



Shutter Event Dimmer Shutter for Eventlamps

Functional Description Shutter Event V2.10

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

Shutter Event

With the **Shutter Event** the user is offered a dimmer for Event- and PAR lamps.

The device has been designed for the needs of exhibitions, shows and other kinds of events. The built in 16-Bit Microcontroller enables a **quick** and **safe** processing, **intuitive** user interface and **uncomplicated** operation.

The shutter is controlled by **USITT DMX512**. The supply line is a 4 PIN Data/Power cable or a 5pin DMX cable and a electrical mains input.

Distribution Voltage can be supplied by Licht-Technik Power Supplies **PS104** and **PS204** which come with an integrated splitbox. An alternative are the Licht-Technik light controllers. These have an integrated power supply.

Optional we can offer the devices with integrated power supply.

The several **move modes** support different ideas of controlling. Available are speed mode, single channel mode and 16-Bit mode.

The lighted **LCD display** (light can be switched off) leads the user through the various programming steps in plain text instructions. User Instructions are available either in English or in German language.

Classification:

Type	Diameter back	Diameter front	Remark	Bulb
SH – 180 SE07	180	200		single ended
SH – 180 SE08	180	200	Integriertes Netzteil	single ended
SH – 250 SE02	250	260		single ended

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Safety and operating Instructions

The shutter must only be operated when being in **operating position** provided for this purpose. Operating position is: vertical, standing, maximum angel of inclination: $\pm 60^\circ$. The electronic and gearbox must not be on top position.

Admissible ambient temperature: 0 to +55 °C

The device is getting very hot because of the lamp. Let it cool down for at least one hour before touching.

The lamp must not shine outside the light hole. This means, the diameter of the light hole of the shutter must be the same or larger as the diameter of the lamp lens. For exmple: A 200mm shutter cannot be operated in front of a lamp with 250mm lens diameter.

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

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

The shutter must be kept dry. 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 shutter.

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

Make sure that the device is safe fixed at the lamp before every use.

Use a **safety belt**.

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:

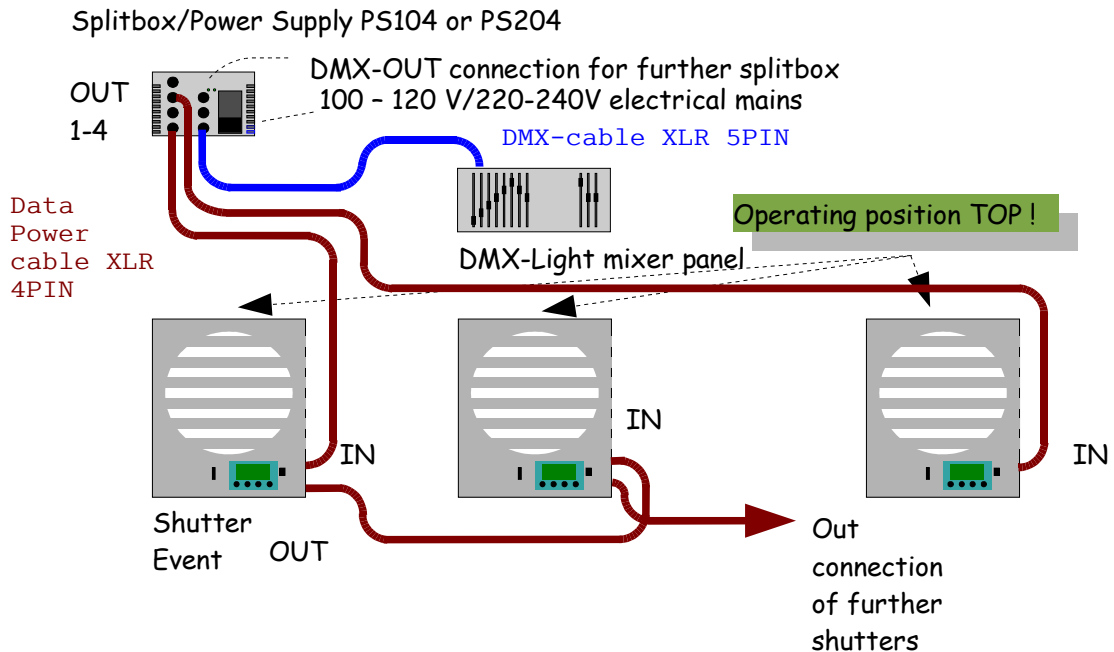
- the device shows visible damages
- the device is not functional
- parts of the device are loose or slackened
- connecting lines show visible damages

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, because of the high ignition currents of HMI lamps. 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. Splitbox is provided with a DMX out jack for connecting additional splitboxes. At each of the four DATA Power outputs for the shutters a maximum of 8 shutters can be connected. The total number of shutters per splitbox must not exceed 32 Shutter Event (PS204) or 16 Shutter Event (PS104) respectively. Share the devices, so that every output is connected to the same number of devices.

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 in a row.

A splitbox is not necessary, when using a Licht-Technik light mixing panel, because a power supply is integrated in this devices. A maximum of 8 shutters can be operated. At the last device of the row, a terminating impedance (470 Ohm) should be connected.

If more devices are desired to operate, a further splitbox must be installed.

The version with integrated power supply only need a 5pin DMX input and a connection to the electrical mains via the PowerCon connector.

Setting into operation

Please read the safety operating instructions on page 5 **before** setting into operation. After that, cable the shutter according to connection plan on page 6.

After power-up the shutter quickly moves to both limit positions, and will then move to the desired position.

First line shows a scrolling text.

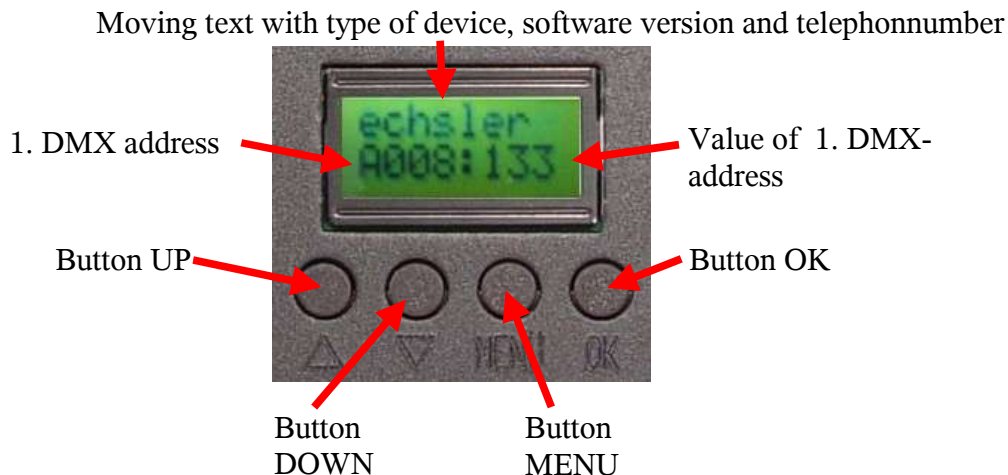
The second line indicates the DMX address and the transmitted value (real DMX value 0..255). For Example: A001:128. This is **normal operation** mode.

After setting the DMX addresses (Menu P01/P02) the shutter can be operated via the light mixer panel.

For further programming possibilities, please refer to the following pages.

Please keep in mind, that the device cannot be positioned during programming!

User interface elements



The **LCD-Display** indicates several information in normal operation mode. The first line shows a moving text with service telephone number. The second line shows the current DMX address and the incoming value (0..255).

The four buttons enables the user to program the device. That is described in the next chapters.

General programming hint

Do not forget to bring back the device in normal operating mode after programming (Press **two times OK**). Otherwise the shutter will not move.

Some menus are not accessible in some modes. For example if the shutter is in single channel mode, the menu P02 (speed) is not accessible and necessary.

Display lighting ON/OFF

In normal mode the light of the LCD display is switched off to avoid annoying light. When programming or in case of an error, the light will be switched on automatically. In addition the user can switch on the light manually.

Condition: Shutter in normal mode.

Operation:



depress. Display lighting **ON**.



depress again. Display lighting **OFF**.

Reset to factory presettings

The following explains how to reset the device to factory presettings (refer to page 23).

Operation:



Power down shutter.

depress.

Power up shutter and wait until

reinit okay is indicated.

Release all buttons.




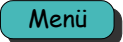



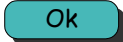
Wait until initialisation run is done.

P01 DMX-address shutter

At this point the **DMX address** of the shutter can be adapted to the address of the light mixer panel.

Range of values: Address 1..512

Operation:

-  depress Now you are at the menu level, the last adjusted menu point is displayed, e.g.:
P02: DMX-Adresse SPEED
-   depress until P01: DMX-Adresse Position is displayed.
-  depress The second line indicates the currently adjusted value
-   depress Adjust the desired DMX address
-  depress You are back at menu level
-  depress The equipment is ready for operation


P02 DMX address speed



At this point the **DMX address for speed control** of the shutter can be adapted to the address of the light mixer panel.


If the value is 0, the internal adjusted speed of P20 will be used. In this case it is possible to operate the shutter with one DMX channel.



Range of values: Address 0..512

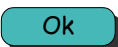
Operation:

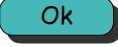
-  depress Now you are at the menu level, the last adjusted menu point is displayed, e.g.:
P01: DMX-CHannel position

-   depress until P02: DMX-channel speed is displayed.

-  depress The second line indicates the currently adjusted value.

-   depress Adjust the desired DMX address.

-  depress You are back at menu level.

-  depress The equipment is ready for operation.

Caution!


If the speed channel is set to **0** the value that is adjusted at menu P20 (refer to page 16) will be used as speed value. In this case it is possible to operate the shutter with one DMX channel. This means, there is no speed control by the light mixing panel!



P08 One address mode DMX-address


At this point you can decide if the DMX addresses should be programmed **individual** or only the **first** address is set and the other follows. At Licht-Technik equipment you can go both ways: adjust one address or the 2 addresses separately.

Range of values: 1 set up only the first address (P01) the other will follow to this.
0 you can adjust the two addresses individually.


Operation:

 depress Now you are at the menu level, the last adjusted menu point is displayed, e.g.:
P01: DMX-CHannel position

  depress until P08: DMX addresses 0:individual 1:
only first address is displayed.

 depress The second line indicates the currently adjusted value.

  depress Adjust the desired addressing mode.

 depress You are back at menu level.

 depress The equipment is ready for operation.

Note:


If a 1 is programmed at this menu, you can not set the DMX-addresses for speed. Only the address for position (Menu P01) can be set. The speed address ist automatically one higher than the address for position. For example if you set the position address to 287, the speed address will be automatically 288!



P15 Move mode Shutter


At this point you can set the **move mode** of the shutter.



Range of values: 0: Speed mode
1: 16-Bit-mode
2: Single channel mode


Operation:

 depress Now you are at the menu level, the last adjusted menu point is displayed, e.g.:
P01: DMX-Channel position

  depress until P15: Speed mode 0:speed 1:16-Bit 2:one channel is displayed.

 depress The second line indicates the currently adjusted value.

  depress Adjust the desired move mode.

 depress You are back at menu level.

 depress The equipment is ready for operation.

Please note:

- In Single-Channel and 16-Bit-mode, no speed channel is required.
- 16-Bit-mode addresses: First channel (P01) is high order the following channel (P01 +1) is low order ("fine").

Hint:




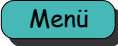



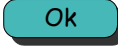
Use the Single-Channel or 16-Bit-mode mode if possible. The speed mode uses for every positioning the programmed speed. Especially when moving the fader by hand, the light will jerk. In single-channel mode the shutter calculates the speed itself from the position channel and moves very soft and jerking free.

P18 Center position compensation

This function helps to correct the **opened position**. The device will move immediately to the new limit position.

Range of values: 0..5000 steps

Operation:








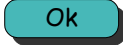
-  depress Now you are at the menu level, the last adjusted menu point is displayed, e.g.:
P01: DMX-Channel position.
-   depress until P18: center position compensation is displayed.
-  depress The second line displays the currently adjusted value
-   depress Adjust the desired value
-  depress You are back at menu level again
-  depress The equipment is ready for operation now.

P19 Zero position compensation

This function helps to correct the **closed position**. The device will move immediately to the new limit position.

Range of values: 0..5000 steps

Operation:









-  depress Now you are at the menu level, the last adjusted menu point is displayed, e.g.:
P01: DMX-Channel position.
-   depress until P19: zero position compensation is displayed
-  drücken The second line displays the currently adjusted value
-   depress Adjust the desired value
-  depress You are back at menu level again
-  depress The equipment is ready for operation now.

P20 Internal Shutter speed

At this point you can define with which **speed** the shutter shall move when no DMX channel for speed is programmed (P02 is 0). This value is only used as speed if P02 is set to 0.

Range of values: 0..255

Operation:

-  depress Now you are at the menu level, the last adjusted menu point is displayed, e.g.:
P01: DMX-CHannel position.
-   depress until P20: speed if p02-Value is 0 is displayed.
-  depress The second line displays the currently adjusted value
-   depress Adjust the desired internal speed value
-  depress You are back at menu level again
-  depress The equipment is ready for operation now.

Caution!









This value is only used when P02 is 0 and P15 is set to speed mode!

P28 Handmode

At this point it is possible to move the blades by **hand**. A DMX signal is not necessary.

Range of values: 1 .. 255

Operation:









-  depress Now you are at the menu level, the last adjusted menu point is displayed, e.g.:
P01: DMX-CHannel position
-   depress until P28: handmode is displayed.
-  depress The second line indicates the current value
-   depress Move the blades by hand.
-  depress You are back at menu level.
-  depress The equipment is ready for operation.

P30 Show DMX

This function assists you in **checking** the values transmitted by the light mixer panel. You can check quickly the values of the incoming DMX channels. Furthermore, the channel selected in this menu determines the address shown in normal operation. The displayed channel in normal mode is reset to the current position channel if the device is repowered or the position channel is changed (P01).

Range of values: 1..512

Operation:









-  depress Now you are at the menu level, the last adjusted menu point is displayed, e.g.:
P01: DMX-Channel position.
-   depress until P30: Show DMX is displayed
-  depress The second line displays the currently adjusted value
-   depress Adjust the desired DMX address or check the values of the DMX channels
-  depress You are back at menu level again
-  depress The equipment is ready for operation now. The adjusted address is displayed.

P32 Selecting user language

At this point you can choose a **language** in which you want the texts and messages to be displayed.

Range of values: 0: German
1: English

Operation:


-  depress Now you are at the menu level, the last adjusted menu point is displayed, e.g.:
P01: DMX-Channel position.
-   depress until P32: language 0: German 1:English is displayed
-  depress The second line displays the currently adjusted value
-   depress Adjust the desired value: 0:German 1:English
-  depress You are back at menu level again.
-  depress The equipment is ready for operation now.



P35 Unit number (Netspider only!)

With this function the user can set the **unit number** for the netspider systems. This parameter is only used in Netspider systems.

Range of values: 0..9999


Operation:

 depress Now you are at the menu level, the last adjusted menu point is displayed, e.g.:
P01: DMX-Channel position.

  depress until P35: unit number (netspider only) is displayed

 depress The second line displays the currently adjusted value

  depress Adjust the desired value.







 depress You are back at menu level again.

 depress The equipment is ready for operation now.

P50 Software version

With this function you check the programmed software version. Nothing can be set there. This parameter has no affect to the function of the device.

Operation:

-  depress Now you are at the menu level, the last adjusted menu point is displayed, e.g.:
P01: DMX-CHannel position.
-   depress until P50: software version is displayed
-  depress The second line displays the currently software version.
-  depress You are back at menu level again.
-  depress The equipment is ready for operation now.

Technical data

Weight and dimensions (including holding plate):

Type	Height [mm]	Width [mm]	Depth [mm]	Weight [kg]	Remark
SH – 180 SE 07	320	295	45	2,3	
SH – 180 SE 08	365	295	45	2,6	integrated power supply
SH – 250 SE 02	405	385	60	4,1	

Connected loads: SH - 180 SE 07: 24 V DC, max. 0,63A, 15W
SH - 180 SE 08: 100/240 VAC, 47 -63 Hz
SH - 250 SE 02: 24 V DC, max. 0,63A, 15W

PIN assignment:

Data-Power-cable: 4pol XLR connector

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

Housing: shield

Data line:

5pol XLR connector	
PIN1 0V (GND)	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

Housing: shield

The data wires (Pin 2 and 3) must be implemented as twisted pair and have an own shield. The characteristic impedance must be 110 Ohm.

Please note:

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

Factory Presettings

Menu	Value	Description
P01	1	DMX Channel position
P02	0	DMX Channel speed
P08	0	Addresses individual/only the first
P15	2	Move mode shutter
P18	Device specific	Center position compensation
P19	Device specific	Zero position compensation
P20	255	Speed, if P02-Value is 0
P28	128	Handmode position
P30	0	Show DMX
P32	1	Language
P35	1	Unit number (Netspider only)
P50	Device specific	Software version

Tip:

The factory presettings can be resetted by pressing the keys Up and Ok during switching on the device.

Error messages / Failures

No display after Power up:

- Check cable connections to the device
- The Equipment houses a slow-blow fuse for currents of 2A protecting the shutter from wrong polarities at the supply line. When fuse is blown, it is absolutely necessary to check cable and polarity (PIN1 = 0V, PIN4 = 24V).

Error 30: Motor/Potentiometer blocked

- Check, if there is any foreign object inside the device
- Check, if the drive can move easily
- Check cable connections to motor and potentiometer
- Connections are reversed, if motor or potentiometer was changed

Error 28: EEPROM

- Please contact *Licht-Technik*

Error 21: DMX signal reversed

- Check input line if Pin 2 and Pin 3 are reversed.
- Check DMX supply cable to the Power supply unit (splitbox) if used.

Error 20: DMX signal missing

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

If the error cannot be recovered, contact please the company Licht-Technik.

Warranty

The warranty for this shutter 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 misuse

Further information

This document and the information contained therein are subject to copyright and neither the whole nor any part of it may, and this is also valid for the described product, be reproduced, copied or recorded in any form without the prior written authorization of Licht-Technik Vertriebs GmbH.

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.

EC Declaration of Conformity

1. **Type of device/product** Dimmer Shutter Event
2. **Name and address of manufacturer** Licht-Technik Vertriebs GmbH
Osterwaldstraße 9-10
80805 München
3. **The manufacturer is responsible for this declaration**
4. **Item of declaration** Sh-180 SE 07, SH-250 SE 02
5. **The described item is conform to the following guidelines/regulations**

RICHTLINIE 2014/30/EU DES EUROPÄISCHEN PARLAMENTS UND DES RATES vom 26. Februar 2014 zur Harmonisierung der Rechtsvorschriften der Mitgliedstaaten über die elektromagnetische Verträglichkeit

RICHTLINIE 2011/65/EU DES EUROPÄISCHEN PARLAMENTS UND DES RATES vom 8. Juni 2011 zur Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten

6. **Applied and conform to harmonized standards in particular**

DIN EN 55015; VDE 0875-15-1:2016-04 - Grenzwerte und Messverfahren für Funkstörungen von elektrischen Beleuchtungseinrichtungen und ähnlichen Elektrogeräten (CISPR 15:2013 + IS1:2013 + IS2:2013 + A1:2015); Deutsche Fassung EN 55015:2013 + A1:2015

DIN EN 61547; VDE 0875-15-2:2010-03 Einrichtungen für allgemeine Beleuchtungszwecke – EMV-Störfestigkeitsanforderungen (IEC 61547:2009); Deutsche Fassung EN 61547:2009

7. **A test report is available from company Licht-Technik Vertriebs GmbH**
8. **This declaration is invalid if the device is changed technically and/or unintended use.**

Signed for

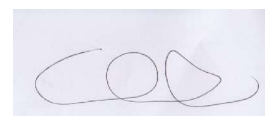
Licht-Technik Vertriebs GmbH

Place and date of description

München 18.10.2017



Uwe Hagenbach (Geschäftsführer)



Bernhard Grill (Geschäftsführer)

EC Declaration of Conformity

1. **Type of device/product** Dimmer Shutter Event
2. **Name and address of manufacturer** Licht-Technik Vertriebs GmbH
Osterwaldstraße 9-10
80805 München
3. **The manufacturer is responsible for this declaration**
4. **Item of declaration** Sh-180 SE 07
5. **The described item is conform to the following guidelines/regulations**

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DIN EN 61547; VDE 0875-15-2:2010-03 Einrichtungen für allgemeine Beleuchtungszwecke – EMV-Störfestigkeitsanforderungen (IEC 61547:2009); Deutsche Fassung EN 61547:2009

DIN EN 60598-1; VDE 0711-1:2015-10 – Leuchten – Teil 1: Allgemeine Anforderungen und Prüfungen (IEC 60598-1:2014, modifiziert); Deutsche Fassung EN 60598-1:2015

7. **A test report is available from company Licht-Technik Vertriebs GmbH**
8. **This declaration is invalid if the device is changed technically and/or unintended use.**

Signed for

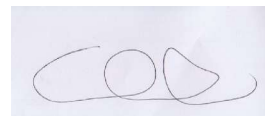
Licht-Technik Vertriebs GmbH

Place and date of description

München 18.10.2017



Uwe Hagenbach (Geschäftsführer)



Bernhard Grill (Geschäftsführer)