

LUMISPHERE™ Standard Festoon Systems

X12, X24 Xenon Systems, Orbical, Quad and Prismatic 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 0.3watt Lumisphere™ Prismatic LED System - 600 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 too 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.

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 but where the system is installed within reach of the public i.e. low branches of Christmas trees, anti-vandal type lampholders 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™ Prismatic range of LEDs**
- **Lumisphere™ Quad LED**
- **Lumisphere™ Orbical range of LEDs.**

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 constant voltage LED driver unit 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 And 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.



A Type



G Type



Chelsea Bridge X24 System, Photo by: David Sim



London South Bank Quad LED System



Albert Bridge X24 System

Electrical, Safety & Flammability Specifications

Lampholders	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, Quad and Prismatic ranges
Cable	Material Flammability	Twin conductor stranded tinned copper 60/0.25 3.00mm ² 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 having a light output of 45 lumens with a 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 being affected by vibration, it can be used in the roughest conditions as on 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 in the order 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.



Colours available for X12 and X24

Flasher Modules NEW



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

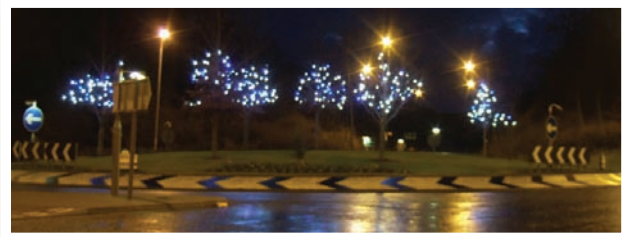
LFM Quad LED version

Supply	12/DC nominal SELV
Light Source	LED 0.36watts per unit
Flashing rates	0.5 1.0 1.5sec



Flasher modules

The Lumisphere™ Flasher Modules are designed to create movement within a static Lumisphere festoon. The LFM can be retro fitted into existing X12, X24 and LED Lumisphere™ festoon lighting installations. Any number of existing lamps or LEDs can be replaced by an LFM to create the sense of movement. Different flashing rates are available to create a random flashing effect or if all the same flash rate LFM are installed the modules will operate in unison.



Guisborough Prismatic LED



Lumisphere™ Prismatic LED Photo By: Brian Gent

LUMISPHERE™ Standard Festoon Systems

Orbical LED **NEW**

ORBICAL
/8 LED

ORBICAL
/9 LED

ORBICAL
/18 LED

Specifications

Supply	12VDC SELV
Light Source	Orbical/8 1watts Retrofit for Xenon system Orbical/9 1.5watts Orbical/18 2.4watts
Env. Prot.	IP68
Conformity	BS EN 60958 CE UL Listed

Orbical LED

The Lumisphere™ Orbical range of LEDs uses the X12 lampholder as a power supply base for the plug LED Light Units. 3 types are available

Orbical /8

The 8 module LED light unit consuming 1.0watts, is designed as a simple retro fit LED light module for any existing Lumisphere™ X24 Xenon installation.

Orbical /9

The 9 module LED light unit consuming 1.5watts, is designed as a general purpose high profile LED light source where a small degree of functional lighting is required.

Orbical /18

An 18 module LED light unit consuming 2.4watts, designed for where lighting designers wish to achieve a similar lighting effect to a filament lamp by the use of an LED, but at greatly reduced energy consumption and enhanced lamp life. Ideal for extremely high profile projects where a high visual impact is required along with a good degree of functional lighting.

Colour Temperature

Cool White 5500-6800K

Warm White 2800- 3200K



Prismatic LED



Specifications

Electrical Characteristics	
Supply	12VDC SELV
Light Source	0.33watts per unit
Env. Prot.	IP68
Conformity	BS EN 60958 CE UL Listed

Prismatic LED

The Lumisphere™ Prismatic LED uses the Lumisphere™ X12 lampholder assembly as a power supply base for the plug in light module. The light modules consist of 4 high brightness light emitting diodes moulded into a single module. This module is formed as a single inverse conical shape using a specially treated UV stable epoxy resin that creates a prismatic effect which ensures a highly visible spherical light output ensuring wide angle high intensity light distribution. These units are designed to operate at low temperature and drive currents to ensure maximum performance characteristics and a calculated average 60,000 hour life subject to correct operating conditions.

Quad LED



Specifications

Supply	12VDC SELV
Light Source	0.36watts per unit
Env. Prot.	IP68
Conformity	BS EN 60958 CE UL Listed

Quad LED

The Lumisphere™ Quad LED uses the Lumisphere™ X12 lampholder assembly as a power supply base for the plug in light module. The plug in module consists of 4 ultra high bright LEDs assembled onto a high quality PCB substrate for all round vision. The ultra high quality LEDs give a wide angle light distribution with high intensity light output, enhanced with a unique finishing process that improves light distribution and heat dispersal ensuring maximum performance, low drive currents with longevity of the light source at a calculated 80,000 hour life.

Colours available for Quad, Prismatic & Orbical LED's
Cool White, Warm White, Red, Blue, Green & Amber

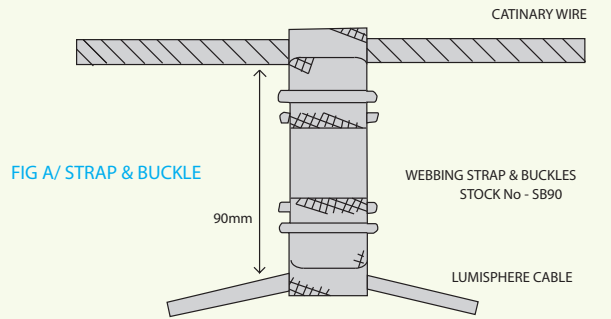


FIG A/ STRAP & BUCKLE

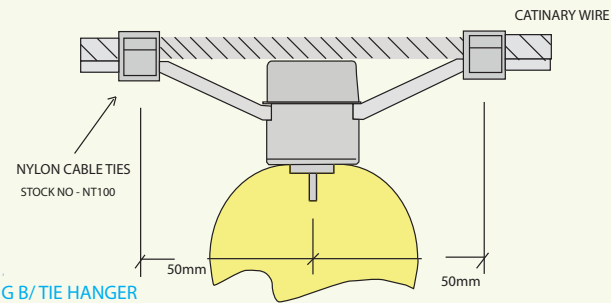


FIG B/TIE HANGER

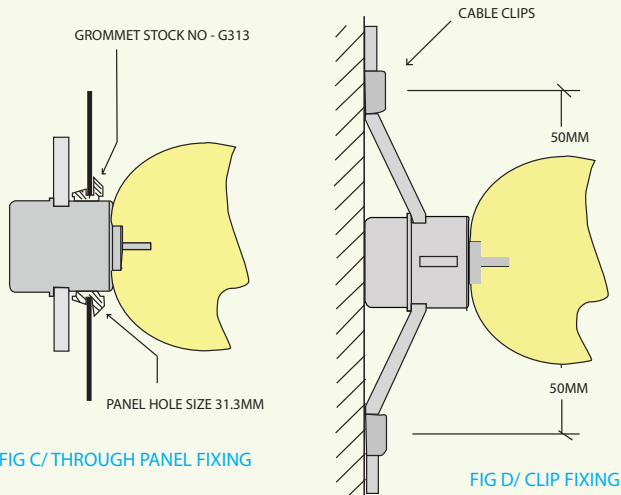


FIG C/ THROUGH PANEL FIXING

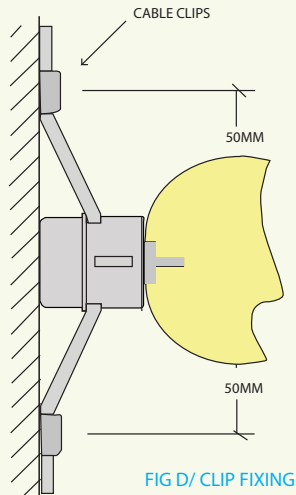


FIG D/ CLIP FIXING

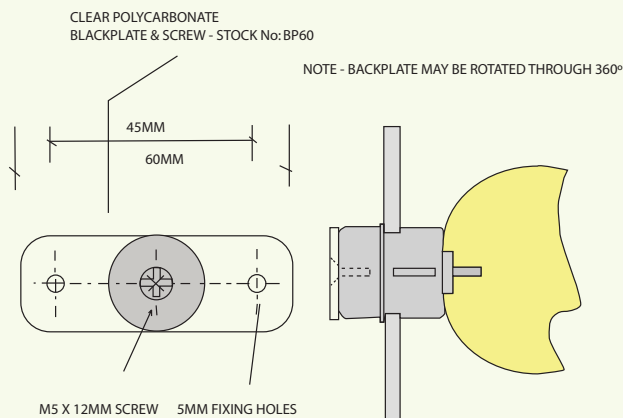
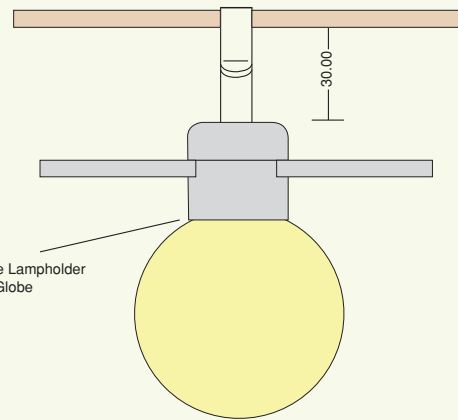
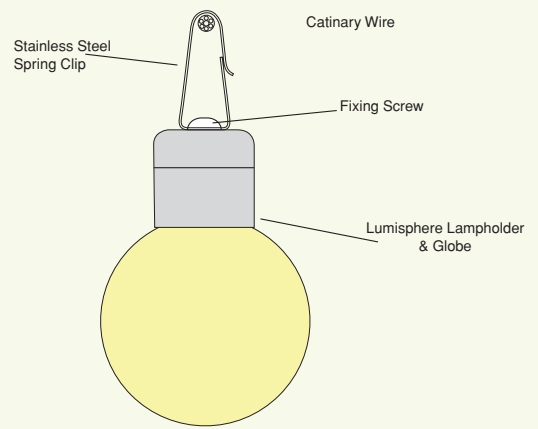


FIG E/ BACKPLATE FIXING



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 lampholders 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.

'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	
Primary Voltage	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

