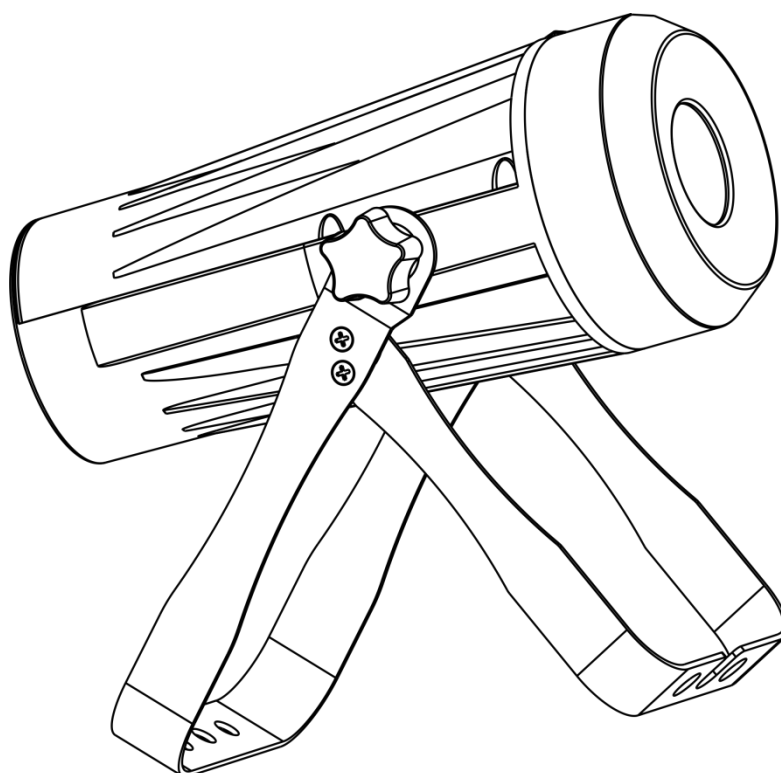




**MANUAL**



**ENGLISH**

**Spectral 300 Q4 MKIII**

**V1**

**Ordercode: 43561**

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## Warning



**For your own safety, please read this user manual carefully  
before your initial start-up!**

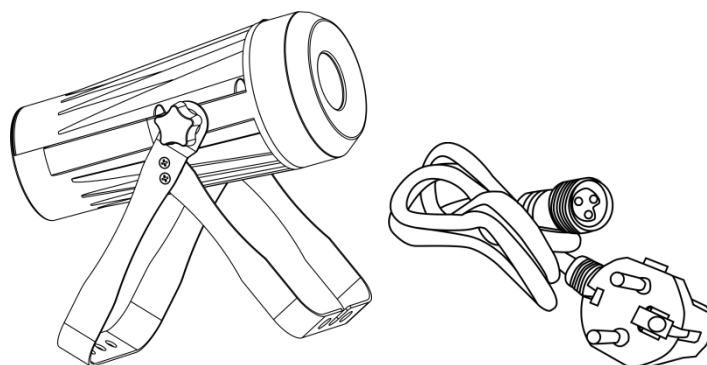


### Unpacking Instructions

Immediately upon receiving this product, carefully unpack the carton and check the contents to ensure that all parts are present, and have been received in good condition. Notify the dealer immediately and retain packing material for inspection if any parts appear damaged from shipping or the carton itself shows signs of mishandling. Save the carton and all packing materials. In the event that a fixture must be returned to the factory, it is important that the fixture be returned in the original factory box and packing.

### Your shipment includes:

- Showtec Spectral 300 Q4 MKIII with a 3-pin combined XLR IN/OUT (0,45 m) and a 0,5 m special power cable
- Special 3-pin to Schuko power cable (1 m)
- Safety cable
- User manual



### LED Expected Lifespan

LEDs gradually decline in brightness over time. HEAT is the dominant factor that leads to the acceleration of this decline. Packaged in clusters, LEDs exhibit higher operating temperatures than in ideal or singular optimum conditions. For this reason, when all color LEDs are used at their fullest intensity, life of the LEDs is significantly reduced. If improving the lifespan is of higher priority, place care in providing for lower operational temperatures. This may include climatic-environmental and the reduction of overall projection intensity.



### CAUTION!

**Keep this device away from rain and moisture!  
Unplug mains lead before opening the housing!**



### Safety Instructions

Every person involved with the installation, operation and maintenance of this device has to:

- be qualified
- follow the instructions of this manual



**CAUTION! Be careful with your operations.  
With a dangerous voltage you can suffer  
a dangerous electric shock when touching the wires!**



Before the initial start-up, please make sure that there is no damage caused by transportation. Should there be any, consult your dealer and do not use the device.

To maintain perfect condition and to ensure a safe operation, it is absolutely necessary for the user to follow the safety instructions and warning notes contained in this manual.

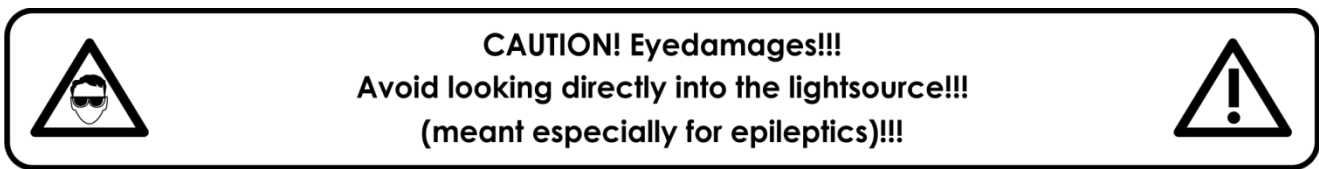
Please consider that damages caused by manual modifications to the device are not subject to warranty.

This device contains no user-serviceable parts. Refer servicing to qualified technicians only.

### **IMPORTANT:**

The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual or any unauthorized modification to the device.

- Never let the power cord come into contact with other cables! Handle the power cord and all connections with the mains with particular caution!
- Never remove warning or informative labels from the unit.
- Never use anything to cover the ground contact.
- Never lift the fixture holding it by the projector-head, as the mechanics may be damaged. Always hold the fixture by the transport handles.
- Never place any material over the lens.
- Never look directly into the light source.
- Never leave any cables lying around.
- Do not connect this device to a dimmer pack.
- Do not switch the device on and off in short intervals, as this will reduce the device's life.
- Do not touch the device's housing bare-handed during its operation (housing becomes very hot). Allow the fixture to cool for at least 5 minutes before handling.
- Do not shake the device. Avoid brute force when installing or operating the device.
- Only use the device indoors, avoid contact with water or other liquids.
- Only operate the fixture after having checked if the housing is firmly closed and all screws are tightly fastened.
- Only operate the device after having familiarized with its functions.
- Avoid flames and do not put close to flammable liquids or gases.
- Always allow a free air space of at least 50 cm around the unit for ventilation.
- Always disconnect power from the mains, when device is not used or before cleaning! Only handle the power cord holding it by the plug. Never pull out the plug by tugging the power cord.
- Make sure that the device is not exposed to extreme heat, moisture or dust.
- Make sure that the available voltage is not higher than stated on the rear panel.
- Make sure that the power cord is never crimped or damaged. Check the device and the power cord from time to time.
- If the lens is obviously damaged, it has to be replaced.
- If device was dropped or struck, disconnect mains power supply immediately. Have a qualified engineer inspect for safety before operating.
- If the device has been exposed to drastic temperature fluctuation (e.g. after transportation), do not switch it on immediately. The arising condensation water might damage your device. Leave the device switched off until it has reached room temperature.
- If your Showtec device fails to work properly, discontinue the use immediately. Pack the unit securely (preferably in the original packing material), and return it to your Showtec dealer for service.
- For adult use only. The fixture must be installed beyond the reach of children. Never leave the unit running unattended.
- Never attempt to bypass the thermostatic switch or fuses.
- For replacement use fuses of same type and rating only.
- The user is responsible for correct positioning and operating of the Spectral 300 Q4 MKIII. The manufacturer will not accept liability for damages caused by the misuse or incorrect installation of this device.
- This device falls under protection class I. Therefore it is essential to connect the yellow/green conductor to earth.
- Repairs, servicing and electric connection must be carried out by a qualified technician.
- **WARRANTY:** Till one year after date of purchase.



### Operating Determinations

- This device is not designed for permanent operation. Consistent operation breaks will ensure that the device will serve you for a long time without defects.
- The minimum distance between light output and the illuminated surface must be bigger than 80 cm.
- To eliminate wear and improve lifespan, during periods of non-use, completely disconnect from power via breaker or by unplugging.
- The maximum ambient temperature  $t_a = 40\text{ °C}$  must never be exceeded.
- The relative humidity must not exceed 50 % with an ambient temperature of  $40\text{ °C}$ .
- If this device is operated in any other way than the one described in this manual, the product may suffer damages and the warranty becomes void.
- Any other operation may lead to dangers like short-circuit, burns, electric shock, crash, etc.

*You endanger your own safety and the safety of others!*

### Rigging

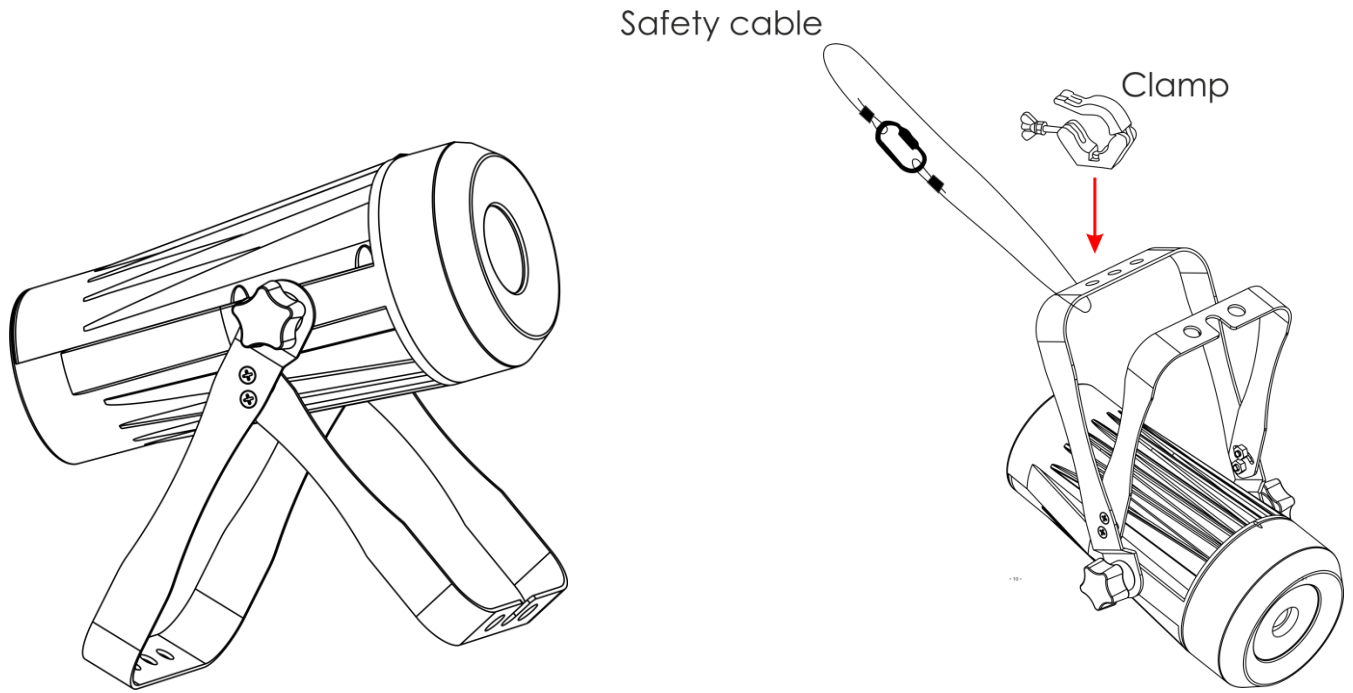
*Please follow the European and national guidelines concerning rigging, trussing and all other safety issues.*

*Do not attempt the installation yourself!*

*Always let the installation be carried out by an authorized dealer!*

### Procedure:

- If the Spectral is lowered from the ceiling or high joists, professional trussing systems have to be used.
- Use a clamp to mount the Spectral, with the mounting bracket, to the trussing system.
- The Spectral must never be fixed swinging freely in the room.
- The installation must always be secured with a safety attachment, e.g. an appropriate safety net or safety cable.
- When rigging, derigging or servicing the Spectral, always make sure, that the area below the installation site is secured and that there are not any unauthorized people around.



The Spectral 300 Q4 MKIII can be placed on a flat stage floor or mounted to any kind of truss with a clamp.

*Improper installation can cause serious injuries and/or damage of property!*

**Connection with the mains**

Connect the device to the mains with the power-plug.  
Always check if the right color cable is connected to the right place.

International	EU Cable	UK Cable	US Cable	Pin
L	BROWN	RED	YELLOW/COPPER	PHASE
N	BLUE	BLACK	SILVER	NEUTRAL
⊕	YELLOW/GREEN	GREEN	GREEN	PROTECTIVE GROUND

*Make sure that the device is always properly connected to the earth!*

*Improper installation can cause serious injuries and/or damage of property!*



## **Return Procedure**

Returned merchandise must be sent prepaid and in the original packing, call tags will not be issued. Package must be clearly labeled with a Return Authorization Number (RMA number). Products returned without an RMA number will be refused. Highlite will not accept the returned goods or any responsibility. Call Highlite 0031-455667723 or mail [offersales@highlite.com](mailto:offersales@highlite.com) and request an RMA prior to shipping the fixture. Be prepared to provide the model number, serial number and a brief description of the cause for the return. Be sure to properly pack fixture, any shipping damage resulting from inadequate packaging is the customer's responsibility. Highlite reserves the right to use its own discretion to repair or replace product(s). As a suggestion, proper UPS packing or double-boxing is always a safe method to use.

**Note: If you are given an RMA number, please include the following information on a piece of paper inside the box:**

- 01) Your name
- 02) Your address
- 03) Your phone number
- 04) A brief description of the symptoms

## **Claims**

The client has the obligation to check the delivered goods immediately upon delivery for any shortcomings and/or visible defects, or perform this check after our announcement that the goods are at their disposal. Damage incurred in shipping is the responsibility of the shipper; therefore the damage must be reported to the carrier upon receipt of merchandise.

It is the customer's responsibility to report and submit claims with the shipper in the event that a fixture is damaged due to shipping. Transportation damage has to be reported to us within one day after receipt of the delivery.

Any return shipment has to be made post-paid at all times. Return shipments must be accompanied with a letter defining the reason for return shipment. Non-prepaid return shipments will be refused, unless agreed otherwise in writing.

Complaints against us must be prepared in writing or sent by fax within 10 working days after receipt of the invoice. After this period complaints will not be handled anymore.

Complaints will only then be considered if the client has so far complied with all parts of the agreement, regardless of the agreement from which the obligation is resulting.

## Description of the device

### Features

The Spectral 300 Q4 MKIII is a compact LED fixture with a 4-in-1 LED technology with high output and great effects. Due to its compact size it is very suitable as a truss-warmer as well as for lighting of smaller objects.

- Input voltage: 100–240 V AC, 50/60 Hz
- Power consumption: 21 W
- DMX channels: 3, 3, 4, 4, 5, 6, 9 channels
- LED display for easy setup
- Light source: 1 x 20 W RGBW Osram LED
- Lux @1 m: 18540 lx
- Control modes: Auto, Manual, Master/Slave, DMX
- Control protocol: DMX-512
- Dimmer: 0–100 %
- Strobe: 0–20 Hz
- IP rating: IP20
- Housing: Die-cast black aluminum
- Cooling: Convection
- Connections: Special power cable, special combined cable 3-pin XLR IN & OUT
- Dimensions: 210 x 125 x 176 mm (LxWxH) (incl. bracket)
- Weight: 1,1 kg

### Overview

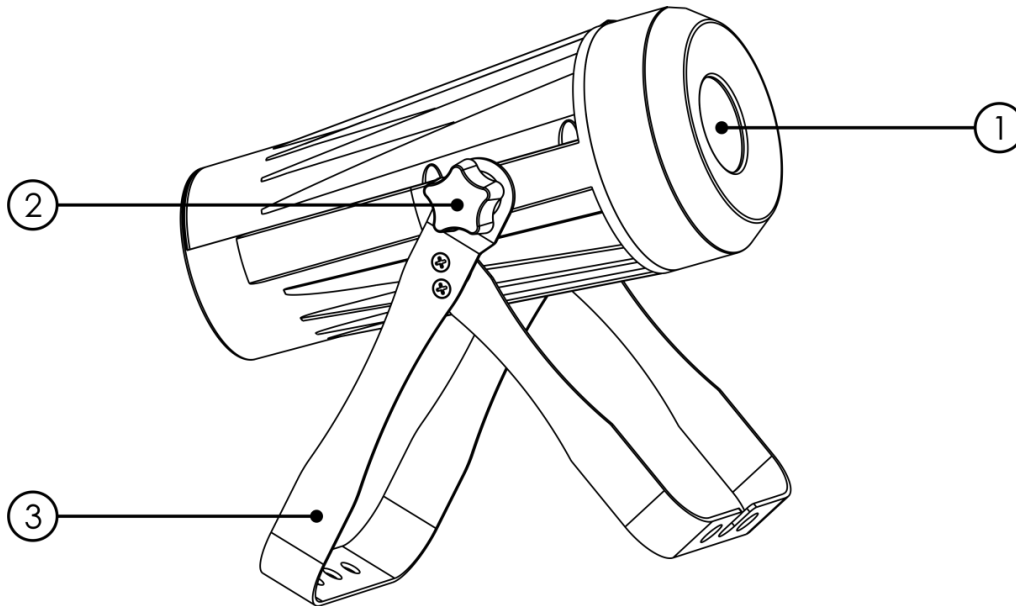


Fig. 01

- 01) 1 x 20 W RGBW Osram LED
- 02) Adjustment screw
- 03) Mounting bracket



Back

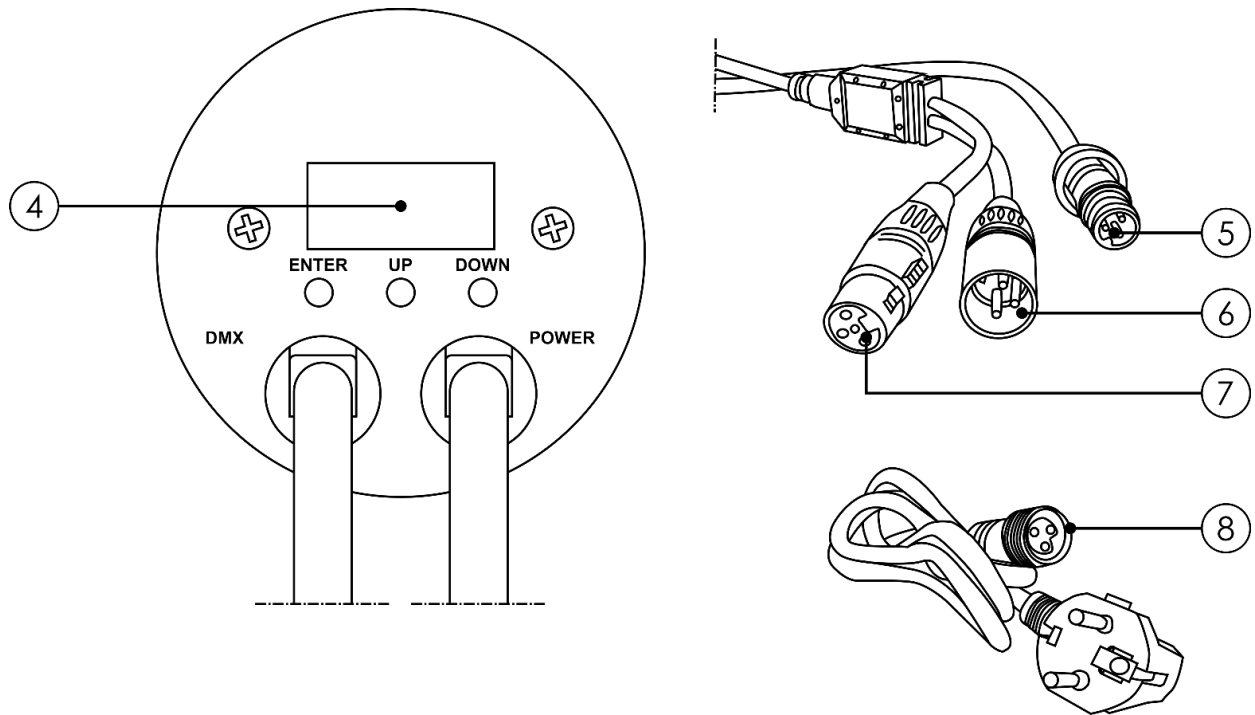
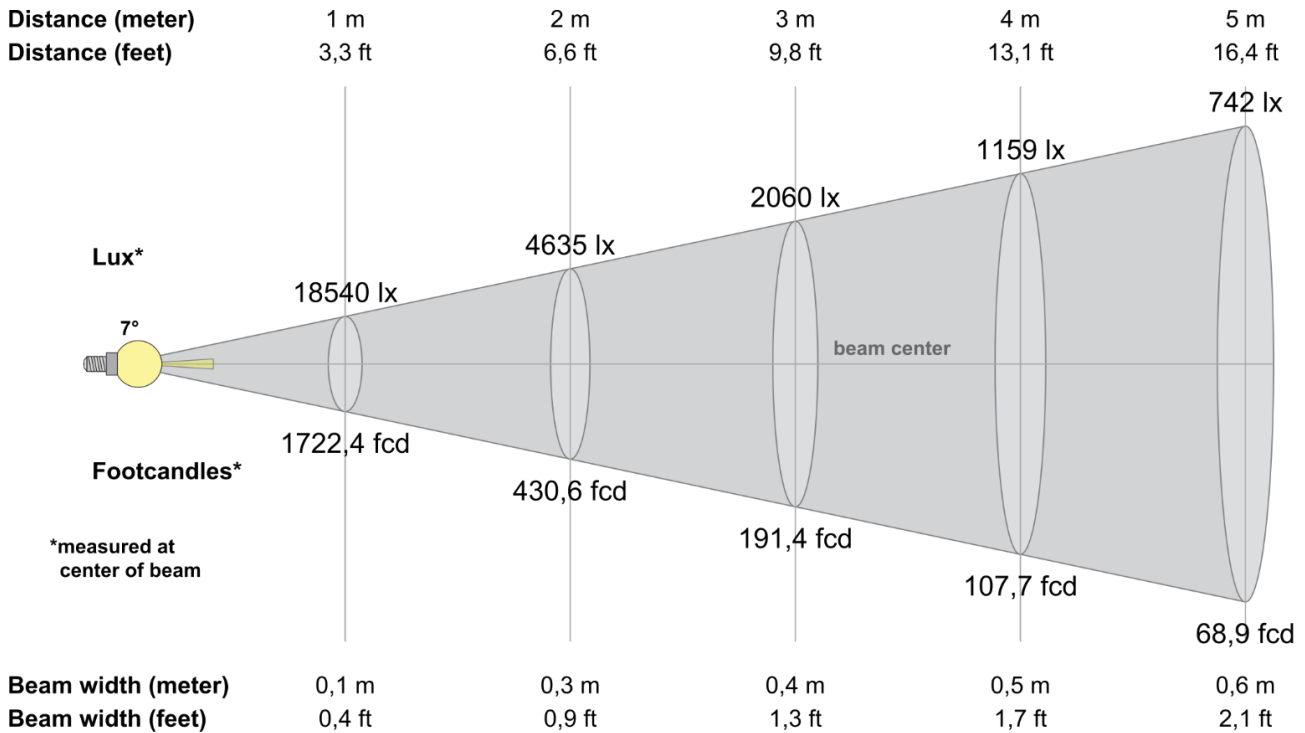


Fig. 02

- 04) LED display + control buttons
- 05) Special power cable 100–240 V (male connector)
- 06) 3-pin DMX signal connector IN
- 07) 3-pin DMX signal connector OUT
- 08) Special power cable 100–240 V (female connector)

**Note:** Connect both power cables (05/08) to provide power to the fixture.

## Photometric Diagram



### Intensities in 0° c-plane

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
18,5K	17,6K	15,2K	11,8K	8,3K	5,3K	3,2K	1,8K	1,0K	0,6K	0,4K	0,3K	0,2K	0,2K	0,2K	0,1K	0,1K	0,1K	0,1K	0,1K
100%	95%	82%	64%	45%	29%	17%	10%	6%	3%	2%	2%	1%	1%	1%	1%	1%	1%	1%	0%

### Intensities in 0° c-plane

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
18,5K	17,6K	15,2K	11,8K	8,3K	5,3K	3,2K	1,8K	1,0K	0,6K	0,4K	0,3K	0,2K	0,2K	0,2K	0,1K	0,1K	0,1K	0,1K	0,1K
100%	95%	82%	64%	45%	29%	17%	10%	6%	3%	2%	2%	1%	1%	1%	1%	1%	1%	1%	0%

### Intensities in 180° c-plane

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
18,5K	17,6K	15,1K	11,8K	8,3K	5,3K	3,1K	1,8K	1,0K	0,6K	0,4K	0,3K	0,2K	0,2K	0,2K	0,1K	0,1K	0,1K	0,1K	0,1K
100%	95%	81%	64%	45%	29%	17%	10%	5%	3%	2%	2%	1%	1%	1%	1%	1%	1%	1%	0%

### Intensities in 180° c-plane

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
18,5K	17,6K	15,1K	11,8K	8,3K	5,3K	3,1K	1,8K	1,0K	0,6K	0,4K	0,3K	0,2K	0,2K	0,2K	0,1K	0,1K	0,1K	0,1K	0,1K
100%	95%	81%	64%	45%	29%	17%	10%	5%	3%	2%	2%	1%	1%	1%	1%	1%	1%	1%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
7,4°	13,9°	19,3°	99,9%	98,4%

Fig. 03

## Installation

Remove all packing materials from the Spectral 300 Q4 MKIII. Check if all foam and plastic padding is removed. Connect all cables.

**Do not supply power before the whole system is set up and connected properly.**

**Always disconnect from electric mains power supply before cleaning or servicing.**

**Damages caused by non-observance are not subject to warranty.**

## Setup and Operation

Follow the directions below, as they pertain to your preferred operation mode.

Before plugging the unit in, always make sure that the power supply matches the product specification voltage. Do not attempt to operate a 110 V specification product on 230 V power, or vice versa. Connect the device to the main power supply.

### Control Modes

- There are 4 modes:
- Auto
  - Manual (Static control)
  - Master/Slave
  - DMX-512 (3CH, 3CH, 4CH, 4CH, 5CH, 6CH, 9CH)

### One Spectral (Auto mode, Manual mode)

- 01) Fasten the effect light to a firm trussing. Leave at least 0,5 meter on all sides for air circulation.
- 02) Always use a safety cable (ordercode 70140 / 70141).
- 03) Plug the end of the electric mains power cord into a proper electric power supply socket.
- 04) When the Spectral is not connected with a DMX cable, it functions as a stand-alone device. Please see pages 16–17 for more information about Auto mode and Manual mode.

### Multiple Spectrals (Master/Slave control)

- 01) Fasten the effect light onto firm trussing. Leave at least 0,5 meter on all sides for air circulation.
- 02) Always use a safety cable (ordercode 70140 / 70141).
- 03) Use a 3-pin XLR cable to connect the Spectrals and other devices.

The pins:



1. Earth
2. Signal (-)
3. Signal (+)

- 04) Link the units as shown in Fig. 04, connect a DMX signal cable from the first unit's DMX "out" socket to the second unit's "in" socket. Repeat this process to link the second, third, and fourth units. You can use the same functions on the master device as described on pages 16–17 (Auto mode, Manual mode). This means you can set your desired operation mode on the master device and all slave devices will react the same as the master device.

### Multiple Spectrals (Master/Slave control)

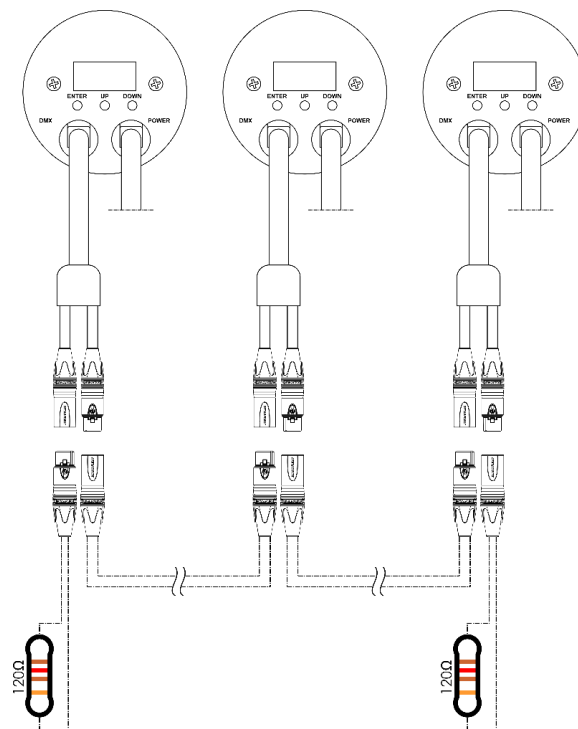
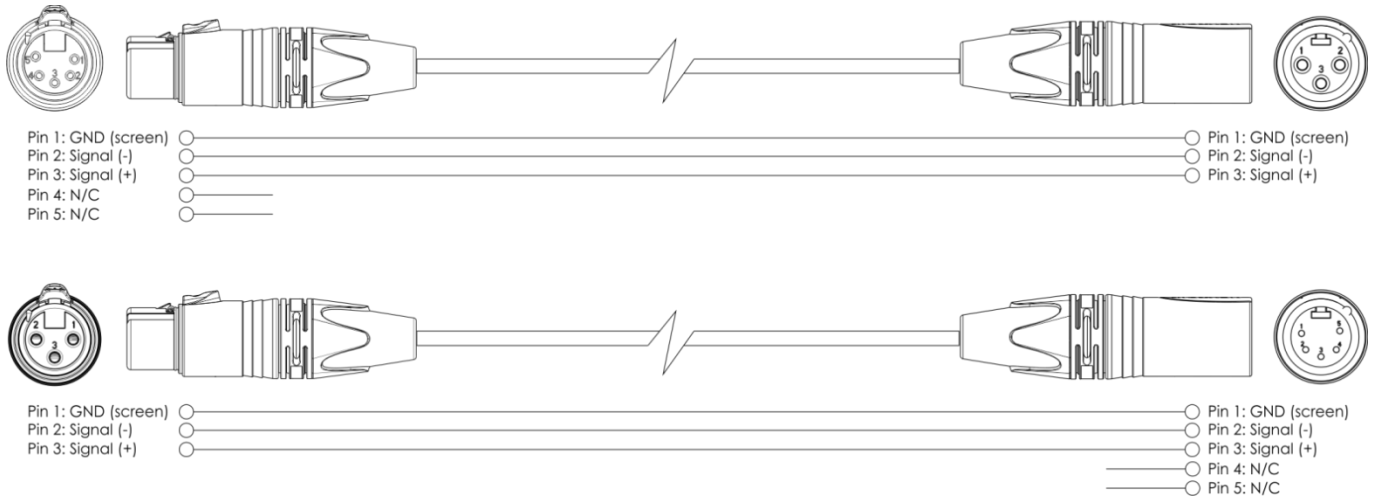


Fig. 04

## Multiple Spectrals (DMX Control)

- 01) Fasten the effect light to a firm trussing. Leave at least 0,5 meter on all sides for air circulation.
- 02) Always use a safety cable (ordercode 70140 / 70141).
- 03) Use a 3-pin XLR cable to connect the Spectrals and other devices.



- 04) Link the units as shown in Fig. 05. Connect the first unit's DMX "out" socket with the second unit's "in" socket, using a DMX-signal cable. Repeat this process to link the second, third, and fourth units.
- 05) Supply electric power: Plug electric mains power cords into each unit's special power socket, then plug the other end of the mains power cord into proper electric power supply sockets, starting with the first unit. Do not supply power before the whole system is set up and connected properly.

## Multiple Spectrals DMX Setup

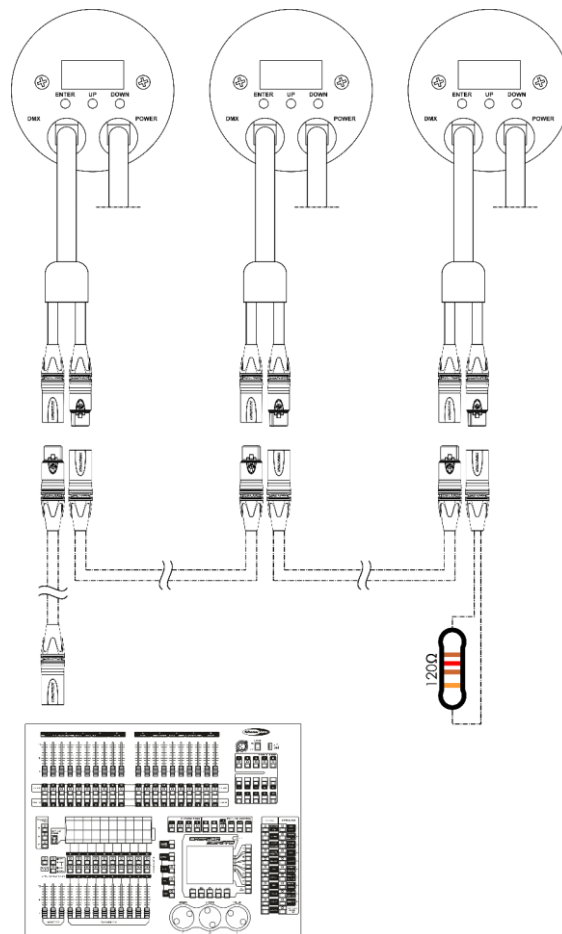



Fig. 05

Note : Link all cables before connecting electric power

## Fixture Linking

You will need a serial data link to run light shows of one or more fixtures using a DMX-512 controller or to run synchronized shows of two or more fixtures set to a master/slave operating mode. The combined number of channels required by all the fixtures on a serial data link determines the number of fixtures the data link can support.

**Important:** Fixtures on a serial data link must be daisy-chained in a single line. To comply with the EIA-485 standard, no more than 30 devices should be connected on one data link. Connecting more than 30 fixtures on one serial data link without the use of a DMX optically isolated splitter may result in deterioration of the digital DMX signal.

 Maximum recommended DMX data link distance: 100 meters  
Maximum recommended number of fixtures on a DMX data link: 30 fixtures  
Maximum recommended number of fixtures on a power link @ 110 V: 82 fixtures  
Maximum recommended number of fixtures on a power link @ 230 V: 170 fixtures

## Data Cabling

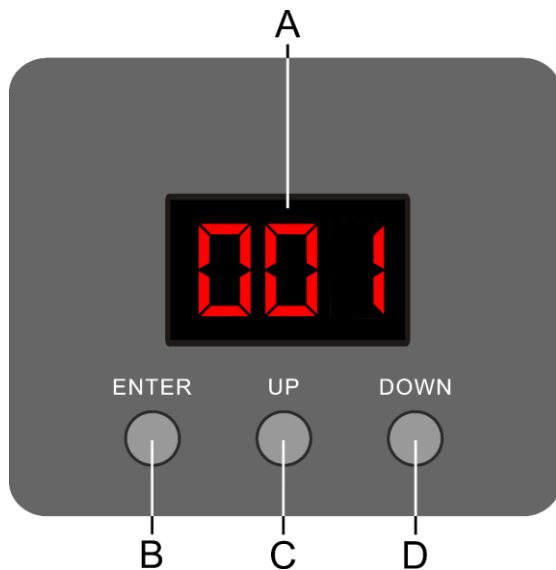
To link fixtures together, you must obtain data cables. You can purchase DAP Audio certified DMX cables directly from a dealer/distributor or construct your own cable. If you choose to create your own cable, please use data-grade cables that can carry a high quality signal and are less prone to electromagnetic interference.

### DAP Audio DMX Data Cables

- DAP Audio Basic microphone cable for allround use. bal. XLR/M 3-pin > XLR/F 3-pin. **Ordercode** FL01150 (1,5 m), FL013 (3 m), FL016 (6 m), FL0110 (10 m), FL0115 (15 m), FL0120 (20 m).
- DAP Audio X-type data cable XLR/M 3-pin > XLR/F 3-pin. **Ordercode** FLX0175 (0,75 m), FLX01150 (1,5 m), FLX013 (3 m), FLX016 (6 m), FLX0110 (10 m).
- DAP Audio cable for the demanding user with exceptional audio-qualities and connector made by Neutrik®. **Ordercode** FL71150 (1,5 m), FL713 (3 m), FL716 (6 m), FL7110 (10 m).
- DAP Audio cable for the demanding user with exceptional audio-qualities and connector made by Neutrik®. **Ordercode** FL7275 (0,75 m), FL72150 (1,5 m), FL723 (3 m), FL726 (6 m), FL7210 (10 m).
- DAP Audio 110 Ohm cable with digital signal transmission. **Ordercode** FL0975 (0,75 m), FL09150 (1,5 m), FL093 (3 m), FL096 (6 m), FL0910 (10 m), FL0915 (15 m), FL0920 (20 m).
- DAP Audio data cable FL08 DMX/AES-EBU, XLR/M 5-pin > XLR/F 5-pin. **Ordercode** FL08150 (1,5 m), FL083 (3 m), FL086 (6 m), FL0810 (10 m), FL0820 (20 m).
- DAP Audio DMX adapter: 5-pin/3-pin. **Ordercode** FLA29.
- DAP Audio DMX adapter: 3-pin/5-pin. **Ordercode** FLA30.
- DAP Audio DMX Terminator 3-pin. **Ordercode** FLA42.
- DAP Audio DMX Terminator 5-pin. **Ordercode** FLA43.

The Spectral 300 Q4 MKIII can be operated with a controller in DMX mode or without the controller in stand-alone mode.

## Control Panel



- A) LED display
- B) ENTER button
- C) UP button
- D) DOWN button

Fig. 06

## Control Mode

The fixtures are individually addressed on a data-link and connected to the controller. The fixtures respond to the DMX signal from the controller. (When you select the DMX address and save it, the controller will display the saved DMX address, next time.)

## DMX Addressing

The control panel on the back side of the device allows you to assign DMX fixture addresses, which is the first channel with which the Spectral will respond to the controller.

Please note, when you use the controller, the unit has **9** channels.

When using multiple Spectrals, make sure you set the DMX addresses right.

Therefore, the DMX address of the first Spectral should be **1(001)**; the DMX address of the second Spectral should be **1+9=10 (010)**; the DMX address of the third Spectral should be **10+9=19 (019)**, etc.

Please, be sure that you do not have any overlapping channels in order to control each Spectral correctly. If two or more Spectrals are addressed similarly, they will work similarly.

## Controlling:

After having addressed all Spectral fixtures, you may now start operating these via your lighting controller.

**Note:** After switching on, the Spectral will automatically detect whether DMX 512 data is received or not. If there is no data received at the DMX-input, the "LED" on the control panel will not flash. If not, the problem may be:

- The XLR cable from the controller is not connected with the input of the Spectral
- The controller is switched off or defective, the cable or connector is defective, or the signal wires are swapped in the input connector.

**Note:** It is necessary to insert an XLR termination plug (with 120 Ohm) in the last fixture in order to ensure proper transmission on the DMX data link.

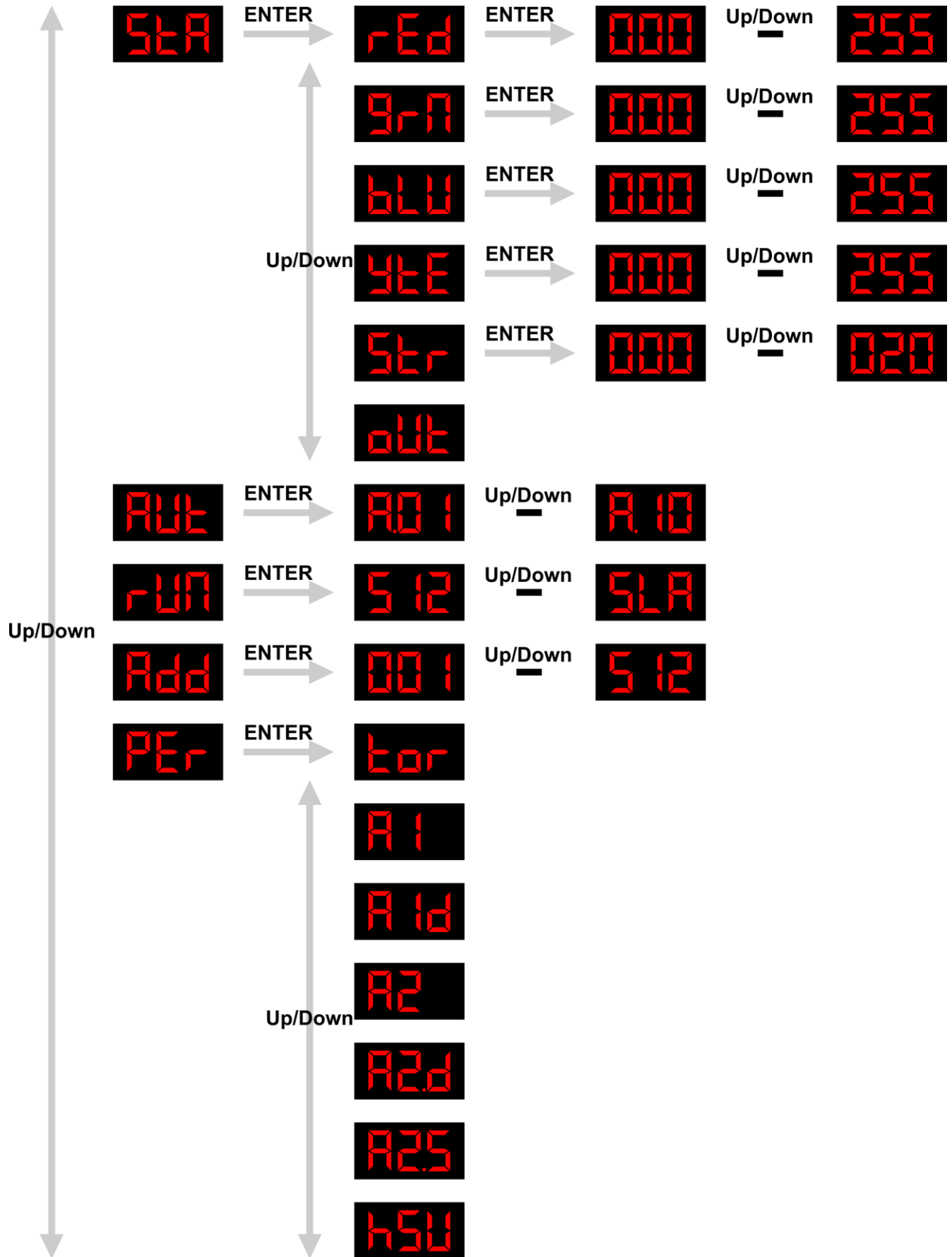
## Display Off after 30 seconds

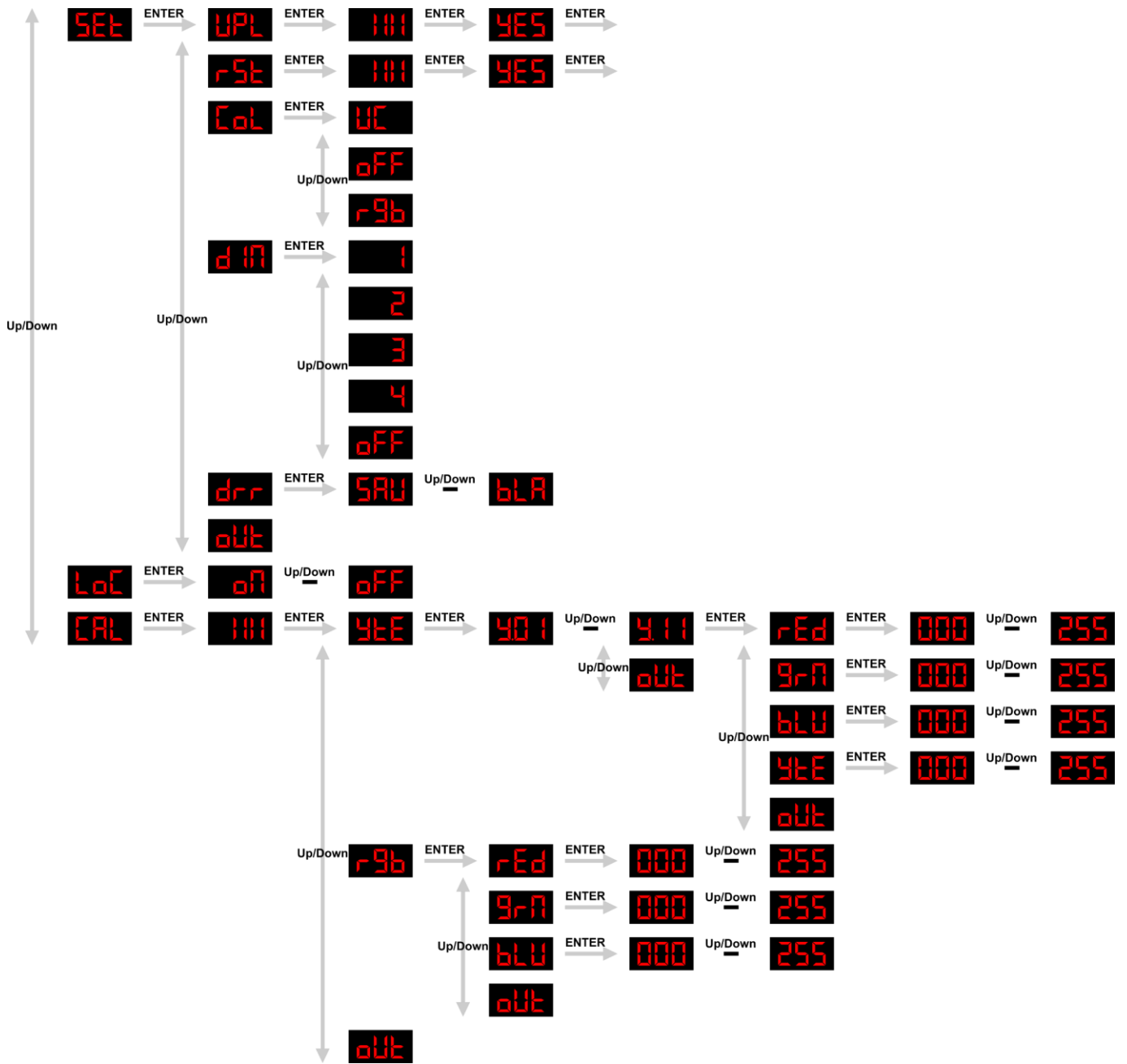
When no button is pressed for 30 seconds, the display will turn off.

To light up the display, you have to press the **ENTER**, **UP** or **DOWN** button.

Once you have pressed the button, the display will light up.

Menu Overview







The Spectral will show its software version at start-up!

u11

## Main Menu Options

SEr

Manual mode

Aut

Auto programs

rUN

DMX/Slave mode

AdD

DMX address

PEr

DMX configuration

SEt

Settings

LoC

Key lock

CAL

Calibration menu

### 1. Manual Mode

In this menu you can set the static colors.

- 01) While in main menu, press the **UP/DOWN** buttons until the display shows **SEr**.
- 02) Press the **ENTER** button to open the menu.
- 03) Press the **UP/DOWN** buttons to toggle through the static colors (Red, Green, Blue and White) and strobe.
- 04) Once you have chosen the desired color, press the **ENTER** button.
- 05) Press the **UP/DOWN** buttons to adjust the color intensity. The adjustment range is 0–255, from dark to brightest.
- 06) Once you have chosen the strobe, the display will show **SEr**.
- 07) Press the **ENTER** button to open the submenu.
- 08) Press the **UP/DOWN** buttons to set the strobe frequency. The adjustment range is 0–20, from OFF to high strobe frequency.
- 09) You can combine RED, GREEN, BLUE and WHITE to create an infinite range of colors (0–255).
- 10) Choose **oUt** to return to the main menu.

## 2. Auto programs

In this menu you can run the auto programs.

- 01) While in main menu, press the **UP/DOWN** buttons until the display shows **Aut**.
- 02) Press the **ENTER** button to open the menu.
- 03) Press the **UP/DOWN** buttons to choose one of the 10 uneditable built-in programs (A01–A10).
- 04) The device will now run the desired built-in auto program.

## 3. DMX/Slave Mode

In this menu you can set the device as a slave.

- 01) While in main menu, press the **UP/DOWN** buttons until the display shows **rUN**.
- 02) Press the **ENTER** button to open the menu.
- 03) Press the **UP/DOWN** buttons to toggle between the 2 following options:

**5 12** DMX/Master mode

**SLA** Slave mode

- 04) When the display shows **5 12**, the device is operating in DMX/Master mode.
- 05) When the display shows **SLA**, the device is operating in Slave mode. It means that it will react the same as the master device.

## 4. DMX address

In this menu you can set the desired DMX address.

- 01) While in main menu, press the **UP/DOWN** buttons until the display shows **Addr**.
- 02) Press the **ENTER** button to open the menu.
- 03) Press the **UP/DOWN** buttons to choose the desired DMX address. The adjustment range is 001–512.

## 5. DMX configuration

In this menu you can set the desired DMX channel mode (personality).

- 01) While in main menu, press the **UP/DOWN** buttons until the display shows **PEr**.
- 02) Press the **ENTER** button to open the menu.
- 03) Press the **UP/DOWN** buttons to toggle through the following DMX channel modes:

**TOR:** 9 channels  
**A1:** 3 channels  
**A1d:** 4 channels  
**A2:** 4 channels  
**A2.d:** 5 channels  
**A2.S:** 6 channels  
**HSV:** 3 channels

## 6. Settings

In this menu you can set the device's settings.

- 01) While in main menu, press the **UP/DOWN** buttons until the display shows **SEt**.
- 02) Press the **ENTER** button to open the menu.
- 03) Press the **UP/DOWN** buttons to toggle through the menus described on pages 18–19.
- 04) Press the **ENTER** button to open the desired submenu.
- 05) Choose **oUt** to return to the main menu.

### 6.1. Upload

In this menu you can export current programs from the master device to the connected slave devices.

- 01) Press the **UP/DOWN** buttons until the display shows **UPL**.
- 02) Press the **ENTER** button to open the menu.
- 03) Insert the password: **UP>DOWN>UP>DOWN**. The display will show **101**.
- 04) Press the **ENTER** button to confirm.
- 05) While **exporting**, the devices will light up **yellow**.
- 06) If there are any **problems with exporting**, the master and the slave devices will light up **red**.
- 07) If the operation is **completed successfully**, the master and the slave devices will light up **green** and the display will show **YES**.

### 6.2. Reset

In this menu you can reset the custom programs.

- 01) Press the **UP/DOWN** buttons until the display shows **rSt**.
- 02) Press the **ENTER** button to open the menu.
- 03) Insert the password: **UP>DOWN>UP>DOWN** and press the **ENTER** button to confirm.
- 04) The display will show **101** and **YES**. The custom programs will have been reset.

### 6.3. Color

In this menu you can adjust the color calibration functions.

- 01) Press the **UP/DOWN** buttons until the display shows **CoL**.
- 02) Press the **ENTER** button to open the menu.
- 03) Press the **UP/DOWN** buttons to toggle through the following 3 options:

**uC** Adjusted output

**oFF** Off

**r9b** RGB to White

- 04) When the display shows **uC**, the RGB output is adjusted to a standard preset universal color. In this way, different Spectral versions are color-balanced in order to match each other.
- 05) When the display shows **oFF**, the RGB settings are: 255, 255, 255. The RGB values are not adjusted and the output is the most powerful.
- 06) When the display shows **r9b**, RGB to White is active. This means RGB = 255, 255, 255. The color displayed is the specific color which you have calibrated in **Calibration menu** → **RGB** menu.

### 6.4. Dimmer

In this menu you can adjust the dimmer.

- 01) Press the **UP/DOWN** buttons until the display shows **d17**.
- 02) Press the **ENTER** button to open the menu.
- 03) Press the **UP/DOWN** buttons to choose one of the 4 dimmer speed options (1–4, from fast to slow) and OFF.
- 04) If you choose OFF, then RGBW and the master dimmer are linear.

### 6.5. Save DMX/Blackout

In this menu you can set the device's behaviour in case of a DMX signal error.

- 01) Press the **UP/DOWN** buttons until the display shows **drc**.
- 02) Press the **ENTER** button to open the menu.
- 03) Press the **UP/DOWN** buttons to toggle between the 2 options:

**SAU** DMX data save

**BLA** Blackout

- 04) If the display shows **SAU**, the Spectral will fall back on the last working DMX signal, which will ensure uninterrupted performance.
- 05) If the display shows **BLA**, the Spectral will black the output out.

### 7. Keylock mode

In this menu you can set whether the display becomes locked when no button is pressed for 30 seconds.

- 01) Press the **UP/DOWN** buttons until the display shows **LoC**.
- 02) Press the **ENTER** button to open the menu.
- 03) Press the **UP/DOWN** buttons to choose between **ON** and **OFF**.
- 04) If you have selected **ON**, press the **ENTER** button to confirm.
- 05) It will now take 30 seconds for the device to become locked.
- 06) In order to unlock the device, press the buttons in the following order: **UP>DOWN>UP>DOWN** and press the **ENTER** button to confirm.
- 07) The display will show **PAS** and the device will be unlocked.

### 8. Calibration menu

In this menu you can adjust the temperature of the white color presets and adjust the RGB to White color.

- 01) While in main menu, press the **UP/DOWN** buttons until the display shows **CAL**.
- 02) Press the **ENTER** button to open the menu.
- 03) Insert the password: **UP>DOWN>UP>DOWN** and press the **ENTER** button to confirm.
- 04) Press the **UP/DOWN** buttons to toggle through the menus described below.

#### 8.1. White color presets

In this menu you can adjust the temperature of the built-in white color presets.

- 01) Press the **UP/DOWN** buttons until the display shows **WtE**.
- 02) Press the **ENTER** button to open the menu.
- 03) Press the **UP/DOWN** buttons to choose one of the 11 white color presets (Y01–Y11) or choose **oUt** to return to the previous step.
- 04) Once you have chosen the desired preset, press the **ENTER** button to open the submenu.
- 05) Press the **UP/DOWN** buttons to toggle through RED, GREEN, BLUE and WHITE.
- 06) Press the **ENTER** button to open the desired color's brightness settings.
- 07) Press the **UP/DOWN** buttons to set the color brightness. The adjustment range of each color is 0–255, from dark to brightest.
- 08) Choose **oUt** to return to the 11 presets.

#### 8.2. RGB to White

In this menu you can adjust the temperature of the white color.

- 01) Press the **UP/DOWN** buttons until the display shows **rGb**.
- 02) Press the **ENTER** button to open the menu.
- 03) Now you can adjust the intensity of the RGB colors. Press the **UP/DOWN** buttons to toggle through RED, GREEN and BLUE or choose **oUt** to return to the previous step.
- 04) Once you have chosen the desired color, press the **ENTER** button to open the color's brightness settings.
- 05) Press the **UP/DOWN** buttons to set the color brightness. The adjustment range of each color is between 0–255, from dark to brightest.

## DMX Channels

9 channels (TOR)

**Channel 1 – Master Dimmer intensity**

0–255 Gradual adjustment, from dark to brightest

**Channel 2 – Red Dimmer intensity**  **CH1 must be set between 1–255; CH6 must be closed** 

0–255 Gradual adjustment Red, from dark to brightest

**Channel 3 – Green Dimmer intensity**  **CH1 must be set between 1–255; CH6 must be closed** 


0–255 Gradual adjustment Green, from dark to brightest

**Channel 4 – Blue Dimmer intensity**  **CH1 must be set between 1–255; CH6 must be closed** 

0–255 Gradual adjustment Blue, from dark to brightest

**Channel 5 – White Dimmer intensity**  **CH1 must be set between 1–255; CH6 must be closed** 

0–255 Gradual adjustment White, from dark to brightest

**Channel 6 – Macros**  **CH1 must be set between 1–255** 

0–10 No function

11–30 Red 100% / Green Up / Blue 0%

31–50 Red Down / Green 100% / Blue 0%

51–70 Red 0% / Green 100% / Blue Up

71–90 Red 0% / Green Down / Blue 100%

91–110 Red Up / Green 0% / Blue 100%

111–130 Red 100% / Green 0% / Blue Down

131–150 Red 100% / Green Up / Blue Up

151–170 Red Down / Green Down / Blue 100%

171–200 Red 100% / Green 100% / Blue 100% / White 100%

201–205 White 1: 3200K

206–210 White 2: 3400K

211–215 White 3: 4200K

216–220 White 4: 4900K

221–225 White 5: 5600K

226–230 White 6: 5900K

231–235 White 7: 6500K

236–240 White 8: 7200K

241–245 White 9: 8000K

246–250 White 10: 8500K

251–255 White 11: 10000K

**Channel 7 – Linear Strobe** **CH1 must be set between 1–255; CH2–5 must be set between 1–255 or CH6 between 11–255** 

0–9 No function

10–255 Strobe flash frequency, from low to high frequency

**Channel 8 – Auto programs**

0–40	No function
41–50	Program 1
51–60	Program 2
61–70	Program 3
71–80	Program 4
81–90	Program 5
91–100	Program 6
101–110	Program 7
111–120	Program 8
121–130	Program 9
131–255	Program 10

**Channel 9 – Program speed  CH8 must be set between 41–255 **

0–255	Gradual speed adjustment, from slow to fast
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**3 channels (A1)****Channel 1 – Red Dimmer intensity**

0–255	Gradual adjustment Red, from dark to brightest
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**Channel 2 – Green Dimmer intensity**

0–255	Gradual adjustment Green, from dark to brightest
-------	--

**Channel 3 – Blue Dimmer intensity**

0–255	Gradual adjustment Blue, from dark to brightest
-------	---

**4 channels (A1.d)****Channel 1 – Master Dimmer intensity**

0–255	Gradual adjustment, from dark to brightest
-------	--

**Channel 2 – Red Dimmer intensity  CH1 must be set between 1–255 **

0–255	Gradual adjustment Red, from dark to brightest
-------	--

**Channel 3 – Green Dimmer intensity  CH1 must be set between 1–255 **

0–255	Gradual adjustment Green, from dark to brightest
-------	--

**Channel 4 – Blue Dimmer intensity  CH1 must be set between 1–255 **

0–255	Gradual adjustment Blue, from dark to brightest
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**4 channels (A2)****Channel 1 – Red Dimmer intensity**

0–255	Gradual adjustment Red, from dark to brightest
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**Channel 2 – Green Dimmer intensity**

0–255	Gradual adjustment Green, from dark to brightest
-------	--

**Channel 3 – Blue Dimmer intensity**

0–255	Gradual adjustment Blue, from dark to brightest
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**Channel 4 – White dimmer intensity**

0–255	Gradual adjustment White, from dark to brightest
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**5 channels (A2.d)****Channel 1 – Master Dimmer intensity**

0–255 Gradual adjustment, from dark to brightest

**Channel 2 – Red Dimmer intensity**  **CH1 must be set between 1–255** 

0–255 Gradual adjustment Red, from dark to brightest

**Channel 3 – Green Dimmer intensity**  **CH1 must be set between 1–255** 

0–255 Gradual adjustment Green, from dark to brightest

**Channel 4 – Blue Dimmer intensity**  **CH1 must be set between 1–255** 

0–255 Gradual adjustment Blue, from dark to brightest

**Channel 5 – White Dimmer intensity**  **CH1 must be set between 1–255** 

0–255 Gradual adjustment White, from dark to brightest

**6 channels (A2.S)****Channel 1 – Master Dimmer intensity**

0–255 Gradual adjustment, from dark to brightest

**Channel 2 – Red Dimmer intensity**  **CH1 must be set between 1–255** 

0–255 Gradual adjustment Red, from dark to brightest

**Channel 3 – Green Dimmer intensity**  **CH1 must be set between 1–255** 



0–255 Gradual adjustment Green, from dark to brightest

**Channel 4 – Blue Dimmer intensity**  **CH1 must be set between 1–255** 

0–255 Gradual adjustment Blue, from dark to brightest

**Channel 5 – White Dimmer intensity**  **CH1 must be set between 1–255** 

0–255 Gradual adjustment White, from dark to brightest

**Channel 6 – Linear Strobe** **CH1–5 must be set between 1–255** 

0–9 No function

10–255 Strobe flash frequency, from low to high frequency

**3 channels (HSV)****Channel 1 – Hue (color variations)**  **CH3 must be set between 1–255** 

0–255 Gradual adjustment hue, from 0–100%

**Channel 2 – Red color saturation**  **CH3 must be set between 1–255** 

0–255 Saturation adjustment, from 0–100%

**Channel 3 – Value (dimmer)**

0–255 Gradual adjustment dimmer, from dark to brightest

## Maintenance

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The operator has to make sure that safety-related and machine-technical installations are to be inspected by an expert after every year in the course of an acceptance test.

The operator has to make sure that safety-related and machine-technical installations are to be inspected by a skilled person once a year.

The following points have to be considered during the inspection:

- 01) All screws used for installing the device or parts of the device have to be tightly connected and must not be corroded.
- 02) There may not be any deformations on housings, fixations and installation spots.
- 03) Mechanically moving parts like axles, eyes and others may not show any traces of wearing.
- 04) The electric power supply cables must not show any damages or material fatigue.

The Spectral 300 Q4 MKIII requires almost no maintenance. However, you should keep the unit clean. Otherwise, the fixture's light output will be significantly reduced. Disconnect the mains power supply, and then wipe the cover with a damp cloth. Do not immerse in liquid. Wipe lens clean with glass cleaner and a soft cloth. Do not use alcohol or solvents.

The front lens will require weekly cleaning, as smoke-fluid tends to build up residues, reducing the light output very quickly.

Keep connections clean. Disconnect electric power, and then wipe the DMX and audio connections with a damp cloth. Make sure connections are thoroughly dry before linking equipment or supplying electric power.

## Troubleshooting

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This troubleshooting guide is meant to help solve simple problems.

If a problem occurs, carry out the steps below in sequence until a solution is found. Once the unit operates properly, do not carry out following steps.

### No Light

If the light effect does not operate properly, refer servicing to a technician.

Suspect three potential problem areas as: the power supply, the LEDs, the internal fuse.

- 01) Power supply. Check that the unit is plugged into an appropriate power supply.
- 02) The LEDs. Return the Spectral to your Showtec dealer.
- 03) The internal fuse. Return the Spectral to your Showtec dealer.
- 04) If all of the above appears to be O.K., plug the unit in again.
- 05) If you are unable to determine the cause of the problem, do not open the Spectral, as this may damage the unit and the warranty will become void.
- 06) Return the device to your Showtec dealer.

### No Response to DMX

Suspect the DMX cable or connectors, a controller malfunction, a light effect DMX card malfunction.

- 01) Check the DMX setting. Make sure that DMX addresses are correct.
- 02) Check the DMX cable: Unplug the unit; change the DMX cable; then reconnect to electrical power. Try your DMX control again.
- 03) Determine whether the controller or light effect is at fault. Does the controller operate properly with other DMX products? If not, take the controller in for repair. If so, take the DMX cable and the light effect to a qualified technician.



Problem	Probable cause(s)	Solution
One or more fixtures do not function at all	No power to the fixture	<ul style="list-style-type: none"> <li>Check if power is switched on and cables are plugged in</li> </ul>
	Internal fuse blown	<ul style="list-style-type: none"> <li>Return the Spectral to your Showtec dealer</li> </ul>
Fixtures reset correctly, but all respond erratically or not at all to the controller	The controller is not connected	<ul style="list-style-type: none"> <li>Connect controller</li> </ul>
	3-pin XLR Out of the controller does not match XLR In of the first fixture on the link (i.e. signal is reversed)	<ul style="list-style-type: none"> <li>Install a phase reversing cable between the controller and the first fixture on the link</li> </ul>
Fixtures reset correctly, but some respond erratically or not at all to the controller	Poor data quality	<ul style="list-style-type: none"> <li>Check data quality. If much lower than 100 percent, the problem may be a bad data link connection, poor quality or broken cables, missing termination plug, or a defective fixture disturbing the link</li> </ul>
	Bad data link connection	<ul style="list-style-type: none"> <li>Inspect connections and cables. Correct poor connections. Repair or replace damaged cables</li> </ul>
	Data link not terminated with 120 Ohm termination plug	<ul style="list-style-type: none"> <li>Insert termination plug in output jack of the last fixture on the link</li> </ul>
	Incorrect addressing of the fixtures	<ul style="list-style-type: none"> <li>Check address setting</li> </ul>
	One of the fixtures is defective and disturbs data transmission on the link	<ul style="list-style-type: none"> <li>Bypass one fixture at a time until normal operation is restored: unplug both connectors and connect them directly together.</li> <li>Have the defective fixture serviced by a qualified technician</li> </ul>
	3-pin XLR Out on the fixtures does not match (pins 2 and 3 reversed)	<ul style="list-style-type: none"> <li>Install a phase-reversing cable between the fixtures or swap pin 2 and 3 in the fixture that behaves erratically</li> </ul>
No light or LEDs cut out intermittently	Fixture is too hot	<ul style="list-style-type: none"> <li>Allow the fixture to cool down</li> <li>Make sure the front lens is not blocked</li> <li>Turn up the air conditioning</li> </ul>
	LEDs damaged	<ul style="list-style-type: none"> <li>Disconnect the fixture and return it to your dealer</li> </ul>
	The power supply settings do not match local AC voltage and frequency	<ul style="list-style-type: none"> <li>Disconnect fixture. Check settings and correct if necessary</li> </ul>

## Product Specifications

Model:	Showtec Spectral 300 Q4 MKIII
Input voltage:	100–240 V AC, 50/60 Hz
Power consumption:	21 W
Dimensions:	210 x 125 x 176 mm (LxWxH) (incl. bracket)
Weight:	1,1 kg
<b>Operating and Programming:</b>	
Signal pin OUT:	Pin 1 (earth), pin 2 (-), pin 3 (+)
DMX mode:	3, 3, 4, 4, 5, 6, 9 channels
Signal input:	3-pin DMX IN
Signal output:	3-pin DMX OUT
<b>Electro-mechanical effects:</b>	
Light source:	1 x 20 W RGBW Osram LED
Lux @1 m:	18540 lx
Dimmer:	0–100 %
Strobe:	0–20 Hz
Housing:	Die-cast black aluminum
DMX-control:	via standard DMX-controller
Onboard:	LED display for easy setup
Control modes:	Auto, Manual, Master/Slave, DMX
Connections:	Special power cable, special combined cable 3-pin XLR IN & OUT
IP rating:	IP20
Cooling:	Convection
Max. ambient temperature $t_a$ :	40 °C
Max. housing temperature $t_b$ :	80 °C
<b>Minimum distance:</b>	
Minimum distance from flammable surfaces:	0,5 m
Minimum distance to lighted object:	0,8 m

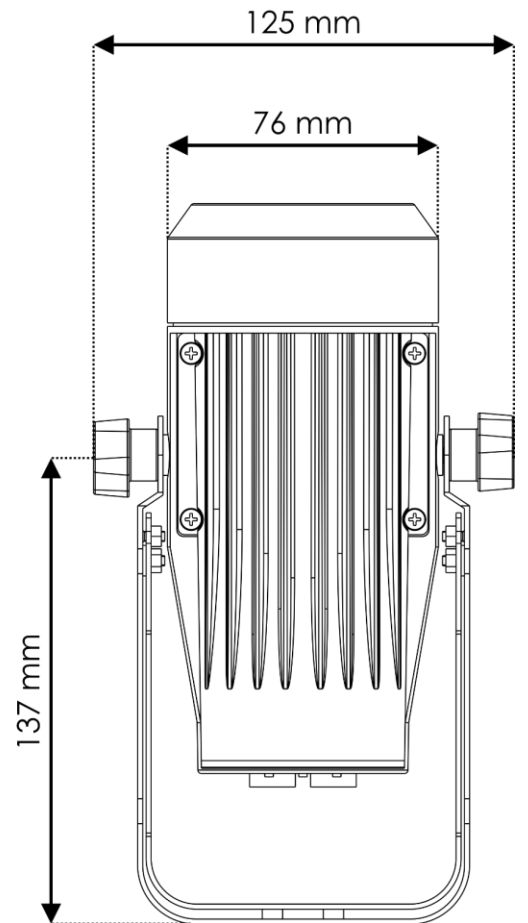
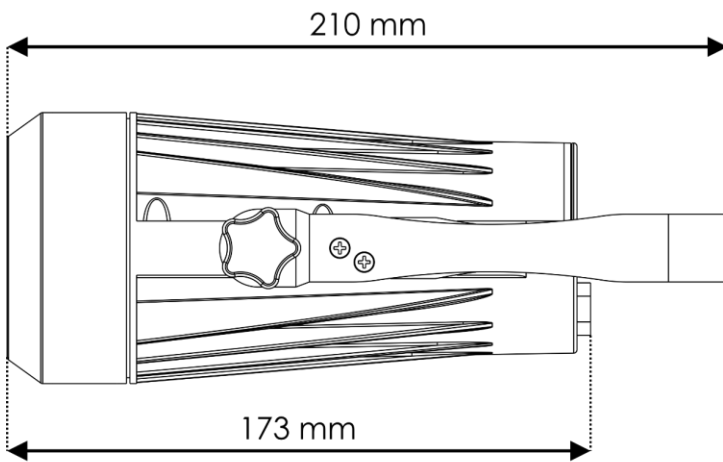
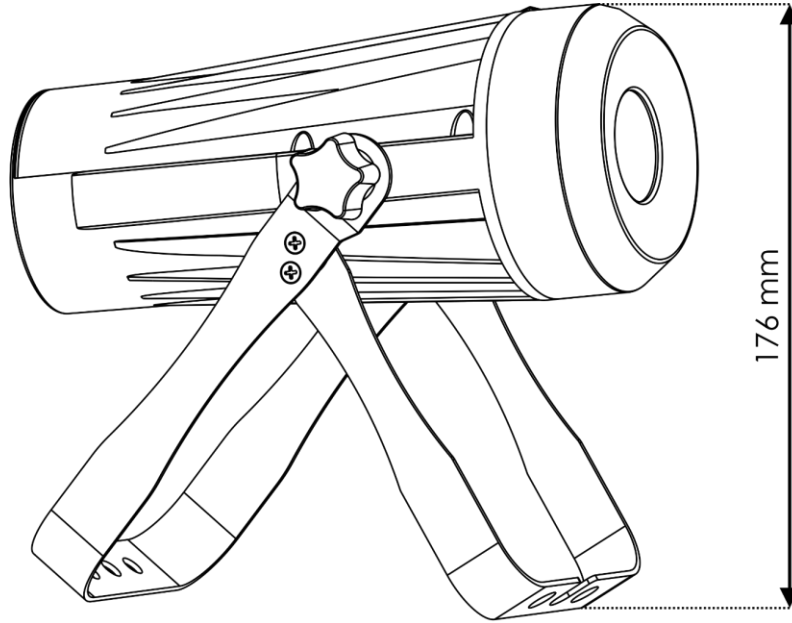
Design and product specifications are subject to change without prior notice.



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## Dimensions





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