



LED Studio 150 2900K
LED Studio 150 6000K

LED Spotlight

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Table of contents

1	General information	6
	1.1 Further information.....	7
	1.2 Notational conventions.....	7
	1.3 Symbols and signal words.....	8
2	Safety instructions	10
3	Features	13
4	Installation	14
5	Starting up	17
6	Connections and controls	19
7	Operating	22
	7.1 Starting the device.....	22
	7.2 Main menu.....	22
	7.3 Settings.....	26
	7.4 Menu overview.....	33
	7.5 Functions in 1-channel DMX mode.....	34
	7.6 Functions in 2-channel DMX mode.....	34
	7.7 Functions in 4-channel DMX mode.....	35
8	Technical specifications	37

9	Plug and connection assignments	39
10	Troubleshooting	40
11	Cleaning	42
12	Protecting the environment	43



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 – 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 only 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 operating life of the device by regular breaks and by avoiding frequent switching on and off. The device is not suitable for continuous operation.

Safety



DANGER!

Danger for children

Ensure that plastic bags, packaging, etc. are disposed of properly and are not within reach of babies and young children. Choking hazard! 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! 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.



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. Secure the barn door with a safety cable on the spotlight after installation. The safety cable must run outside the barn door and must not interfere with the light emission.



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!

Risk of fire and overheating



The use with closed barn doors can cause fire or overheating in the spotlight. The lifetime of the LEDs will be reduced when using the device with closed barn doors. Otherwise, the integrated thermostat causes a thermally reasonable shutdown. Use the device only with open barn doors.



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.

3 Features

Special features of the device:

- 1 × COB LED, 150 W
- PC lens
- Colour temperature: 2900 K (item no. 505149, item no. 505210) or 6000 K (item no. 505150, item no. 505211)
- Colour rendering index: >90
- Beam angle: 40°
- Control via DMX (1, 2 or 4 channels) and via buttons and display on the unit
- Master / Slave mode
- Electronic dimmer with four selectable dimmer curves
- Very quiet temperature-controlled fan for quiet operation
- Ideally suitable for use in theatres
- Aluminium die-cast housing
- Including mains cable and barn door

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.



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.

Secure the barn door with a safety cable on the spotlight after installation. The safety cable must run outside the barn door and must not interfere with the light emission.

**NOTICE!****Risk of fire and overheating**

The use with closed barn doors can cause fire or overheating in the spotlight.

The lifetime of the LEDs will be reduced when using the device with closed barn doors. Otherwise, the integrated thermostat causes a thermally reasonable shutdown.

Use the device only with open barn doors.

**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.

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 the bracket.



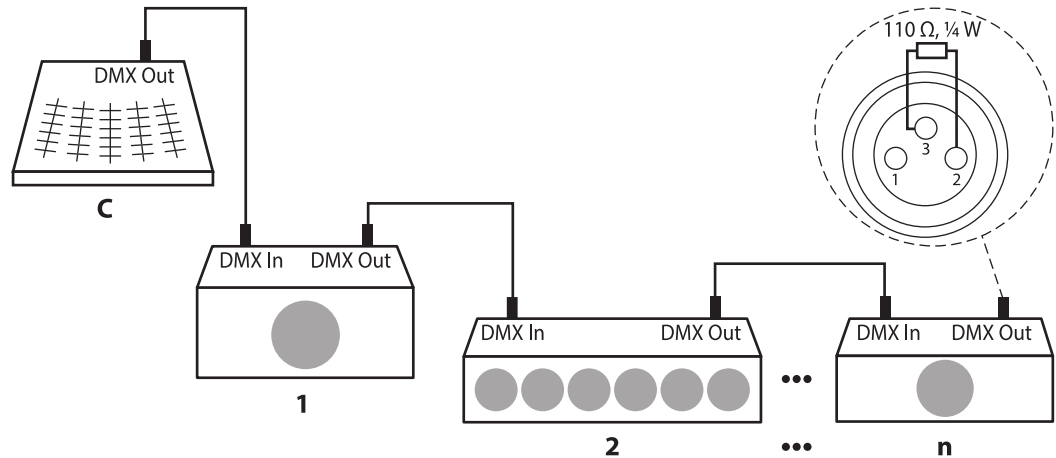
Please note that this device must not be connected to a dimmer.

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

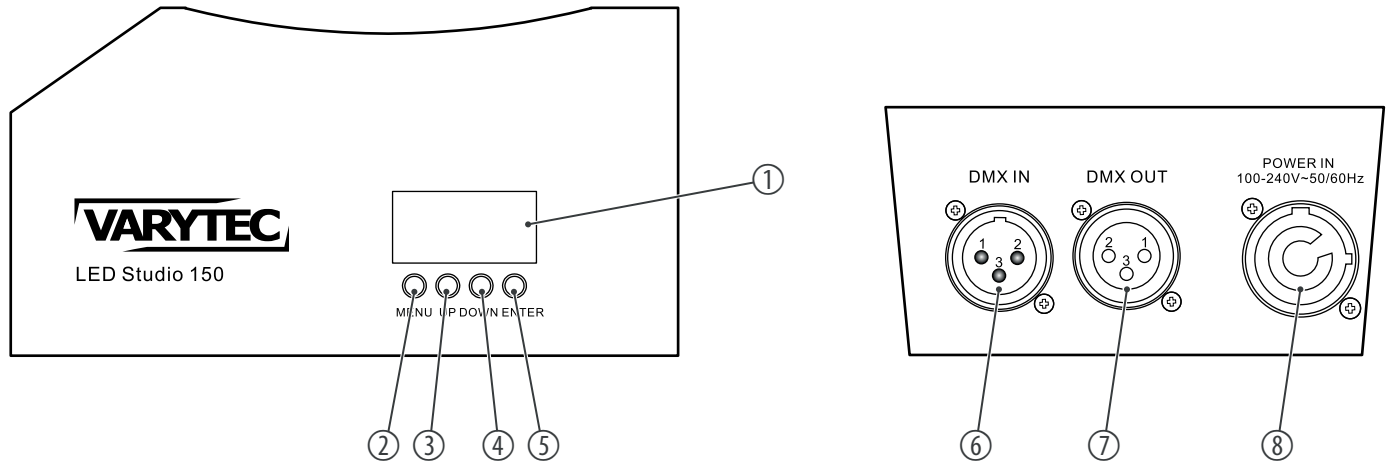
Connect the DMX input of the device to the DMX output of a DMX controller or another DMX device. Connect the output of the first DMX device to the input of the second one, and so on to form a daisy chain. Always ensure that the output of the last DMX device in the daisy chain is terminated with a resistor ($110\ \Omega$, $\frac{1}{4}\text{ W}$).



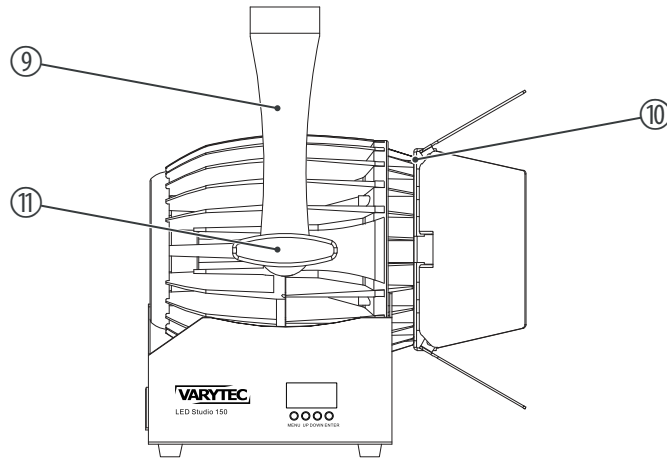
Connections in master/slave mode

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	Display The display flashes when a valid DMX signal is present.
2	<i>[MENU]</i> Calls up the main menu or a submenu
3	<i>[UP]</i> Increases the displayed value by one
4	<i>[DOWN]</i> Decreases the displayed value by one
5	<i>[ENTER]</i> Confirms a selected value
6	<i>[DMX IN]</i> DMX input, designed as XLR panel plug, 3-pin
7	<i>[DMX OUT]</i> DMX output, designed as XLR panel socket, 3-pin
8	<i>[POWER IN]</i> Power Twist connector for the power supply of the device



9 Mounting bracket

10 Front side with barn door attachment

11 Locking screw for the mounting bracket

7 Operating

7.1 Starting the device

Connect the device to the power supply to start operation. The device is immediately operational and operates in the last mode with the settings last selected.

7.2 Main menu

Menu control

1. ➤ Press *[MENU]* to open the main menu.
2. ➤ Use *[UP]* or *[DOWN]* to select the desired parameter or to change the respectively indicated value.
3. ➤ When the display shows the desired parameter or value press *[ENTER]* to enter the respective submenu or confirm a new value.
4. ➤ To return to the previous menu level without changes, press *[MENU]*.

Setting the DMX address

Use the 'ADDR' menu to set the DMX address. This setting is only relevant if the device is controlled via a DMX controller.

1. ▶ Press [MENU] to open the main menu.
2. ▶ Press [UP] or [DOWN] repeatedly until the display shows 'ADDR' and confirm with [ENTER].
3. ▶ Press [UP] or [DOWN] to select a value between 1 and 512 for the DMX address (display shows '001' ... '512') and confirm with [ENTER].

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

Mode	Highest possible DMX address
1-channel mode	512
2-channel mode	511
4-channel mode	509

4. ▶ To return to the previous menu level without changes, press [MENU].

Setting the DMX mode

In this mode the device is controlled via a DMX controller.

1. ➤ Press *[MENU]* to open the main menu.
2. ➤ Press *[UP]* or *[DOWN]* repeatedly until the display shows 'CHMD' and confirm with *[ENTER]*.
3. ➤ Press *[UP]* or *[DOWN]* to select the desired DMX mode ('1CH', '2CH' or '4CH') and confirm with *[ENTER]*.
4. ➤ To return to the previous menu level without changes, press *[MENU]*.

Manual dimmer

1. ➤ Press *[MENU]* to open the main menu.
2. ➤ Press *[UP]* or *[DOWN]* repeatedly until the display shows 'MANL' and confirm with *[ENTER]*.
3. ➤ Use *[UP]* or *[DOWN]* to select the desired intensity in a range from '000' ... '255' and confirm with *[ENTER]*.
4. ➤ To return to the previous menu level without changes, press *[MENU]*.

Master / slave mode

This setting is only relevant if the device is not controlled via DMX.

1. ▶ Press *[MENU]* to open the main menu.
2. ▶ Press *[UP]* or *[DOWN]* repeatedly until the display shows 'SLAV' and confirm with *[ENTER]*.
3. ▶ Press *[UP]* or *[DOWN]* repeatedly until the display shows 'YES' and confirm with *[ENTER]*
 - ⇒ The device is in Slave mode. With correct cabling, it behaves exactly like the controlling master device.
4. ▶ Press *[UP]* or *[DOWN]* repeatedly until the display shows 'NO' and confirm with *[ENTER]*
 - ⇒ The device is in Stand-Alone mode again.
5. ▶ To return to the previous menu level without changes, press *[MENU]*.

7.3 Settings

Display illumination

1. ▶ Press *[MENU]* to open the main menu.
2. ▶ Press *[UP]* or *[DOWN]* repeatedly until the display shows 'SET' (settings) and confirm with *[ENTER]*.
3. ▶ Press *[UP]* or *[DOWN]* repeatedly until the display shows 'DISO' and confirm with *[ENTER]*.

You can make the following settings:

Submenu	Description
'On'	The display illumination is permanently on.
'Off'	The display illumination is switched off after 30 seconds.

4. ▶ To return to the previous menu level without changes, press *[MENU]*.

Behaviour on DMX control failure

1. ➤ Press *[MENU]* to open the main menu.
2. ➤ Press *[UP]* or *[DOWN]* repeatedly until the display shows 'SET' (settings) and confirm with *[ENTER]*.
3. ➤ Press *[UP]* or *[DOWN]* repeatedly until the display shows 'DFAL' and confirm with *[ENTER]*.

You can make the following settings:

Submenu	Description
'Hold'	If the DMX control fails, the last setting is retained.
'BLAK'	If the DMX control fails, the device is blacked out.

4. ➤ To return to the previous menu level without changes, press *[MENU]*.

Dimmer curve

1. ➤ Press *[MENU]* to open the main menu.
2. ➤ Press *[UP]* or *[DOWN]* repeatedly until the display shows 'SET' (settings) and confirm with *[ENTER]*.
3. ➤ Press *[UP]* or *[DOWN]* repeatedly until the display shows 'DCUR' (dimmer curve) and confirm with *[ENTER]*.

You can make the following settings:

Submenu	Description
'LINR'	Linear course
'EXPO'	Exponential course (square curve with a flat course at the beginning and a steep course at the end)
'LOGA'	Logarithmic course (inverted square curve with a steep course at the beginning and a flat course at the end)
'S'	S-curve shape course (Non-linear curve with a distinctive flat course at the beginning and end)

4. ➤ To return to the previous menu level without changes, press *[MENU]*.

Response behaviour of the dimmer

1. ➤ Press *[MENU]* to open the main menu.
2. ➤ Press *[UP]* or *[DOWN]* repeatedly until the display shows 'SET' (settings) and confirm with *[ENTER]*.
3. ➤ Press *[UP]* or *[DOWN]* repeatedly until the display shows 'DRES' (dimmer response) and confirm with *[ENTER]*.
4. ➤ Press *[UP]* or *[DOWN]* until the display shows the submenu 'LED' and confirm the selection with *[ENTER]*.
⇒ The dimmer setting for LED is activated.
5. ➤ Press *[UP]* or *[DOWN]* until the display shows the submenu 'LAMP' (halogen) and confirm the selection with *[ENTER]*.
⇒ The imitation of the dimming behaviour for incandescent light is activated.
6. ➤ To return to the previous menu level without changes, press *[MENU]*.

Fan setting

1. ➤ Press *[MENU]* to open the main menu.
2. ➤ Press *[UP]* or *[DOWN]* repeatedly until the display shows 'SET' (settings) and confirm with *[ENTER]*.

3. ➤ Press *[UP]* or *[DOWN]* repeatedly until the display shows *'SILT'* (silent mode) and confirm with *[ENTER]*.

You can make the following settings:

Submenu	Description
<i>'On'</i>	The fan is off (silent mode). The device temperature is controlled by reducing the power consumption to a maximum of 50 W.
<i>'Off'</i>	Temperature-dependent speed

4. ➤ To return to the previous menu level without changes, press *[MENU]*.

Enabling keylock

1. ➤ Press *[MENU]* to open the main menu.
2. ➤ Press *[UP]* or *[DOWN]* repeatedly until the display shows *'SET'* (settings) and confirm with *[ENTER]*.
3. ➤ Press *[UP]* or *[DOWN]* repeatedly until the display shows *'LOCK'* and confirm with *[ENTER]*.
4. ➤ Use *[UP]* or *[DOWN]* to choose between *'On'* (keylock on) and *'Off'* (keylock off) and confirm with *[ENTER]*.
5. ➤ Simultaneously press *[UP]* and *[DOWN]* for 5 seconds if you want to activate the input while the keylock is activated.
6. ➤ To return to the previous menu level without changes, press *[MENU]*.

Resetting the device to factory defaults

1. ➤ Press *[MENU]* to open the main menu.
2. ➤ Press *[UP]* or *[DOWN]* repeatedly until the display shows 'SET' (settings) and confirm with *[ENTER]*.
3. ➤ Press *[UP]* or *[DOWN]* repeatedly until the display shows 'RSET' (factory reset) and confirm with *[ENTER]*.
4. ➤ Use *[UP]* or *[DOWN]* to select 'YES' (device reset) and confirm with *[ENTER]*.
⇒ The device is reset to factory default settings.
5. ➤ Use *[UP]* or *[DOWN]* to select 'NO' (no device reset) and confirm with *[ENTER]*.
⇒ The device is not reset to factory default settings.
6. ➤ To return to the previous menu level without changes, press *[MENU]*.

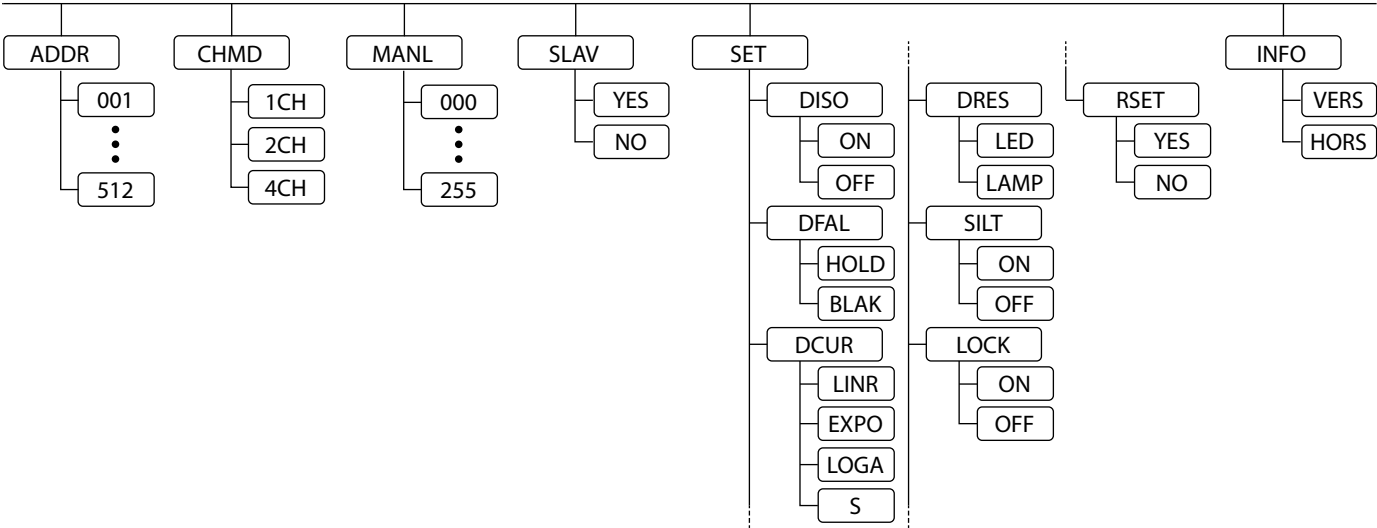
Firmware version display

1. ➤ Press *[MENU]* to open the main menu.
2. ➤ Press *[UP]* or *[DOWN]* repeatedly until the display shows 'INFO' and confirm with *[ENTER]*.
3. ➤ Press *[UP]* or *[DOWN]* repeatedly until the display shows 'VERS' and confirm with *[ENTER]*.
⇒ The current firmware version is displayed.

LED operating hours display

1. ➤ Press *[MENU]* to open the main menu.
2. ➤ Press *[UP]* or *[DOWN]* repeatedly until the display shows 'INFO' and confirm with *[ENTER]*.
3. ➤ Press *[UP]* or *[DOWN]* repeatedly until the display shows 'HORS' and confirm with *[ENTER]*.
⇒ The operation hours of the LED are displayed.

7.4 Menu overview



7.5 Functions in 1-channel DMX mode

Channel	Value	Function
1	0 ... 255	Master dimmer (0 % to 100 %)

7.6 Functions in 2-channel DMX mode

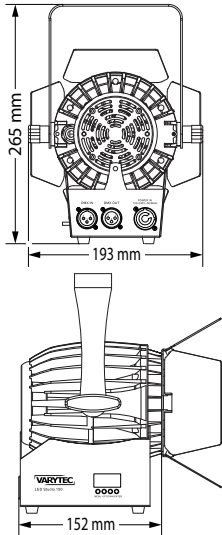
Channel	Value	Function
1	0 ... 255	Master dimmer (0 % to 100 %)
2	Stroboscope	
	0 ... 005	LED off
	006 ... 255	Strobe effect, increasing speed (1 ... 20 Hz)

7.7 Functions in 4-channel DMX mode

Channel	Value	Function
1	0 ... 255	Master dimmer (0 % to 100 %)
2	Stroboscope	
	0 ... 005	LED off
	006 ... 010	LED on
	011 ... 033	Impulse effect, increasing speed
	034 ... 056	Constantly increasing brightness, increasing speed
	057 ... 079	Constantly decreasing brightness, increasing speed
	080 ... 102	Random strobe effect, increasing speed
	103 ... 127	Impulse effect (short burst with pause, 5s ... 1s)
	128 ... 250	Strobe effect, increasing speed (1 ... 20 Hz)
	251 ... 255	LED off
3	0 ... 005	No function
	006 ... 127	Dimmer response behaviour for LED
	128 ... 255	Dimmer response behaviour for halogen

Channel	Value	Function
4	0 ... 005	No function
	006 ... 063	Linear dimmer curve
	064 ... 127	Exponential dimmer curve
	128 ... 191	Logarithmic dimmer curve
	192 ... 255	S-curve shaped dimmer curve

8 Technical specifications



		Item no. 505149 (black)	Item no. 505150 (black)
		Item no. 505210 (white)	Item no. 505211 (white)
Light source	1 × COB LED, 150 W		
Light source properties	Colour temperature	2900 K	6000 K
	Colour rendering index	CRI Ra >90	
Optical properties	Beam angle	40°	
	LED repetition rate (PWM)	11800 Hz	
Control	DMX, buttons and display on the unit		
Number of DMX channels	1, 2 or 4		
Input connections	Voltage supply	lockable input socket (Power Twist)	
	DMX control	XLR chassis plug, 3-pin	
Output connections	DMX control	XLR chassis socket, 3-pin	
Power consumption	130 W		

	Item no. 505149 (black)	Item no. 505150 (black)
	Item no. 505210 (white)	Item no. 505211 (white)
Operating supply voltage	100 - 240 V ~ 50/60 Hz	
Protection class	IP20	
Mounting options	hanging, standing	
Dimensions (W × H × D)	193 mm × 265 mm × 152 mm	
Weight	2.9 kg	
Ambient conditions	Temperature range	0 °C...40 °C
	relative humidity	20 %...80 % (non-condensing)

Further information

Optic	PC
Fanless	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.
No response to the DMX controller	1. Check the DMX connectors and cables for proper connection.
	2. 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.

Fan grids

The fan grids of the device must be cleaned of any contamination, such as dust, etc. on a regular basis. Before cleaning, switch off the device and disconnect mains-operated devices from the mains. Only use pH-neutral, solvent-free and non-abrasive cleaning agents. Clean the unit with a slightly damp lint-free cloth.

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 of these materials with your normal household waste, but make sure that they are collected for recycling. Please follow the notes and markings on the packaging.

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 of 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.

