**VARYTEC**

LED Bar 240/8 CW/WW DMX

User manual

LED bar

# Table of contents

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# 1 General information

This user manual contains important information on the safe operation of the device. Read and follow all safety notes and all instructions. Save this manual for future reference. Make sure that it is available to all persons using this device. If you sell the device to another user, be sure that they also receive this manual.

Our products and user manuals are subject to a process of continuous development. We therefore reserve the right to make changes without notice. Please refer to the latest version of the user manual which is ready for download under *www.thomann.de*.

## 1.1 Further information

On our website (*www.thomann.de)* you will find lots of further information and details on the following points:

| | |
|---|---|
| Download | This manual is also available as PDF file for you to download. |
| Keyword search | Use the search function in the electronic version to find the topics of interest for you quickly. |
| Online guides | Our online guides provide detailed information on technical basics and terms. |
| Personal consultation | For personal consultation please contact our technical hotline. |
| Service | If you have any problems with the device the customer service will gladly assist you. |

## 1.2 Notational conventions

This manual uses the following notational conventions:

**Letterings**

The letterings for connectors and controls are marked by square brackets and italics.

**Examples:** *[VOLUME]* control, *[Mono]* button.

**Displays**

Texts and values displayed on the device are marked by quotation marks and italics.

**Examples:** *'24ch'* , *'OFF'* .

## 1.3 Symbols and signal words

In this section you will find an overview of the meaning of symbols and signal words that are used in this manual.

| Signal word | Meaning |
|---|---|
| **DANGER!** | This combination of symbol and signal word indicates an immediate dangerous situation that will result in death or serious injury if it is not avoided. |
| **WARNING!** | This combination of symbol and signal word indicates a possible dangerous situation that can result in death or serious injury if it is not avoided. |
| **NOTICE!** | This combination of symbol and signal word indicates a possible dangerous situation that can result in material and environmental damage if it is not avoided. |

| Warning signs | Type of danger |
|---|---|
|  | Warning – high-voltage. |
|  | Warning – dangerous optical radiation. |

| Warning signs | Type of danger |
|---|---|
|  | Warning – suspended load. |
|  | Warning – danger zone. |

# 2    Safety instructions

**Intended use**

This device is intended for use as an electronic lighting effect by means of LED technology. The device is designed for professional use and is not suitable for use in households. Use the device only as described in this user manual. Any other use or use under other operating conditions is considered to be improper and may result in personal injury or property damage. No liability will be assumed for damages resulting from improper use.

This device may be used only by persons with sufficient physical, sensorial, and intellectual abilities and having corresponding knowledge and experience. Other persons may use this device only if they are supervised or instructed by a person who is responsible for their safety.

Extend the life of the device by regular breaks in operation and avoid switching it on and off frequently. This device is not suitable for continuous use.

**Safety**

| | |
|---|---|
| ⚠️ | **DANGER!**<br>**Danger for children**<br>Ensure that plastic bags, packaging, etc. are disposed of properly and are not within reach of babies and young children. Choking hazard!<br><br>Ensure that children do not detach any small parts (e.g. knobs or the like) from the unit. They could swallow the pieces and choke!<br><br>Never let children unattended use electrical devices. |

> **DANGER!**
> **Electric shock caused by high voltages inside**
> Within the device there are areas where high voltages may be present. Never remove any covers.
>
> There are no user-serviceable parts inside.
>
> Do not use the device if covers, protectors or optical components are missing or damaged.

> **DANGER!**
> **Electric shock caused by short-circuit**
> Always use proper ready-made insulated mains cabling (power cord) with a protective contact plug. Do not modify the mains cable or the plug. Failure to do so could result in electric shock/death or fire. If in doubt, seek advice from a registered electrician.

**WARNING!**
**Eye damage caused by high light intensity**
Never look directly into the light source.

**WARNING!**
**Risk of epileptic shock**
Strobe lighting can trigger seizures in photosensitive epilepsy. Sensitive persons should avoid looking at strobe lights.

**NOTICE!**
**Risk of fire**
Do not block areas of ventilation. Do not install the device near any direct heat source. Keep the device away from naked flames.

**!**

**NOTICE!**

**Operating conditions**

This device has been designed for indoor use only. To prevent damage, never expose the device to any liquid or moisture. Avoid direct sunlight, heavy dirt, and strong vibrations.

Only operate the device within the ambient conditions specified in the chapter 'Technical specifications' of this user manual. Avoid heavy temperature fluctuations and do not switch the device on immediately after it was exposed to temperature fluctuations (for example after transport at low outside temperatures).

Dust and dirt inside can damage the unit. When operated in harmful ambient conditions (dust, smoke, nicotine, fog, etc.), the unit should be maintained by qualified service personnel at regular intervals to prevent overheating and other malfunction.

**!**

**NOTICE!**

**Power supply**

Before connecting the device, ensure that the input voltage (AC outlet) matches the voltage rating of the device and that the AC outlet is protected by a residual current circuit breaker. Failure to do so could result in damage to the device and possibly injure the user.

Unplug the device before electrical storms occur and when it is unused for long periods of time to reduce the risk of electric shock or fire.

**!**

**NOTICE!**

**Possible damage due to installation of a wrong fuse**

The use of different types of fuses can cause serious damage to the unit. Fire hazard!

Only fuses of the same type may be used.

# 3    Features

The LED bar is particularly suitable for generating dynamic surface effects in the context of professional lighting tasks, for example at events, on rock stages, in theatres and musicals.

Special features of the device:

- 240 × LEDs (120 × warm white, 120 × cold white, je 10 mm) in eight segments
- Control via DMX (4 different modes), via buttons and display on the unit as well as an optionally available IR remote control (item no. 398052)
- 20 preprogrammed automatic shows
- Sound control
- Master / Slave mode
- Robust metal housing
- optionally available case for four LED bars (item no. 309617)

For technological reasons, the light output of LEDs decreases over their lifetime. This effect increases with higher operating temperature. You can extend the service life of the illuminants by providing adequate ventilation and operating the LEDs with the lowest possible brightness.

# 4    Installation

Unpack and check carefully there is no transportation damage before using the unit. Keep the equipment packaging. To fully protect the product against vibration, dust and moisture during transportation or storage use the original packaging or your own packaging material suitable for transport or storage, respectively.

**Mounting options**

You can install the unit in hanging or standing position. When in use, the device must always be attached to a solid surface or an approved truss. Use the openings of the bracket provided for mounting.

Always work from a stable platform whenever installing, moving or servicing the unit. In doing so, the area underneath the unit must be cordoned off.

The safety cable must be attached to both brackets.

**WARNING!**

**Risk of injury caused by falling objects**

Make sure that the installation complies with the standards and rules that apply in your country. Always secure the device with a secondary safety attachment, such as a safety cable or a safety chain.

**NOTICE!**

**Risk of overheating**

The distance between light output and the illuminated surface must be more than 1.5 m (19.7in).

Provide sufficient ventilation.

The ambient temperature must always be below 40 °C (104 °F).

**!** **NOTICE!**
**Use of stands**
When mounting the device onto a stand, ensure that the stand is in a safe and stable position and that the weight of the device does not exceed the maximum permissible load capacity of the stand.

**!** **NOTICE!**
**Possible data transmission errors**
For error-free operation make use of dedicated DMX cables and do not use ordinary microphone cables.

Never connect the DMX input or output to audio devices such as mixers or amplifiers.

*Please note that this device must not be connected to a dimmer.*

# 5 Starting up

Create all connections while the device is off. Use the shortest possible high-quality cables for all connections. Take care when running the cables to prevent tripping hazards.

**Connections in DMX mode**

Connect the DMX input of the device to the DMX output of a DMX controller or another DMX device. Connect the output of the first DMX device to the input of the second one, and so on to form a daisy chain. Always ensure that the output of the last DMX device in the daisy chain is terminated with a resistor (110 Ω, ¼ W).
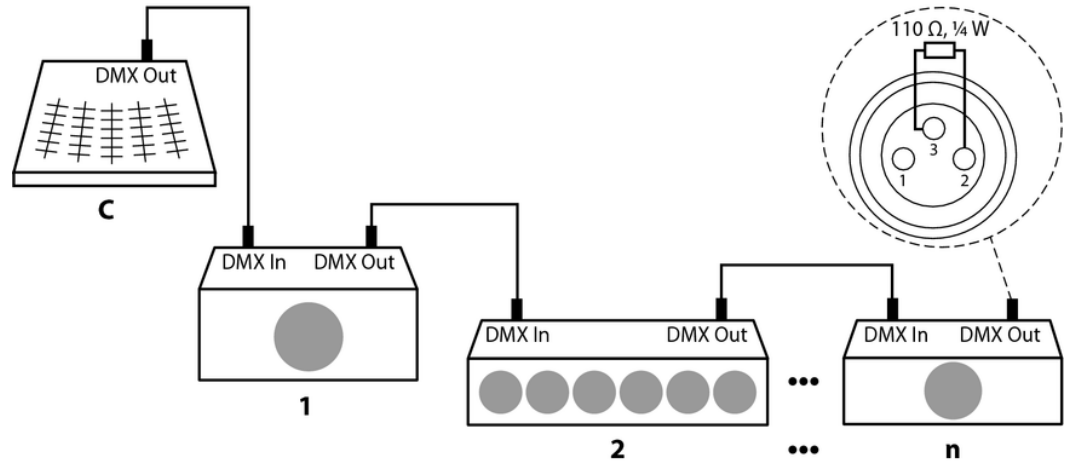
**DMX indicator**

If the indicator is flashing in the DMX mode, no DMX signal is received. Maybe the DMX controller is not switched on or there is a cabling error. If the indicator lights permanently, the device receives a valid DMX signal.

**Connections in master/slave mode**

When you configure a group of devices in master/slave mode, the first unit will control the other units for an automatic, sound-activated, synchronized show. This function is ideal when you want to start a show immediately. Connect the DMX output of the master device to the DMX input of the first slave device. Then connect the DMX output of the first slave device to the DMX input of the second slave device and so on.

# 6    Connections and controls
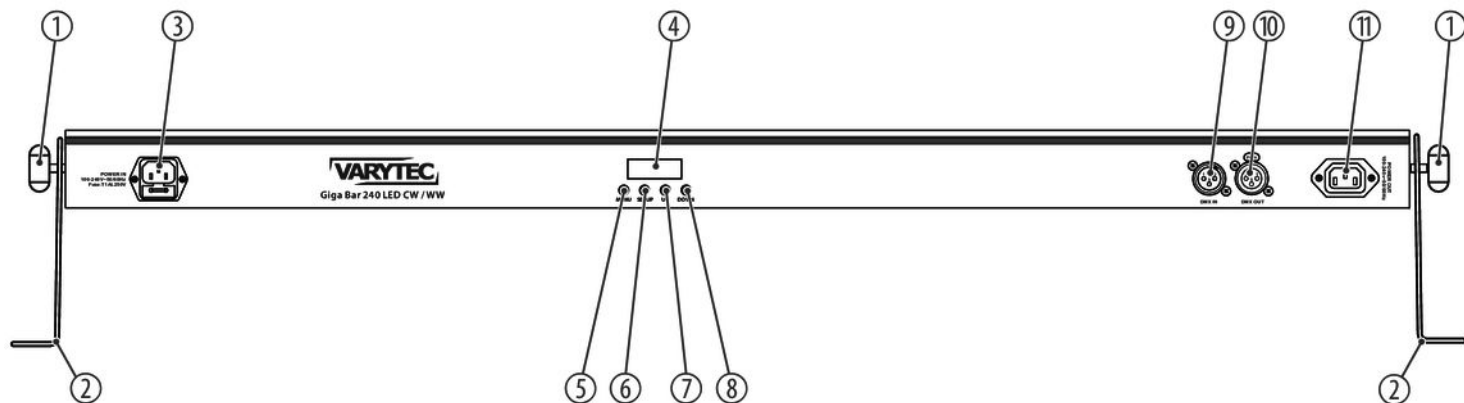
| | | |
|---|---|---|
| 1 | Locking screws for the mounting bracket | |
| 2 | Mounting bracket | |
| 3 | *[POWER IN]* <br> IEC chassis plug for operating voltage supply with fuse holder | |
| 4 | Display | |
| 5 | *[MODE]* <br> Activates the main menu and toggles between menu items. | |
| 6 | *[SETUP]* <br> Selects an option of the respective operating mode. | |
| 7 | *[UP]* <br> Navigates upwards in a menu list. Increases the displayed value by one. | |
| 8 | *[DOWN]* <br> Navigates downwards in a menu list. Decreases the displayed value by one. | |

| | | |
|---|---|---|
| 9 | *[DMX In]* | |
| | DMX input | |
| 10 | *[DMX Out]* | |
| | DMX output | |
| 11 | *[POWER Out]* | |
| | IEC chassis socket for the power supply cable to the next unit. | |

**IR remote control**       IR remote control is optional accessory and not included.
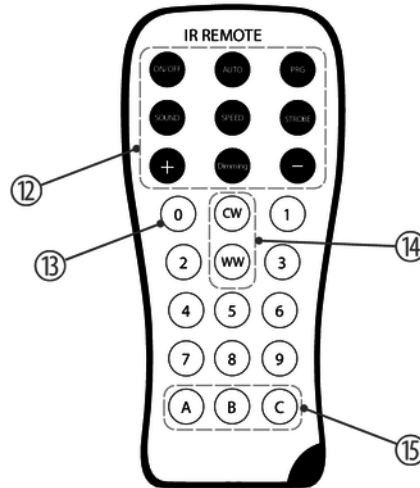
| 12 | *[ON/OFF]* |
| | Activates / deactivates the device |
| | *[AUTO]* |
| | Enables the Auto mode |
| | *[PRG]* |
| | Enables the Programme mode. Select the desired programme with the buttons *[+]* and *[–]*. |
| | *[SOUND]* |
| | Activates the sound control |
| | *[SPEED]* |
| | Activates the setting mode for the programme speed. Adjust the speed using the buttons *[+]* and *[–]*. |
| | *[STROBE]* |
| | Turns the strobe function on / off |
| | *[+]* |
| | Increases the set value by one |

| | |
|---|---|
| | *[–]* <br> Decreases the set value by one |
| | *[Dimming]* <br> Activates the mode for stepless brightness adjustment of the CW and WW LEDs. |
| 13 | *[0 … 9]* <br> Numeric buttons for the direct brightness selection in percent (see following table) |
| 14 | *[CW], [WW]* <br> Buttons for stepless brightness adjustment of the CW and WW LEDs. Activate the mode with *[Dimming]*. |
| 15 | *[A], [B], [C]* <br> Numeric buttons for the direct brightness selection in percent (see following table) |

| Button | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Brightness WW in % | 5 | 10 | 20 | 40 | 60 | 80 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Brightness CW in % | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 80 | 60 | 40 | 20 | 10 | 5 |

**Additional functions**

After switching on, press again *[ON/OFF]* to enable or disable the Blackout function.

In Blackout operation, you can restore the factory defaults by successively pressing the buttons *[9]*, *[8]* and *[7]* on the remote control.

**Inserting the battery into the remote control**

Press the lock of the battery holder to the centre of the housing and pull out the battery holder like a drawer. Insert the battery. The battery is correct if the positive pole points to the housing base of the remote control. Slide the battery holder back into the remote until it clicks into place.

When shipping, the battery is already installed in the remote and protected against discharge by a transparent plastic foil. Remove the plastic foil prior to first use.
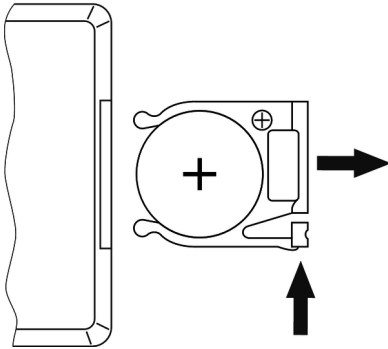
# 7 Operating

## 7.1 Starting the device

Connect the device to the power supply to start operation. After a few seconds, the display indicates that a reset is in progress. The device is then ready for use.

## 7.2 Main menu

Press *[MODE]* to activate the main menu and select an operating mode. Use *[UP]* and *[DOWN]* to change the respectively displayed value. When the display shows the desired value, press *[SETUP]*.

If you don't press any button for about 20 seconds, the current setting will be automatically applied and the display turns off. The set values are retained as long as the device is connected to the mains power supply.

**Operating mode 'Built-in auto-matic show'**

A built-in automatic show can only be activated when the unit is operating in stand-alone mode or as master in a master / slave combination. This setting is only relevant if the device is not controlled via DMX.

Press *[Mode]* repeatedly until the display shows *'PrXX'*. Confirm with *[SETUP]*. Now you can select one of the preprogrammed automatic shows. Use *[UP]* and *[DOWN]* to select a value between *'Pr.01'* and *'Pr.20'*.

To adjust the speed of the selected auto show, press *[SETUP]* repeatedly until the display shows *'SP.xx'*. Now use *[UP]* and *[DOWN]* to select a value between *'SP.01'* (slow) and *'SP.FL'* (fast).

To adjust the flash frequency, press *[SETUP]* repeatedly until the display shows *'FS.xx'*. Use *[UP]* and *[DOWN]* to select a value between *'FS.00'* (slow) and *'FS.FL'* (fast).

To adjust the cross-fade effect, press *[SETUP]* repeatedly until the display shows *'Fd.xx'*. Now use *[UP]* and *[DOWN]* to select a value between *'Fd.00'* (no cross-fading) and *'Fd.99'* (slow fade speed).

Wait about 20 seconds until the display turns dark. Then the settings have been applied. To return to the parent menu without making changes, press *[MODE]*.

**Operating mode 'Automatic'**

Automatic operation can only be activated when the unit is operating in stand alone mode or as master in a master / slave combination. This setting is only relevant if the device is not controlled via DMX.

Press *[MODE]* repeatedly until the display shows *'Auto'*.

To adjust the speed of the selected auto show, press *[SETUP]* repeatedly until the display shows *'SP.xx'*. Now use *[UP]* and *[DOWN]* to select a value between *'SP.01'* (slow) and *'SP.FL'* (fast).

To adjust the flash frequency, press *[SETUP]* repeatedly until the display shows *'FS.xx'*. Use *[UP]* and *[DOWN]* to select a value between *'FS00'* (slow) and *'FS.FL'* (fast).

To adjust the cross-fade effect, press *[SETUP]* repeatedly until the display shows *'Fd.xx'*. Now use *[UP]* and *[DOWN]* to select a value between *'Fd.00'* (no cross-fading) and *'Fd.99'* (slow fade speed).

Wait about 20 seconds until the display turns dark. Then the settings have been applied. To return to the parent menu without making changes, press *[MODE]*.

**Sound control and microphone sensitivity**

A sound controlled automatic show can only be activated when the unit is operating in stand alone mode or as master in a master / slave combination. This setting is only relevant if the device is not controlled via DMX.

Press *[MODE]* until the display shows *'SUxx'*. This activates a sound controlled automatic show.

Now you can adjust the sensitivity of the built-in microphone for sound control. Use *[UP]* and *[DOWN]* to select a value between 0 (low sensitivity) and 31 (high sensitivity), display shows *'SU.00' 'SU.31'*.

Wait about 20 seconds until the display turns dark. Then the settings have been applied. To return to the parent menu without making changes, press *[MODE]*.

**DMX address**

This setting is only relevant when the device is controlled via DMX.

Press *[MODE]* repeatedly until the display shows *'dxxx'*.

Now you can set the number of the first DMX channel to be used by the device (DMX address). Use *[UP]* and *[DOWN]* to select a value between 1 and 512 (display shows *'d001'* … *'d512'*).

Make sure that this number matches the configuration of your DMX controller. The following table shows the highest possible first DMX address for the various DMX modes.

| Mode | |
|---|---|
| 2-channel | 511 |
| 4-channel | 509 |
| 6-channel | 507 |
| 16-channel | 497 |

Wait about 20 seconds until the display turns dark. Then the settings have been applied. To return to the parent menu without making changes, press *[MODE]*.

**DMX mode**

This setting is only relevant when the device is controlled via DMX.

Press *[MODE]* repeatedly until the display shows *'dxxx'*. Press *[SETUP]*. Now use *[UP]* and *[DOWN]* to select one of the following DMX operating modes:

- ◼ *'2-ch'* (two channels)
- ◼ *'4-ch'* (four channels)
- ◼ *'6-ch'* (six channels)
- ◼ *'16ch'* (sixteen channels)

Press *[SETUP]* to confirm the set value. Wait about 20 seconds until the display turns dark. Then the settings have been applied. To return to the parent menu without making changes, press *[MODE]*.

**Operating mode 'Slave'**

This setting is only relevant if the device is serving as Slave in a Master / Slave configuration and is not controlled via DMX.

Press *[MODE]* until the display shows *'SLAv'*.

Wait about 20 seconds until the display turns dark. Then the settings have been applied. To return to the parent menu without making changes, press *[MODE]*.

**Constant unicoloured pattern**

A constant unicoloured pattern can only be activated when the unit is operating in stand alone mode or as master in a master / slave combination. This setting is only relevant if the device is not controlled via DMX.

Press *[MODE]* repeatedly until the display shows *'CoLr'*.

Press *[SETUP]* to open the menu for the 'Warm white' adjustment. Press *[UP]* und *[DOWN]* to set the intensity in a range from *'S.000'* … *'S.255'*.

Press *[SETUP]* again to open the menu for the 'Cold white' adjustment. Press *[UP]* und *[DOWN]* to set the intensity in a range from *'U.000'* … *'U.255'*.

To adjust the flash frequency, press *[SETUP]* repeatedly until the display shows *'FS.xx'*. Now use *[UP]* and *[DOWN]* to select a value between *'FS.00'* (slow) and *'FS.99'* (fast).

Wait about 20 seconds until the display turns dark. Then the settings have been applied. To return to the parent menu without making changes, press *[MODE]*.

## 7.3 Menu overview
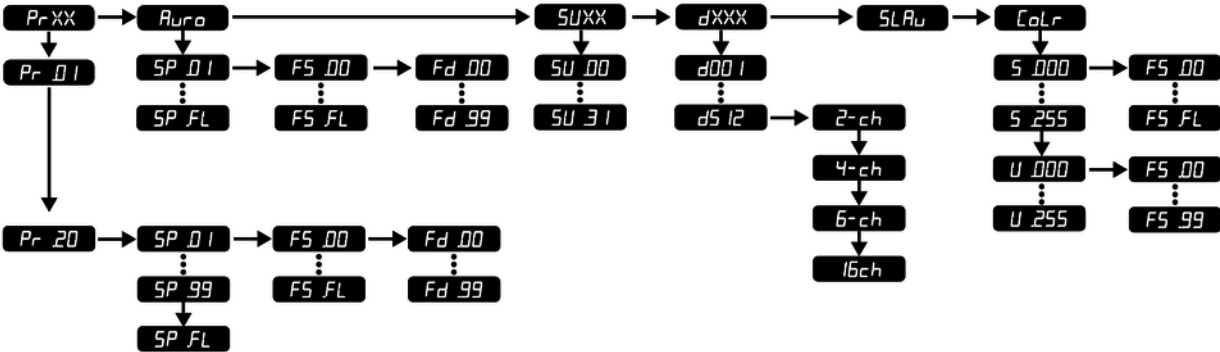
## 7.4 Functions in 2-channel DMX mode

| Channel | Value | Function |
| --- | --- | --- |
| 1 | 0 … 255 | Intensity warm white |
| 2 | 0 … 255 | Intensity cold white |

## 7.5 Functions in 4-channel DMX mode

| Channel | Value | Function |
| --- | --- | --- |
| 1 | 0 … 255 | Dimmer function |
| 2 | 0 … 255 | Intensity warm white |

| Channel | Value | Function |
|---|---|---|
| 3 | 0 … 255 | Intensity cold white |
| 4 | 0 … 255 | Strobe speed |

## 7.6 Functions in 6-channel DMX mode

| Channel | Value | Function |
|---|---|---|
| 1 | 0 … 255 | Dimmer function |
| 2 | 0 … 255 | Intensity warm white, if channel 4 = 0 … 9 |
| 3 | 0 … 255 | Intensity cold white, if channel 4 = 0 … 9 |
| 4 | 0 … 9 | Warm and cold white adjustment with channels 2 and 3 |
|  | 10 … 19 | Warm white |
|  | 20 … 29 | Warm white, cold white |

| Channel | Value | Function |
|---|---|---|
| | 30 … 39 | Cold white |
| | 40 … 49 | Programme 02 |
| | 50 … 59 | Programme 03 |
| | 60 … 69 | Programme 04 |
| | 70 … 79 | Programme 05 |
| | 80 … 89 | Programme 06 |
| | 90 … 99 | Programme 07 |
| | 100 … 109 | Programme 08 |
| | 110 … 119 | Programme 09 |
| | 120 … 129 | Programme 10 |
| | 130 … 139 | Programme 11 |
| | 140 … 149 | Programme 12 |

| Channel | Value | Function |
|---------|-------|----------|
| | 150 … 159 | Programme 13 |
| | 160 … 169 | Programme 14 |
| | 170 … 179 | Programme 15 |
| | 180 … 189 | Programme 16 |
| | 190 … 199 | Programme 17 |
| | 200 … 209 | Programme 18 |
| | 210 … 219 | Programme 19 |
| | 220 … 229 | Programme 20 |
| | 230 … 255 | Sound-controlled operation |
| 5 | 0 … 255 | Sound mode 1 … 19 |

| Channel | Value | Function |
|---------|-------|----------|
|         |       | Programme process speed, if channel 4 = 40 … 229 |
| 6       | 0 … 255 | Strobe speed |

## 7.7 Functions in 16-channel DMX mode

| Channel | Value | Function |
|---------|-------|----------|
| 1 | 0 … 255 | Intensity (0 % to 100 %), warm white 1 Segment |
| 2 | 0 … 255 | Intensity (0 % to 100 %), cold white 1 Segment |
| 3 | 0 … 255 | Intensity (0 % to 100 %), warm white 2 Segment |
| 4 | 0 … 255 | Intensity (0 % to 100 %), cold white 2 Segment |
| 5 | 0 … 255 | Intensity (0 % to 100 %), warm white 3 Segment |
| 6 | 0 … 255 | Intensity (0 % to 100 %), cold white 3 Segment |

| Channel | Value | Function |
|---|---|---|
| 7 | 0 … 255 | Intensity (0 % to 100 %), warm white 4 Segment |
| 8 | 0 … 255 | Intensity (0 % to 100 %), cold white 4 Segment |
| 9 | 0 … 255 | Intensity (0 % to 100 %), warm white 5 Segment |
| 10 | 0 … 255 | Intensity (0 % to 100 %), cold white 5 Segment |
| 11 | 0 … 255 | Intensity (0 % to 100 %), warm white 6 Segment |
| 12 | 0 … 255 | Intensity (0 % to 100 %), cold white 6 Segment |
| 13 | 0 … 255 | Intensity (0 % to 100 %), warm white 7 Segment |
| 14 | 0 … 255 | Intensity (0 % to 100 %), cold white 7 Segment |
| 15 | 0 … 255 | Intensity (0 % to 100 %), warm white 8 Segment |
| 16 | 0 … 255 | Intensity (0 % to 100 %), cold white 8 Segment |

# 8 Technical specifications
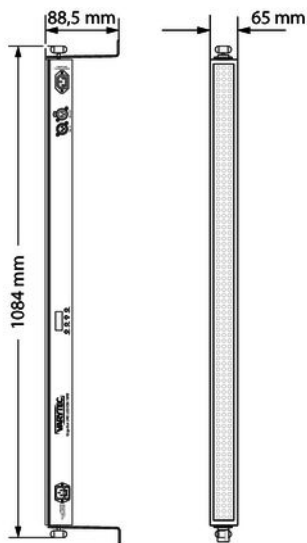
| Light source | 240 × LEDs (120 × warm white, 120 × cold white) in eight segments | |
|---|---|---|
| Light source properties | Colour temperature | Warm white: 3200 K |
| | | Cold white: 6000 K |
| | Colour rendering index | 70 |
| Optical properties | Beam angle | 30° |
| Control | DMX, buttons and display on the unit, infrared remote control (not included) | |
| Number of DMX channels | 2, 4, 6 or 16 | |
| Input connections | Voltage supply | IEC chassis plug C14 |
| | DMX control | XLR chassis socket, 3-pin |
| Output connections | Voltage supply | IEC chassis socket C14 |
| | DMX control | XLR chassis socket, 3-pin |

| | | |
|---|---|---|
| Power consumption | 25 W | |
| Supply voltage | 100 – 240 V $\sim$ 50/60 Hz | |
| Fuse | 5 mm × 20 mm, 1 A, 250 V, slow-blow | |
| Degree of protection | IP20 | |
| Mounting options | Hanging, standing | |
| Dimensions (W × H × D) | 1084 mm × 88.5 mm × 65 mm | |
| Weight | 2.6 kg | |
| Ambient conditions | Temperature range | 0 ℃…40 ℃ |
| | Relative humidity | 50 %, non-condensing |

**Further information**

| | |
|---|---|
| Outdoor-ready | No |
| LED type | Unicoloured LEDs |
| Fanless | Yes |
| Remote control | Optional |
| Wireless DMX | No |
| Housing colour | Black |
| Separately controllable LEDs | No |

# 9 Plug and connection assignments

**Introduction**

This chapter will help you select the right cables and plugs to connect your valuable equipment so that a perfect light experience is guaranteed.

Please take our tips, because especially in 'Sound & Light' caution is indicated: Even if a plug fits into a socket, the result of an incorrect connection may be a destroyed DMX controller, a short circuit or 'just' a not working light show!

**DMX connections**

The unit offers a 3-pin XLR socket for DMX output and a 3-pin XLR plug for DMX input. Please refer to the drawing and table below for the pin assignment of a suitable XLR plug.

| Pin | Configuration |
| --- | --- |
| 1 | Ground, shielding |
| 2 | Signal inverted (DMX–, 'cold signal') |
| 3 | Signal (DMX+, 'hot signal') |

# 10 Troubleshooting

**!** **NOTICE!**
**Possible data transmission errors**

For error-free operation make use of dedicated DMX cables and do not use ordinary microphone cables.

Never connect the DMX input or output to audio devices such as mixers or amplifiers.

In the following we list a few common problems that may occur during operation. We give you some suggestions for easy troubleshooting:

| Symptom | Remedy |
|---|---|
| The unit does not work, no light | Check the mains connection and the main fuse. |
| No response to the DMX controller | 1. When the display flashes, e.g. *'d001'*, no valid DMX signal is received. Check whether the DMX controller is switched on. Check the DMX connectors and cables for proper connection. |
| | 2. If the display is not flashing but there is still no response, check the address settings and the DMX polarity. |
| | 3. Try using another DMX controller. |
| | 4. Check whether the DMX cables run near or parallel to high-voltage cables that may cause damage or interference to a DMX interface circuit. |

If the procedures recommended above do not succeed, please contact our Service Center. You can find the contact information at *www.thomann.de*.

# 11    Cleaning

**Optical lenses**    Clean the optical lenses, that are accessible from the outside, regularly in order to optimize the light output. The frequency of cleaning depends on the operating environment: wet, smoky or particularly dirty surroundings can cause more accumulation of dirt on the optics of the device.

- ■ Clean with a soft cloth using our lamp and lens cleaner (item no. 280122).
- ■ Always dry the parts carefully.

# 12 Protecting the environment

**Disposal of the packaging material**

For the transport and protective packaging, environmentally friendly materials have been chosen that can be supplied to normal recycling.

Ensure that plastic bags, packaging, etc. are properly disposed of.

Do not just dispose these materials with your normal household waste, but make sure that they are fed to a recovery. Please follow the notes and markings on the packaging.

**Disposal of batteries**

Batteries must not be disposed of as domestic waste or thrown into fire. Dispose of the batteries according to national or local regulations regarding hazardous waste. To protect the environment, dispose of empty batteries at your retail store or at appropriate collection sites.

**Disposal of your old device**

This product is subject to the European Waste Electrical and Electronic Equipment Directive (WEEE) in its currently valid version. Do not dispose with your normal household waste.

Dispose this device through an approved waste disposal firm or through your local waste facility. When discarding the device, comply with the rules and regulations that apply in your country. If in doubt, consult your local waste disposal facility.

Notes