

# LUMISPHERE™ Standard Festoon Systems

## X12, X24 Xenon Systems, Orbical, Quad and Prismatic LED Systems

### Advantages

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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

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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

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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

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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

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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

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The Lumisphere™ festoon system comprises a special twin core cable sheathed in H.O.F.R (heat, oil, flame, resistant) rubber with 3.0mm<sup>2</sup> 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

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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

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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

<b>Lampholders</b>	Material Flammability	Nylon 66 Self Extinguished Grade UV stabilised Flammability rating to ASTN D 635 U.L. V2 UL Listing E170572 UL2108 compliant
<b>Globe</b>	Material Flammability Tensile Strength Impact Resistance	Polycarbonate UV stabilised Flame retardant grade U.L. V2 700KKG/CM2 80KG CM/CM
<b>Lamps</b>	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
<b>Cable</b>	Material Flammability	Twin conductor stranded tinned copper 60/0.25 3.00mm <sup>2</sup> 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
<b>Transformers</b>	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