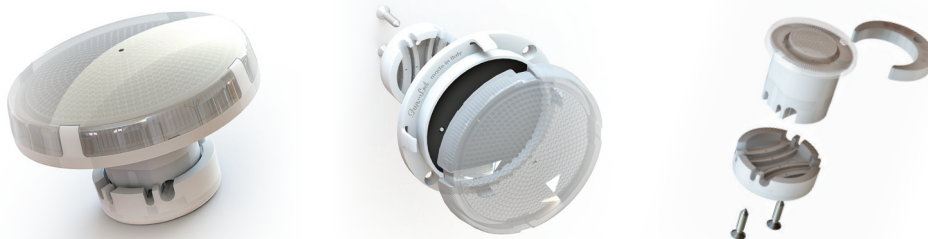


**Fun-Led**

LIGHT UP YOUR FUN

MADE IN ITALY

# FUN-SPOT FAMILY

**30/45/60/75/100 mm**

**Fun-Spot** is a family of round lamps, conceived to serve the amusement world and, in general, the world of amusement rides. The lamps are **totally designed and produced** in our factory **in Italy** with **first choice materials** such as the OSRAM LED, polyurethane resins and gold-plated connection contacts and they are intended for **both an indoor and outdoor use**. The body is made of Nylon and the lid in methacrylate, in order to grant the maximum transparency and resistance to the damaging effects of the UV rays. The electrical connection is based on commercial wires and the connection is fast and secure thanks to the isolation drilling technique. The whole family is available both in the **direct wire connection** with an extremely compact volume, and in the **frontal pull out version**, with a special lamp socket for an easy and quick replacement. The family is composed of 5 formats which differentiate in diameter: **30, 45, 60, 75 and 100mm** and 3 operative modes: **Plug&Play, Controllable Pixel and Controllable Smart**. Due to technical limits, some modes and functions may not be available for some models. The optoelectronics range from a minimum of 3 LEDs to a maximum of 60 LEDs according to the dimension of the lamp. Each lamp can be supplied with RGB or Mono-Colour LEDs.

[www.fun-led.com](http://www.fun-led.com) - [info@fun-led.com](mailto:info@fun-led.com)

Scan me

LOSI FRANCESCO ELETTRONICA INDUSTRIALE

45037 - MELARA (RO) - Italy - Via Corno, 16 - Tel. +39 0425 89292 - Fax +39 0425 89730

Cod. Fiscale LSO FNC 54516 F095D - P. IVA 00273160291 - R.E.A. RO 78086 - Registro Imprese RO 19969614



Scan me

## PLUG & PLAY

It is based on electronics with internal programming which work without controller, just power supplied with alternating current through a standard ferromagnetic transformer. The lamp can be supplied pre-programmed, with standard sequences of 8 and 16 channels, with customized sequences, or virgin and programmable by the user, without limits to the number of channels, with a simple programming kit provided by Fun-Led.

## CONTROLLABLE PIXEL

It adopts the standard WS2811 protocol based on a serial signal (SPI). The lamps are not numbered and their cascaded connection must follow a precise path based on an initial project. This operative mode requires a power supply with direct current and a controller board.

## CONTROLLABLE SMART

It is a Fun-Led absolute and exclusive innovation, which enables to control the single LEDs of the lamp, in order to create light games inside the lamp itself for unique and amazing effects. This is possible thanks to the use of a Fun-Led own communication protocol. This technology is available for the models with 20, 30 and 60 LEDs, in the RGB version, and can work only combined with Fun-Led controller and software.

## OPTIONAL FEATURES

### SUPER STROBE OPTION

Absolute Fun-Led innovation which characterizes the lamps from diameter 45mm up to diameter 100mm in all the operative modes. It consists in equipping the lamps with extremely bright white LEDs to grant a very powerful flashing effect integrated into the lamp itself.

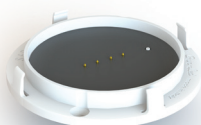


### ENHANCED OPTION

Enhanced is a set of functions which is applied to the Controllable Pixel lamps from diameter 45mm up to 100mm to increase their performances, granting at the same time the absolute compatibility with the WS2811 protocol. These functions which range from the managing of the Super Strobe, to the thermal protection and the emergency mode functioning are integrated as default in the Smart version.

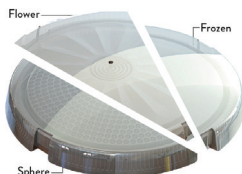
## MECHANICAL CHARACTERISTICS

### THE BASE



The structure is made of Nylon charged with white glass and grants stability and resistance to all weather conditions and thermal changes. The structure houses the optoelectronics which is covered with resin and forms the waterproof lighting fixture. There are two connection modes to the electrical system: "Direct Wire" which provides the direct connection of the wires through the isolation drilling technique and "Frontal Pull Out" which uses a connector to be inserted into a lamp socket. The first solution grants an extremely compact volume and a reduced cost, the second one allows an easy removal of the lamp in case of replacement.

### THE LID



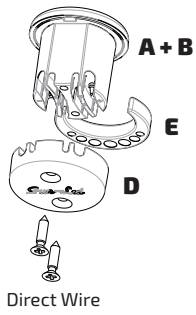
The lid is made of transparent methacrylate which prevents it from yellowing in case of UV exposure and assures an excellent resistance to bad weather conditions. Outside it is perfectly smooth in order to avoid the deposit of dust and dirt and to grant an easy cleaning. Inside the standard pattern is the "Flower"; upon request we can offer the options "Sphere", "Frozen" and "Transparent". The lid is pressure mounted to the base for a quick installation.

### THE SOCKET

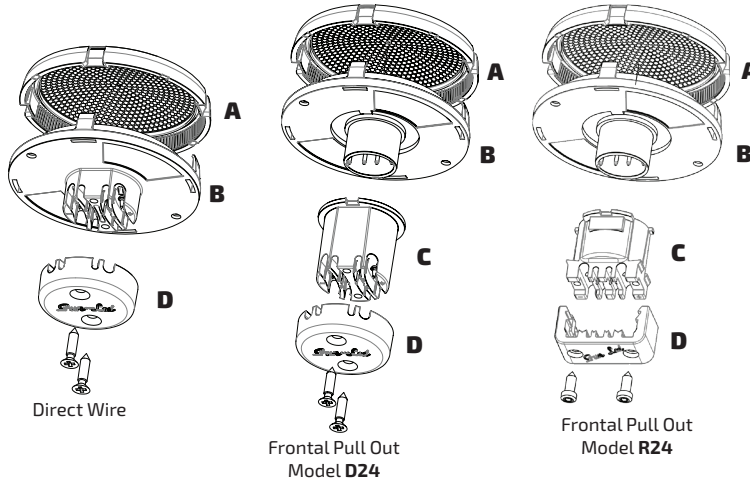


There are two models: D24 and R24. They consist of a body which can be with two or four isolation drilling contacts and a socket cap which drills the isolation of the wires through the tightening of two screws, thus making the electrical connection. They are characterized by a compact volume and assure the maximum safety in making a good electrical connection. The body presents a polarization which helps in setting the correct orientation of the lamp on the support.

FUN-SPOT 30 mm



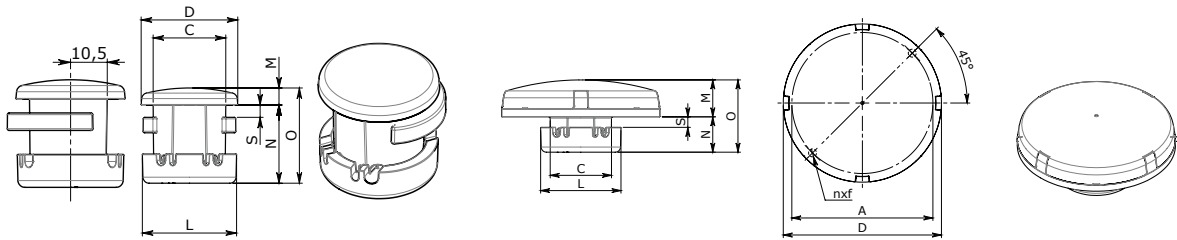
FUN-SPOT 45/60/75/100 mm



|          |                  |
|----------|------------------|
| <b>A</b> | LID              |
| <b>B</b> | LIGHTING FIXTURE |
| <b>C</b> | SOCKET           |
| <b>D</b> | SOCKET CAP       |
| <b>E</b> | CLIP             |

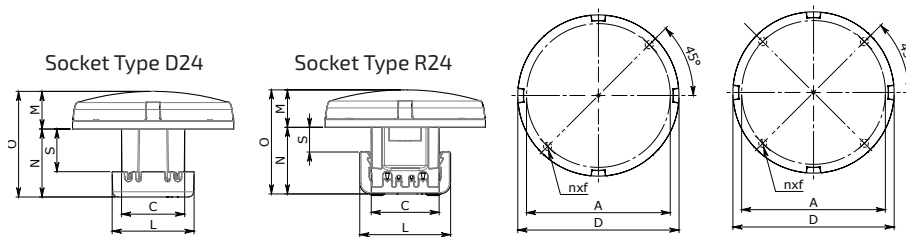
## SIZES AND VOLUME

### DIRECT WIRE



|    | D  | A    | C    | L    | M   | N    | O    | S    | nXf  |
|----|----|------|------|------|-----|------|------|------|------|
| mm | 30 |      | 23,5 | 30,5 | 5,5 | 13,4 | 30,8 | 10,9 |      |
|    | 45 | 38,5 | 23,5 | 30,5 | 13  | 13,4 | 26,4 | 4    | 2XØ3 |
|    | 60 | 53,5 | 23,5 | 30,5 | 13  | 13,4 | 26,4 | 4    | 2XØ3 |
|    | 75 | 68,5 | 23,5 | 30,5 | 15  | 13,4 | 28,4 | 4    | 2XØ3 |

### FRONTAL PULL OUT



| Socket Type |    | D   | A    | C    | L    | M  | N    | O    | S    | nXf  |
|-------------|----|-----|------|------|------|----|------|------|------|------|
| <b>D24</b>  | mm | 45  | 38,5 | 23,5 | 30,5 | 14 | 25,3 | 39,3 | 15,9 | 2XØ3 |
|             |    | 60  | 53,5 | 23,5 | 30,5 | 14 | 25,3 | 39,3 | 15,9 | 2XØ3 |
|             |    | 75  | 68,5 | 23,5 | 30,5 | 15 | 25,3 | 40,3 | 15,9 | 2XØ3 |
|             |    | 100 | 93,5 | 23,5 | 30,5 | 16 | 25,3 | 41,3 | 15,9 | 4XØ3 |

| Socket Type |    | D   | A    | C    | L    | M  | N  | O  | S   | nXf  |
|-------------|----|-----|------|------|------|----|----|----|-----|------|
| <b>R24</b>  | mm | 45  | 38,5 | 23,5 | 30,5 | 13 | 25 | 38 | 9,3 | 2XØ3 |
|             |    | 60  | 53,5 | 23,5 | 30,5 | 14 | 25 | 39 | 9,3 | 2XØ3 |
|             |    | 75  | 68,5 | 23,5 | 30,5 | 15 | 25 | 40 | 9,3 | 2XØ3 |
|             |    | 100 | 93,5 | 23,5 | 30,5 | 16 | 25 | 41 | 9,3 | 4XØ3 |



## FUN-SPOT 30 MM



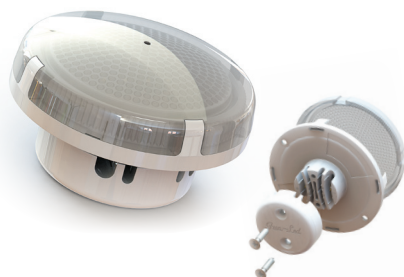
It has a diameter of 30 mm and is equipped with 3 LEDs. It is available in the Plug & Play and Controllable Pixel (not Enhanced) operative modes and only in the Direct Wire installation system with integrated lid.



| Operative Mode          | LED n° | Wire Connection | Supply Voltage | Rated Power Strobe | Options                    |              |
|-------------------------|--------|-----------------|----------------|--------------------|----------------------------|--------------|
|                         |        |                 |                |                    | Super Strobe (STRB) LED n° | Enhanced (E) |
| Plug&Play (PP)          | 3      | 2               | 9V AC          | 0,45               | -                          | -            |
| Controllable Pixel (PX) | 3      | 4               | 12V DC         | 0,65 <sup>1</sup>  | -                          | -            |

<sup>1</sup>Recommended maximum duration is of 50 ms with a duty cycle of 25%

## FUN-SPOT 45 MM



It has a diameter of 45 mm and is equipped with 10 LEDs. It is available in the Plug & Play and Controllable Pixel operative modes and in both the Direct Wire and Frontal Pull Out installation systems.



| Operative Mode          | LED n° | Wire Connection | Supply Voltage | Rated Power Strobe+STRB | Options                    |              |
|-------------------------|--------|-----------------|----------------|-------------------------|----------------------------|--------------|
|                         |        |                 |                |                         | Super Strobe (STRB) LED n° | Enhanced (E) |
| Plug&Play (PP)          | 10     | 2               | 24V AC         | 4                       | 3                          | -            |
| Controllable Pixel (PX) | 10     | 4               | 36V DC         | 7,45 <sup>1</sup>       | 3                          | √            |

<sup>1</sup>Maximum programmable duration is of 50 ms with a duty cycle of 25%

## FUN-SPOT 60 MM



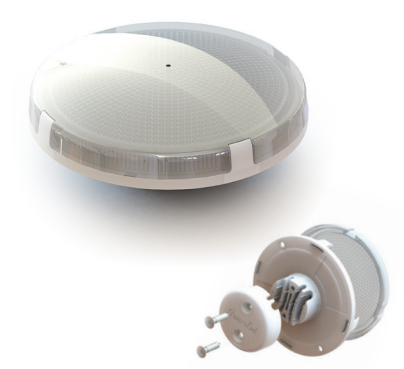
It has a diameter of 60 mm and its base can be equipped with 10 or 20 LEDs according to the power level you want to obtain. It is available in all the three operative modes (Plug & Play, Controllable Pixel and Controllable SMART) and in both the Direct Wire and Frontal Pull Out installation systems.



| Operative Mode             | LED n° | Wire Connection | Supply Voltage | Rated Power Strobe+STRB | Options                    |              |
|----------------------------|--------|-----------------|----------------|-------------------------|----------------------------|--------------|
|                            |        |                 |                |                         | Super Strobe (STRB) LED n° | Enhanced (E) |
| Plug&Play (PP)             | 10     | 2               | 24V AC         | 4                       | 3                          | -            |
|                            | 20     |                 |                | 6                       | 6                          | -            |
| Controllable Pixel (PX)    | 10     | 4               | 36V DC         | 5,5 <sup>1</sup>        | 3                          | √            |
|                            | 20     |                 |                | 7,9 <sup>1</sup>        | 6                          | √            |
| Controllable Smart (SMART) | 20     | 4               | 24V DC         | 5                       | 6                          | -            |

<sup>1</sup>Maximum programmable duration is of 50 ms with a duty cycle of 25%

## FUN-SPOT 75 MM



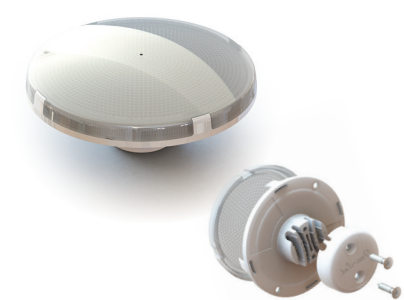
It has a diameter of 75 mm and its base can be equipped with 20 or 30 LEDs according to the power level you want to obtain. It is available in all the three operative modes (Plug & Play, Controllable Pixel and Controllable SMART) and in both the Direct Wire and Frontal Pull Out installation systems.



| Operative Mode             | LED n° | Wire Connection | Supply Voltage | Rated Power Strobe+STRB | Options                    |              |
|----------------------------|--------|-----------------|----------------|-------------------------|----------------------------|--------------|
|                            |        |                 |                |                         | Super Strobe (STRB) LED n° | Enhanced (E) |
| Plug&Play (PP)             | 20     | 2               | 24V AC         | 6                       | 6                          | -            |
|                            | 30     |                 |                | 8                       | 6                          | -            |
| Controllable Pixel (PX)    | 20     | 4               | 36V DC         | 11,8 <sup>1</sup>       | 6                          | √            |
|                            | 30     |                 |                | 13,75 <sup>1</sup>      | 6                          | √            |
| Controllable Smart (SMART) | 20     | 4               | 24V DC         | 8                       | 6                          | -            |
|                            | 30     |                 |                | 10                      | 6                          | -            |

<sup>1</sup>Maximum programmable duration is of 50 ms with a duty cycle of 25%

## FUN-SPOT 100 MM



It has a diameter of 100 mm and its base can be equipped with 30 or 60 LEDs according to the power level you want to obtain. It is available in all the three operative modes (Plug & Play, Controllable Pixel and Controllable SMART) and in the Frontal Pull Out version only.



| Operative Mode             | LED n° | Wire Connection | Supply Voltage | Rated Power Strobe+STRB | Options                    |              |
|----------------------------|--------|-----------------|----------------|-------------------------|----------------------------|--------------|
|                            |        |                 |                |                         | Super Strobe (STRB) LED n° | Enhanced (E) |
| Plug&Play (PP)             | 30     | 2               | 24V AC         | 8                       | 6                          | -            |
|                            | 60     |                 |                | 16                      | 12                         | -            |
| Controllable Pixel (PX)    | 30     | 4               | 36V DC         | 13,75 <sup>1</sup>      | 6                          | √            |
|                            | 60     |                 |                | 27,5 <sup>1</sup>       | 12                         | √            |
| Controllable Smart (SMART) | 30     | 4               | 24V DC         | 10                      | 6                          | -            |
|                            | 60     |                 |                | 20                      | 12                         | -            |

<sup>1</sup>Maximum programmable duration is of 50 ms with a duty cycle of 25%