

# **User Manual**

## **Galaxis Showtechnik**

# **PYROTEC**

### **LED Warning Strobe**

**for operation with  
PFE Advanced 10 Outputs  
or  
PFE Advanced 20 Outputs  
or other devices with an  
output voltage of 12 to 24V DC**



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Batch No.: LED159100






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# 1 Introduction

## 1.1 Safety instructions

Observe all safety instructions in this documentation! Safety instructions warn of dangers when handling devices and provide information on how to avoid them. They are classified according to the severity of the danger and divided into the following groups:

<p><b>DANGER</b></p> 	<p>Danger signals dangers for persons. If you do not follow the instructions for avoiding the hazard, the hazard will certainly result in death or serious physical injury.</p>
<p><b>WARNING</b></p> 	<p>Warning indicates dangers for persons. If you do not follow the instructions for avoiding the hazard, the hazard is likely to result in death or serious injury.</p>
<p><b>CAUTION</b></p> 	<p>Caution indicates danger to persons. If you do not follow the instructions for avoiding the hazard, the hazard is likely to result in minor physical injury.</p>
<p><b>NOTICE</b></p>	<p>Note signals dangers for objects or data. If you do not follow the instructions for avoiding the hazard, the hazard will probably result in damage to property.</p>
<p><b>TIP</b></p>	<p>A tip provides additional or supplementary information.</p>

## 1.2 Requirements the operator has to fulfill and necessary qualification

This product may only be operated by persons of legal age. In Germany the user must be at least 18 years of age.

This product may only be used within the scope of a professional and occupational activity.

## 1.3 Application fields

The LED warning strobe can be used in the field of stage pyrotechnics, special effects or fireworks displays to inform people involved that pyrotechnic or other effects are imminent.

## 2 Illustration



On the right you can see two sockets into which you can insert quick-fastening clamps.

Strong magnets are integrated on the underside of the light to enable it to be mounted on suitable surfaces.

Also on the underside is an M10 internal thread for mounting purposes and a button for program selection.

## 3 Voltage supply

The device can be operated with a DC voltage of 12 or 24 V DC. This means that it can be operated with both the PFE Advanced 10 Outputs and the PFE Advanced 20 Outputs. The former supplies 24 V DC and the latter 12 V DC. The device can also be operated with other control devices that supply a continuous voltage in this range. Devices with a capacitor-buffered output, which only supply a short voltage peak, are not suitable.

## 4 Water tightness

The device is waterproof according to IP65 (IP = Ingress Protection). This means that no dust and no water from a light water jet (e.g. from a hose) can intrude. There is no protection against strong water jets e.g. from high-pressure cleaners.


## 5 Connection

Connect the warning device to an output of the PFE Advanced 10 or 20 outputs. The polarity does not need to be observed because the warning light is equipped with an integrated rectifier.

Use a twin cable with stranded copper wire with a conductor cross-section of at least 1.0 mm<sup>2</sup>. Smaller cross-sections can lead to voltage drops, which can impair the function under certain circumstances.

The normal wear wire with a typical core diameter of 0.5 mm and a cross-section of 0.2 mm<sup>2</sup> can only be used for very short cable runs of approx. 2-3 m. In the event of a short circuit, the PFE Advanced 10 Outputs and the PFE Advanced 20 Outputs limit the current flow so that no overheated cables can occur. However, conductors with a cross-section of less than 0.2 mm<sup>2</sup> must not be used.

You can also operate the device with other voltage sources that provide 12-24V DC. However, as soon as devices other than the PFE Advanced 10 Outputs or PFE Advanced 20 Outputs are used, a 3 A fuse must be connected before them. The fuse must be inserted in the positive line as close as possible to the device that supplies the warning light with voltage. Suitable fuse holders are available from specialist retailers for electronic components or you can contact us as the manufacturer if you need one.

<p><b>DANGER</b></p> 	<p><b>Fire risk in the event of a short circuit</b></p> <p>If cables that are too thin without a fuse are used to connect the light and devices other than the PFE Advanced 10 Outputs or PFE Advanced 20 Outputs are used, supply cables can overheat if there is no fuse.</p> <p>Therefore, always use a twin copper cable with a core cross-section of at least 1.00 mm<sup>2</sup> and a fuse with a rated current of 3 A in the positive line directly on the device that supplies the voltage if you use the warning light with devices other than those from the manufacturer Galaxis Showtechnik GmbH.</p>
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## 6 Control

As the LED warning light should normally operate for longer than the normal firing pulse, we recommend using the Terminal function in the receivers. The duration can be programmed, with a maximum firing time of 25 seconds. It can also be re-ignited to extend the time. In addition, functions are available with which the output can be switched on permanently and switched off again at a later time. The Terminal function can be retrofitted to the PFE Advanced 10 or 20 Outputs devices at any time.

## 7 Selection of a lighting sequences

Before actually using the light, you should select the desired lighting program. To do this, operate the light and keep pressing the button on the underside until the desired program is found.


These programs are available:

- Slow and simultaneous flashing of all LEDs
- All LEDs flash quickly and simultaneously twice, followed by a short pause
- All LEDs flash quickly and simultaneously three times and then a short pause
- Slow counterclockwise rotation with only one active segment at a time
- Slow clockwise rotation with only one active segment at a time
- Fast counterclockwise rotation with only one active segment at a time
- Fast clockwise rotation with only one active segment at a time

## 8 Practical use

Once you have selected the desired lighting program, you can switch warning lights on and off as required by your application.

If all warning lights are functioning correctly and safety is otherwise guaranteed, you can start with the effects. At the end, you can switch the warning lights off again automatically using the timer or a separate command.

<p><b>DANGER</b></p> 	<p><b>No warning of persons involved if the LED warning light remains dark</b></p> <p>If you switch on the LED warning light or several of them, you as the responsible person must ensure that they all light up and that the respective persons are actually warned. Otherwise, dangerous situations can arise if people are not warned and effects are fired or started anyway.</p> <p>Line interruptions, other technical faults or insufficient range can cause the output for activating the warning lights to remain inactive.</p>
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## 9 Energy consumption

The energy consumption of the LED warning lights places a significant load on the batteries in the devices. You should therefore keep the operating times short, although a few minutes is not a problem.

The four lighting programs in which only one segment lights up at a time are the most economical. In these programs, the maximum operating time is 8 h for the PFE Advanced 10 Outputs and 4 h continuous operation for the PFE Advanced 20 Outputs. The battery is also used at a constant load here.

The other programs have relatively high peak currents. The maximum operating time for the PFE Advanced 10 Outputs is therefore 6 hours and for the PFE Advanced 20 Outputs 2.5 hours. There is also the disadvantage that the undervoltage warnings start earlier than intended because the load is considerably higher and intermittent.

<p><b>TIP</b></p>	<p>Selecting an economical lighting program puts less strain on the battery. The device can remain operational for longer. Therefore, it is better to select a program in which only one segment lights up at a time.</p>
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## **10 Handling and cleaning**

The device is very robust. Please take care that no burning or hot cinders of the firework effects fall onto the device that may cause damage to the surface.

Use a piece of cloth that was moistened with water and at most with dishwashing agent for cleaning the device. Strong detergents and abrasives could damage the surfaces.

Keep the electrical contacts always clean.

## **11 Maintenance**

Apart from occasional cleaning of the device by the user, no other form of additional maintenance is required.

## **12 Warranty**

The warranty period is 24 months. If there is any defect during in this period please pack the device properly and send it to the manufacturer with carriage paid to have it repaired free of charge. Please do not forget to attach a description of the symptoms, which have occurred.

Warranty is excluded if the device was damaged due to wrong usage or excessive stress. Unauthorized repairs and the use of non-original parts will void all warranty, guarantee and product liability claims with immediate effect.



## 13 Technical data

Temperature range	Transport und storage: -30 to +70°C Operation: -20 to +65°C
Humidity	0 - 100% rH, condensation allowed
Allowable altitudes above sea level	Storage and transport: -500 to 12,500 m Operation: -500 to 4,000 m
Protection class	III

### Dimensions (L x W x H) and weight:

140 mm x 140 mm x 63 mm; 370 g

### Power supply:

10.5 to 27.0 V DC

### Power consumption:

This depends on the set program and the supply voltage. Thanks to the built-in switching power supply (step-down converter), the current decreases as the supply voltage increases. This enables efficient operation of the warning light.

Program with the lowest energy requirement:

Rotating light at 10.5V: 220 mA continuous current

Rotating light at 27.3V: 90 mA continuous current

Program with the highest energy requirement:

Flashing light at 10.5V: 800 mA for a short time, 330 mA on average

Flashing light at 27.3V: 410 mA for a short time, 160 mA on average

### Supplied accessories, included in delivery:

2 quick-fastening clamps

1 cable, dual stranded wire with 2x 1 mm<sup>2</sup> and a length of 3 m

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## 14 CE marking

The device is marked with the CE logo:



The EU Declaration of Conformity will be sent on request.

## 15 Address of the manufacturer and contact details for requesting an EU declaration of conformity

Galaxis Showtechnik GmbH, Lohgerberstr. 2, 84524 Neuötting, Germany

Tel.: +49 / 8671 / 73411

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Homepage: [www.galaxis-showtechnik.de](http://www.galaxis-showtechnik.de)

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Please use these contact details if you want to request an EU declaration of conformity.