

# 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 3.0mm<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

---

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

<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

# LUMISPHERE™ Standard Festoon Systems

## Xenon X12



### Specifications

<b>Supply</b>	12VAC SELV
<b>Lamps</b>	12volt bi pin 5 watt Xenon
<b>Average Lamp life</b>	8,000hrs @ the design voltage
<b>IP rating</b>	IP68
<b>Globes</b>	G type or A type
<b>Conformity</b>	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

<b>Supply</b>	24VAC SELV
<b>Lamps</b>	24volt rigid loop Xenon lamps available 5, 8.5 and 10watts
<b>Average Lamp life</b>	20,000hrs @ the design voltage
<b>IP rating</b>	IP68
<b>Globes</b>	G type or A type
<b>Conformity</b>	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

<b>Supply</b>	12 or 24V/AC nominal SELV
<b>Lamps</b>	12V 5watt Xenon 24V 5watt Xenon
<b>Flashing rates</b>	0.5 1.0 1.5sec

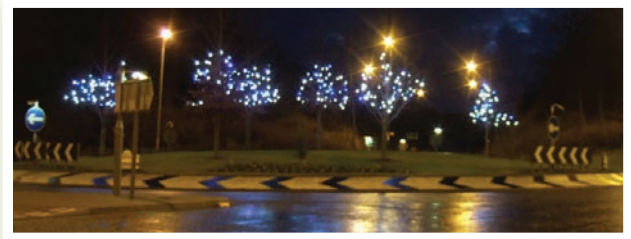
#### LFM Quad LED version

<b>Supply</b>	12/DC nominal SELV
<b>Light Source</b>	LED 0.36watts per unit
<b>Flashing rates</b>	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

<b>Supply</b>	12VDC SELV
<b>Light Source</b>	Orbical/8 1watts Retrofit for Xenon system Orbical/9 1.5watts Orbical/18 2.4watts
<b>Env. Prot.</b>	IP68
<b>Conformity</b>	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

<b>Electrical Characteristics</b>	
<b>Supply</b>	12VDC SELV
<b>Light Source</b>	0.33watts per unit
<b>Env. Prot.</b>	IP68
<b>Conformity</b>	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

<b>Supply</b>	12VDC SELV
<b>Light Source</b>	0.36watts per unit
<b>Env. Prot.</b>	IP68
<b>Conformity</b>	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