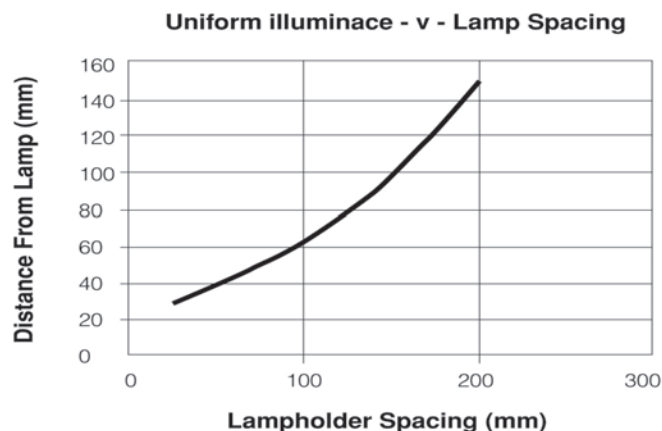


APPLICATIONS

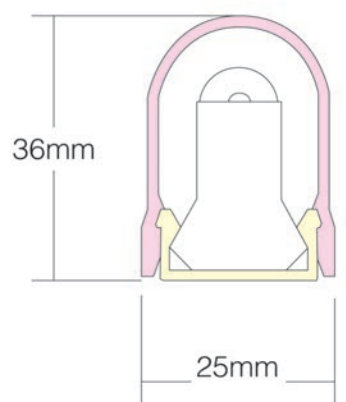
Bar, counter and reception desk edge illumination. Cove and vaulted ceiling side illumination. Recessed into product displays and point of sale equipment. Edge lighting of wall features, signs and unusual shaped voids. Retro-fit installation to replace indirect cold cathode, fluorescent and neon applications.

LAMP-HOLDER SPACING

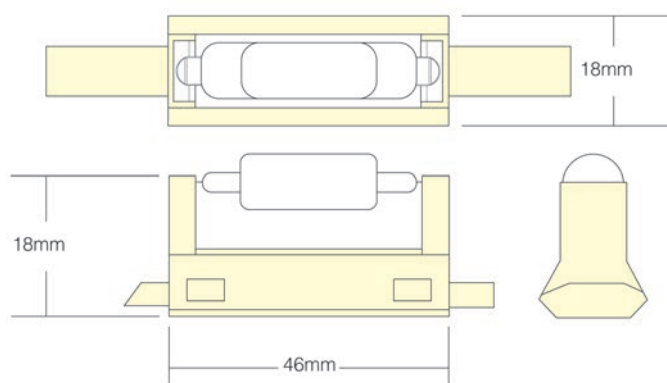
The system can be assembled with lamps at varying centres to suit the application, light level and uniformity required, as a general guide the graph indicates the centres at which lamp holders would have to be placed in order to achieve near uniform projected illumination on the receiving surface. The actual results will depend greatly on the material surface, positioning and angle at which lamp holders are placed, lamp wattage and any obstructions in place. For these reasons this chart should be used as a guide only. We recommend the use of trial sections in the actual application for a true assessment of a particular lamp spacing.



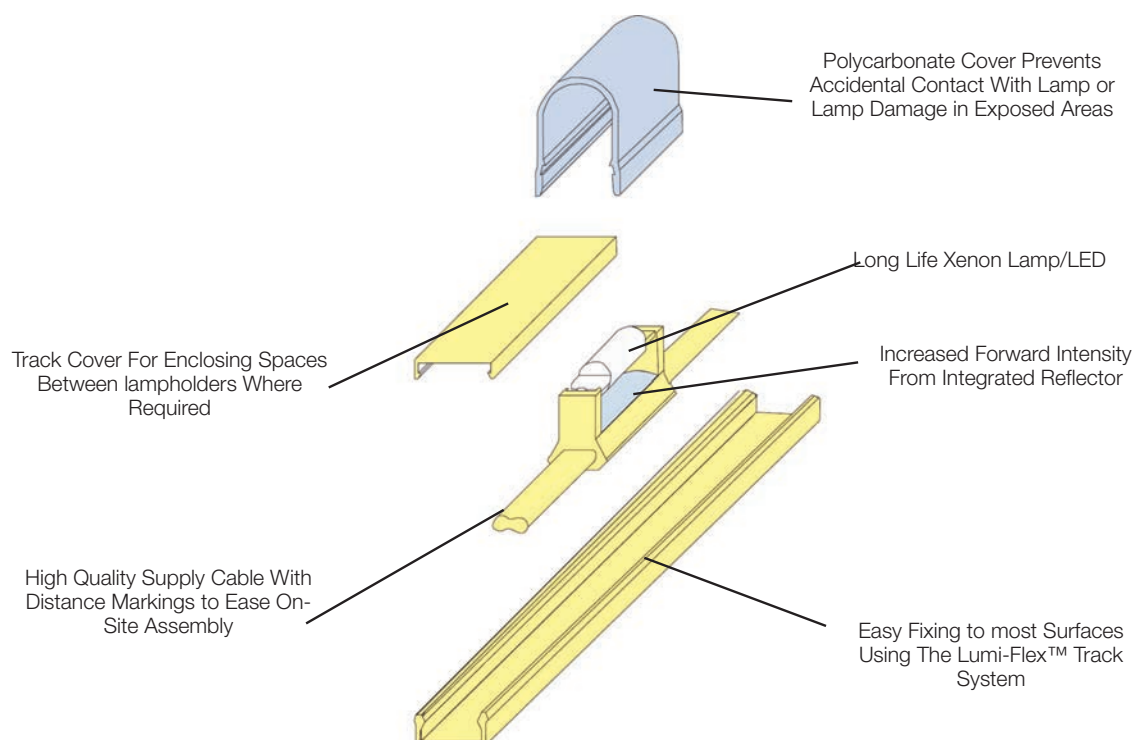
LUMISPHERE LUMI-FLEX™ SYSTEM - PRODUCT FEATURES



Lampholder in track, fitted with cover



Bare Lampholder dimensions



LUMISPHERE™ CP Linear Flood Light System



Specifications

Body	316 grade, mirror polished stainless steel pressing	Globe	Precision moulding UV stabilised Polycarbonate.
Brackets	Galvanised steel 100mm wall mounting bracket as standard. Other bracket options available on request.	Cable	Available in clear, red, blue, green, purple, pink, or amber. HOFR Rubber, Tinned copper stranded conductors 3mm2 csa.
Lampholder	Precision moulding UV stabilised Nylon 66, Black	Lamp	24V Xenon 8.5W, or 10W LED - Orbical 18 model

LINEAR FLOOD LIGHT SYSTEM

The Lumisphere™ Close Proximity Linear Flood Light system has been specifically designed to provide unobtrusive flood lighting for buildings & structures. The low intensity light units in close proximity to the building provide optimum flood lighting without light pollution usually associated with 'stand-off' flood lights. Units can be tailored to the exact structural dimensions and intensity can be varied by spacing and wattage of light units. Unique colour washing effects can be obtained by the use of coloured polycarbonate spheres on the light units. Utilising the patented Lumisphere™ low voltage systems the modules are low maintenance, high efficiency and totally weatherproof giving exceptionally long service intervals.

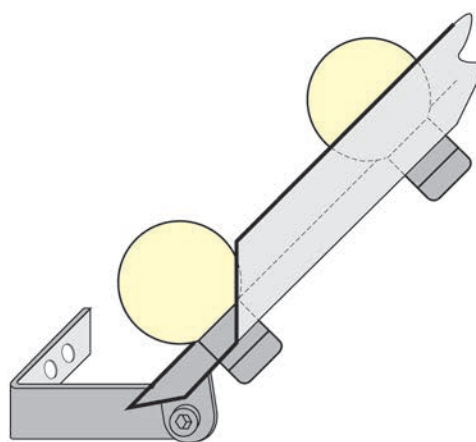
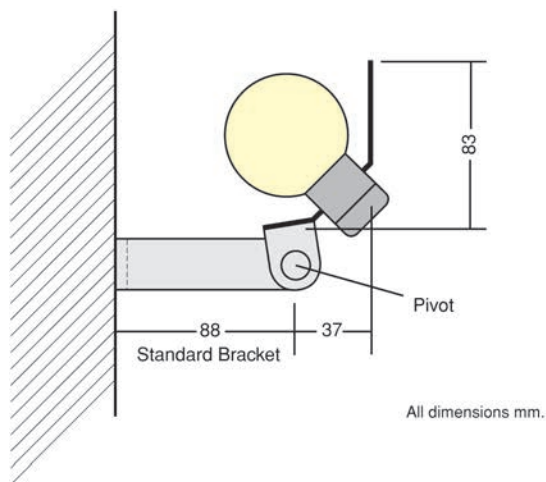
APPLICATIONS

Particularly suited for use on buildings, structures, bridges, parks & gardens and especially where low maintenance is a priority, for example, inaccessible areas on bridges or tall structures.

ORDERING

Standard Lengths - 2 metres

Standard Lamp centres - 5 per metre (200mm)



lamps per metre	8.5w light units	Lumen output / metre	10w lights units	8.5w light units
5	42.5w	485 lm	50w	625 lm
10	85w	970 lm	100w	1250 lm



THE LUMISPHERE™ ECUB

(Electronic Conversion Unit for Belisha Beacons)



Specifications (All models)

Supply	230-250V 50Hz	Circuit	Switched mode power supply derivative with inbuilt oscillation frequency of 32KHz, high voltage selected output devices.
Output	11.8V 32KHz, 60VA max		
Lamp Type	LAMP M32L, 12V 50W		
	LED 32SMD LEDS 50MA Warm White		
Enclosure	Impact resistant uPVC		
Bracket	2mm pressed, galvanised steel		
		Voltage transient suppression, AC filter networks. The unit in non-inherently short circuit protected by incorporation of electronic devices as defined by BS3535-2(ii). There is no electrical connection between input and output as defined by BS3535-2(ii). FS1 and FAV3 models include internal flasher electronics.	

BELISHA BEACONS

The Lumisphere™ electronic conversion unit for belisha beacons (ECUB) represents a major technological advance to improve road safety with a sustainable long life light unit with a luminous output in excess of 850lumens'.

INSTALLATION

The installation of these units can be achieved in a few minutes and are designed to fit the standard or the Anti-vandal Galleries manufactured by Charles Endirect.

NON FLASHING (NF MODELS)

Non flashing units are available.

REFLECTOR

An integrated reflector is incorporated into the ECUB which gives the beacon enhanced visibility orientated towards the flow of traffic, or can be used as an aid screen to reduce light pollution to local residential properties.

TYPES AVAILABLE

FLASHING

FSI-LED (Standard galleries)
FAV3-LED (anti vandal gallery)
UMS CODE 79-46-018-00-100

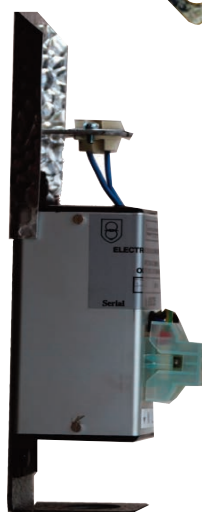
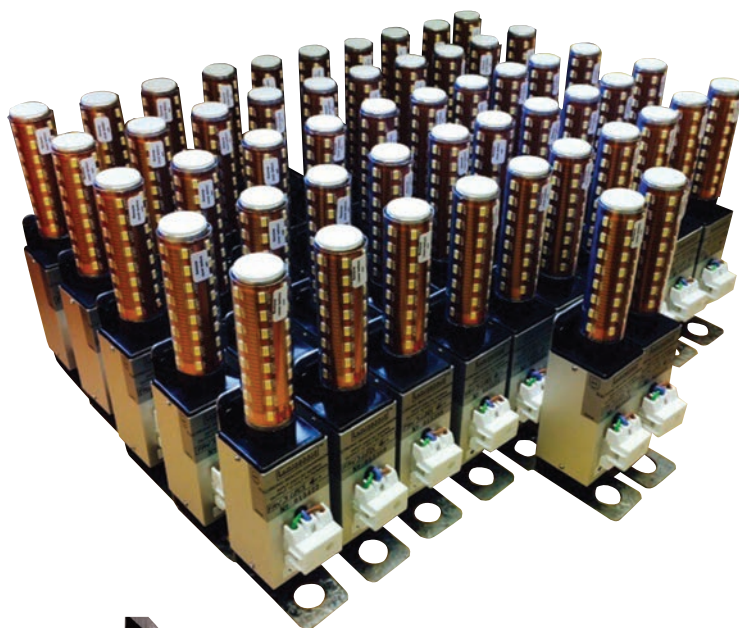
M32L-12v 50W LAMP

UMS CODE 79-46-050-00-100

NON-FLASHING

NFS1 - Standard Gallery
NFAV3 - Anti vandal gallery
M32L12v 50W Lamp

UMSUG code 16 0050 1000 100



Standard Gallery



Anti-Vandal Gallery

LUMISPHERE™ Fixing Accessories

STRAPS & BUCKLES

SB Straps & Buckles are manufactured from 25mm nylon webbing with nylon 66 black buckles. When configured as per the image, they are adjustable to the tree boughs and branches and are expandable with tree growth.

The SB hangers are also most suitable for suspending festoons from tensioned catenary wire especially when swags are required in the festoons. The correct use of SB hangers will prevent fatigue in the festoon.

SB hangers are supplied in 4 standard sizes each with 4 nylon buckles.

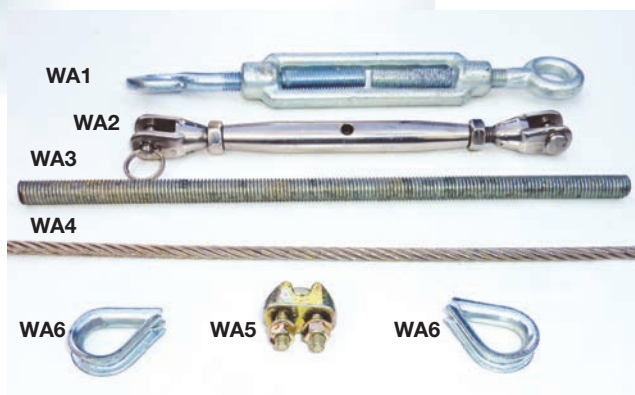
The nylon strap can also be supplied in 50m rolls with 400 buckles for cutting on site.

- SB23** For wire or branch 5mm-20mm
 - SB33** For wire or branch 20mm-30mm
 - SB40** For wire or branch 30mm-70mm
 - SB50** For wire or branch 60mm-100mm
- 50m Roll webbing and 400 Buckles



WIRE ROPE ACCESSORIES

Lumisphere™ supply a range of wire rope fixing accessories to support our products. Accessories are available either Marine grade Stainless Steel or Galvanised Steel.

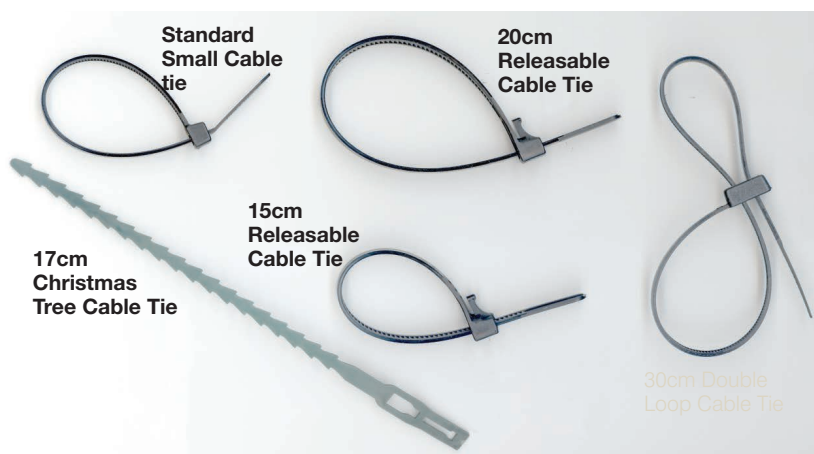


- WA1 Hook & Eye Tensioner
- WA2 Jaw Jaw Tensioner
- WA3 All Thread
- WA4 Wire Rope
- WA5 Wire Grip
- WA6 Thimble

CABLE TIES

Cable Ties

- 15cm** Releasable Cable Tie
- 20cm** Releasable Cable Tie
- 30cm** Double loop Cable Tie
- 17cm** Christmas Tree Ties



LUMISPHERE™ Bespoke Products

Incorporating the Lumisphere™ patented systems, bespoke products specifically designed for unique durable lighting solutions.



Anodised lampholder Complete with Lumisphere™ light unit, the anodised Lampholder offers the choice of a suspension system or method of fixing to rigid poles.



Tree Lantern Utilising 2 Orbical 360/8 LED light units housed in marine grade lantern and suspended with marine grade stainless steel wire . IP68 lighting system



Lumisphere™ Carnival LED system in premium colours with WHITE G Type Polycarbonate Globe producing a vibrant colour scheme combined with the UV stabilised White Lampholder and Cable

EFFECTIVE SOLUTIONS

We continue to pioneer and develop new cost effective solutions, offering a variety of light sources from xenon to the latest in LED technology that can even be retro-fitted into existing Lumisphere™ systems.

DESIGN OR TECHNICAL ASSISTANCE

The Lumisphere team is on hand to offer design or technical assistance while you navigate some brief examples of our installations and products within this site. Please also see our catalogue section for more technical details of our systems and products as well as downloadable publications.

DECORATIVE FESTOON LIGHTING SYSTEMS

The Lumisphere patented low voltage decorative festoon lighting systems have been providing safe, multipurpose energy saving systems in marine, retail, leisure, theatre, tourism and naval environments in the UK, USA, Europe, Middle East and Australia for more than 25 years.



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