

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

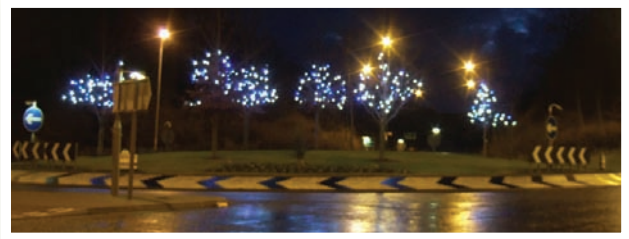
LFM Quad LED version

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

LUMISPHERE™ Low Profile Festoon Systems

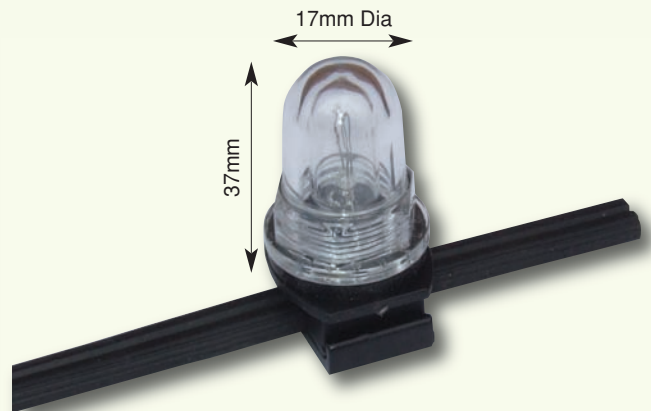
Multi-Light, Multi-LED & Multi-Prismatic Systems

Advantages

The Lumisphere™ Multilight, MultiLED and MultiPrismatic 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 weather proof systems (IP68) comprising a flat twin PVC 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™ weather proof 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 – Pubs and Restaurants Gardens, Swimming Pool Areas etc

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. E56356 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 weather-proof system comprising of 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 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™ weather-proof 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 lamp holder
Env. Prot	IP68



Multi-Led System

A high quality fully weatherproof (IP68) system comprising a flat twin PVC 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 lamp-holder 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.

Multi-Prismatic LED Systems



Specifications

Supply	12VDC SELV
Light source	Single chip LED -0.2watts or 4 Chip LED -0.33watts
Env. Prot	IP68



Multi Prismatic LED

The Lumisphere™ Multi- Prismatic LED system is based on the Multilight festoon which is a fully weatherproof IP68 system. The moulding is formed with an inverse conical shape giving a prismatic effect, ensuring a very high visible spherical light output. 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.

There are 2 LED light sources for this system

- Single chip LED
- 4 chip LED

These LED light modules have been specially designed to plug into the Lumisphere™ Multilight lamp holders 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 Multi Prismatic 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.