Licht Technik
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# Shutter BlackBeam

Dimmer Shutter for Videobeamers

# Functional description Shutter BlackBeam V1.0


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Caution! Operate the device only after having read and understood the operating instructions!

# Dimmer shutter BlackBeam

The shutter is a versatile, easy to use and fast blackout-dimmer for beamers and projectors.

This device is designed for use in theatre- and opera houses, exhibitions, light shows and events like that. The built in Microcontroller enables a quick and safe processing, intuitive user interface and uncomplicated operation.

For power supply we can offer the power supplies PS 104 and PS204 with integrated DMX-splitbox.

The implemented one channel mode requires only on DMX address.

The built in Microprocessor provieds fast positioning and easy handling.

The real coded BCD rotary switches enables a fast addressing.

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# Operating and safety instructions

Admissible ambient temperature: 0 to +55 °C

The device can get very hot because of the beamer. Let it cool down for at least one hour before touching.

The top and bottom vents must not be blocked or covered.

The equipment is designed to be used in dry and clean rooms.

In case of water condensation, a waiting time of 2 hours is necessary until acclimatisation is reached.

Observe the maximum load of fastening spigots which will be increased by the additional weight of the device.

Make sure that the device is safe fixed at the lamp.

Use a safety belt.

Power supply via DATA Power input of the shutter must only be realized via power supplies authorized by us (electrical separation from the mains).

When it has to be assumed that a safe operation is no longer possible, the equipment must be switched off immediately and be secured against unintended operation.

This is the case when:

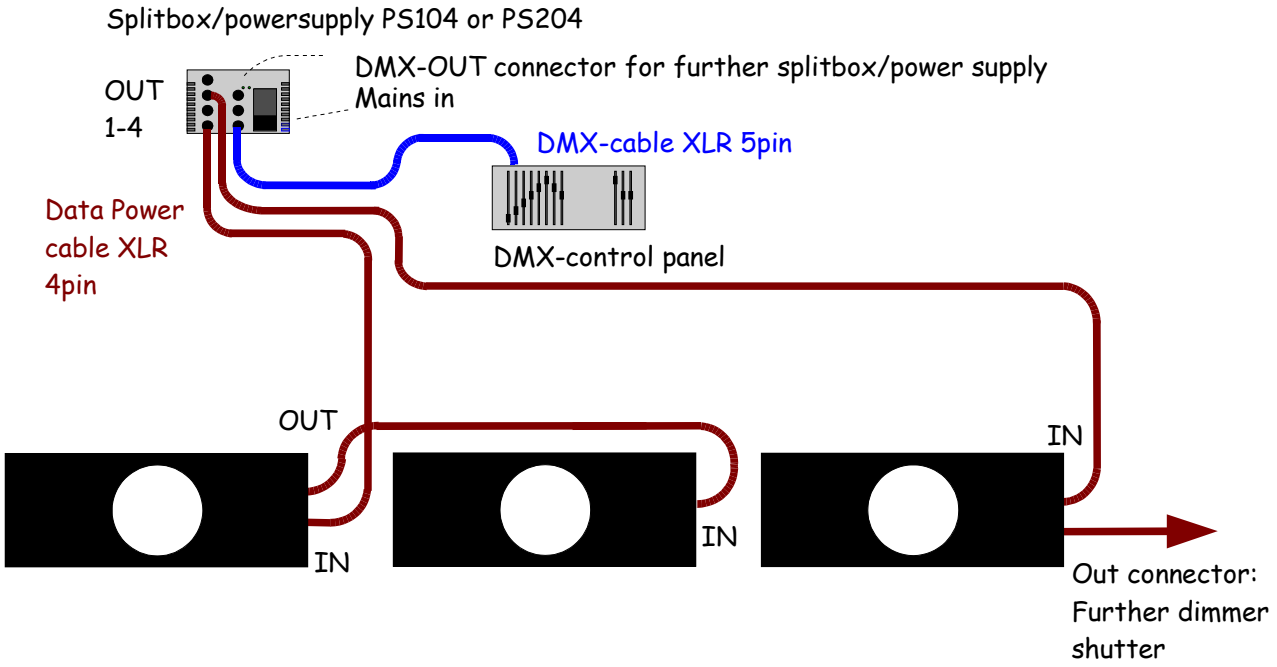
- the device shows visible damages
- the device is not functional
- parts of the device are loose or slackened
- connecting lines show visible damages

Prior to starting the equipment the user must check the usefulness of the device for its intended purpose. In particular, Licht-Technik shall decline any liability for damages of the equipment as well as for consequential damages resulting of the device being used inappropriately, of inexpert installation, incorrect starting, use and noncompliance with the valid safety regulations.

# Cabling

The standardized DMX-Signal is based on industrie´s RS485 Interface. It is designed for maximum lengths up to 1200m. This length is under condition in theatre or studio normally not possible. As a result of internal tests we recommend a maximum length of 200m (only DMX, 5PIN).
The maximum length of a Output (Data Power, 4PIN) must not exceed 80m because of the voltage drop.

Connect the light mixer panel and the splitbox PS104/PS204 with a 5PIN XLR-DMX-cable. The splitbox is provided with a DMX out jack for connecting additional splitboxes. At each of the four DATA Power outputs for the devices a maximum of 4 Blackbeams can be connected. The total number of Blackbeams per splitbox must not exceed 16 devices (PS204) or 8 devices (PS104) respectively.




Connect the light mixer panel and the splitbox PS104/PS204 with a 5PIN XLR-DMX-cable. The splitbox is provided with a DMX out jack for connecting additional splitboxes. At each of the four DATA Power outputs for the devices a maximum of 8 Blackbeams can be connected. However, the total number of shutters per splitbox must not exceed 16 devices (PS204) or 8 devices (PS104) respectively.

The last device of a serie should be connected with a terminating impedance (470 Ohm). It is plugged into the OUT connector of the last device of a row.

Use all outputs of the power supply for a equal load of the lines.

# Getting started

Please read the safety and operating instructions on page 5 **before** setting into operation. After that, cable the device like illustrated on page 6 or page.

After power up, the shutter moves to its zero position (initialisation run) and runs then to its given DMX position.

# Addressing

The desired DMX address can be set with the BCD rotary switches. The address can be adapted at every time also during power on. Invalid addresses are interpreted as followed:

| Adjusted address | Used address |
|---|---|
| | |
| 0 | 1 |
| 513 and higher | 512 |

# DMX control

| DMX-value of adjusted address | Shutter |
|---|---|
| | |
| 0 to 127 | open |
| 128 to 255 | closed |

# Technical data

| | |
|---|---|
| **Dimensions in mm (BxHxT):** | 700 x 285 x 90 |
| **Weight:** | 6 kg |
| **Power:** | 24V DC, max. 1,5 A, max. 36W |
| **Protection class:** | IP20 |
| **Minimum open and closing time:** | 0,35s |

**PIN assignment:**

Data-Power-cable: 4pin XLR connector
Housing: shield

| | | |
|---|---|---|
| PIN1 | 0V | cross-section min. 0,75 $mm^2$ |
| PIN2 | Data- | cross-section min. 0,25 $mm^2$ |
| PIN3 | Data+ | cross-section min. 0,25 $mm^2$ |
| PIN4 | +24V DC | cross-section min. 0,75 $mm^2$ |

Data cable: 5pin XLR connector

| | | |
|---|---|---|
| PIN1 | Shield | cross-section min. 0,25 $mm^2$ |
| PIN2 | Data- | cross-section min. 0,25 $mm^2$ |
| PIN3 | Data+ | cross-section min. 0,25 $mm^2$ |
| PIN4 | not connected | cross-section min. 0,25 $mm^2$ |
| PIN5 | not connected | cross-section min. 0,25 $mm^2$ |

**Please note:** To avoid electrical and magnetical radio interferences, please use only screened cables. This improves also a safe operation of the devices.

The DMX wires must be twisted pair and shielded seperately.

# Malfunctions

**– No moving after power, LEDs off**

The Equipment houses a slow-blow fuse for currents of 2A protecting the Color changer from wrong polarities in the supply line. When fuse is blown, it is absolu tely necessary to check cable and polarity (PIN1 = 0V, PIN4 = 24V).

**- Red LED blinking (DMX-Error)**

- Check if one or more pins of the input cable to the Shutter are broken.
- Check DMX supply cable to the Power supplay unit (splitbox) if used, DMX OK LED must light.
- The light mixer panel is not operative.

# Warranty

The warranty for this device is 2 years. It comprises any repair of failures – free of charge – which can be proved to result from defects of fabrication.

Warranty expires when:

- the device was modified or attempted to be repaired
- damages were caused by the intervention of foreign persons
- damages are due to noncompliance with the operating instructions
- the device was connected to an incorrect voltage or incorrect type of current
- the device was incorrectly operated or when damages were caused by negligent handling or misusage

# Further information



The products of *Licht-Technik GmbH* are subject to constant development. Therefore *Licht-Technik* reserves the right to modify components, motors and also technical specifications any time and without prior notice.

All maintenance and servicing works related to the product must be carried out by the company *Licht-Technik. Licht-Technik* shall not assume any liability for losses or damages of any kind being the results of inexpert servicing.