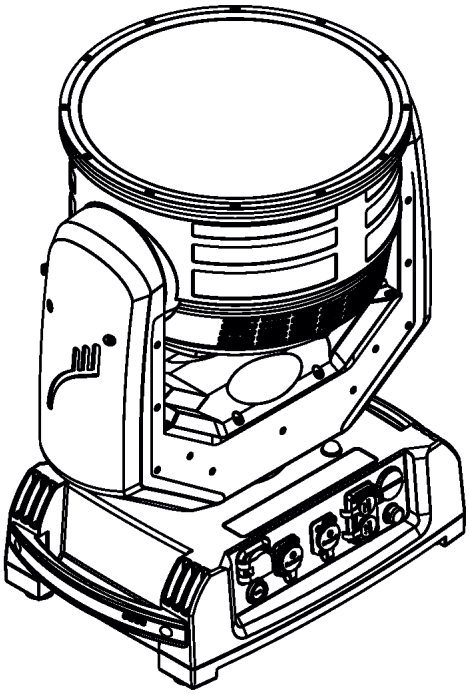
ROBIN iSpiider®



ROBE Innovative Technology

QR code for user manual

USER MANUAL

ROBE® lighting s.r.o. • Czech Republic • www.robe.cz

Version 1.7

Robin iSpiider

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FOR YOUR OWN SAFETY, PLEASE READ THIS USER MANUAL CAREFULLY BEFORE YOU INITIAL START - UP

This device has left our premises in absolutely perfect condition. In order to maintain this condition and to ensure a safe operation, it is absolutely necessary for the user to follow the safety instructions and warnings in this manual.

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.

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

The Robin iSpiider was designed for outdoor use and it is intended for professional application only. It is not for household use.

1. Safety instructions

CAUTION!
Disconnect the fixture from mains before removing any cover of the fixture. With a high voltage you can suffer a dangerous electric shock when touching alive wires and electrical parts under covers!

Make sure that the available voltage is not higher than stated on the rear panel of the fixture.
This fixture should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied, consult your authorized distributor or local power company.

Always disconnect the fixture from AC power before cleaning or servicing any part of the fixture.

The power plug has to be accessible after installing the fixture. Do not overload wall outlets and extension cords as this can result in fire or electric shock.

Do not allow anything to rest on the power cord. Do not locate this fixture where the cord may be damaged by persons walking on it.

Make sure that the power cord is never crimped or damaged by sharp edges. Check the fixture and the power cord from time to time.

Refer servicing to qualified service personnel.

This fixture falls under protection class I. Therefore this fixture has to be connected to a mains socket outlet with a protective earthing connection.

Do not connect this fixture to a dimmer pack.

During the initial start-up some smoke or smell may arise. This is a normal process and does not necessarily mean that the device is defective.

The housing of the fixture becomes hot during its operation.

For replacement use fuse and battery of same type and rating only.

LED light emission. Risk of eye injury.
Do not look straight at the fixture´s LED source during operation. The intense light beam may damage your eyes. Sensitive persons may suffer an epileptic shock. Provide advance notice that strobe lighting is in use.

CAUTION! Risk group 2, RG-2

Do not view the light output with optical instruments or any device that may concentrate the beam.
The light source contains blue LEDs.

2. Operating determination

WARNING! This unit does not contain an ON/OFF switch. Always disconnect the power input cable from mains to completely remove power from unit when not in use or before cleaning or servicing the unit.

Avoid brute force when installing or operating the device.

Never lift the fixture by holding it at the fixture head as the mechanics may be damaged. Always hold the fixture at the transport handles.

When choosing the installation spot, please make sure that the device is not exposed to extreme heat or dust.

Make sure that the area below the installation place is blocked when rigging, derigging or servicing the fixture.

Always secure the fixture with an appropriate safety wire.

Only operate the fixture after having checked that the housing is firmly closed and all screws are tightly fastened.

Do not block the front cover glass with any object when the fixture is under operation.

The fixture becomes very hot during operation. Allow the fixture to cool approximately 20 minutes prior to manipulate with it.

To avoid damage of an internal optical system of the fixture, never let the sunlight (or other light source) lights directly to the lens array, even when the fixture is not working

Operate the device only after having familiarized with its functions. Do not permit operation by persons not qualified for operating the device.

The fixture housing never must be covered with cloth or other materials during its operation. Do not block fans or fans ventilation slots with any object. Fans and ventilation slots must remain clean.

Please consider that unauthorized modifications on the device are forbidden due to safety reasons!

Potential foggy front lens array does not influence function of the fixture and does not subject to complaint.

Please use only an original ROBE packaging (paper box, loader case or foam shell) for transporting the device, otherwise potential damage of the device during its transport will not subject to warranty.

The fixture must not come into contact with sea water (salt water).
Damages or corrosion issues resulting from salt water will void the manufactures warranty and will not be subject to any warranty claims or repairs.

The product (covers and cables) must not be exposed to a high frequency electromagnetic field higher than 3V/m.

Immunity of the equipment is designed according to the standard EN 55035 Electromagnetic compatibility of multimedia equipment - Immunity requirements

Emission of the equipment complies with the standard EN55032 Electromagnetic compatibility of multimedia equipment – Emission Requirements according to class B.

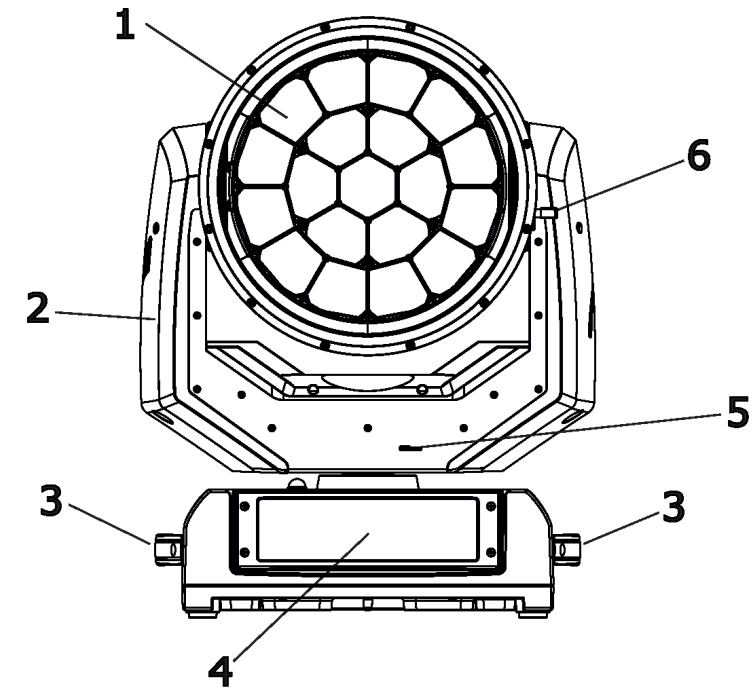
Contains FCC ID: 2A6PL-DMXRDMRW001
Contains IC: 29573-DMXRDMRW001

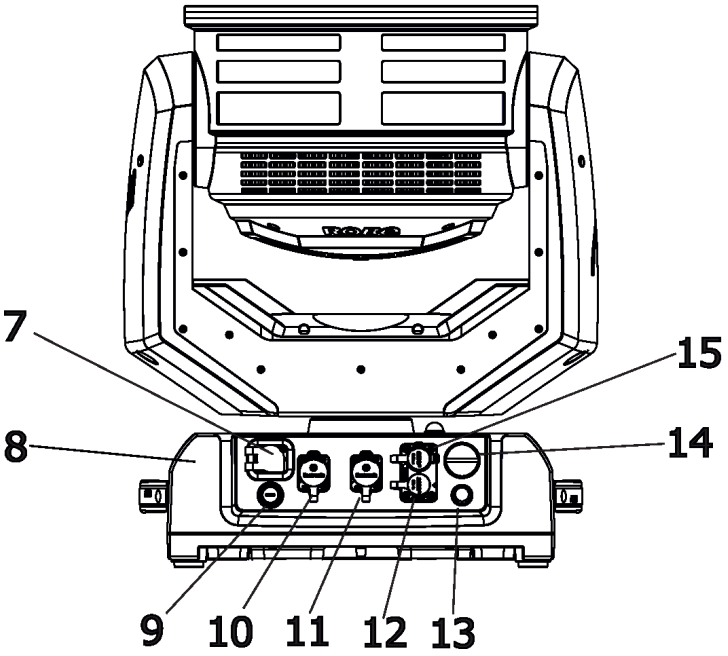
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The [Device] wireless operation is safe and complies to RF Exposure requirements

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

3. Fixture exterior view





1 - Lens array
2 - Yoke
3 - Handle
4 - Control panel
5 - Pan lock
6 - Tilt lock
7 - Power
8 - Base
9 - Cover of fuse holde
10 - Ethernet IN
11 - Ethernet OUT
12- 5-pin DMX IN
13- Gore valve
14- Cover of battery holder
15- 5-pin DMX OUT

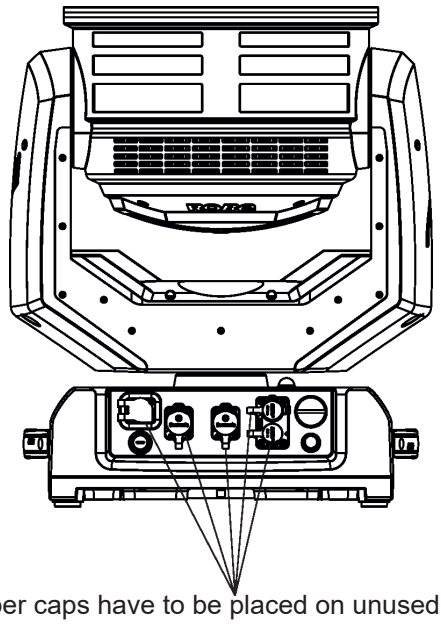
The head has to be locked for transportation - the pan lock latch (5) and the tilt lock latch (6) have to be in the locked positions. To unlock the head, move these latches to unlock positions before operating the fixture.

The ENTER/DISPLAY ON button also serves for switching the display on when the fixture is disconnected from the mains.

4. Installation

Fixtures must be installed by a qualified electrician in accordance with all national and local electrical and construction codes and regulations.

The Robin iSpiider´s panel connectors are dust and water protected according to IP 65 by mating with related cable connectors. They cannot stay disconnected outdoor. All unused panel connectors have to be sealed by the rubber caps. Visually check panel connectors on accidental water leaks before connecting related cable connectors. If some water will appear in panel connectors, do not connect cable connectors, especially power!



The rubber caps have to be placed on unused connectors.

4.1 Connection to the mains

For protection from electric shock, the fixture must be earthed! The fixture has to be connected to an electric outlet which is equipped with a residual-current device (residual-current circuit breaker)!

Wiring and connection work must be carried out by a qualified electrician.
The Robin iSpiider is equipped with auto-switching power supply that automatically adjusts to any 50-60Hz AC power source from 100-240 Volts.
Mains cable powerCON TRUE1 In/open ended is enclosed to the fixture. We recomend to install cord end-sleeves 1.5 x 8 (cross section in mm^2 x length in mm) on the cords of the mains cable. If you need to install a power plug on the mains cable to allow connection to power outlets, install a grounding-type (earthed) plug, following the plug manufacturer's instructions. If you have any doubts about proper installation, consult a qualified electrician. Connection to mains has to keep IP 65 protection rating.

Core (EU)	Core (US)	Connection	Plug Terminal Marking
Brown	Black	Live	L
Light blue	White	Neutral	N
Yellow/Green	Green	Earth	⏚

This device falls under class one and must be earthed (grounded)!
Ensure all connections and the power plug on the cable are properly sealed.
To apply power, first check that the head pan and tilt locks are released.

4.2 Rigging the fixture

A structure intended for installation of the fixture (s) must safely hold weight of the fixture(s) placed on it. The structure has to be certificated to the purpose.

The fixture (fixtures) must be installed in accordance with national and local electrical and construction codes and regulations.

For overhead installation, the fixture must be always secured with a safety wire.

When rigging, derigging or servicing the fixture staying in the area below the installation place, on bridges, under high working places and other endangered areas is forbidden.

Allow the fixture to cool for ten minutes before handling.

Fixture should be installed in areas outside walking paths, seating areas, or away from areas were unauthorized personnel might reach the fixture by hand.

IMPORTANT! OVERHEAD RIGGING REQUIRES EXTENSIVE EXPERIENCE, including calculating working load limits, installation material being used, and periodic safety inspection of all installation material and the projector. If you lack these qualifications, do not attempt the installation yourself, but use a help of professional companies.

CAUTION: Fixtures may cause severe injuries when crashing down! If you have doubts concerning the safety of a possible installation, do not install the fixture!

The fixture has to be installed out of the reach of public.

The fixture must never be fixed swinging freely on the truss.

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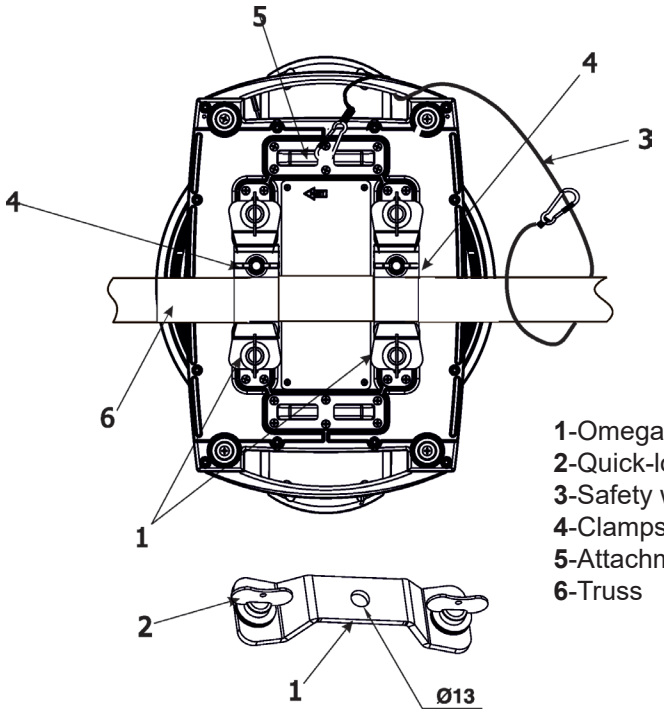
Danger of fire !
When installing the device, make sure there is no highly inflammable material (decoration articles, etc.) in a distance of min. 0.5 m.

CAUTION!
Use 2 appropriate clamps to rig the fixture on the truss.
Follow the instructions mentioned at the bottom of the base.
Make sure that the device is fixed properly! Ensure that the structure (truss) to which you are attaching the fixtures is secure.

For securing the fixture to the truss, install a safety wire which can hold at least 10 times the weight of the fixture.

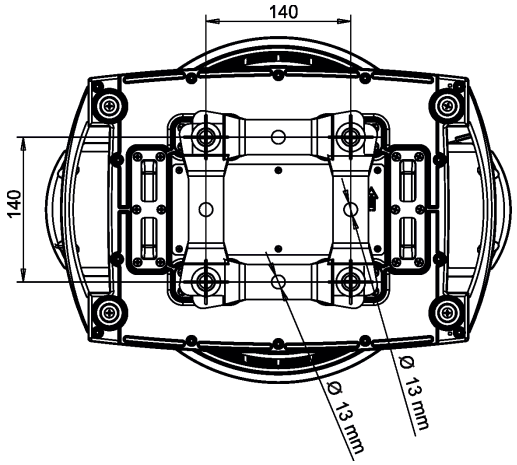
Truss installation

1.Bolt Clamps (4) to the Omega adaptor (1) with M12 bolts and lock nuts through the hole in the Omega adaptors.
2.Fasten the brackets Omega adaptors on the bottom of the base by means of the quick-lock fasteners (2) and tighten them fully clockwise.
3. Install the fixture on the truss.
4. Pull a safety wire (3) through the carrying handle and the truss (6) as shown on the picture below in a suitable position so that the maximum fall of the fixture will be 20 cm. Fasten a snap hook in the attachment point (5). Use only the safety wire with a snap hooks with screw lock gates.



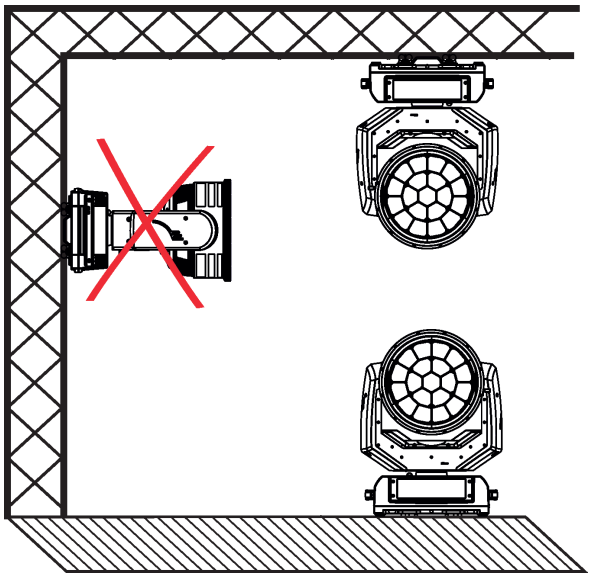
1-Omega adaptor
2-Quick-lock fasteners
3-Safety wire
4-Clamps
5-Attachment point
6-Truss

Available positions of Omega holders:

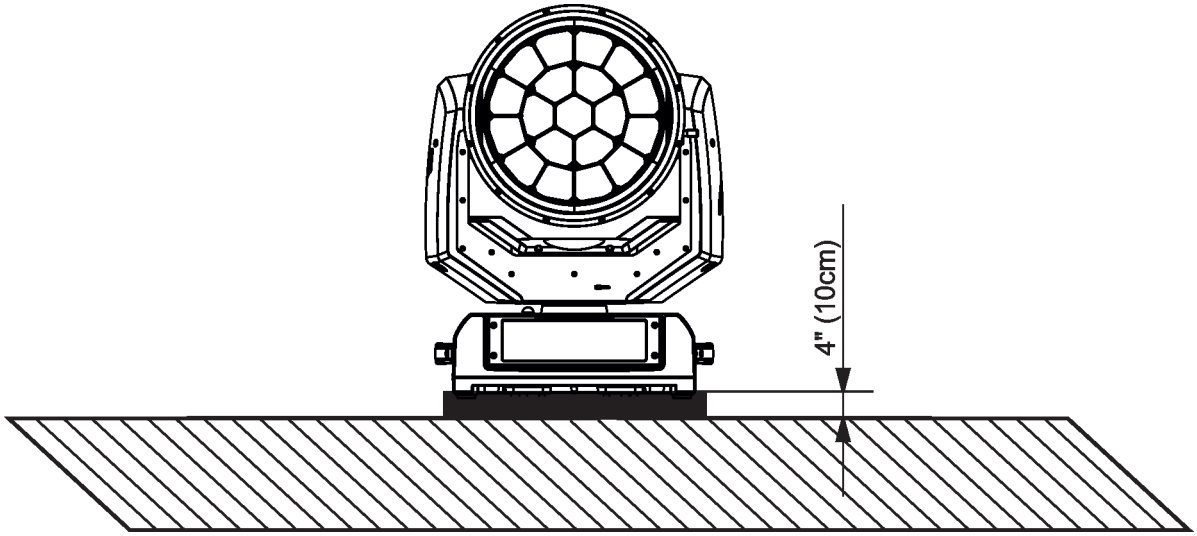


Note:
Surface corrosion of the Omega adaptors may occur, especially if this fixture has been used outdoors. Surface corrosion will not affect the safety of the Omega adaptors. Omega adaptors corrosion is not covered by the warranty.

Allowed installation positions of the iSpiider



Note for open-air installation: if the fixture stands on the ground, min. distance of 4" (10cm) between the fixture base and the ground has to be kept.



When installing fixtures side-by-side,
avoid illuminating one fixture with another!

DANGER TO LIFE!
Before taking into operation for the first time,the installation has to be approved by an expert!

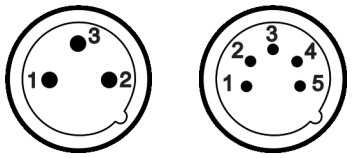
In order to protect the internal parts of the head from the sun, the function PARKING POSITION must be switched ON before switching the fixture off.

The PARKING POSITION function is located on the Power/Special functions channel (120-129 DMX). If the function is on, the fixture will automatically detect via G-sensor whether the fixture is on the floor or hangs on the truss or is mounted sideways on the truss and moves the pan and tilt to the position (including movement of zoom to the front part of the head) in which the head will always face down. Owing this position of the fixture head, there is not chance to burn internal parts of the head by the sun light.

4.3 DMX-512 connection

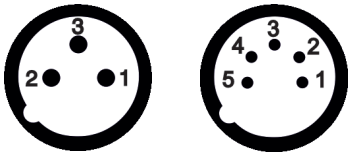
The fixture is equipped with 5-pin XLR sockets for DMX input and output.
Only use a shielded twisted-pair cable designed for RS-485 and 5-pin XLR plugs and connectors in order to connect the controller with the fixture or one fixture with another.
To keep declared IP rating of the XLR panel connectors, all used XLR connectors and cables have to meet IP 65 rating.

DMX output
XLR sockets (female)

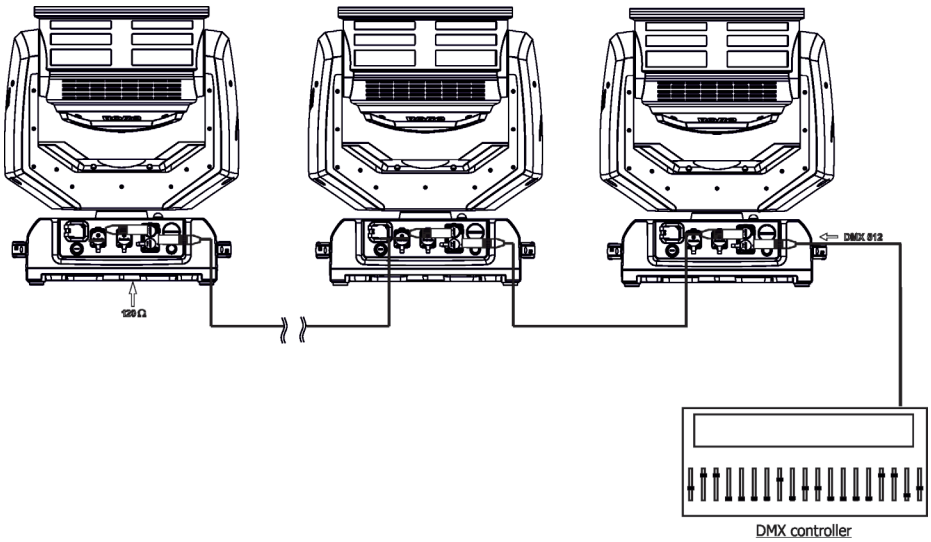


1 - Shield
2 - Signal (-)
3 - Signal (+)
4 - Not connected
5 - Not connected

DMX input
XLR sockets (male)



Building a serial DMX chain:
Connect the DMX output of the first fixture in the DMX chain with the DMX input of the next fixture. Always connect one output with the input of the next fixture until all fixtures are connected. Up to 32 fixtures can be connected.
Caution: At the last fixture, the DMX cable has to be terminated with a terminator. Solder a 120 Ω resistor between Signal (–) and Signal (+) into 5-pin XLR plug and plug it into DMX output of the last fixture.



The Robin iSpiider´s panel connectors are dust and water protected according to IP 65 by mating with related cable connectors. They cannot stay disconnected outdoor. All unused panel connectors have to be sealed by the rubber caps.

4.4 Ethernet connection

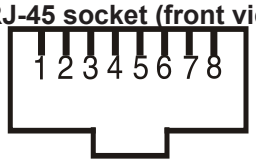
To keep declared IP rating of the fixture, all used RJ45 and XLR connectors and cables have to meet IP 65 rating.

The fixtures on a data link are connected to the Ethernet with appropriate communication protocol (e.g. ArtNet). The control software running on your PC (or light console) has to support Art-Net protocol.
Art-Net communication protocol is a 10 Base T Ethernet protocol based on the TCP/IP.Its purpose is to allow transfer of large amounts of DMX 512 data over a wide area using standard network technology.

IP address is the Internet protocol address.The IP uniquely identifies any node (fixture) on a network.
The Universe is a single DMX 512 frame of 512 channels.

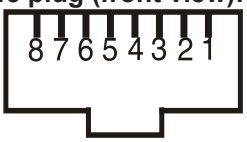
The Robin iSpiider is equipped with two 8-pin RJ- 45 socket for Ethernet input.Use a network cable category 5 (with four “twisted” wire pairs) and standard RJ-45 plugs in order to connect the fixture to the network.

RJ-45 socket (front view):



1- TD+
2- TD-
3- RX+
4- Not connected
5- Not connected
6- RX-
7- Not connected
8- Not connected

RJ-45 plug (front view):



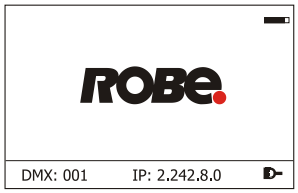
Patch cables that connect fixtures to the hubs or LAN sockets are wired 1:1,that is,pins with the same numbers are connected together:

1-1	2-2	3-3	4-4	5-5	6-6	7-7	8-8

If only the fixture and the computer are to be interconnected,no hubs or other active components are needed.A cross-cable has to be used:

1-3	2-6	3-1	4-8	5-7	6-2	7-5	8-4

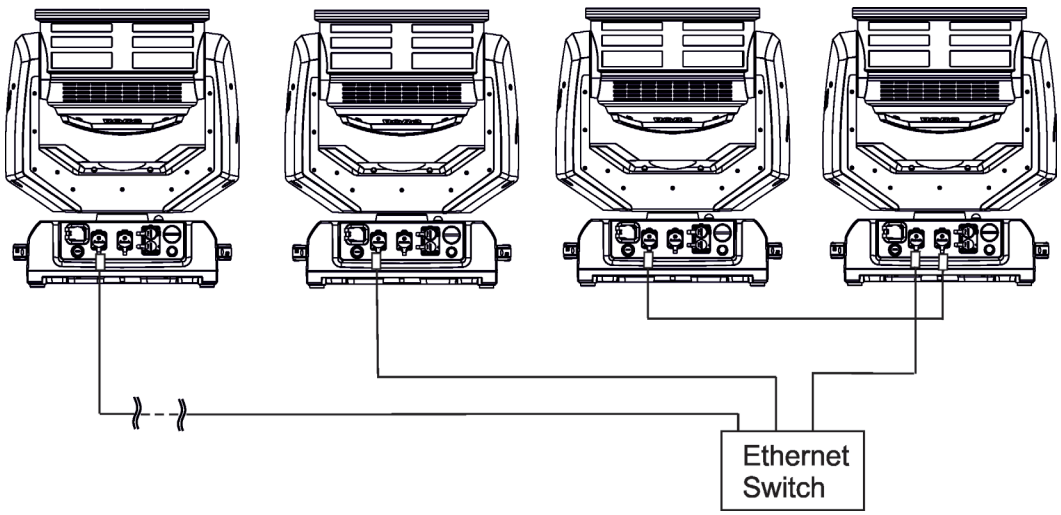
If the fixture is connected with active Ethernet socket (e.g. switch) the network icon will appear at the bottom right corner of the screen:



Ethernet operation

Connect the fixtures to the Ethernet network.
Option “Artnet (gMaI, gMA2 or sACN)" has to be selected from “Ethernet Mode” menu on the fixture.
Set IP address (002.xxx.xxx.xxx / 010.xxx.xxx.xxx) and the Universe.

(DMX address=197)	(DMX address=50)	(DMX address=1)
IP addres=002.168.002.004	IP addres=002.168.002.003	IP addres=002.168.002.002
Universe=1	Universe=1	Universe=1

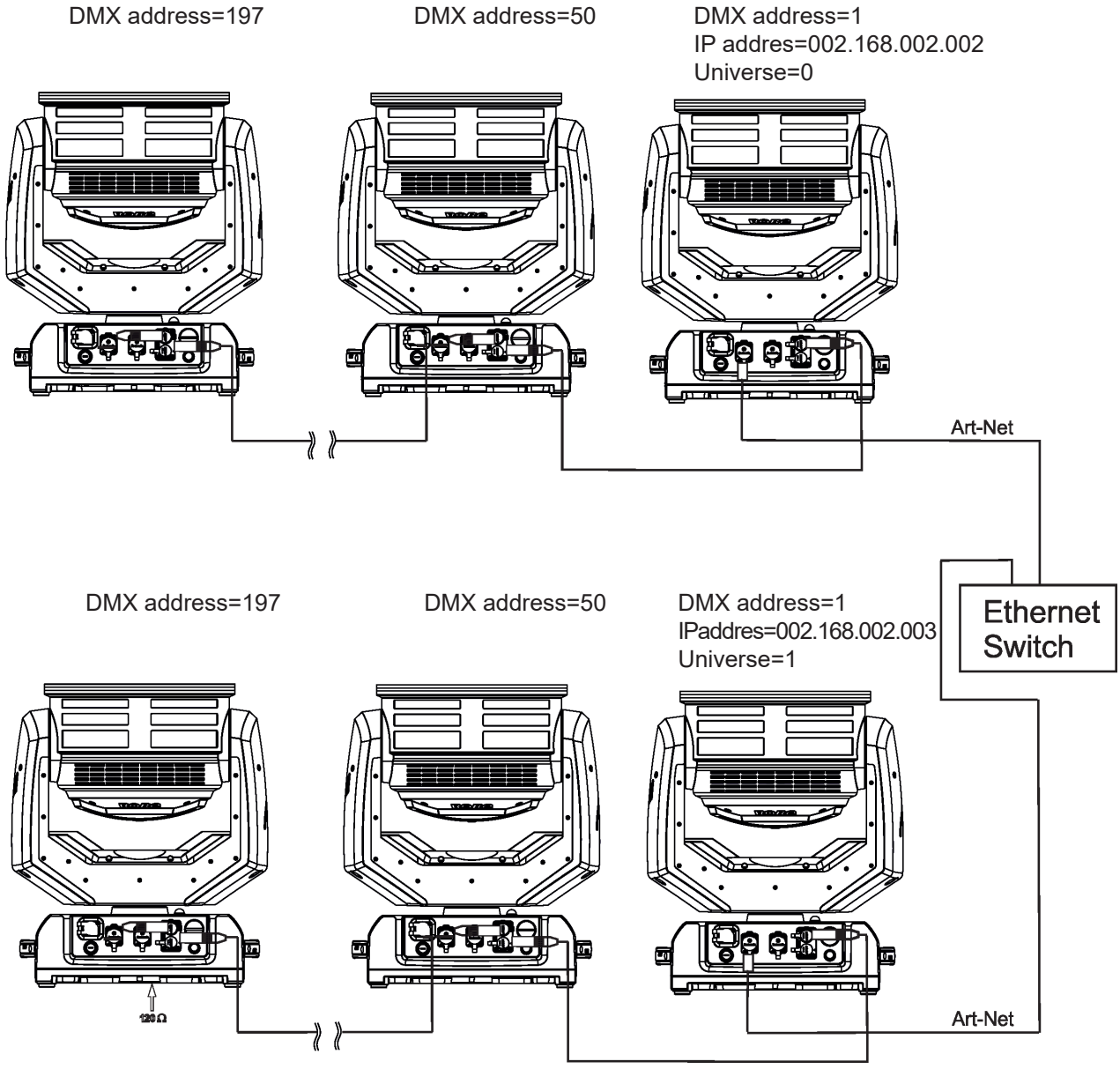


An advised PC setting: IP address: 002.xxx.xxx.xxx / 010.xxx.xxx.xxx (Different from fixture IP addresses)
NET mask: 255.0.0.0

The iSpiider is equipped with Ethernet Pass Through Switch which sustains Ethernet integrity, when the fixture has no power, it automatically maintains network connectivity.
If you use the Ethernet IN-OUT way for the Ethernet connection, max. 8 fixtures can be connected in the IN-OUT line

Ethernet / DMX operation

Option “ Artnet" (gMaI or gMA2 or sACN) has to be selected from “Ethernet Mode” menu at first fixture.
Option “Ethernet To DMX” has to be selected from the menu “Ethernet Mode” at the first fixture (connected to the Ethernet) in the fixture chain, next fixtures have standard DMX setting.
Connect the Ethernet-input of the first fixture in the data chain with the network. Connect the DMX output of this fixture with the input of the next fixture until all fixtures are connected to the DMX chain.
Caution: At the last fixture, the DMX chain has to be terminated with a terminator. Solder a 120 Ω resistor between Signal (–) and Signal (+) into a XLR-plug and connect it in the DMX-output of the last fixture.



4.5 Wireless DMX operation

The integrated wireless DMX/RDM module allows receiving wireless DMX. The ROBE wireless DMX/RDM module has full support for wireless communication protocols at entertainment market. Modul is based on well known LumenRadio RF technology, with implemented wire interface for connection with Robe products. RF output for MCX interface antenna as standard output

The item " Wireless " from the menu "DMX Input" allows you to activate receiving of wireless DMX (Personality--> DMX Input -->Wireless.). First two options from the "DMX Input" menu are stated in DMX chart as well (channel Power/Special functions , range of 10-19 DMX). If DMX input option is changed by DMX command, the change is permanently written into fixture´s memory.

DMX range of 10-19 switching fixture to the wired/wireless operation is active only during first 10 seconds after switching the fixture on.

After switching the fixture on, the fixture checks both modes of receiving DMX in the following order:

1. For the first five seconds, the fixture receives DMX signal from the wired input. If the Power/Special functions channel is set at some DMX input option, the fixture will receive DMX value according to this option. If DMX input option is set to the wired input , this option is saved and checking procedure is finished. If DMX input option is not set, the fixture continues next 5 seconds in scanning wireless DMX signal-see point 2.

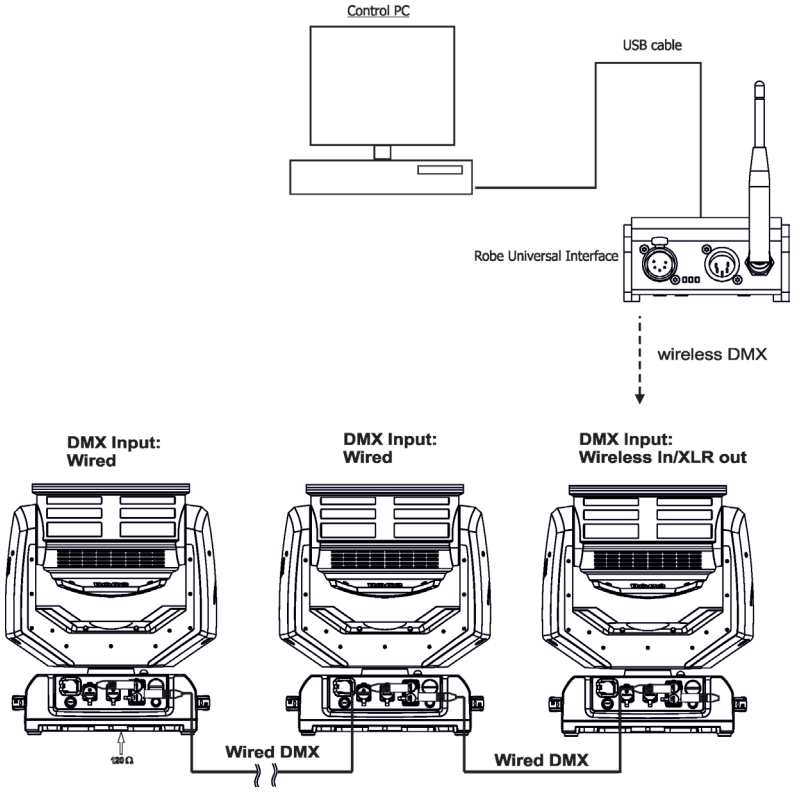
2. For the next 5 seconds the fixture receives wireless DMX signal and again detects if the Power/Special functions channel is set at some DMX input option, if not, the fixture will take option which is set in the fixture menu "DMX Input".

To link the fixture with DMX transmitter.
The fixture can be only linked with the transmitter by running the link procedure at DMX transmitter .
After linking , the level of DMX signal (0-100 %) is displayed in the menu item “Wireless State“ (Information -->Wireless State).

To unlink the fixture from DMX transmitter.
The fixture can be unlinked from receiver via the menu item “ Unlink Wireless Adapter“ (Information--> Wireless State --> Unlink Wireless Adapter).

Note: If the option "Wireless In/XLR Out" is selected (Personality--> DMX Input -->Wireless In/XLR Out), the fixture receives wireless DMX and sends the signal to its wired DMX output. The fixture behaves as " Wireless/ Wired" adaptor.

Example:



5. Checking the IP65 integrity of the fixture.

The Robin iSpiider is IP65 rated lighting fixture which has been designed to be protected against the ingress of dust and pressure water jets from any direction.

1. Smart pressure test - for this test serves the function "Pressure Test" in the tab Service. Unique testing procedure allows you easy testing of the IP65 integrity of the fixture. You do not need any external device connected to the fixture for running the test.
The fixture has to be connected to mains (must not be in Standby mode) and a head temperature (at pressure sensor) cannot be higher than 55°C. The pressure test takes about 8 minutes and can be run at earliest 10 minutes after closing light output of the fixture. The pressure test can be repeated at earliest 2 minutes after last pressure test.

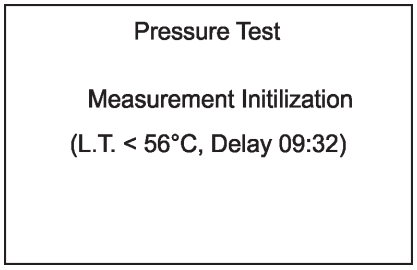
The function "Pressure Test" should be run after the following actions:

- **unscrewing/screwing back any watertight cover**
- **checking/replacing dessicants in small boxes in fixture base and head**
- **replacing desiccant in tube in the fixture head (tube with silica gel)**
- **replacing pan or tilt motor**

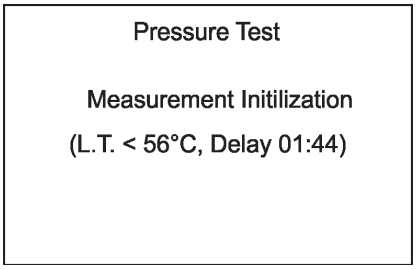
The pressure test can be also run by DMX command (channel Power/Special function) or from web interface REAP (Robe Ethernet Access Portal). During the pressure test fixture does not respond to DMX commands (except DMX value 9 on the channel Power/Special functions).

Examples of screens (front panel display) of the smart pressure test:

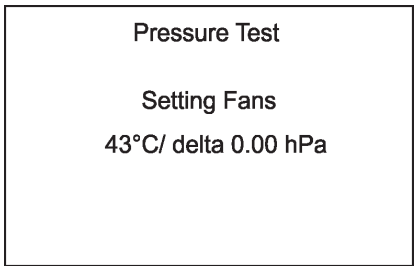
Fixture waits for 10 minutes period elapsing (inside of the fixture is too hot)



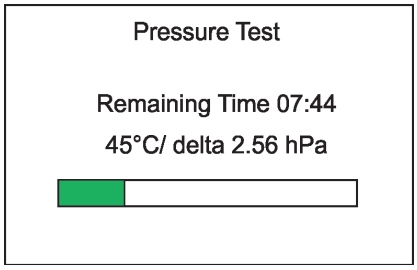
Fixture waits for 2 minutes period elapsing (pressure test was repeated too early)



Setting fans



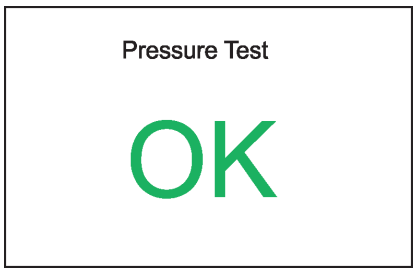
Test in progress



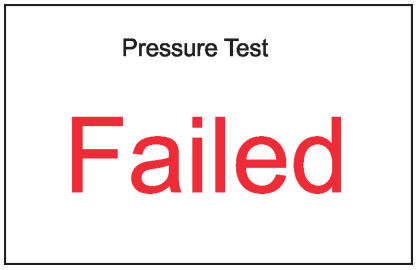
Legend:

07:44 .....Remaining Time (minutes) to finish of pressure test.
45°C.....Temperature at pressure sensor.
delta 2.56 hPa...Pressure difference.
The pressure difference has to be >7 hPa for successful test.

Test passed

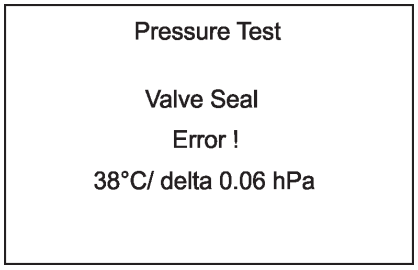


Test failed

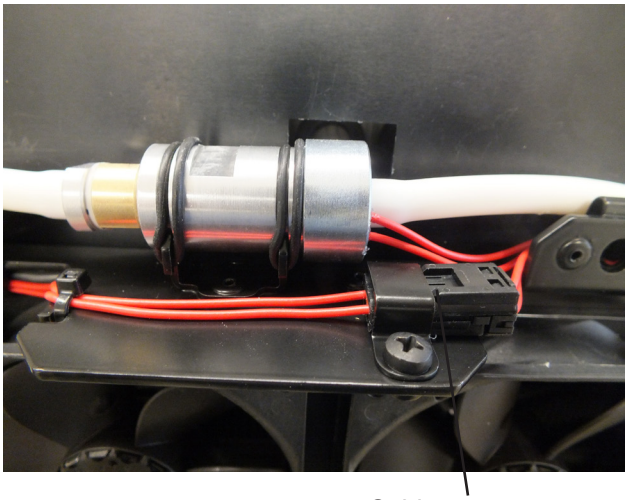


If the first pressure test failed an the second is OK, the fixture complies with IP65 integrity.
If the pressure test twice fails despite checking of correct tightening of the cover screws and gaskets under covers, the fixture has to be tested by means of "Enhanced pressure test**".** For this type of pressure test is needed the Pressure IP Testing Set ROBE (P/N 10980659). Please ask your ROBE distributor for help.

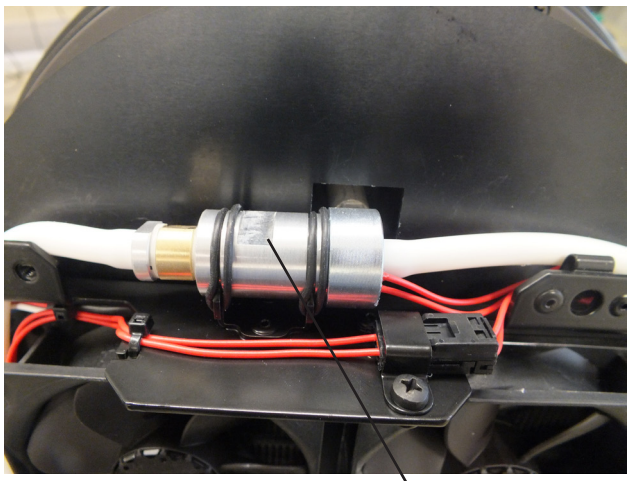
The message "Valve Seal Error" means that valve or coil in the valve is defective or there is a connection problem.



Check the connection between the valve and head, especially cable connector. Other reason can be faulty coil in the valve or faulty valve.

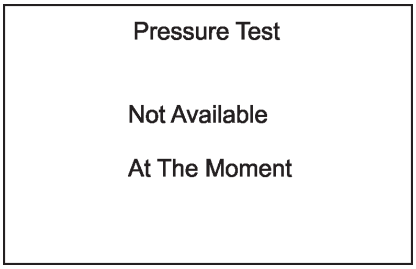


Cable connector



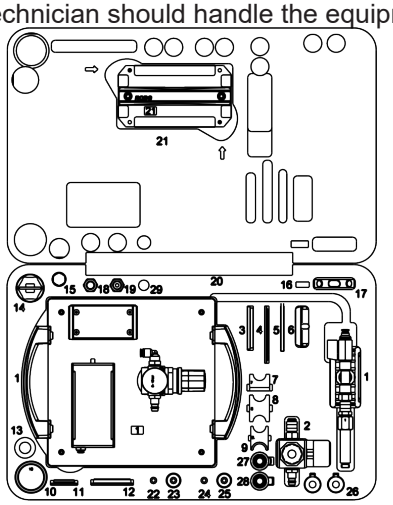
Valve

The message "Not Available At The Moment" means that the fixture is not connected to mains.



2. Enhanced pressure test - a special equipment Pressure IP Testing Set ROBE (P/N 10980659) is intended for this kind of pressure test. Only trained technician should handle the equipment.

Pressure IP Testing Set ROBE in case:



If this equipment is used for pressure test of the fixture, the following values of pressure have to be kept:

Underpressure test.
300 mbar for 1 minute, pressure fall can be to 10 mbar maximally.

Overpressure test
150 mbar maximally!

6. Operating the fixture at ambient temperatures below 0°C

Design of the iSpiider allows its operation at ambient temperature up to -30°C, but you have to take some specific into account before operating the fixture.

1.Fixture is not in Standby mode.

Ambient temperatures from 0°C to -10°C.
The fixture can be switched off but after powered it on, fixture reset can be delayed in range of 0 - 30 minutes depending on ambient temperature (max. delay is at low ambient temperature).This delay is caused by heating fixture effects on operating temperature. The fixture does not respond to DMX during heating the fixture on operating temperature.
We recommend to switch the fixture on at least 30 minutes before show.

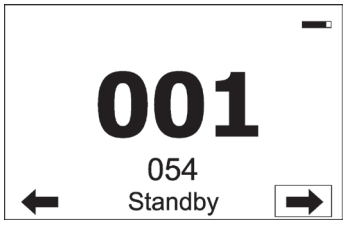
Ambient temperatures from -11°C to -30°C.
The fixture should be permanently powered on in order to keep operating temperature of fixture´s effects.
If the fixture is switched off, reset of the fixture will last long time (up to 1 hour depending on ambient temperature) until fixture effects reach their operating temperature. The fixture does not respond to DMX during heating the fixture on operating temperature.

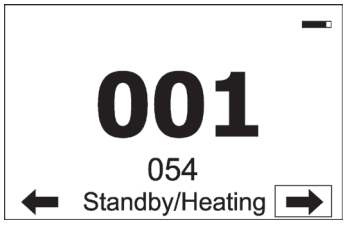
2.Fixture is in Standby mode.
If the fixture is switched to Standby mode (fixture has to be connected to mains), the fixture keeps internal temperature on a level suitable for operation of fixture´s effects without delay, heating up of the fixture inside is done automatically.

7. Standby mode

The fixture can be switched to Standby mode by means of web interface REAP or DMX command (channel Power/Special functions, DMX values 6).
Standby mode can be cancelled by means of web interface REAP, DMX command (channel Power/Special functions, DMX values 7) or by switching the fixture off and on.

Standby mode helps conserve power when a fixture is not in use, without fully powering it off. The max. power consumption of the fixture in Standby mode does not exceed 20 W (if the fixture is heated, power consumption is higher). Standby mode is indicated by a notice on the fixture display.





In the Standby mode, the fixture display is functional and can be used for setting of the fixture, but all motors and fans are deactivated, light output is closed.
As the fixture motors are deactivated, the fixture does not respond to DMX values controlling effects but the channel Power /Special functions can be used for fixture settings.
The fixture in Standby mode provides information for RDM and REAP and also can be set its behaviour by means of the RDM and REAP.

Main benefits of Standby mode:
- there is not time delay of fixture reset at ambient temperatures below 0°C.
- By means of REAP user has current information about fixture (settings, temperatures, state of desiccant in the fixture head).

8. Remotely controllable functions

Virtual colour wheel
This wheel contains 66 preset colours, rainbow effect in both directions is available.

Colour temperarature correction (CTC)
This channel allows to set calibrated white colour from range of 8000K-2700K.

RGBW or CMY colour mixing system
The RGBW colour mixing system is based on red, green, blue and white high power LEDs. Option for switching the fixture to the CMY colour mixing system is available.

Colour Mix control
The Colour Mix control channel defines relation between global colours (RGBW, CTO, Virtual colour wheel) and individual RGB pixels or Kling-Net.

Global = Global Colours (RGBW, CTO, Virtual Color Wheel)
Pixel = Pixel Colors (RGB individual pixels or Kling-Net)

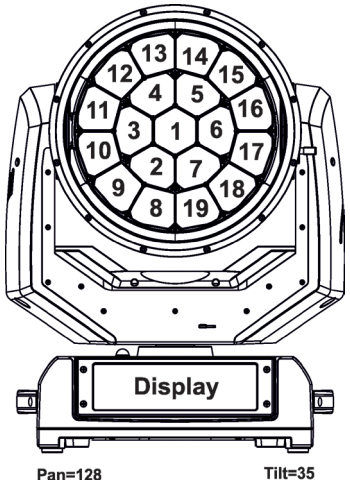
DMX value	Function
0-9	Global colours (Global has priority)
10-19	Maximum mode (highest values have priority)
20-29	Minimum mode (lowest values have priority)
30-39	Multiply mode (multiply Global and Pixel)
40-49	Addition mode (Global + Pixel) - default
50-59	Subtraction mode (Global – Pixel)
60-69	Inverted Subtraction mode (Pixel – Global)
70-79	Coloured background
80-127	Reserved
128	Global colours (Global has priority)
129-254	Crossfade (crossfade between Global and Pixel)
255	Pixel colours (Pixel has priority)

E.g. If you wish to control RGBW channels, set the Colour Mix Control channel to 0 DMX, if you need to use pixel effects, set the Colour Mix Control channel to 255 DMX.

Flower Effect
The flower effect rotating in both directions allows to create many dynamic effects.

Zoom
Motorized zoom offers beam range of 4° to 50°.

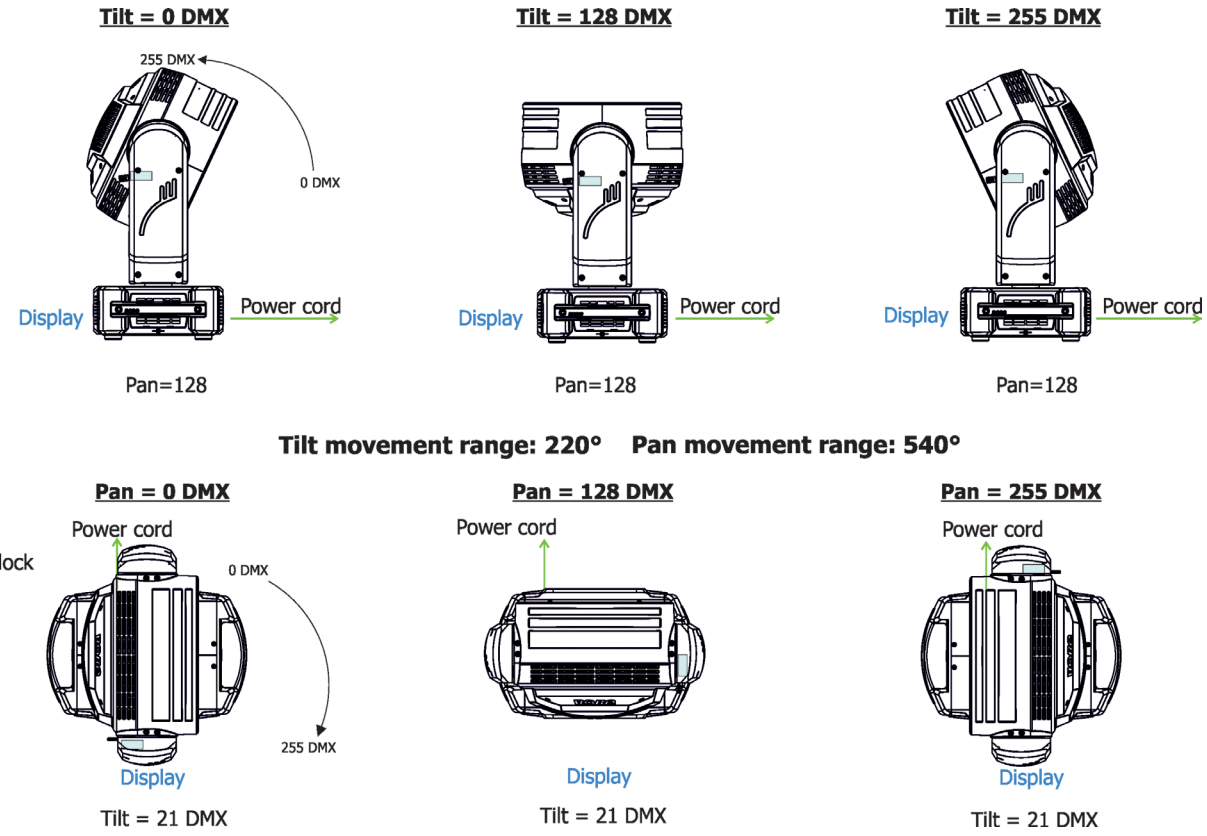
Pixel control and pixel effects
19 RGB pixels allow you to create many effects or use 90 pre-defined pixel effects
Pixel order:



Dimmer/Shutter unit
Smooth 0 - 100 % dimming is provided by the electronic control unit. This unit is also used for strobe effects with variable speed.

Pan/Tilt

Precise pan/tilt movement due to built-in electronic motion stabilizer. The electronic motion stabilizer ensures precise position of the fixture´s head during its movement and reduces its swinging when the truss shakes. Pan movement range: 540°,tilt movement range: 220°.



9. Control menu map

Default settings=Bold print

Tab	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Addressing	Settings	DMX Address	001-512			
		DMX Preset	**Mode 1**, Mode 2, Mode 3, Mode 4			
		Ethernet Settings	Ethernet Mode	Disable		
				ArtNet		
				gMAI		
				gMA2		
				sACN		
			Ethernet To DMX	**Off**, On		
			IP Address/Net Mask	Default IP Address		
				Custom IP Address		
				Net Mask		
			ArtNet Universe	0-255		
			MANet settings	MANetI/II Universe	01-256	
				MANet Session ID	01-32	
			sACN Settings	sACN Universe	00001-32000	
				sACN Priority	0-255	
			Klingnet Settings	**Disable**		
				Enable		
Information	Fixture Times	Power On Time	Total Hours			
			Resetable Hours			
	Fixture Temperatures	LEDs Temperature	Current			
			Maximum NonRes.			
			Maximum Res.			
		Base Temperature	Current			
			Maximum NonRes.			
			Maximum Res.			
		Display Temperature	Current			
			Maximum NonRes.			
			Maximum Res.			
	RAINS Status					
	Sensor s Info					
	DMX Values	Pan				
		:				
		Blue Pixel 19				
	Wireless State	Signal Quality				
		Unlink Wireless Adapter				
	Power Channel State					
	Software Versions	Display System				
		Module M				
		Module DR				
		Module PX				
		Module DL				
		Wireless				
	Product IDs	Mac Address				
		RDM UID				
		RDM Label				
	View Logs	Fixture Errors				
		Fixture States	Power On			

Tab	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
			Power Off			
		Fixture Position				
		Fixture Temperatures	LEDs Temperatures			
			Base Temperatures			
			Display Temperatures			
		Sensors Logs				
		Pressure Tests Logs				
Personality						
	DMX Presets	Mode **1**				
		:				
		Mode 6				
		:				
		Mode 10				
		View Selected Preset				
	DMX Input	**Wired Input**				
		Wireless Input				
		Wireless In/XLR Out				
	Pan/Tilt Settings	Pan Reverse	**Off**, On			
		Tilt Reverse	**Off**, On			
		Pan/Tilt Feedback	Off, **On**			
		Pan/Tilt mode	Time			
			Speed			
	Pan/Tilt EMS	**On**, Off				
	Pixel Control	Pixel Index	**0**-11			
		Pixel Mirror	On, **Off**			
		Reset to default				
	Blackout Settings	Blackout During M.C.	**Off**, On			
		Blackout while:	Pan/Tilt moving	**Off**, On		
	Colour Mixing Mode	**RGBW**				
		CMY				
	White Point 8000K	Off, **On**				
	Tungsten Eff. Sim.	**Off**				
		750W				
		1000W				
		1200W				
		2000W				
		2500W				
	Dimmer Curve	Linear				
		Square Law				
	LEDS Output Frequency	**Standard** High				
	LEDs Frequency Adjust	-6....0....+6				
	Init Effect Positions	Pan	0-255			
		:				
		Dimmer Fine	0-255			
	Screen Settings	Display Intensity	1-**10**			
		Screen Saver Delay	**Off**-10min.			
		Touchscreen Lock	**Off**-10min.			
		Recalibrate Touchscreen				
		Display Orientation	Normal			
			Inverted			
			Auto			
	Temperature Unit	**°C**,°F				
	Fan Mode	**Auto**				
		High				

Tab	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Quiet	Fan Nouse Level			
	Date & Time Settings					
	Default Settings					
Manual Control	Reset Functions	Total System reset				
		Pan/Tilt reset				
		Zoom Reset				
		Flower E. Reset				
	Manual Effect Control	Pan	0-255			
		:				
		Blue Pixel 19	0-255			
Stand -Alone	Test Sequences	Dynamic Mode				
		Static Mode	Pan	0-255		
			Tilt	0-255		
			Zoom	0-255		
	Preset Playback	**None**				
		Test				
		Prog. 1				
		Prog. 2				
		Prog. 3				
	Play Program	Play Program 1				
		Play Program 2				
		Play Program 3				
	Edit Program	Edit Program 1	Start Step	1-100		
			End Step	1-100		
			Edit Program Steps	Step 1	Pan	0-255
				:	:	
				:	Dimmer Fine	0-255
				:	Step Time	0-25,5 sec.
				Step 100	Pan	0-255
					:	
					Dimmer Fine	0-255
					Step Time	0-25,5 sec.
Service	Pressure Test					
	Adjust DMX Values	Pan	0-255			
		:				
		Blue Pixel 19	0-255			
	Calibrations	Calibrate Effects	Pan	0-255		
			Tilt:	0-255		
			FE rotation	0-255		
		Calibrate colours	Red	0-255		
			Green	0-255		
			Blue	0-255		
			White	0-255		
			Red Intensity	0-255		
			Green Intensity	0-255		
			Blue Intensity	0-255		
			White intensity	0-255		
		Pixel Correction	Red 1	0-255		
			Green 1	0-255		
			Blue 1	0-255		
			White 1	0-255		
			:			
			Red 19	0-255		

Tab	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
			Green 19	0-255		
			Blue 19	0-255		
			White 19	0-255		
		Calibrate Pan/Tilt EMS				
		Load Default Calibrations				
	Update Software					

10. Control menu

The Robin iSpiider is equipped with the QVGA screen with battery backup and four control buttons which allow you to set the fixture´s behaviour according to your needs, obtain information on its operation, test its various parts and program it, if it has to be used in a stand-alone mode.
The fixture supports NFC (Near-Field Communication).

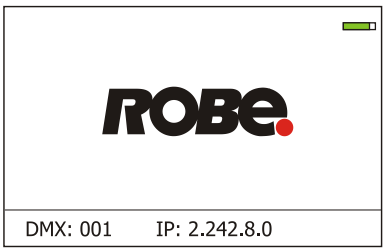
NFC interface and control buttons on the front panel

[ESCAPE] button used to leave the menu without saving changes.
[NEXT] , [PREV] buttons for moving between menu items and symbols, adjusting values.
[ENTER/Display On] button used to enter the selected menu (menu item) and to confirm adjusted value.
If the fixture is disconnected from mains, the button switches the screen on.

Icons used in the screen menu:

- [back arrow] used to move back to the previous screen (menu).
- [up arrow] used to move up on the previous page.
- [down arrow] used to move down on the next page.
- [confirm] used to save adjusted values, to leave menu or to perform desired action.
- [cancel] used to leave menu item without saving changes.
- [confirm+copy] used to save adjusted values and copy them to the next prog. step.
- [warning icon] used to indicate some error which has occurred in the fixture.
- [Ethernet] used to indicate Ethernet connected.
- [display turn] used to turn the display by 180°.
- [slider control] used to recall slider system for setting desired value.
- [keyboard control] used to recall keyboard system for setting desired value.
- [air filters cleaning] used to signal that cleaning period of the air filters elapsed.

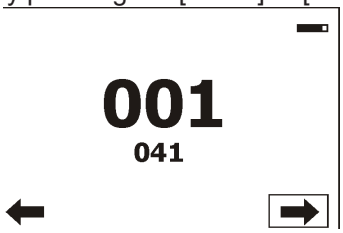
The menu page displays icons for each function that you can perform from the screen.
After switching the fixture on, the screen shows the screen with the ROBE logo:



Note: The green icon at the top right corner of the screen indicates the level of the display battery charging. If

the whole icon is green, the battery is fully charged while the red icon indicates exhausted battery. The battery charges during fixture operation, its charging lasts cca 6 hours.
We recommend that the fixture should be in operation at least 7 hours per week to keep the battery fully charged. If you switch the fixture on and this screen will not appear till 1 minute, switch the fixture off and on again. If the screen lights, the battery is exhausted. In case the screen still does not light, the battery is faulty.
This is also indicated by an error message "Faulty battery" and if such an error message appears the battery should be replaced immediately. The lifetime of the battery is highly dependent on ambient temperature (and consequently on base temperature). If the maximum ambient temperatures (as recorded and displayed in menu: Information -> Fixture Temperatures -> Ambient Temperature -> Maximum NonRes.) are kept within the specified limits, the battery should last for at least two years. Shell the ambient temperatures exceed the specified maximum temperature, the lifetime of the batteries could be considerably shortened even up to just one year or less and also result in physical damage (battery leakage) or unreliable fixture functions.
Damage caused by batteries failed due to exceeded maximum ambient temperature cannot be claimed under warranty terms.

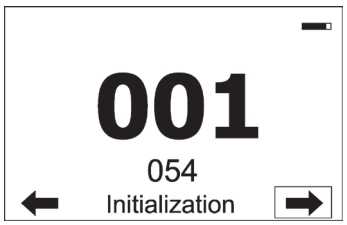
Press the [ENTER/Display On] button to enter the " Address" menu.
Any item may be selected from a screen by pressing the [NEXT] or [PREV] buttons to scroll through list items.



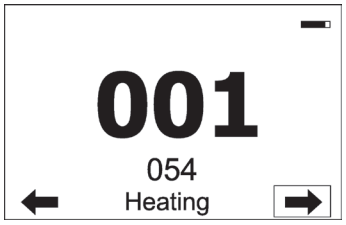
With each press, the next item is highlighted. Press [ENTER/Display On] to select the highlighted item.

Before first fixture operation, set current date and time in the menu "Date &Time Settings" (menu path: Personality--> Date &Time Settings).

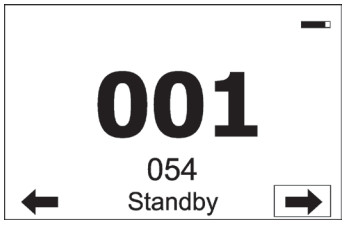
As the fixture can be operated at wide range of ambient temperatures, suitable environment has to be maintained in inside of the fixture. The following messages under DMX address inform you about fixture status.



The fixture is waiting for finishing all reset procedures.
Fixture does not respond to DMX.



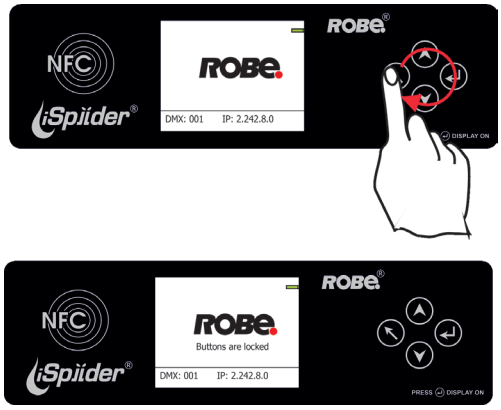
The fixture is waiting for reaching operating temperature of the fixture inside (inside temperature is below 0°C).
Fixture does not respond to DMX.



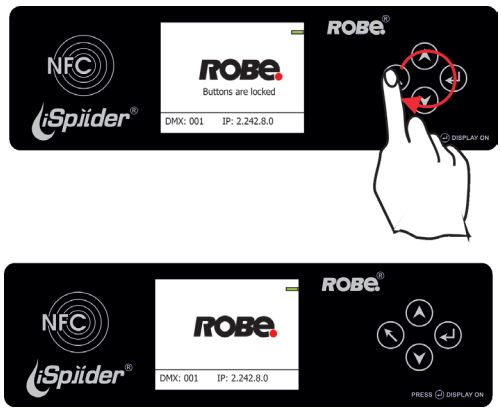
The fixture is in standby mode.
Fixture effects does not respond to DMX, but display is active. Fixture sends its statuses and recorded physical values (temperature, humidity, pressure) to the REAP.

Locking/unlocking the screen

To lock the screen, display the screen with ROBE logo, touch the [ESCAPE] button and slide your finger clockwise in a circular track of 360° across buttons [ESCAPE] --> [NEXT] --> [ENTER/Display On] -->[PREV]--> [ESCAPE]. The sign "Buttons are locked" will appear on the screen. If this sign will not appear, repeat finger sliding again with a different speed.



To unlock the screen, touch the [ESCAPE] button and slide your finger clockwise in a circular track of 360° across buttons [ESCAPE] --> [NEXT] --> [ENTER/Display On] -->[PREV]--> [ESCAPE].
The sign "Buttons are locked" will disappear from the screen. If this sign still remains on the screen, repeat finger sliding again with a different speed.



10.1 Tab " Address"

DMX Address - Select the menu to set the DMX start address**.**
Blinking DMX address means that the fixture is either not receiving DMX data or that the set DMX address is higher then allowed, exceeding the DMX footprint of the set DMX mode.

DMX Preset - Use the menu to select desired channel mode.
View Selected Preset - Use the menu to display channels included in the selected mode.

Ethernet Settings - The menu allows all needed settings for the Ethernet operation

Ethernet Mode

Disable - The option disables Ethernet operation.
Artnet - Fixture receives Artnet protocol
gMAI - Fixture receives MANet I protocol
gMA2 - Fixture receives MANet 2 protocol
sACN - Fixture receives sACN protocol

Ethernet To DMX - Fixture receives protocol from the Ethernet input and sends DMX data to its DMX output (fixture works as an "Ethernet/DMX converter", next fixture can be connected to its DMX output and you can build a standard DMX chain by connecting another fixtures.
Only one fixture has to be connected to the Ethernet.

IP Address/Net Mask - Select this menu to set IP address. IP address is the Internet protocol address.The IP uniquely identifies any node (fixture) on a network.
There cannot be 2 fixtures with the same IP address on the network!

Default IP Address -Preset IP address, you can set up only first byte of IP address (2 or 10) e.g. **002**.019.052.086.
Custom IP Address - The option enables to set up all bytes of IP address.
Net Mask - The option enables to set up all bytes of Net Mask.

ArtNet Universe - Use this item to set a Universe (0-255). The Universe is a single DMX 512 frame of 512 channels.

MANet Settings - Use this menu to set parameters for MANet operation.

MANet Universe I/II - The value of this item can be set in range 1-256.
MANet Session ID - The value of this item can be set in range 1-32.

sACN Settings - Use this menu to set parameters for sACN operation.

sACN Universe - The value of this item can be set in range 1-32000.
sACN Priority - The value of this item can be set in range 0-255.

Klingnet Settings - Use this menu to enable or disable Klingnet protocol.

10.2 Tab "Information"

Fixture Times - The menu provides readouts of fixture operation hours and air filters using hours.

Power On Time - Select this menu to read the number of fixture operation hours.

Total Hours - The item shows the total number of the operation hours since the Robin iSpiider has been fabricated.

Resettable Hours - The item shows the number of the operation hours that the Robin iSpiider has been powered on since the counter was last reset.
In order to reset this counter to 0, touch the text box next to the item "Resettable Hours:"

Fixture Temperatures - The menu is used to view temperatures of the fixture´s inside.

LEDs temperatures - The menu shows temperature on the LEDs PCB in the fixture head.

Cur. - A current temperature of the LEDs PCB.

Max. - A maximum temperature of the LEDs PCB since the fixture has been fabricated.

Max. Res. - A maximum temperature of the LEDs PCB since the counter was last reset.
In order to reset some counter to 0, touch desired text box under item "Max.Res."

Base Temperature - The menu shows temperature in the fixture base.

Current - A current temperature in the fixture base.

Maximum NonRes. - A maximum temperature in the fixture base since the fixture has been fabricated.

Maximum Res. - A maximum temperature in the fixture base since the counter was last reset.
In order to reset this counter to 0, touch the text box next to the item "Maximum Res."

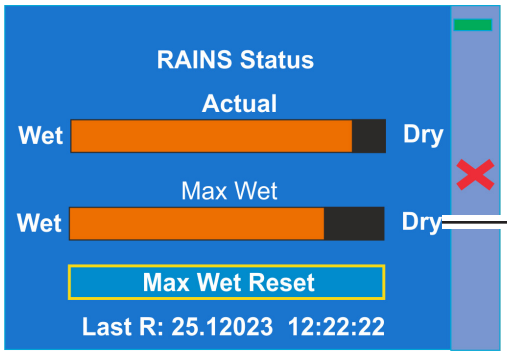
Display Temperature - The menu shows temperature on the display PCB in the fixture base.

Current - A current temperature on the display PCB.

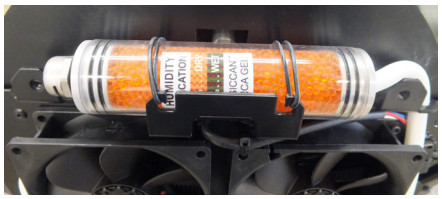
Maximum NonRes. - A maximum temperature on the display PCB base since the fixture has been fabricated.

Maximum Res. - A maximum temperature on the display PCB since the counter was last reset.
In order to reset this counter to 0, touch the text box next to the item "Maximum Res."

RAINS Status - The menu item gives you information about environment in the fixture.
RAINS (Robe Automatic Ingress Neutralization System) manages humidity, temperature and pressure control using an active monitoring system to automatically remove any moisture detected within the fixture and provides permanent monitoring to ensure peak performance of the fixture.



Silica gel desiccant in tube in the fixture head



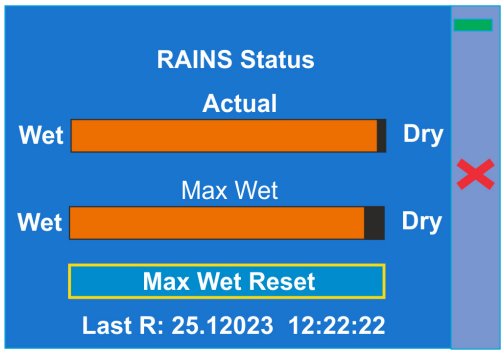
The bar chart **Actual** informs you about current humidity in the fixture. The bar chart changes depending on humidity, temperature and pressure in the fixture. The bar chart depends on current conditions in the fixture and can be different at start of fixture operation, after 10 minutes of its operating, after closing fixture dimmer etc.

The bar chart **MAX WET** informs you about maximum humidity achieved in the fixture since the chart was last reset. The bar chart also informs you about saturation of silica gel with water in tube in the fixture head and is deciding indicator for its checking and replacement.

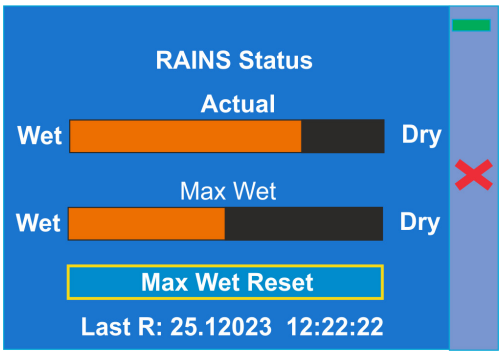
The option **MAX WET reset** resets the bar chart MAX WET. Date and time of last reset is displayed below the option.

Examples of RAINS statuses:

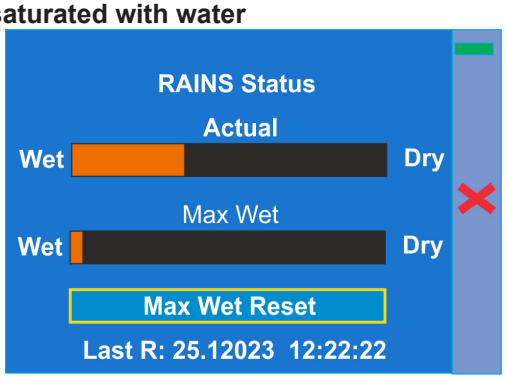
Dry desiccant in tube in the fixture head



Desiccant in tube in the fixture head partially saturated with water



Desiccant in tube in the fixture head fully saturated with water



Desiccants in tube in the fixture head is saturated with water and should be replaced.
After replacing it, reset the item MAX WET.
It is not necessary to replace silica gels desiccants in plastic boxes in the fixture head (at lens array) and base. These desiccants should be checked (and replaced if it is needed) at removing head or base covers, e.g. at some service intervention.

Sensors Info - The menu items shows you current conditions in the fixture head (at pressure sensor): temperature, relative humidity and pressure.

DMX Values - The menu is used to read DMX values of each channel received by the fixture.

Wireless State - The menu serves for reading of the wireless operation status.
Unlink Wireless Adapter - The item serves for unlinking the fixture from DMX transmitter.

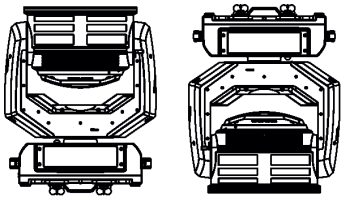
Power Channel State - The menu item shows state of the Power/Special functions switches.

Software Version - Select this item to read the software version of the fixture modules:
Display System - A display processor on the display board in the fixture base
Module M - a pan/Tilt processors
Module DR - a LEDs driver
Module PX - Pixels + zooms control
Module DL - a LEDs driver
Wireless - a wireless DMX module

Product IDs - The menu is used to read the MAC Address ,RDM UID and RDM Label.

View Logs - Use this menu to read fixture´s data which have been recorded during fixture operation. This collected data allows easier troubleshooting.
Fixture Errors - Use this menu to read fixture errors which have occurred during fixture operation.
Fixture States - Recorded following actions: Fixture On, Fixture Off.

Fixture Position - Recorded installation positions of the fixture:



Disp-FN Disp-FI

Fixture Temperatures - Recorded temperatures which have exceeded defined levels.
Sensor Logs - In the menu item are recorded physical values in the fixture: temperature, relative humidity and pressure.
Pressure Test Log - In the menu item are recorded values related to executed pressure tests: date and time, temperature,pressure difference, duration of pressure test and its result.

Note: The log buffer can contain 8000 records max. If the buffer is full, old data will be overwritten.

10.3 Tab "Personality"

DMX Preset - Use the menu to select desired channel mode.
View Selected Preset - Use the menu to display channels included in the selected mode.

DMX Input- Use the menu to select mode of DMX signal receiving.
Wired - DMX signal is received by means of the standard DMX cable.
Wireless - DMX signal is received by means of the inbuilt wireless module.
Wireless In/XLR Out- the fixture receives wireless DMX and sends the signal to its wired DMX output. The fixture behaves as " Wireless/Wired" adapter.
The options "Wired" and "Wireless" are also stated in DMX chart (channel Power/Special functions).
Note. If the wireless module is not installed in the fixture, the following message will appear:
DMX Input Set to Wired
Wireless Module Missing
If the fixture is not connected to mains, the message "Not Available In Offline Mode" will appear after entering the menu DMX Input. To enter this menu, the fixture has to be connected to mains.

Pan/Tilt Settings - Use the menu set behaviour of both pan and tilt movements.
Pan Reverse - The item allows to invert pan movement.
Tilt Reverse - The item allows to invert tilt movement.
Pan/Tilt Feedback - The item allows to return the mowing head to the required pan/tilt position after changing the position by an external force if this option is set on.
Note. Be careful, the Pan/Tilt Feedback should be permanent On, the option Off is not suitable for standard operation and the head of the fixture can be damaged!
Pan/Tilt mode - Use this menu to set the mode of the pan/tilt movement
Time mode – The pan and tilt will move with different speeds and they will come at the same time to the end point of their tracks (pan and tilt use their optimal speeds). Time of the pan/tilt movement (25.5 sec. max.) is set by the channel "Pan/Tilt speed, Pan/Tilt time".
Speed Mode - Both Pan and tilt will move with the same speed as adjusted at the channel "Pan/Tilt speed, Pan/Tilt time".

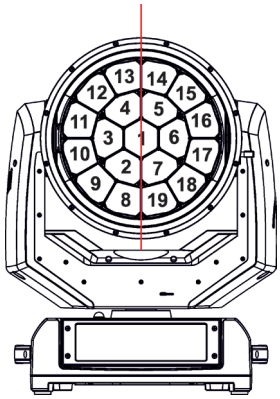
Pan/Tilt EMS - Built-in electronic motion stabilizer ensures precise position of the fixture´s head during its movement and also reducing its swinging when the truss shakes.

Pixel Control - Use the menu to index or mirror pixels.
Pixel Index - The item allows you to choose 12 positions of turned pixels.
Pixel Mirror - The item allows mirroring of pixels along a vertical axis.

Both functions you can also find on the channel Power/Special functions (210-225 DMX).
Important: If you use DMX commands to set values for both Pixel Index and Pixel Mirror functions, set values will be lost after switching the fixture off. In order to save the values to the fixture, go to DMX value of 237 and stay in it for 3 sec. The set values will be saved to the fixture and will not be lost by switching the fixture off and on.

Reset to default - The item sets items "Pixel Index" and "Pixel Mirror" to default (factory) values.

Pixel mirror:



Blackout Settings - Use the menu if you need to close the light output under certain conditions which are described below

Blackout DMC - Blackout during movement correction. Set this option On if you wish to close light output during the time when the head goes to its correct position, which has been changed by an external force.

Active Blackouts - Use this menu if you wish to close the light output during effect changes.

Pan/Tilt Moving - The menu item enables to close light output while the pan/tilt coordinates are changing.

White Point 8000K - If the function is on, the CTC channel allows to set desired white in range of 8000K-2700K (0 DMX=8000K, 255 DMX=2700K). Necessary condition is , that RGBW channels have to be full or set at the same DMX values, e.g. 150.
If this function is off, the range of whites is not uniform and may be different for each fixture.

Colour Mixing Mode - This item allows switching into RGBW or CMY mode. In the CMY mode, the white(8bit)/ white (16) bit channels are not active.

Tungsten Effect Sim. - This function simulates behaviour of a halogen lamp during dimming at calibrated whites 2700K, 3200K. You can select from various lamp wattage simulation: 750W, 1000W, 1200W, 2000W, 2500W.

Dimmer Curve - You can select desired dimmer curve: Linear or Square Law.

LEDs Output Frequency - The function allows you to set the PWM (Pulse Width Modulation) output frequency of LEDs to Standard (300Hz) or High (600Hz).

LEDs Frequency Adjust - The function allows you to change the selected PWM output frequency of LEDs in 6 levels up and down around the selected frequency in the menu “LEDs Output Frequency”.
-1...-6 - Frequence levels 1 - 6 under selected frequency.
00 - Selected frequency (Standard or High)
1...6 - Frequence levels 1 - 6 above selected frequency.

Init Effect Positions - Use the menu to set all effects to the desired positions at which they will stay after switching the fixture on without DMX signal connected.

Screen Settings - Use this menu to change the touch screen settings.

Display Intensity - The item allows to control the intensity of the screen (1-min., 10-max.).

Screen saver Delay - The item allows you to keep the screen on or to turn it off automatically after 1-10 minutes after last touch (or pressing any button on the control panel).

Touchscreen Lock - The item allows you to lock the screen after last touch (or pressing any button on the control panel). The time delay can be set in range of 1-10 minutes. To unlock the screen, press the [ENTER/Display On] button.

Recalibrate Touchscreen - The item starts calibration of the touchscreen. Follow the instructions on the screen.

Display Orientation - The menu allows to change display orientation.

Normal - Standard display orientation if the fixture is placed horizontally (e.g. on the ground).
Inverted - This function rotates menu 180 degrees from current orientation.
Auto - The option activates a gravitation sensor for automatic screen orientation.

Note: **Auto** option is set as default. You change the display orientation by touching the icon on the display, an the option set in the "Display Orientation" menu is temporarily overridden.

Temperature unit - Use the menu item to change temperature unit from °C to °F.

Fan Mode - Use the menu to set the fixture fans to max. power mode ("**High**") or to auto-control mode ("**Auto**"). The option "**Quiet**" allows you to set desired fan noise. The light output of the fixture is reduced at low speeds of fans.

Date & Time Settings - Use this menu to set current date and time for the fixture log system (menu "View Logs"). Set this menu item before first fixture operation.

Password Protection - allows to enter password in order to prevent unauthorized person from changing setting of the fixture. Password is set to 7623 and cannot be changed.

Reset Web Password - The menu item allows you to reset a password for access to the REAP (default password: 2479, user: robe).
Default Settings - The menu item allows to set all fixture parameters to the default (factory) values.

10.4 Tab "Manual Control"

Reset Functions - The menu allows to reset the fixture either per function modules or all modules together.
Total System Reset - The item resets all function modules.
Pan/Tilt Reset - The item resets the pan and tilt movement.
Zoom Reset - The item resets the zoom module.
Flower E. Reset - The item resets the Flower effect.

Manual Effect control - Use the menu to control all fixture channels by means of the control panel.

10.5 Tab "Stand-alone"

Test Sequences -Use the menu to run a test/demo sequences without an external controller, which will show you some possibilities of using Robin iSpiider.
Dynamic Mode - This mode uses all Robin iSpiider functions including pan/tilt movement and therefore is good for a complete introduction of the fixture.
Static Mode - This mode is suitable for projections on the wall, ceiling or ground without any pan/tilt movement. Adjust the pan and tilt to desired positions and start test sequences by touching the green ▶ icon.

Preset Playback - This menu allows you to select the program which will be played in a loop after switching the fixture on (the option is commonly used in a stand-alone operation without an external controller).
None - The option disables “Presetting playback” function.
Test - The option starts the test sequences.
Prog. 1 - The option starts user program No. 1.
Prog. 2 - The option starts user program No. 2.
Prog. 3 - The option starts user program No. 3.

Play program - Use the menu to run desired program in a loop.
Play Program 1 - The option starts user program No.1.
Play Program 2 - The option starts user program No. 2.

Play Program 3 - The option starts user program No. 3.

Edit Program - Use the menu to create or to edit desired program. The Robin iSpiider offers 3 free programs, each up to 100 steps.

Edit Program 1 - The option allows to edit user program No.1.
Edit Program 2 - The option allows to edit user program No.2.
Edit Program 3 - The option allows to edit user program No.3

To edit program:
1. Touch the item which you want to edit (“Edit Program 1” - “Edit Program 3”).
2. Touch the item "Edit Program Steps".
3. Touch the item "Step 1".
4 From the list of effects touch desired effect and set its value. Browse throw the list by touching the [up arrow] and [down arrow] and set all desired effects.
An item "Step Time" (value of 0-25.5 sec.) is the time during which effects last in the current step
5. Save adjusted effects to the current step by touching the [confirm] or save and copy them to the following step by touching the [confirm+copy]. By touching the text box "Preview" next to the current program step you can view created scene.
6. Repeat the steps 4 and 5 for next program steps.
7. After editing desired program steps, adjust the length of the program by touching the text boxes "Start Step" and "End Step".

Meaning of the icons used in the "Edit Program" menu:

- moves down on the next page
- moves up on the previous page
- saves adjusted values and leaves menu
- saves values to the current step and copy them to the following prog. step
- leaves menu without saving values

10.6 Tab "Service"

Pressure Test - The menu item runs a procedure which checks the IP65 integrity of the fixture. The fixture has to be connected to mains and the head temperature (at pressure sensor) cannot be higher than 55°C. The pressure test lasts about 8 minutes and can be run at earliest 10 minutes after closing light output (shutter closed) of the fixture. The pressure test can be repeated at earliest 2 minutes after last pressure test.
For more details of pressure test please see the chapter Checking the IP65 integrity of the fixture.

Adjust DMX Values - The menu allows you to set all effects to desired positions before fine calibration of the effects .

Calibrations - This menu enables fine calibration of fixture effects and download default calibration values.
Calibrate Effects - The menu allows the fine adjustment of effects.
Pan- a pan position fine adjustment
Tilt - a tilt position fine adjustment
FE Rotation - a flower effect fine rotation

Calibration of the effects via the control board
1. Disconnect DMX controller from the fixture and enter the "Calibrate Effects" menu.
2. Use the [up arrow] and [down arrow] to find "Pan" and touch it to enter the fine effect adjustment screen.
3. Set desired value and save it by touching the [confirm].
4. Repeat steps 2 and 3 for next item
5. After calibrating all effects, touch the [confirm] to save all adjusted values and reset the fixture.

Calibrate Colours - The menu serves for adjusting of LEDs saturation to achieve uniform colours
The items **Red**,**Green**, **Blue** and **White** serve for adjustment of white 5600K.

Calibration of white colour 5600K via the control board:
1. Disconnect DMX controller from the fixture , open shutter and dimmer and set the CTC channel to DMX=64 (white 5600K), RGBW channels to 255 DMX and Zoom channel to 128 DMX.
2. Set the following items in the menu Personality:

White Point 8000K =On
Colour Mixing Mode=RGBW

3. Aim the light beam on the lux meter (e.g. Minolta CL-500A Chroma meter) which is placed at min. distance of 3 m from the fixture.
4. Enter the menu Calibrate Colours.
5. By means of the Red, green, Blue and White items adjust the 5600K colour temperature as exactly as possible ($\Delta u'v' = 0$).
6. After adjusting 5600K colour temperature, touch the [confirm] to save all adjusted values and reset the fixture.

The items **Red Intensity** ,**Green Intensity**, **Blue Intensity** and **White Intensity** serve for correction of intensity of red, green, blue and white colour on desired level (during fixture calibration in the factory).

Pixel Correction - The menu serves for colour calibration of fixture pixels in order to get uniform colours all over pixels.

Note:User can do the calibration of white 5600K only, other colour calibrations should be done in the factory.

Calibration protocol:

Effect	*Mode 1*	*Mode 2*	*Mode 3*	*Mode 4*
Pan-fine adjustment	channel 49	channel 29	channel 33	channel 91
Tilt - fine adjustment	channel 50	channel 30	channel 34	channel 92
FE Rotation - flower effect rot.	channel 51	channel 31	channel 35	channel 93
Red - red saturation	channel 52	channel 32	channel 36	channel 94
Green- green saturation	channel 53	channel 33	channel 37	channel 95
Blue - blue saturation	channel 54	channel 34	channel 38	channel 96
White - white saturation	channel 55	channel 35	channel 39	channel 97

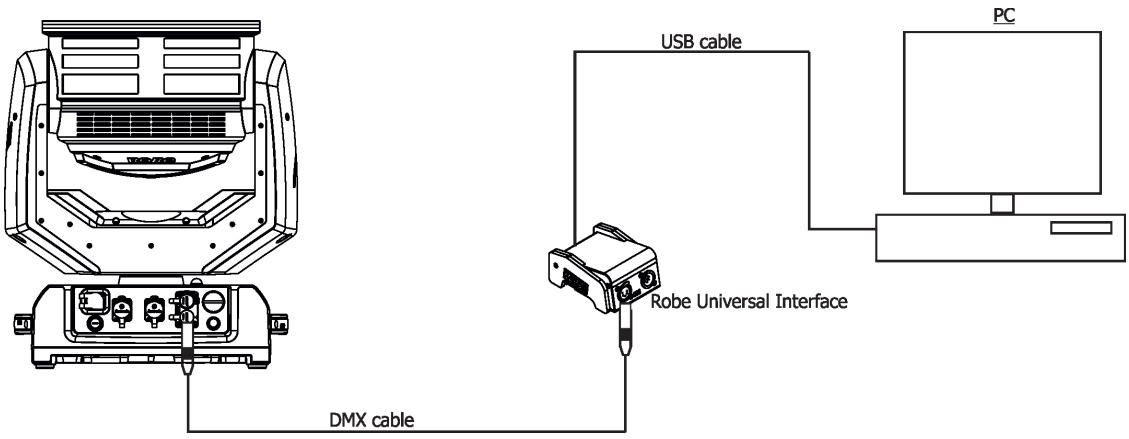
Calibrate Pan/Tilt EMS - This menu item allows calibration of the pan/tilt electronic motion stabilizer. Important: during this calibration any external force must not influence the fixture and the surface at which the fixture stands (or truss if the fixture hangs) has to be without movement, shake, strokes etc.

Load Default Calibrations - The item loads default (factory) calibration values.

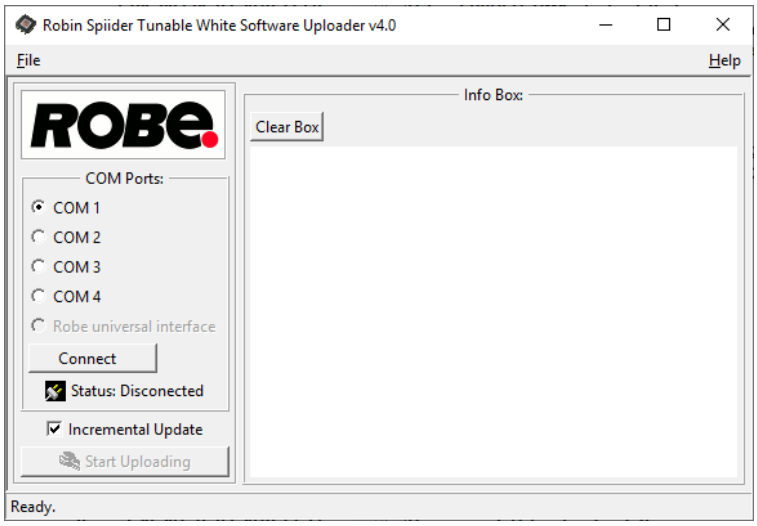
Update software - The menu item allows you to update software in the fixture via either serial or USB port of PC.
The following items are required in order to update software:
- PC running Windows or Linux or macOS
- DSU file
- Flash cable RS232/DMX (P/N13050624) or Robe Universal Interface / Robe Universal interface WTX.

To update software in the fixture:

1. DSU file is available from Robe web site at WWW.robe.cz.
   File with extension zip is intended for Windows (used and tested from XP to W10 on 32/64bit systems).
   File with extension tbz is intended for Linux (used and tested on Debian and Ubuntu 32/64bit).
   File with extension dmg is intended for macOS (used and tested on OSX up to Sierra) XQuartz required, install it from https://www.xquartz.org/
   Save the download file to a folder on your computer.
   In case that you use windows, extract files in the zip file (e.g. DSU_RobiniSpiider_18051835.zip)
2. Disconnect the fixture from DMX controller.
3. If you use the flash cable RS232/DMX, connect a serial port of your computer with DMX input of the fixture by means of the cable (probably you will need some USB to RS 232 converter if your computer has USB ports only).
   If you use the Robe Universal Interface, connect a USB port of your computer with the Robe Universal Interface by means of the USB cable and DMX input of the fixture with the DMX output of the Robe Universal Interface via a DMX cable.



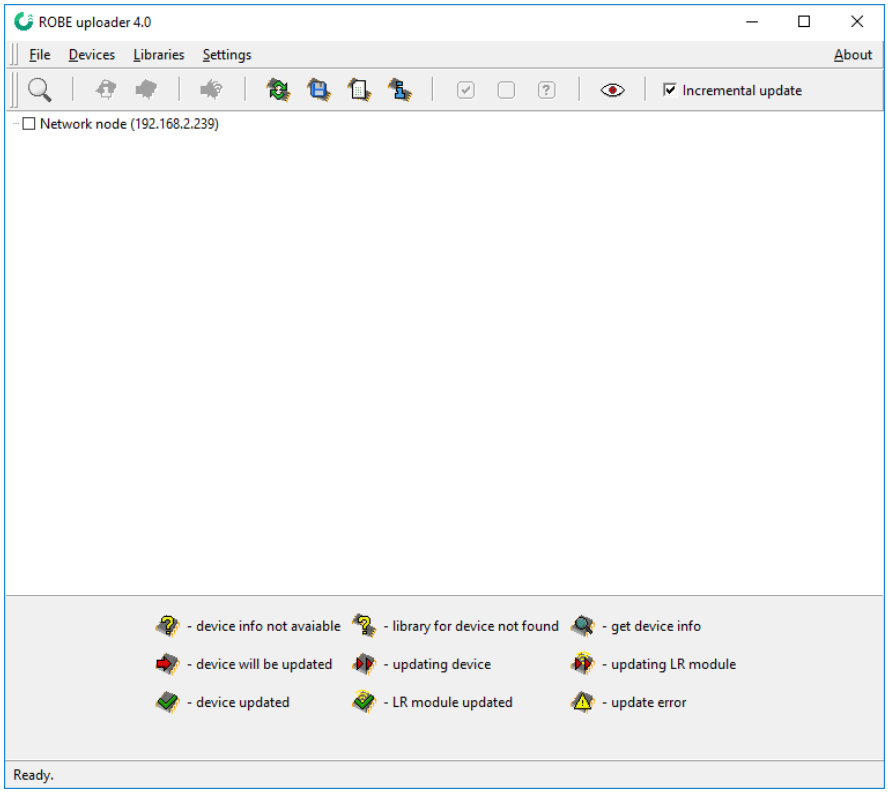
4. Switch the fixture to the update mode (Tab "Service" --> Update software).
   Note: If you do not want to continue in the software update, you have to switch off and on the fixture to escape from the updating mode.
   We recommend to cancel all running programs on your computer before starting the software uploader.
5. Double-click the software uploader file (e.g. DSU_RobiniSpiider_18051835.exe) in the extracted files. The Software Uploader program will start running.



6. Select correct "COM " number if you use a Flash cable RS232/DMX or select "Robe Universal Interface 1 " if you use the Robe Universal Interface/Robe Universal Interface WTX and then click on the "Connect" button.
7. If the connection is OK, click the “Start Uploading" button to start software uploading. It will take several minutes to perform software update.
   If the option "Incremental Update" is not checked, all processors will be updated (including processors with the same software version).
   If you wish to update only processors with new version of software, check the “Incremental Update box“.
   Avoid interrupting the process. Update status is being displayed in the "Info Box" window.
   When the update is finished, the line with the text “Fixture is successfully updated“ will appear in this window.

Note: After all processors updating, the fixture will be set to default values. If you use the Incremental update, setting the fixture to default values depends on type of updated processors.
In case upload process is interrupted (e.g. power loss), the fixture stays in “Updating mode” and you will have to repeat the software update again.
Another way, how to update software in the fixtures (especially large installation of fixtures) is to use the ROBE Uploader. It is a software for automatized software update of Robe fixtures. It can take advantage of RDM support and Ethernet ports if present in the units.

For more information please see https://www.robe.cz/robe-uploader/.



11. RDM

This fixture supports RDM operation. RDM (Remote Device Management) is a bi-directional communications protocol for use in DMX512 control systems, it is the new open standard for DMX512 device configuration and status monitoring.
The RDM protocol allows data packets to be inserted into a DMX512 data stream without adversely affecting existing non-RDM equipment. By using a special „Start Code," and by complying with the timing specifications for DMX512, the RDM protocol allows a console or dedicated RDM controller to send commands to and receive messages from specific moving lights.
RDM allows explicit commands to be sent to a device and responses to be received from it.
The list of commands for Robin iSpiider is the following.

Parameter ID	Discovery command	SET command	GET command
DISC_UNIQUE_BRANCH	*		
DISC_MUTE	*		
DISC_UN_MUTE	*		
DEVICE_INFO			*
SUPPORTED_PARAMETERS			*
SOFTWARE_VERSION_LABEL			*
DMX_START_ADDRESS		*	*
IDENTIFY_DEVICE		*	*
DEVICE_MODEL_DESCRIPTION			*
MANUFACTURER_LABEL			*
DEVICE_LABEL		*	*
SENSOR_DEFINITION			*
SENSOR_VALUE			*
DISPLAY_INVERT		*	*
DISPLAY_LEVEL		*	*
PAN_INVERT		*	*
TILT_INVERT		*	*
DEVICE_RESET		*	
DMX_PERSONALITY		*	*
DMX_PERSONALITY_DESCRIPTION			*
STATUS_MESSAGES			*
STATUS_ID_DESCRIPTION			*
DEVICE_HOURS [2]			*
ROBE_DMX_INPUT		*	*
ROBE_WIRELESS_UNLINK		*	

[2]...Commands relative resetable values

RDM model ID for the Robin iSpiider is 0x011C.

12. NFC

The fixture supports NFC. Using the mobile phone application ROBE COM you can read and set the Robin iSpiider parameters (DMX address, IP address...etc.), get information about temperatures, operation hours, RDM identification etc.

The NFC point is situated on the front panel of fixture´s base.

Download and install the ROBE COM from Google Play (for Android 5.0 and higher) or App Store (for iOS 12.0 and higher) to your mobile phone. Your mobile phone has to support NFC (Near-Field Communication).

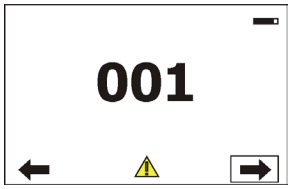
Hold the mobile phone on the side of the fixture base, if NFC connection is OK, discovered fixture will appear on the screen, after touching the fixture name the following the following menu items will appear:

- DMX/RDM settings
- Ethernet settings
- Blackout settings
- Colour settings
- Display settings
- Standalone settings
- Pan/Tilt settings
- Other settings
- Software versions
- Device hours
- Device temperatures

Touch desired menu item to enter its submenu.

13. Error and information messages

Error in the fixture is signalled by the yellow warning icon at the bottom line of the screen:



Press the [ESCAPE] button to display error messages.
List of error and information messages:

Temper.Sensor Error
The message informs you that the communication between the head temperature sensor and the main processor failed.

Tilt Error 1 *(Tilt Error 2)*
This message will appear after the reset of the fixture if the head´s magnetic-indexing circuit malfunctions (sensor failed or magnet is missing) or the stepping motor is defective or its driving IC on the PCB. The head is not located in the default position after the reset.

Pan Error 1 *(Pan Error 2)*
This message will appear after the reset of the fixture if the yoke´s magnetic-indexing circuit malfunctions (sensor failed or magnet is missing) or the stepping motor is defective or its driving IC on the PCB. The yoke is not located in the default position after the reset of the fixture.

Pan Error 3
There is some problem with pan/tilt feedback, pan control electronics has not got signal from pan sensor.

Zoom Error 1 (Zoom Error 2)
The messages will appear after the reset of the zoom module if the zoom module is not located in the default position.

Rod Error
The messages will appear after the reset of the flower effect if the rod is not in the default position.

EEprom Error
Hardware error of the EEprom.

Recharge The battery
The battery on the display board needs to be charged. Let the fixture on for cca 6 hrs.

Battery faulty. Replace it.
The battery on the display board is exhausted and should be replaced immediately.

Pan/Tilt EMS Cal. Error
The EMS system is not calibrated.

Pan/Tilt EMS Error
Control electronics cannot communicate with the EMS system.

Too Much Humidity in Device
To remove the message, reset the bar chart Max.Wet in the menu RAINS Status (tab Information) and check the silica gel desiccants in the fixture head.

Valve Seal Error
The valve in fixture head or coil in the valve is defective or there is a connection problem between the valve and head, check cable connector at valve.

14. Cleaning

Regular cleaning will not only ensure the maximum light output, but will also allow the fixture to function reliably throughout its life.
The frequency of cleaning depends on the environment in which the fixture operates: damp, smoky or particularly dirty environments can cause greater accumulation of dirt on the fixture housing.
The front glass cover of the head will require cleaning on a monthly basis.
A soft lint-free cloth dampened with a solution of water and a mild detergent is recommended, under no circumstances should alcohol, solvents or abrasives be used!

DANGER !
Always disconnect the fixture from mains before starting any cleaning or maintenance work.

Important! Never use alcohols (ethanol, methanol, isopropyl alcohol), acetone and another aggressive solvents for cleaning the front lens array.
Do not immerse lenses in liquid (e.g. water) during cleaning.

Recommended steps for cleaning the front lens array:
1. Use low-pressure compressed air to remove coarse dust from lenses.
2. Use distilled water with weak detergent solution and lint-free small cloth for further cleaning of lenses.
3. Use an antistatic, alcohol-free screen cleaner (we recommend the Lyreco Screen Cleaner) and polish lenses until they are dry.
4. Check the lenses are dry before reapplying power.

Note: potential foggy front lens array does not influence function of the fixture and does not subject to complaint.

Potential stains on fixture covers caused by hard water (water that has high mineral content) can be effectively removed by means of non-abrasive descaler (e.g. EverStar descaler).

15. Maintenance

In order to ensure the fixture remains in good condition and does not fail prematurely, we recommend regular maintenance.
The following points have to be considered during fixture inspection:
- All outside covers and screws should be checked for damages, scratches or corrosion.
- All connectors and its rubber caps should be checked for damages or sediments.
- All screws and fasteners has to be securely tightened. Check for any deformation on the housing and rigging points. Damaged rigging points or unsecured rigging could cause the fixture to fall and seriously injure people.
-Electric power supply cable must not show any damage or material fatigue.
-Fans and heatsink should be checked for sediments or dirt/debris accumulation.

User can do the folloving operations:
-main fuse replacement
-battery replacement
-silica gel desiccant replacement

Another maintenance, cleaning and service operations should be carried out by trained technicians only.
If you need any spare parts, please order genuine parts from your local Robe distributor.

Fixture metal covers are made of material resistant to corrosion, potential damages of covers (like scratches, abrasions) are only appearance defects and will not cause corrosion of covers.
To repair small damages of fixture metal covers (e.g. scratches), you can use a paint intended for non-rusting metal surfaces (like aluminium, copper…). The paint can be applied to surface by means of a small brush or by spraying.
Use the paint with the same colour and sheen as has your cover. The paint can perform as undercoat or topcoat, it doesn´t matter.

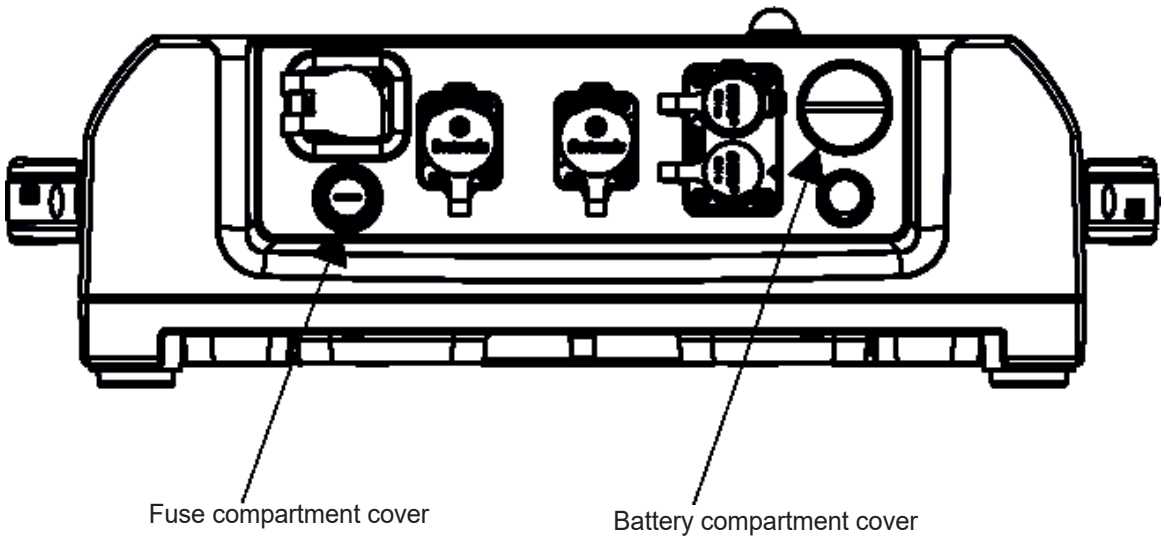
Do not remove fixture covers in smoky or particularly dirty environment (e.g. with fog machines).

IMPORTANT: in case of service intervention, the front glass cover (or base cover) should be removed as short time as possible (about 1-2 hours depending on air humidity) otherwise silica gel in the small box (boxes) in the fixture head (base) may become damp.
If you have removed front glass cover (or base cover) and you need to interrupt your service work for long time (hours, days), we recommend to place the front glass cover on the head (base cover on the base) and fasten it provisionally by means of two screws, another possibility is unscrewing small box (boxes) with silica gel from the head (base) and put it (them) to a sealed container with limited access of air (e.g. sealed plastic bag).

Checking plastic parts of the fixture.
The plastic parts of the fixture should be checked for damages and beginning cracks at least every two months. If hint of a crack is found on some plastic part, do not use the fixture until the damaged part will be replaced. Cracks or another damages of the plastic parts can be caused by the fixture transportation or manipulation and also aging process may influence plastic materials.
This checking is necessary for both fixed installations and preparing fixtures for renting. Any free moving parts inside of the fixture head, cracked plastic or any plastic part not sitting properly in place need to be immediately replaced.

Replacing the fuse.
Before replacing the fuse, disconnect the fixture from mains.
1. Using a flat-blade screwdriver, unscrew (anti-clockwise) the metal cover of the fuse compartment from the rear panel of the base.
2. Unscrew the fuse holder (anti-clockwise) and remove the blown fuse from the fuse holder.
3. Place a good fuse (only the same type and rating) into the fuse holder and screw the fuseholder back.
4. Screw the metal cover of the fuse compartment back to the rear panel, use a tightening torque 2.5Nm.

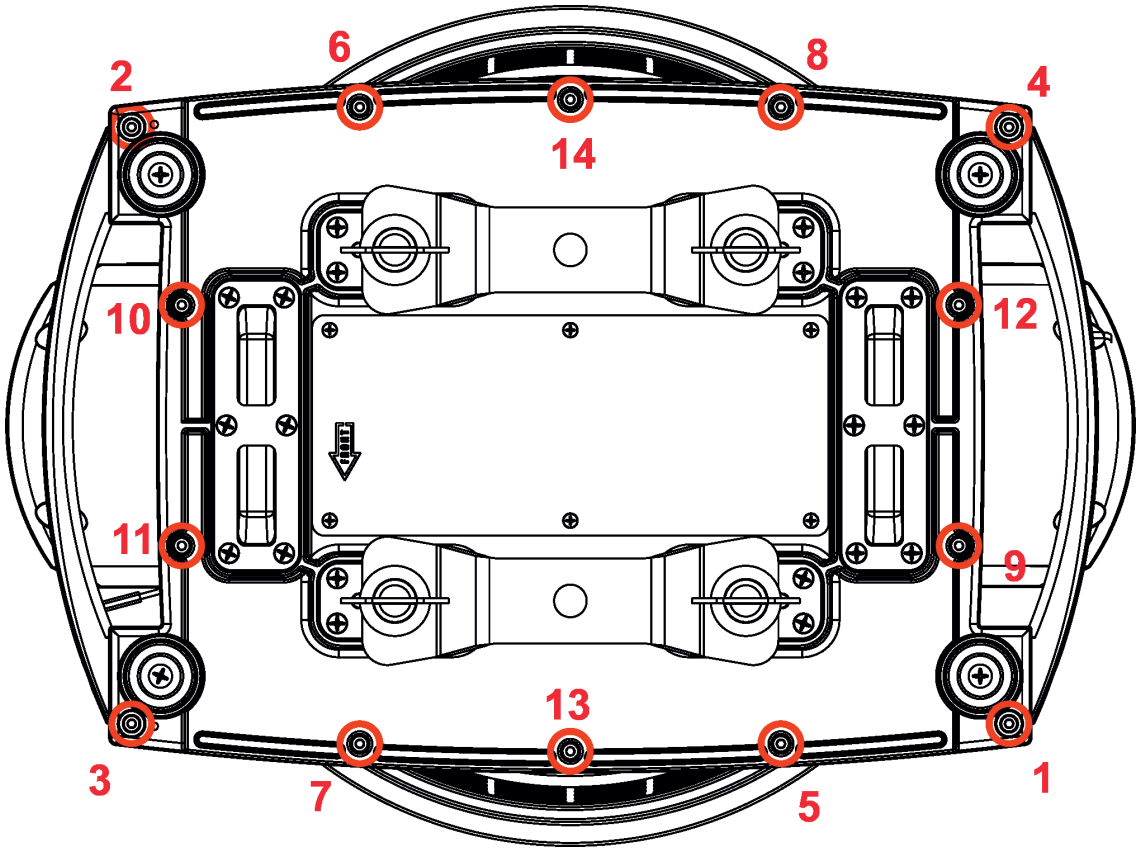
Replacing the battery.
Before replacing the battery, disconnect the fixture from mains.
1. Using a flat-blade screwdriver, unscrew (anti-clockwise) the metal cover of battery compartment from rear panel of the base.
2. Loosen (anti-clockwise) the battery holder cap.
3. Remove the exhausted battery from the battery holder.
4. Place a new battery (only the same type) into the battery holder (Negative (-) inside, Plus (+) outside).
5. Place back the battery holder cap and tighten it.
6. Screw the metal cover of battery compartment back to the rear panel of the base, use a tightening torque 2.5Nm .



15.1 Torques for watertight covers

Keep values of torques as stated on pictures below otherwise leakage issues can occur.
Run the procedure Pressure Test (Service --> Pressure Test) after replacing any watertight cover!

Bottom base cover



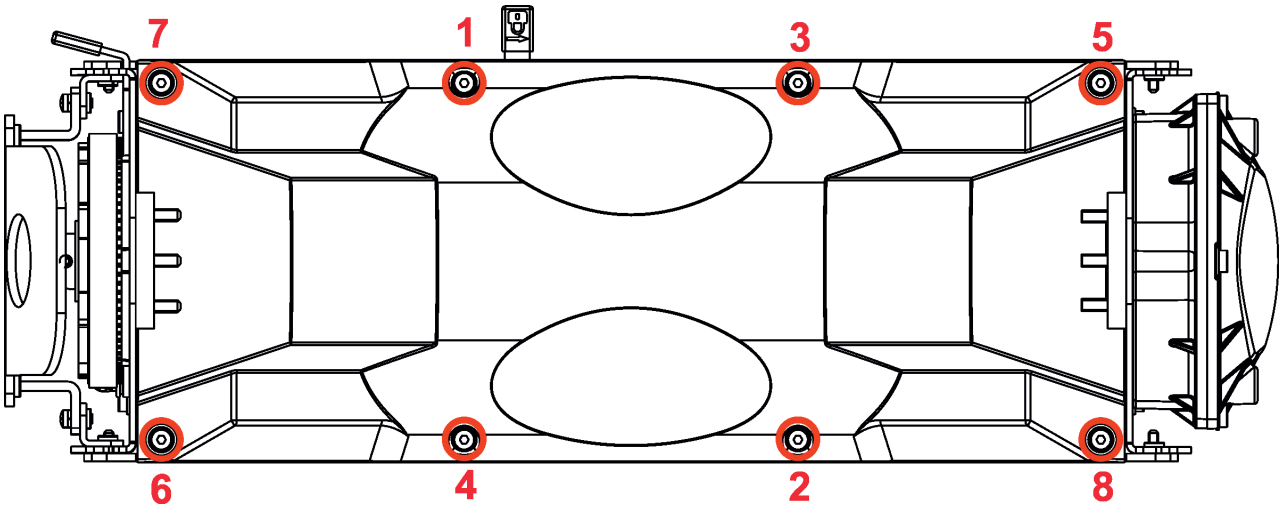
Screws* must be tightened
in the order 1-->14.

14 x hex socket head screw M4x16
14x Spring washer
Tightening torque: 2.2-2.5 Nm

* Tighten all screws in two steps:
Step 1 - use tightening torque 0.5 Nm (pre-tightening)
Step 2- use tightening torque 2.2-2.5 Nm (final tightening)

Carefully check the gasket for signs of deformities or damages and if it is correctly placed before screwing the bottom base cover back. The gasket is part of base.
Do not forget to connect grounding wire between chassis and base cover.

Yoke cover



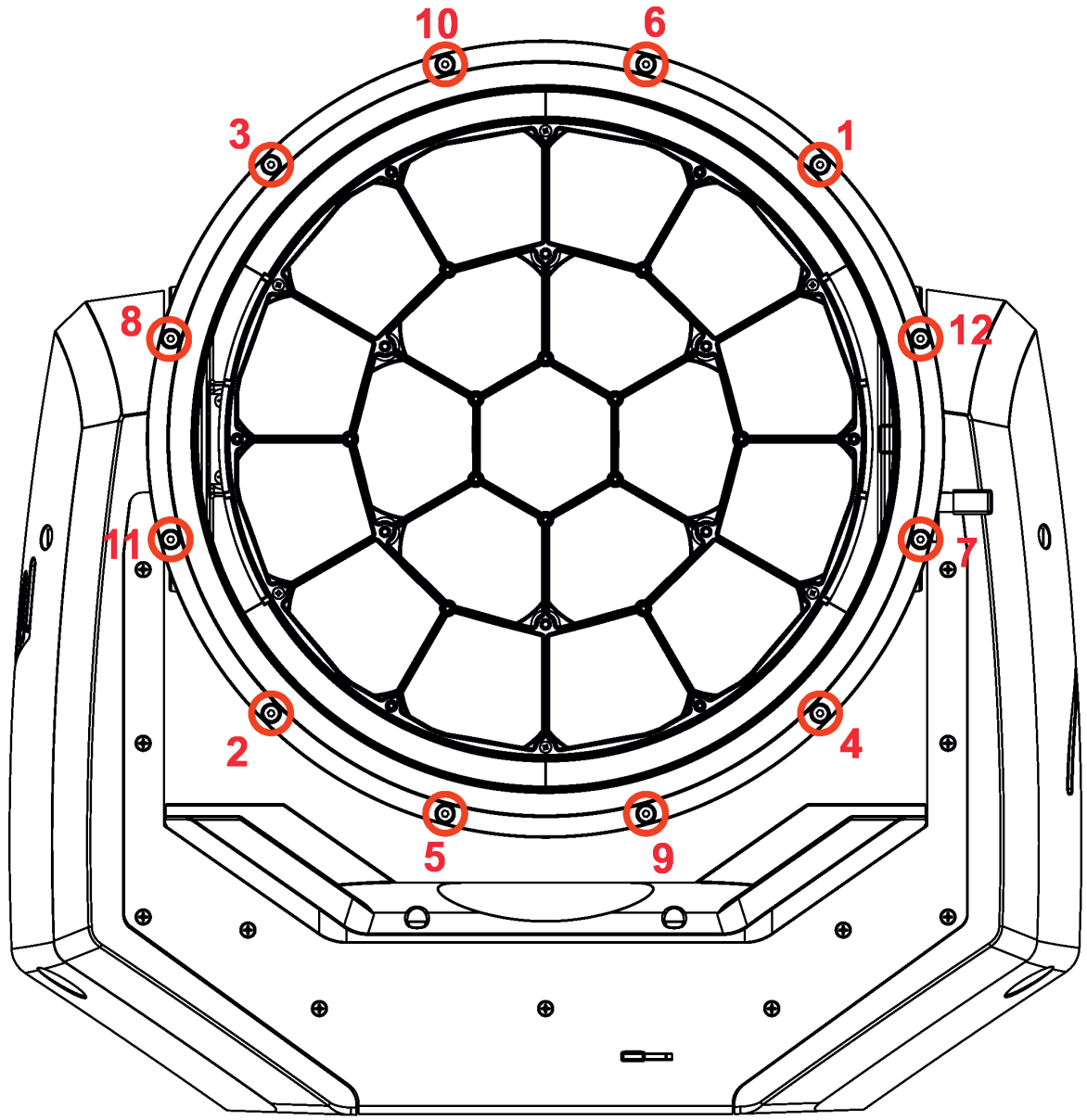
Screws* must be tightened
in the order 1-->8.

8 x hex socket head screw M4x8
Tightening torque: 2.5-3 Nm

* Tighten all screws in two steps:
Step 1 - use tightening torque 0.5 Nm (pre-tightening)
Step 2- use tightening torque 2.5-3 Nm (final tightening)

Carefully check the gasket for signs of deformities or damages and if it is correctly placed before screwing the yoke cover back. The gasket is part of chassis.
Do not forget to connect grounding wire between chassis and yoke cover.

Head flange

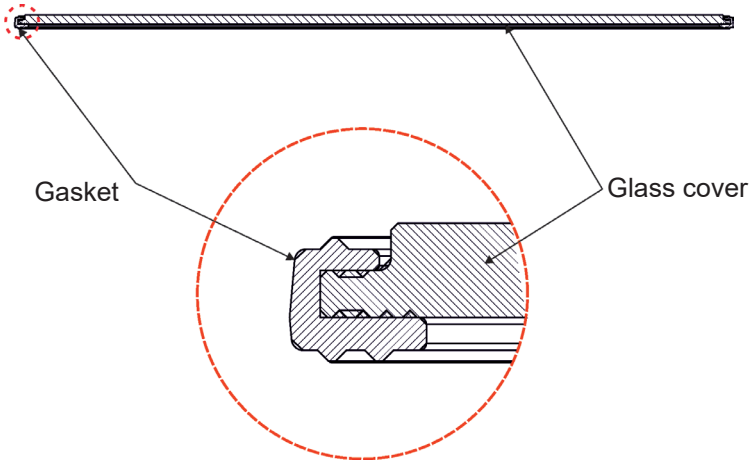


Screws* must be tightened
in the order 1-->12.

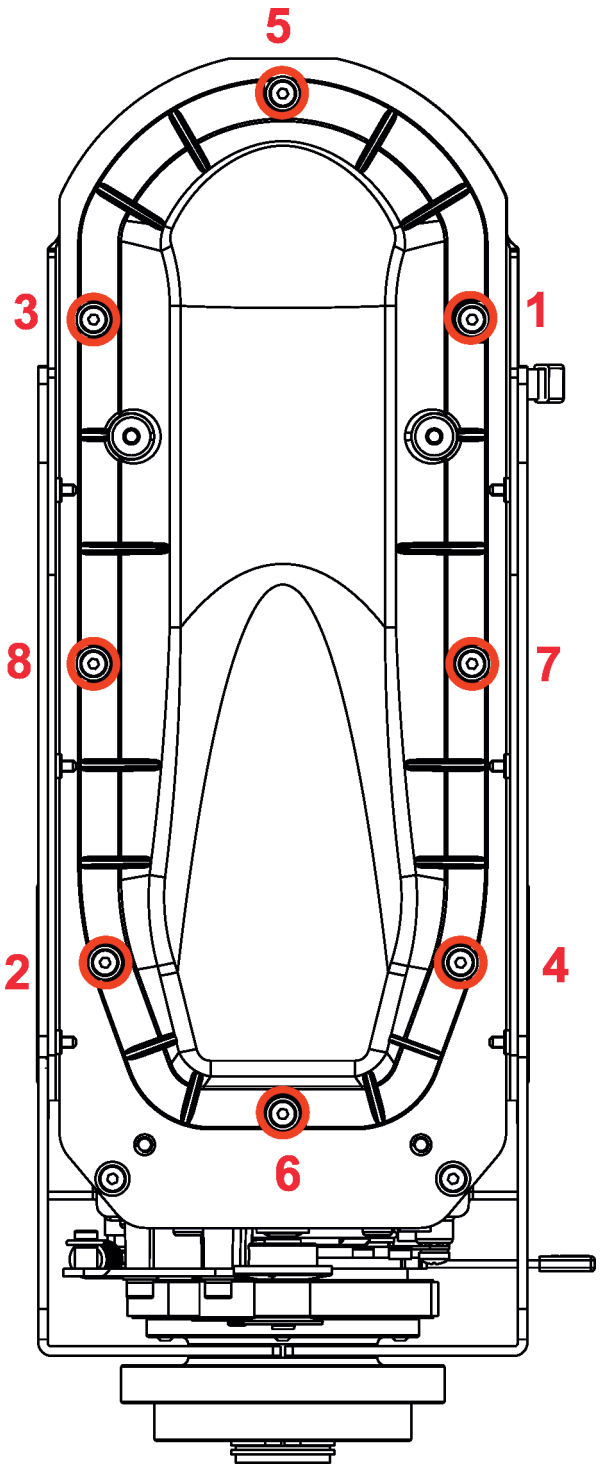
12 x hex socket head screw M4x8
Tightening torque: 2-2.2 Nm

* Tighten all screws in two steps:
Step 1 - use tightening torque 0.5 Nm (pre-tightening)
Step 2- use tightening torque 2-2.2 Nm (final tightening)

Carefully check the gasket for signs of deformities or damages and if it is correctly placed on the glass cover before screwing the head flange back.



Cover in the arm without tilt lock



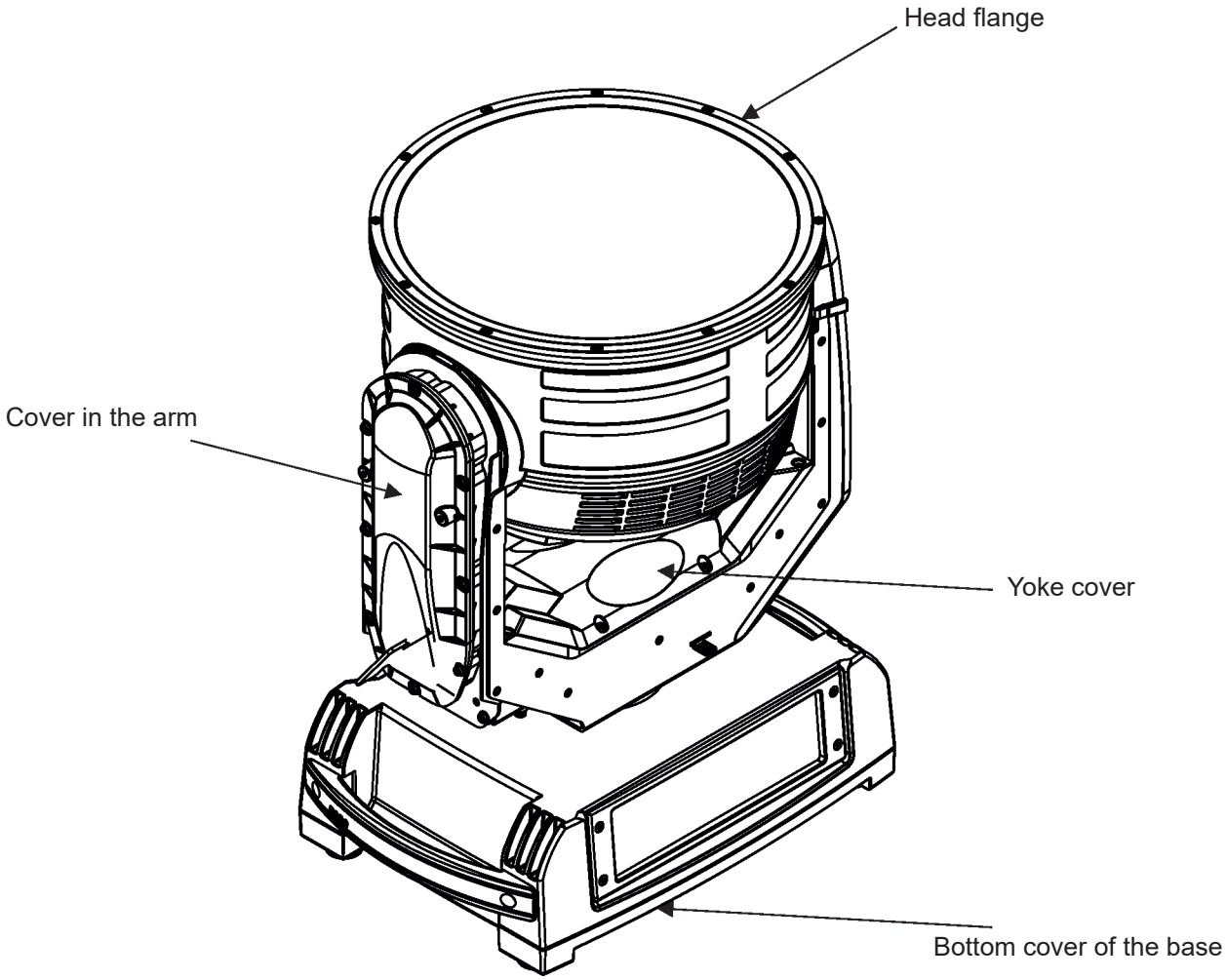
Screws* must be tightened
in the order 1-->8.

8 x hex socket head screw M4x8
Tightening torque: 2-2.2 Nm

* Tighten all screws in two steps:
Step 1 - use tightening torque 0.5 Nm (pre-tightening)
Step 2- use tightening torque 2-2.2 Nm (final tightening)

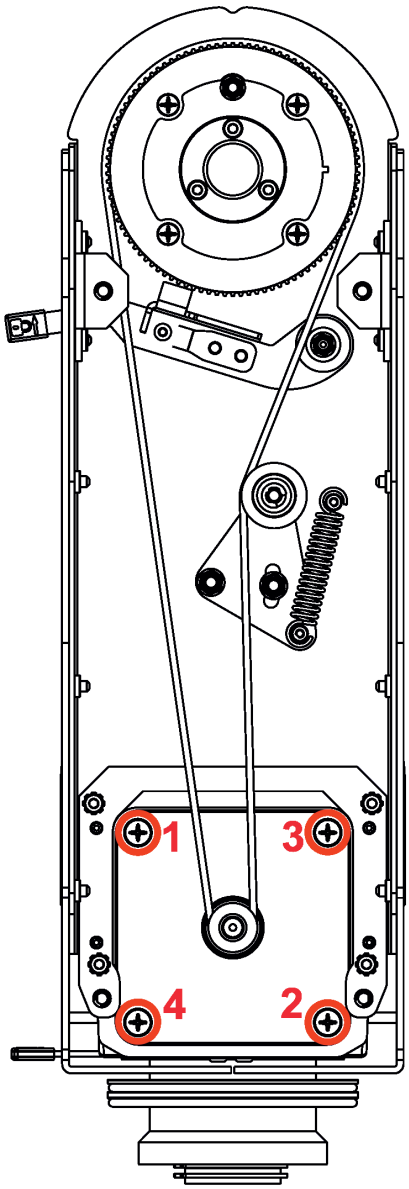
Carefully check the gasket for signs of deformities or damages and if it is correctly placed before screwing the cover back.
Do not forget to connect grounding wire between chassis and the cover.

Positions of watertight covers



15.2 Torques of Pan/Tilt motors screws

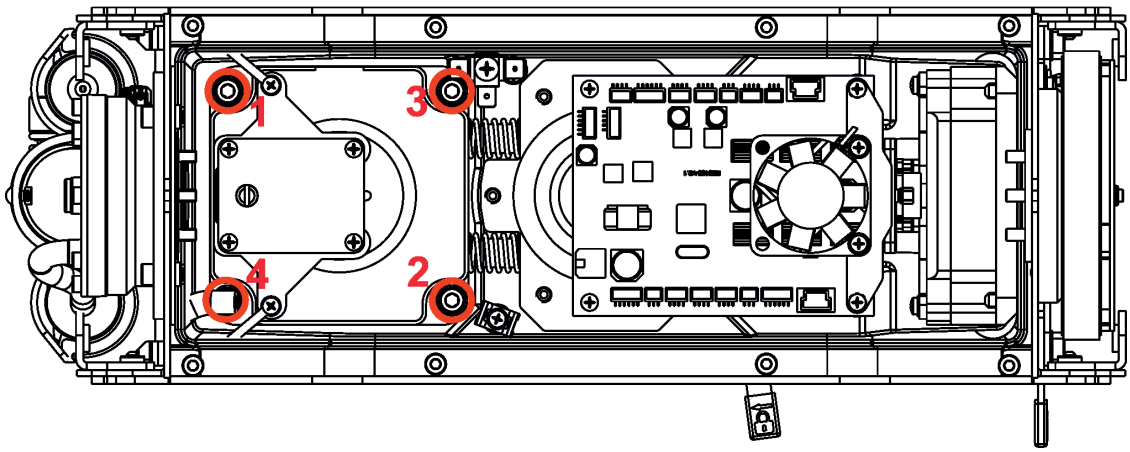
Tilt motor



4 x hex socket head screw M4x14 (stainless) with flat washer + sealing ring

Screws must be tightened in the order 1-->4

Pan motor



4 x hex socket head screw M4x14 (stainless) with spring washer

Screws must be tightened in the order 1-->4.

15.3 Checking and replacing the silica gel desiccants

The silica gel desiccants are used for humidity indication in the fixture. Dry silica gel has an orange colour, if it is saturated with water, its colour changes to dark grey. If most of silica gel changed colour to dark grey, it has to be replaced.

Unplug the fixture from mains before checking/replacing silica gel desiccant!
Do not check/replace silica gel desiccant in a damp environment (e.g. rain, snowfall)!

Spare desiccants from factory are packaged in a protective foil. Take desiccants out of the protective foil immediately before replacing them in the fixture!
Silica gel may become damp if it is exposed to wet air for longer time.

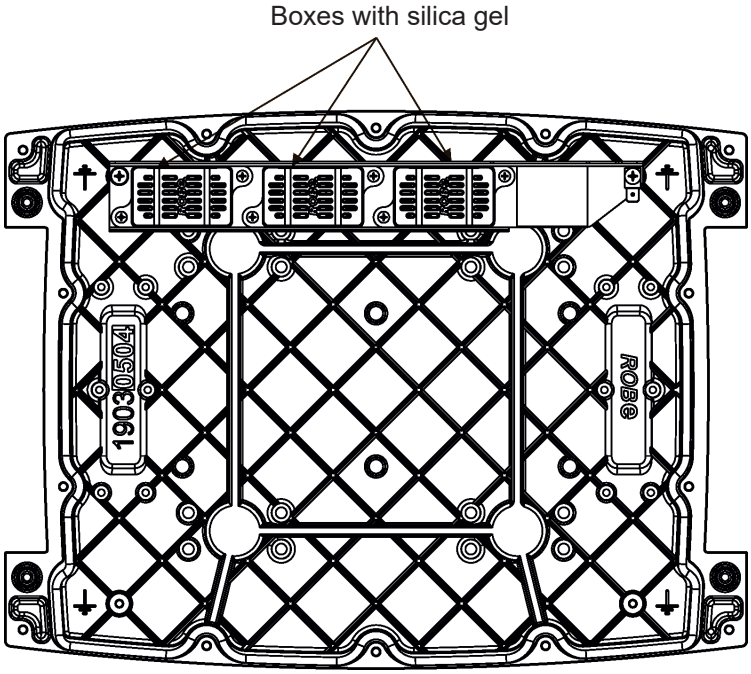
Silica gel is not under warranty.

Desiccants are placed in the fixture in the following places:

fixture base - 3 x small box with silica gel on the cover of base
fixture head -1 x small box with silica gel
fixture head - 1 x tube with silica gel (rear side of the head)

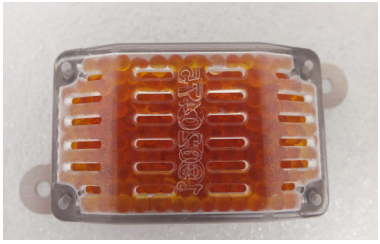
Total weight of silica gel fillings in the fixture is 90 g.

Fixture base cover



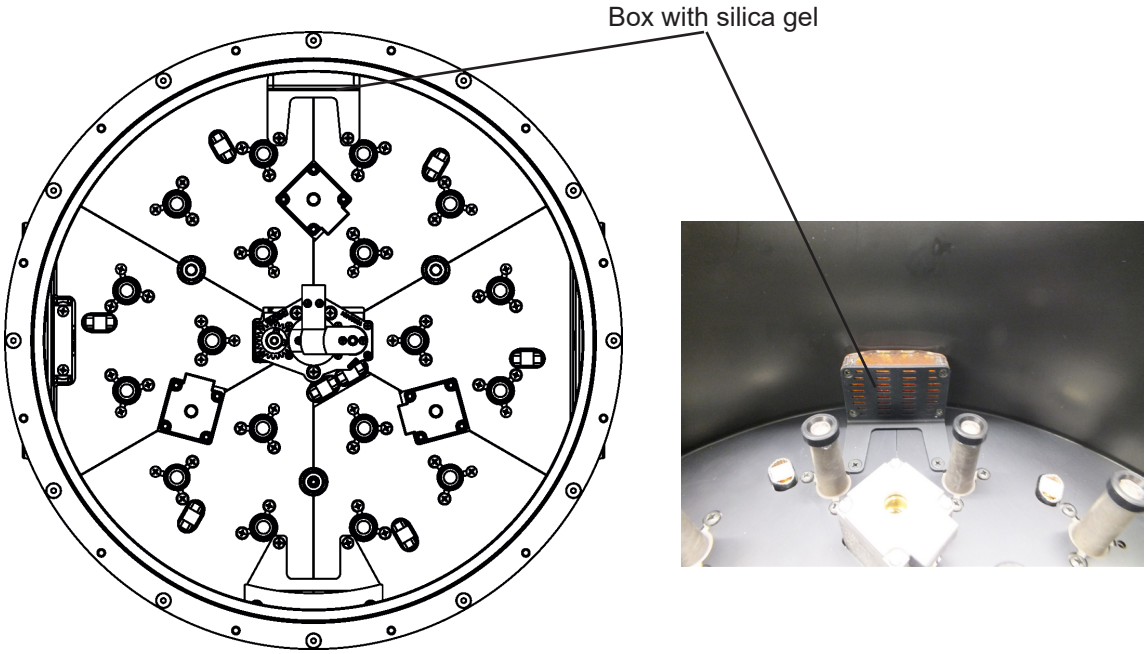
Each silica gel box is fastened on the cover by means of two screws.
The silica gel desiccants in the fixture base should be checked (or alternatively replaced) at removing bottom cover e.g. at service intervention.
After checking/replacing boxes with silica gel do not forget to connect grounding wire between chassis and the base cover at placing the cover back.
After checking/replacing boxes with silica gel, run the procedure Pressure Test (Service -->Pressure Test).
If the pressure test is not OK, check if all screws of base cover are correctly tightened and run the test again.
Examples:

Dry silica gel

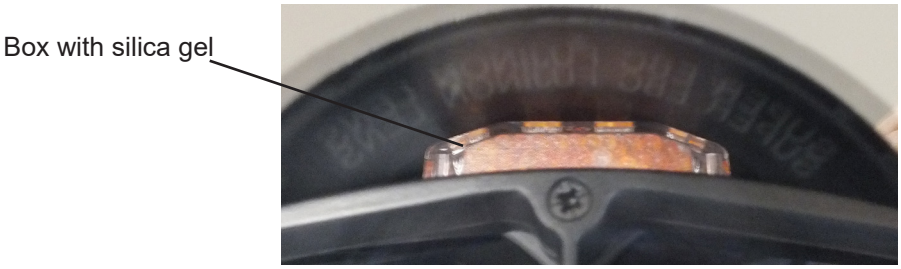


Silica gel saturated with water

Fixture head - front side under optical module (lens array)



The silica gel desiccant in the fixture head can be partially checked without removing front glass cover and lens module but the optical module has to be gone to the head (zoom=0 DMX).

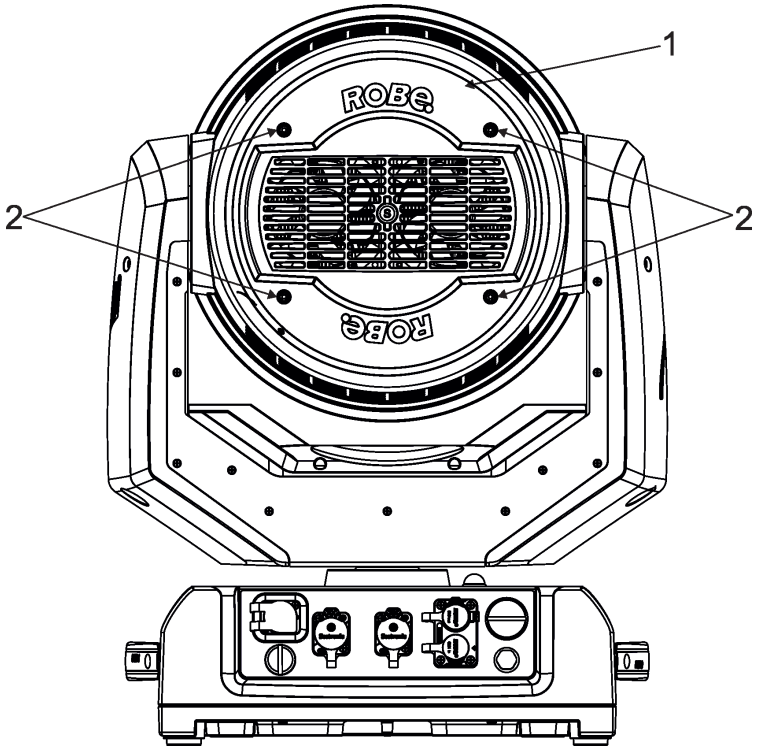


Changing the box with silica gel in the fixture head.

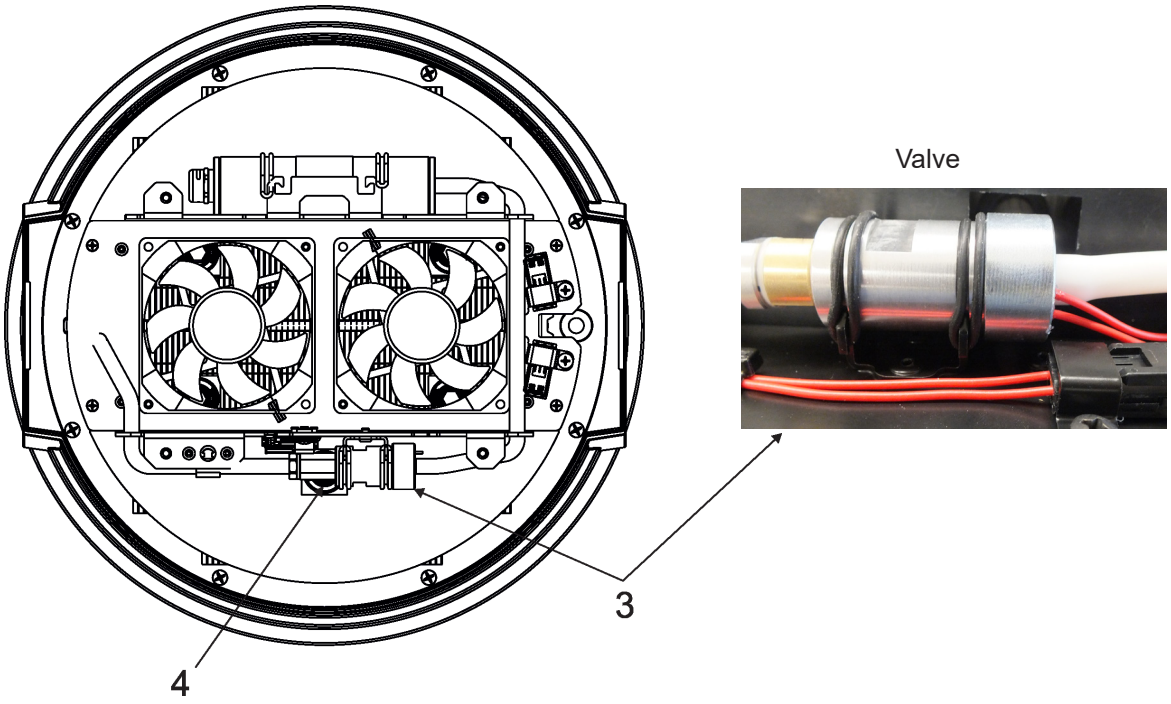
To remove the optical module from the head

1. Disconnect the fixture from mains.

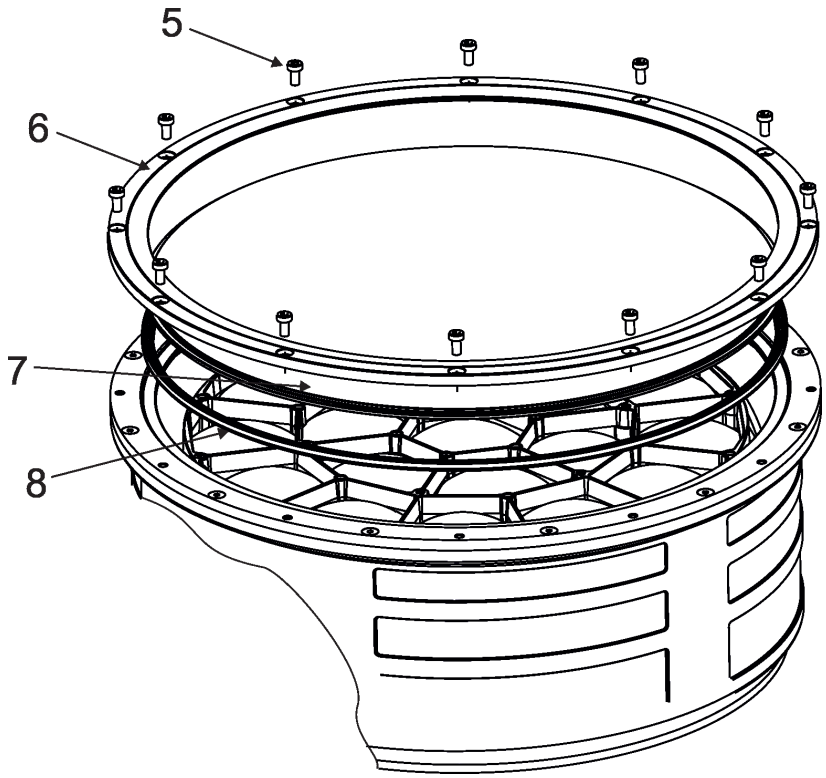
2. Remove the rear head cover (1) by unscrewing four hex socket head screws (2) and removing the head cover safety wire.



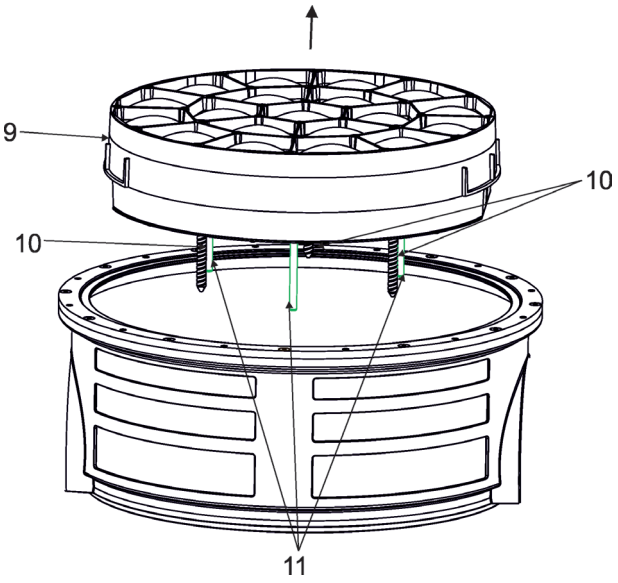
3. Release two rubber rings securing the valve (3) to the chassis to get access to the screw (4) securing the guide-pin of the optical module.
4. Unscrew the optical module securing screw (4) and fasten the valve back to the chassis.
If you do not have access to the securing screw, push the optical module (9) into the head (towards fans). Do not touch the plastic lenses bare hands.

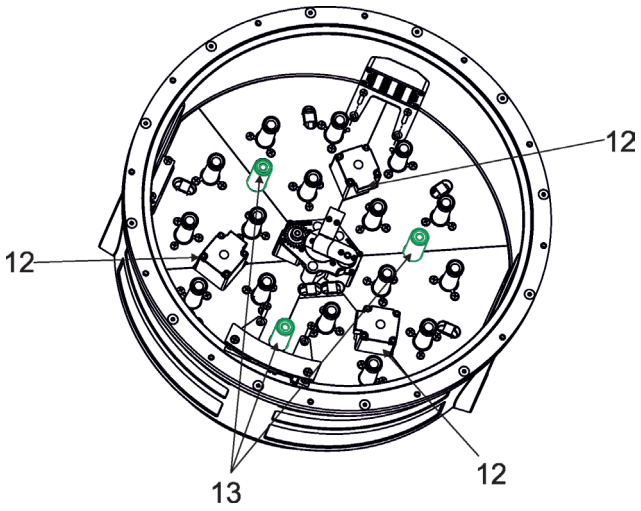


5. Unscrew 12 hex socket head screw M4x8 (5) fastening the flange (6) and remove it.
Remove the glass cover (7) with gasket (8).

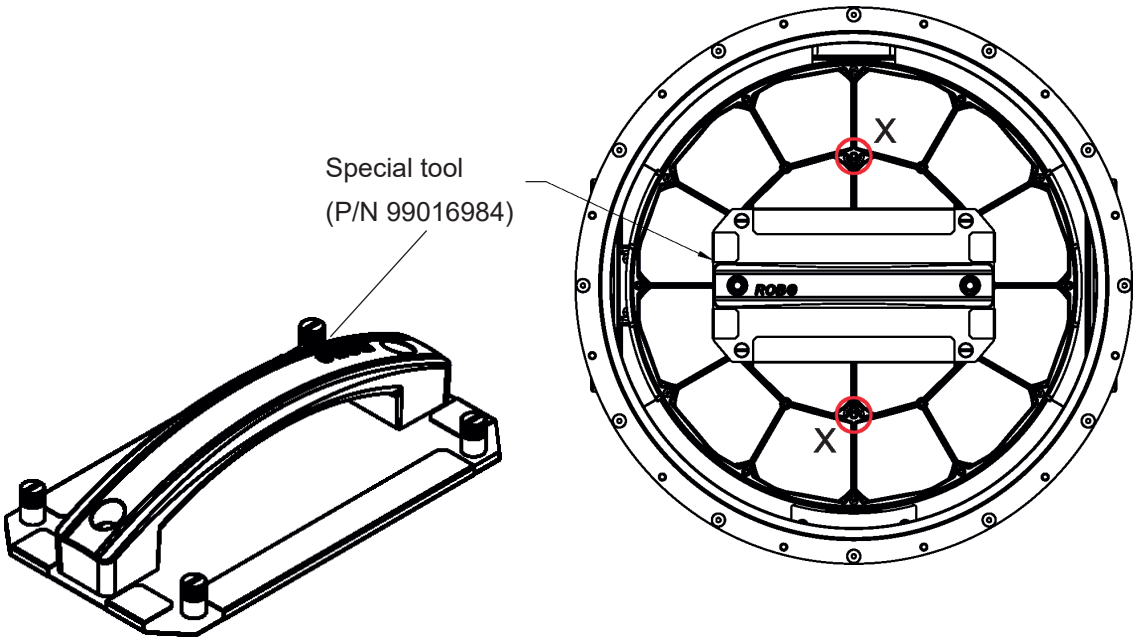


6. Carefully take the optical module (9) out of the fixture head.
(The three guide-pins (11) aim into guide-tubes (13) and three lead helixes (10) aim into motors (12)).

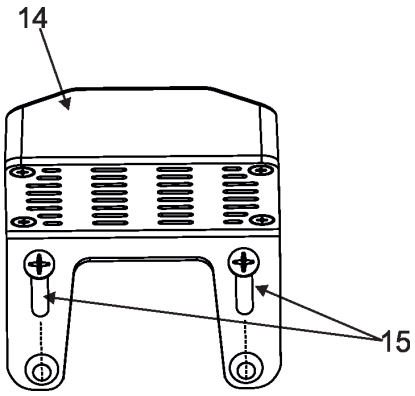




To make easier pulling the optical module (9) out of the fixture head, screw two screws M3 (e.g. 30 mm long) to the holes with M3 thread (X) as shown on the picture below. The two screws will help you to hold the optical module during pulling it out of the head or use the special tool (P/N 99016984). The special tool is also part of the Pressure IP Testing Set ROBE (P/N 10980659).



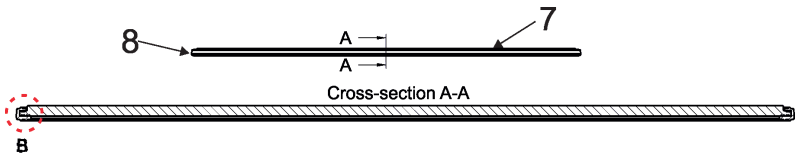
7. Unscrew two screws (15) and remove the silica gel box (14). Screw new silica gel box to the head.

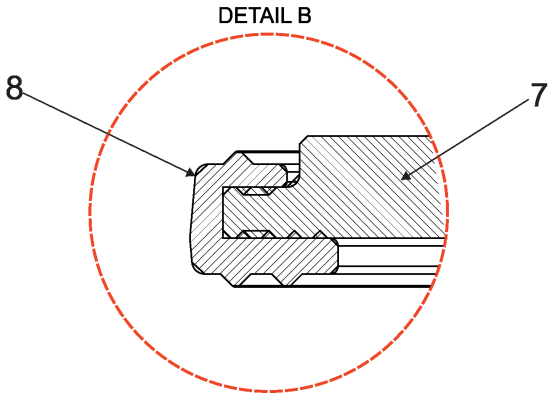


To insert the optical module back to the head

1. Connect the fixture to mains and after fixture reset go to tab Manual Control, select items Pan and Tilt and set them at 128 DMX and Zoom set at 255 DMX.
2. Put the optical module (9) to the head in such a way that three guide-pins (11) aim into guide-tubes (13) and three lead helixes (10) aim into motors (12).
3. Hold the optical module in this position and slowly change the item Zoom from 255 DMX to 0 DMX. Motors "draw" the optical module back to the head.
DO NOT TRY TO INSERT THE OPTICAL MODULE TO HEAD BY A FORCE!
4. Run the option Zoom Reset from tab Manual Control.
5. Disconnect the fixture from mains.
6. Screw the securing screw (4) back to the guide-pin.
7. Attach the head cover safety wire to the chassis of the fixture and screw the rear head cover (1) back on the head by means of the four hex socket head screws (2).
8. Place and screw the glass cover (7) with gasket (8) and the flange (6) on the head. Use a tightening torque as stated in the chapter "Torques for watertight covers"

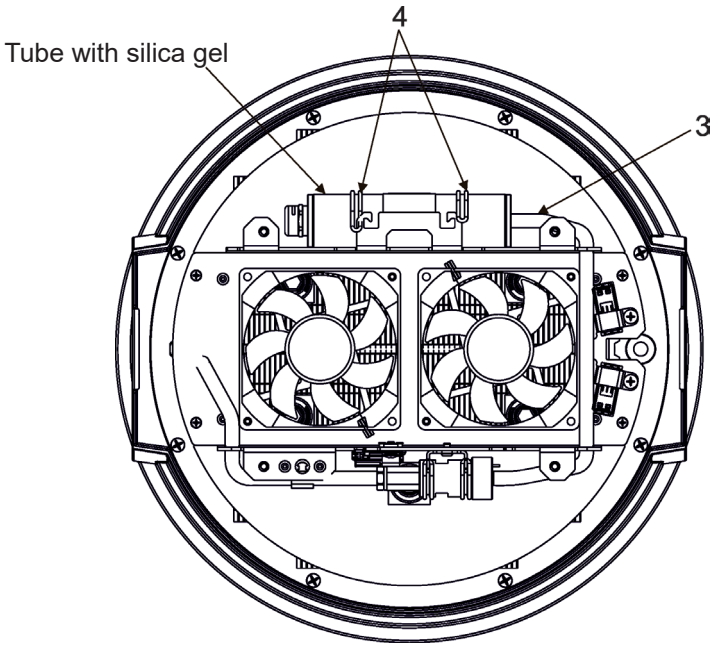
IMPORTANT: Before screwing the flange (6), check the correct position of the gasket (8) on the glass cover (7) as shown on the picture below.





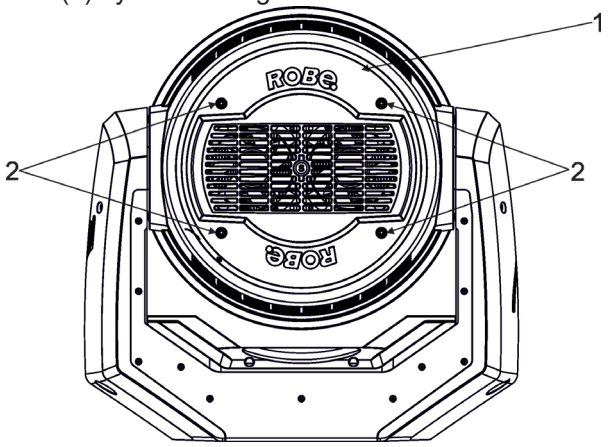
9. **After connecting the fixture to mains, run the procedure Pressure Test (tab Service -->Pressure Test).**

Fixture head - rear side



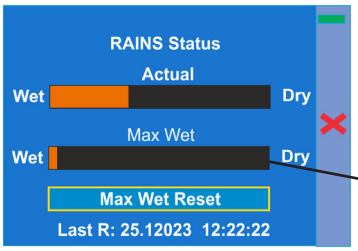
Example of dry silica gel and silica gel saturated with water:

To change the tube with silica gel in the fixture head.
1. Disconnect the fixture from mains.
2. Remove the rear head cover (1) by unscrewing four hex socket head screws (2)

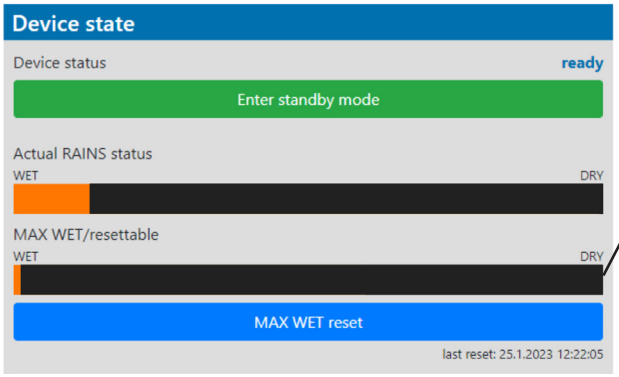


3. Disconnect the hosepipe (3) from the tube with silica gel.
4. Stick out the rubber rings (4) and remove the tube (4) with silica gel.
5. Insert the new tube with silica gel and secure it by means of the rubber rings (4).
6. Connect the hosepipe (3) to the tube with silica gel.
7. Attach the head cover safety wire to the chassis of the fixture.
8. Screw the head cover (1) back on the fixture with four hex socket head screws (2)
9. **After connecting the fixture to mains, reset the MAX WET chart (tab Information-->RAINS Status) and run the procedure Pressure Test (tab Service -->Pressure Test).**
If the pressure test failed, check if hosepipe is correctly put on the tube with silica gel and run test again.

State of desiccant in the tube can be checked:
- visually by unscrewing the rear cover of the fixture head
- from fixture display (tab Information, option RAINS Status):



- remotely by means of the Robe Ethernet Access Portal (REAP):



The chart MAX WET is decisive for replacing the dessicant in the tube in the fixture head
If the chart has changed to black colour, dessicant in tube has to be replaced.

it is not necessary to replace silica gels desiccants in plastic boxes in the fixture head and base. These desiccants should be checked (and replaced if it is needed) at removing front head or base cover, e.g. at some service intervention.

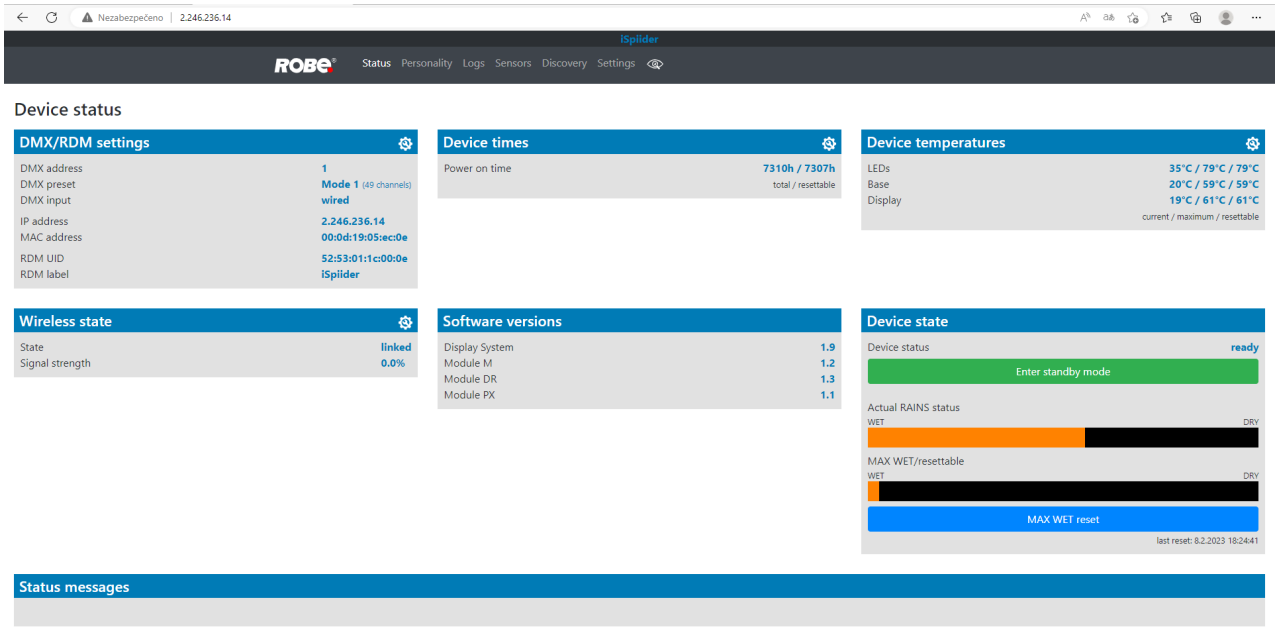
In case that silica gel in the tube is fully saturated with water, the warning message " **Too Much Humidity in Device**" will appear on the fixture display (yellow warning icon) and also in the Robe Ethernet Access Portal (Logs screen).

Example

16. Robe Ethernet Access Portal (REAP)

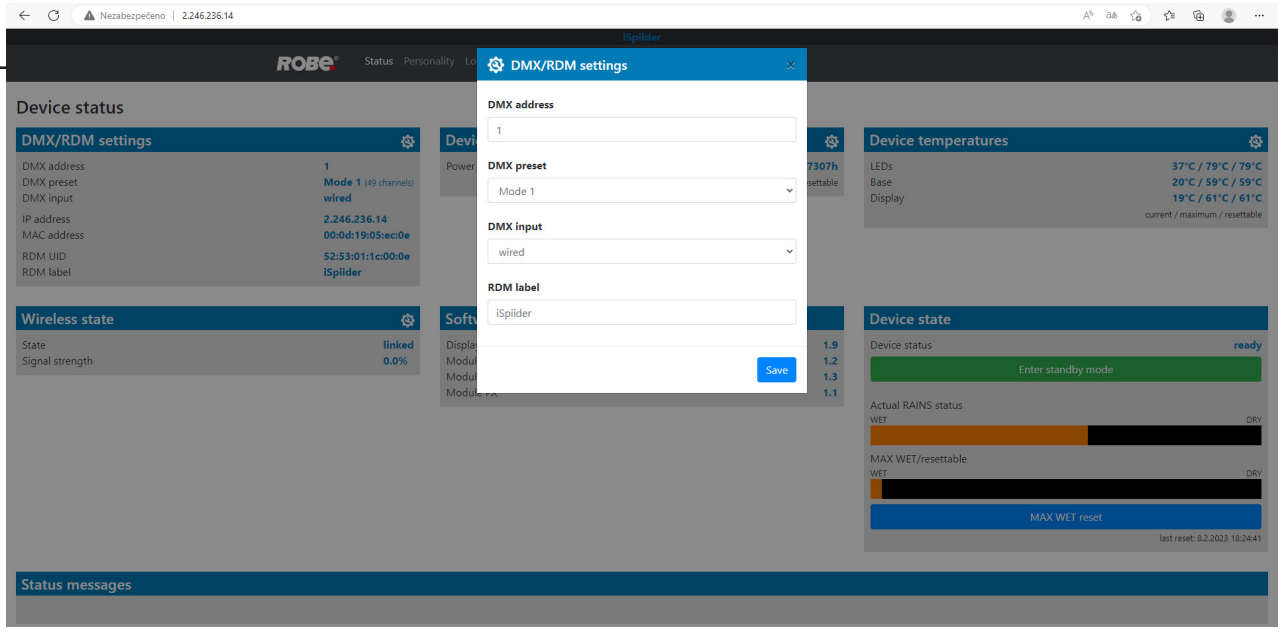
Before running the REAP, your computer needs to be connected to the fixture (s) through the means of Ethernet wired network and a network switch. The computer needs to have configured network settings in order to be able to communicate with the fixture(s) through the network. The Ethernet network connection (Local LAN) typically needs to be set to 2.x.x.x address, the computer IP address has to be set to 2.x.x.x (for example 2.247.136.20) with netmask 255.0.0.0. On the fixture make sure to use the default 2.x.x.x IP address as provided You do not need change any IP settings on the fixture, There is no need to set the fixture into Art-Net mode.

Type the IP address of the iSpiider to your web browser, e.g. http://2.246.236.14, enter the user name: **robe** and the password: **2479**, the **Status screen** of the iSpiider will appear.



This screen gives you a fast overview of fixture settings and environment in the fixture. The icon allows you to change some values in a corresponding table.

Example for DMX/RDM settings:



Note.
The background colour of the top raw of the Status screen with the name and RDM label of the fixture denotes state of the fixture:

fixture is ready for operation

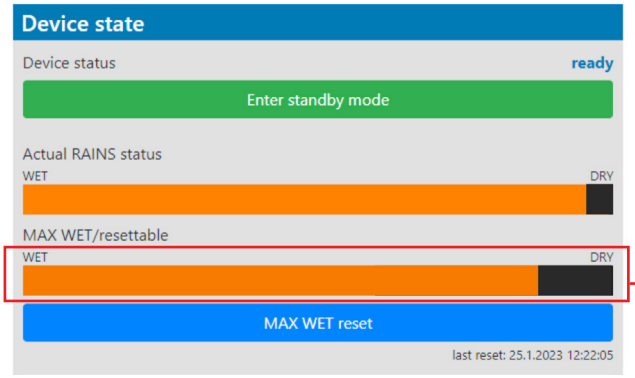
fixture does not communicate with computer

fixture with error message(s)

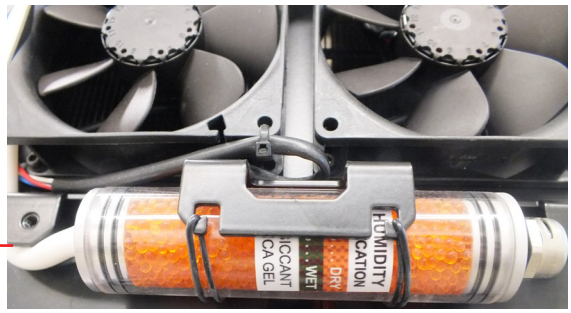
The table "Device state" gives you information about fixture and environment in the fixture.
Device status: **ready** - all fixture resets successfully passed and the fixture is ready for operation.
initialization - fixture is waiting for fixture reset
heating - fixture is waiting for reaching operating temperature of the fixture inside (temperature in the fixture is below 0°C).
standby - the fixture is in standby mode
standby/heating - the fixture is in standby mode and inside of the fixture is heated
The bar chart **Actual RAINS status** informs you about current humidity in the fixture. The bar chart changes depending on humidity, temperature and pressure in the fixture. The bar chart depends on current conditions in the fixture and can be different at start of fixture operation, after 10 minutes of its operating, after closing fixture dimmer etc.
RAINS (Robe Automatic Ingress Neutralization System) manages humidity, temperature and pressure control using an active monitoring system to automatically remove any moisture detected within the fixture and provides permanent monitoring to ensure peak performance of the fixture.

The bar chart **MAX WET/resettable** informs you about maximum humidity achieved in the fixture since the chart was last reset. The bar chart also informs you about saturation of silica gel desiccant in tube in the fixture head with water and is deciding indicator for its checking and replacement.

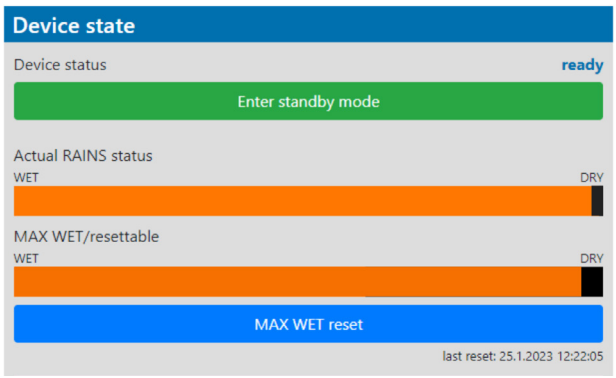
The blue button **MAX WET reset** resets the bar chart MAX WET/resettable. Date and time of last reset is displayed below this button.



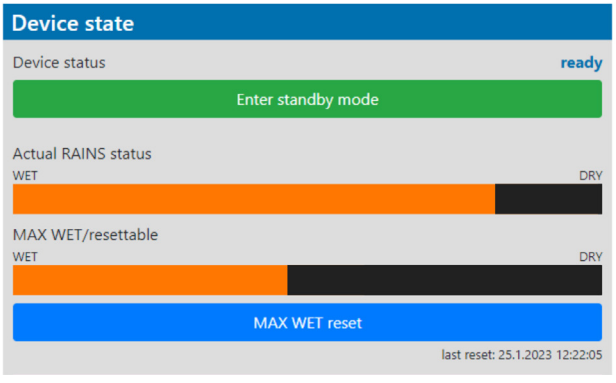
Silica gel desiccant
in the fixture head



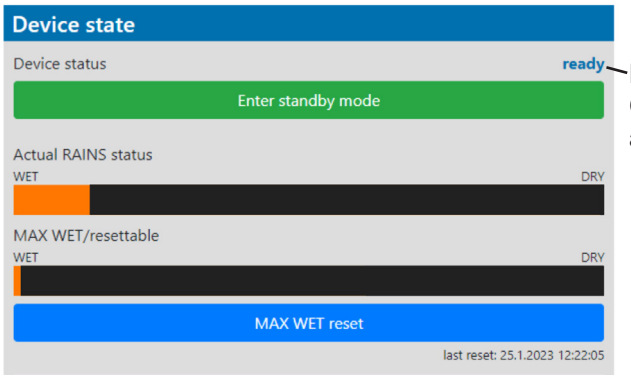
Examples of the table "Device state":



Dry desiccants



Desiccants partially saturated with water

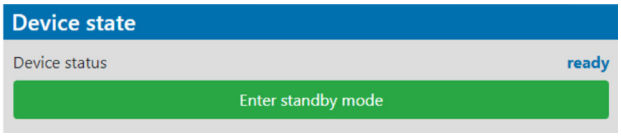


Device status **ready** means, that all fixture resets are OK and the fixture is ready for operation. It does not assess state of desiccants or result of pressure test!

Desiccants fully saturated with water

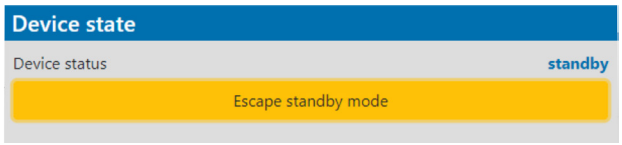
Silica gel desiccant in tube in the fixture head should be replaced.
After replacing it, reset MAX WET resettable bar chart.
It is not necessary to replace silica gels desiccants in plastic boxes in the fixture head and base. These desiccants should be checked (and replaced if it is needed) at removing head or base covers, e.g. at some service intervention.

The option **Enter standby mode** allows you to switch the fixture to Standby mode.

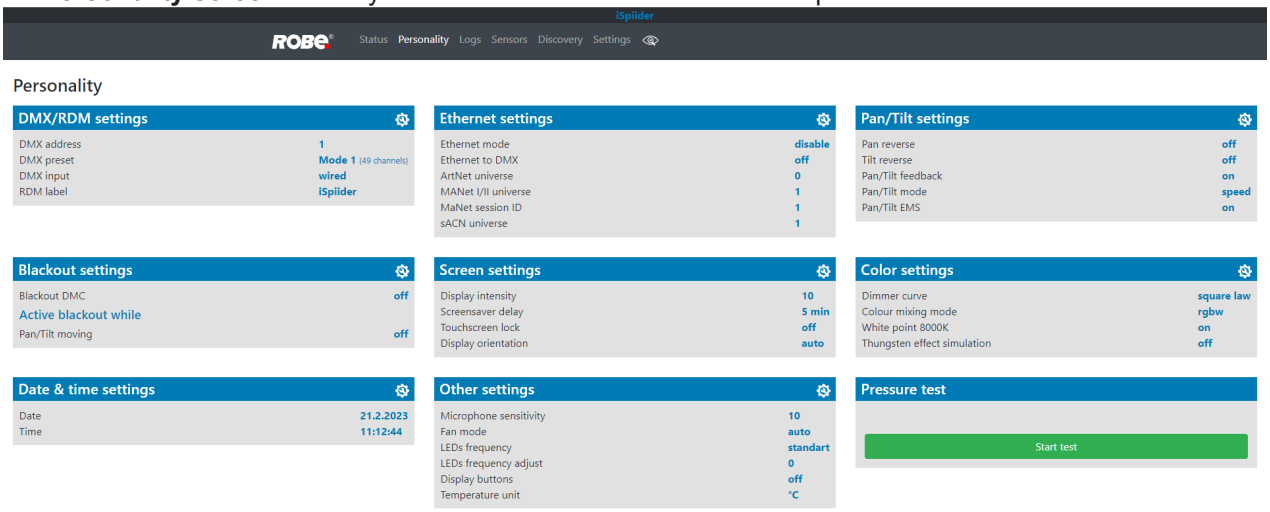


Note: Standby mode helps conserve power when a fixture is not in use, without fully powering it off.
In the Standby mode, all fixture motors and fans are deactivated and light output is closed.
For more information about Standby mode please see the chapter Standby mode.

The option **Escape standby mode** allows you to switch the fixture to standard operating mode.

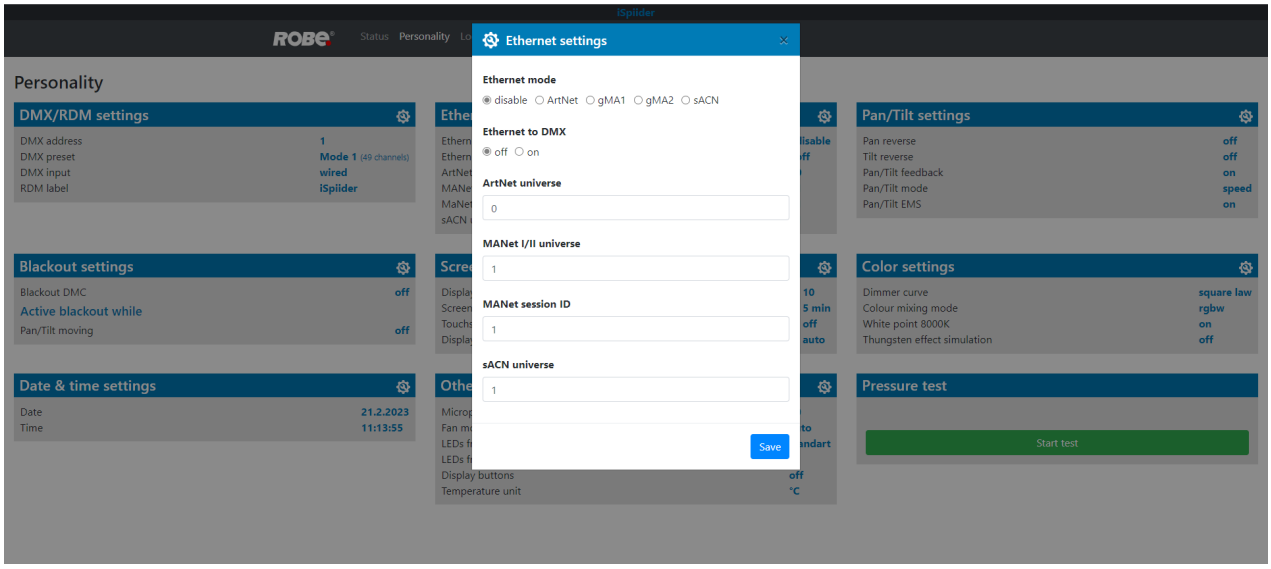


The **Personality screen** allows you to set fixture behaviour and run a pressure test.

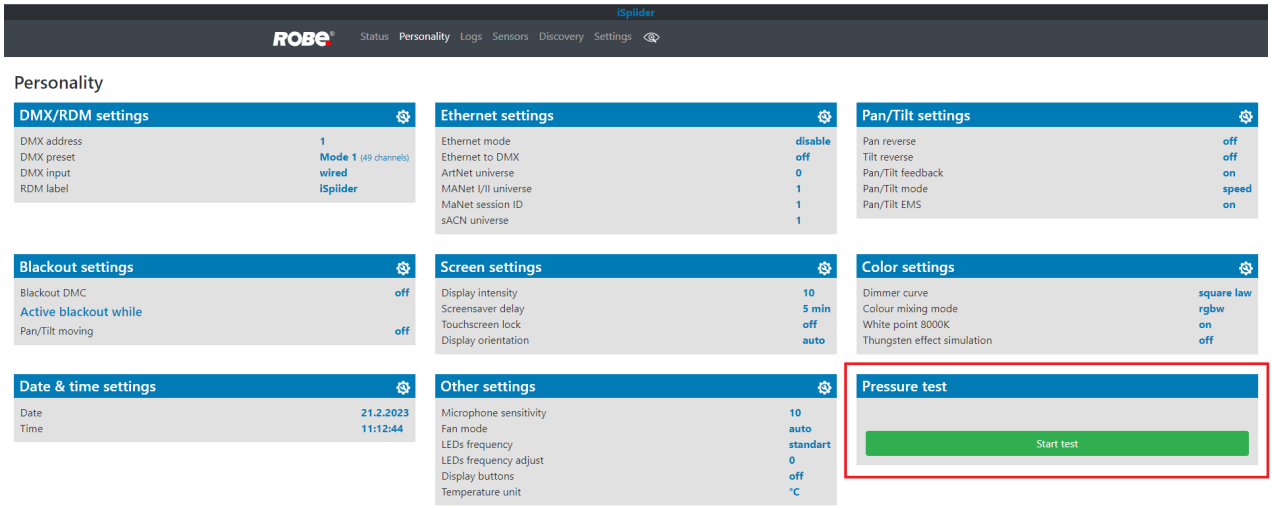


The icon  allows you to change values in a corresponding table.

Example for Ethernet settings:

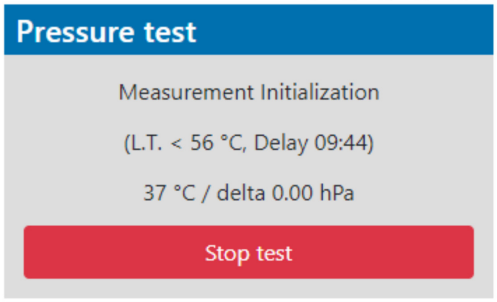


The table "Pressure test " with green button **Start test** allows you to run a procedure which checks IP65 integrity of the fixture. The fixture has to be connected to mains and the head temperature (at pressure sensor) cannot be higher than 55°C. The pressure test lasts about 5 minutes and can be run at earliest 10 minutes after closing light output (shutter closed) of the fixture. The pressure test can be repeated at earliest 2 minutes after last pressure test.

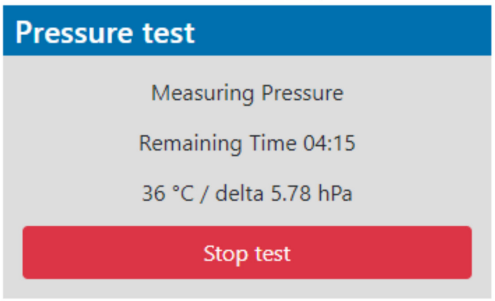


Examples of pressure test messages:

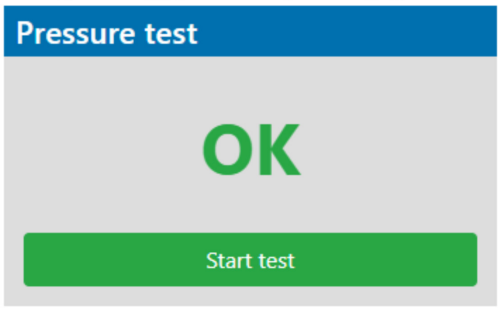
Pressure test is 10 minutes delayed due to fixture cooling



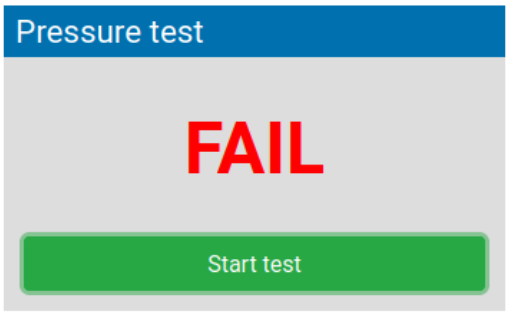
Pressure test is running



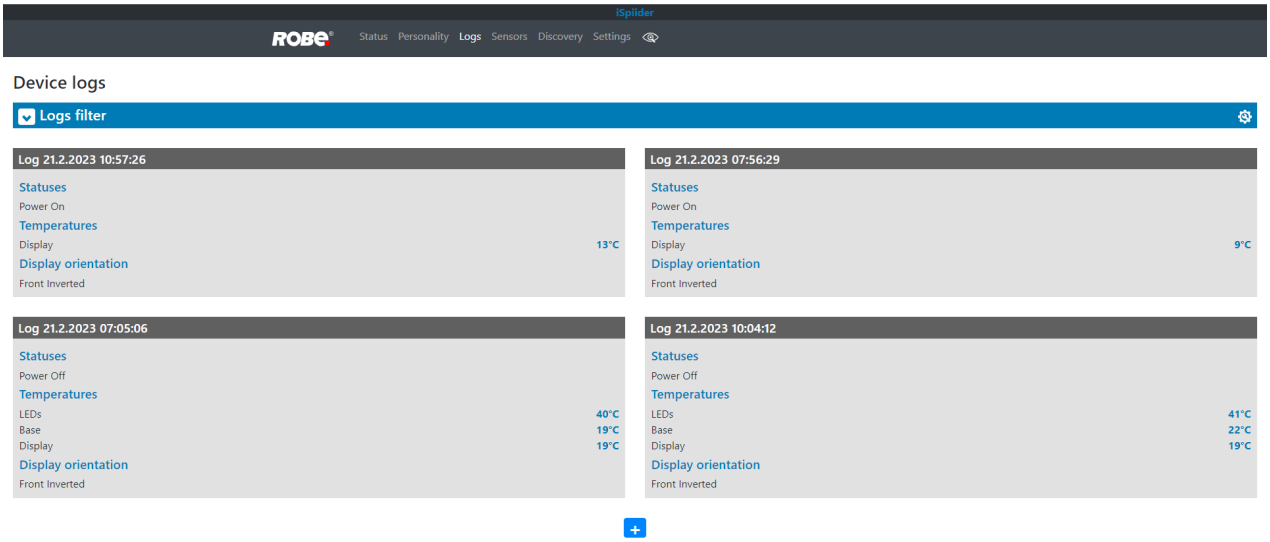
Pressure test passed



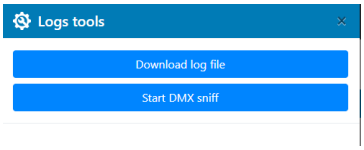
Pressure test failed



The **Logs screen** displays operating information of the fixture which have been saved.



The icon  offers you two options:

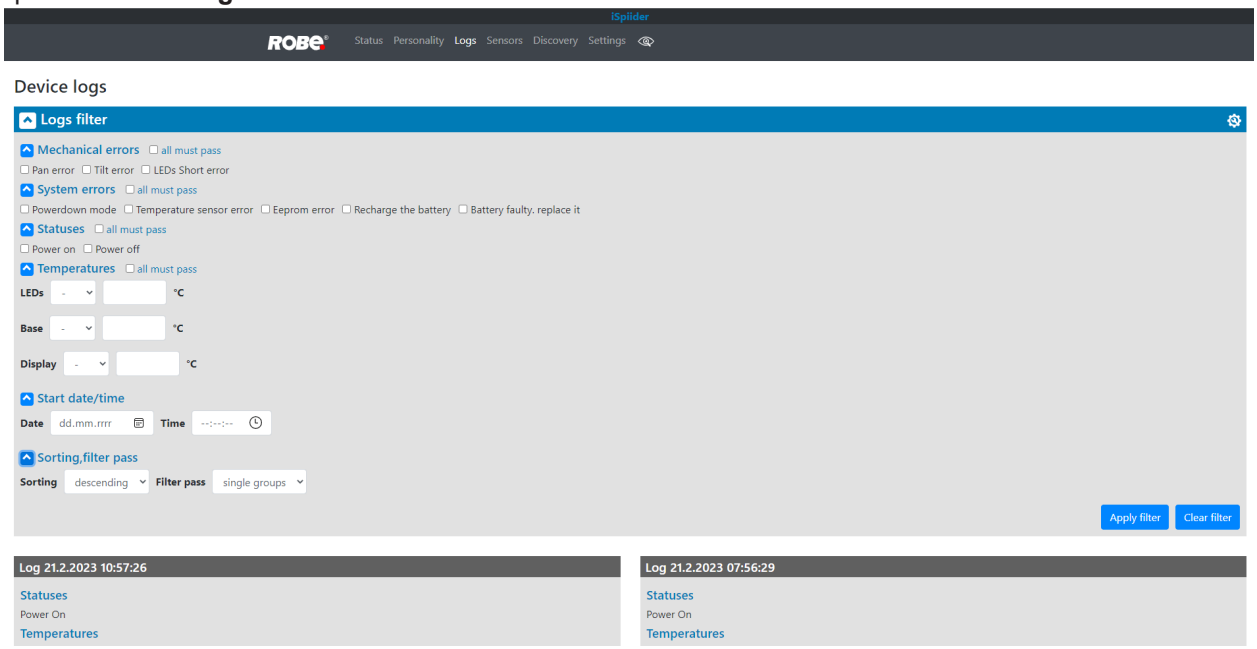


"Download log file" - the option allows you to download the log file to computer, name of the log file is: file-abcd.log, where abcd is a fixture ID (e.g. file-015e.log).

"Start DMX sniff" - the option starts saving coming DMX values to the file, the file name is DMX_sniffer.log).

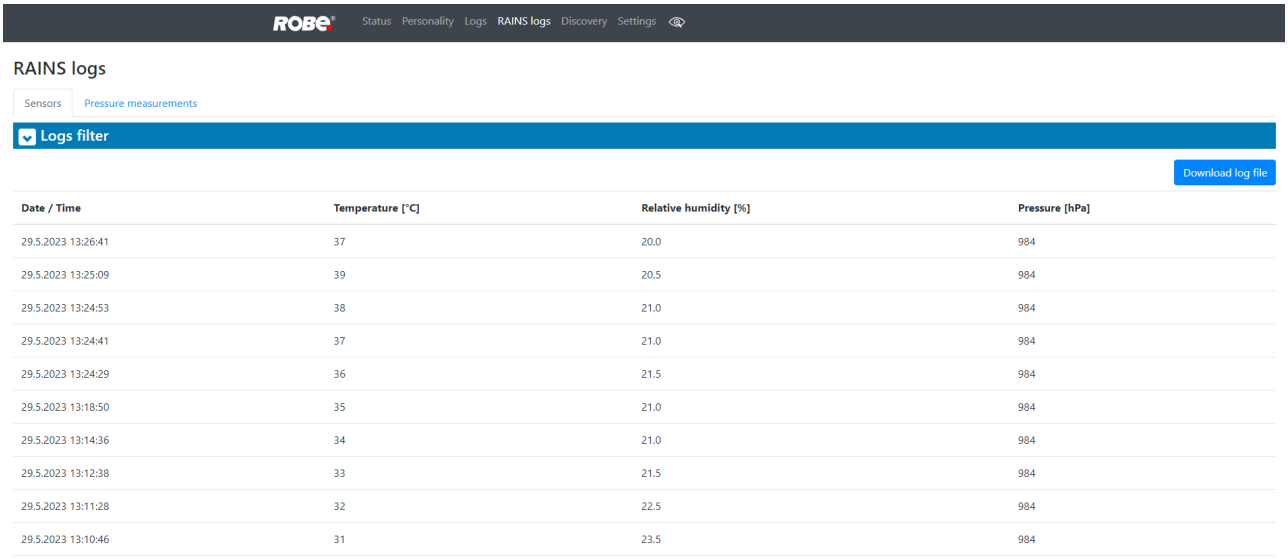
The option **Logs filter** allows you to select desired group of recorded errors and recorded operating values.

Expanded menu **Logs filter**



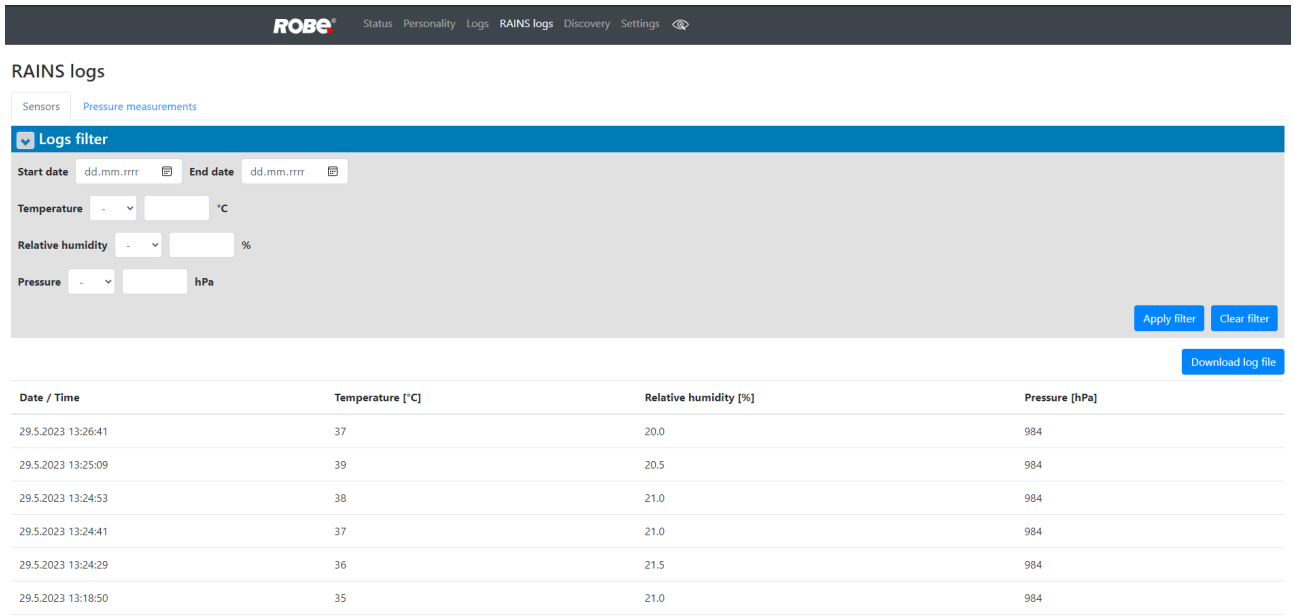
If the option "all must pass" is checked, only logs which contain all selected errors will be displayed.
Menu "Sorting filter pass" --> option "single groups" means that logs which contain at least one selected error will be displayed.
Menu "Sorting, filter pass" option "all groups" means that logs which contain all selected error will be displayed.

The **screen RAINS Logs** offers you a list of physical values recorded by sensors inside the head.

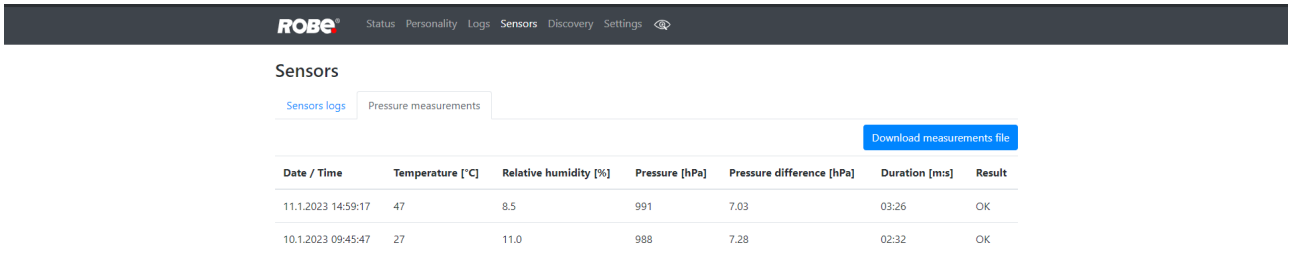


Date / Time	Temperature [°C]	Relative humidity [%]	Pressure [hPa]
29.5.2023 13:26:41	37	20.0	984
29.5.2023 13:25:09	39	20.5	984
29.5.2023 13:24:53	38	21.0	984
29.5.2023 13:24:41	37	21.0	984
29.5.2023 13:24:29	36	21.5	984
29.5.2023 13:18:50	35	21.0	984
29.5.2023 13:14:36	34	21.0	984
29.5.2023 13:12:38	33	21.5	984
29.5.2023 13:11:28	32	22.5	984
29.5.2023 13:10:46	31	23.5	984

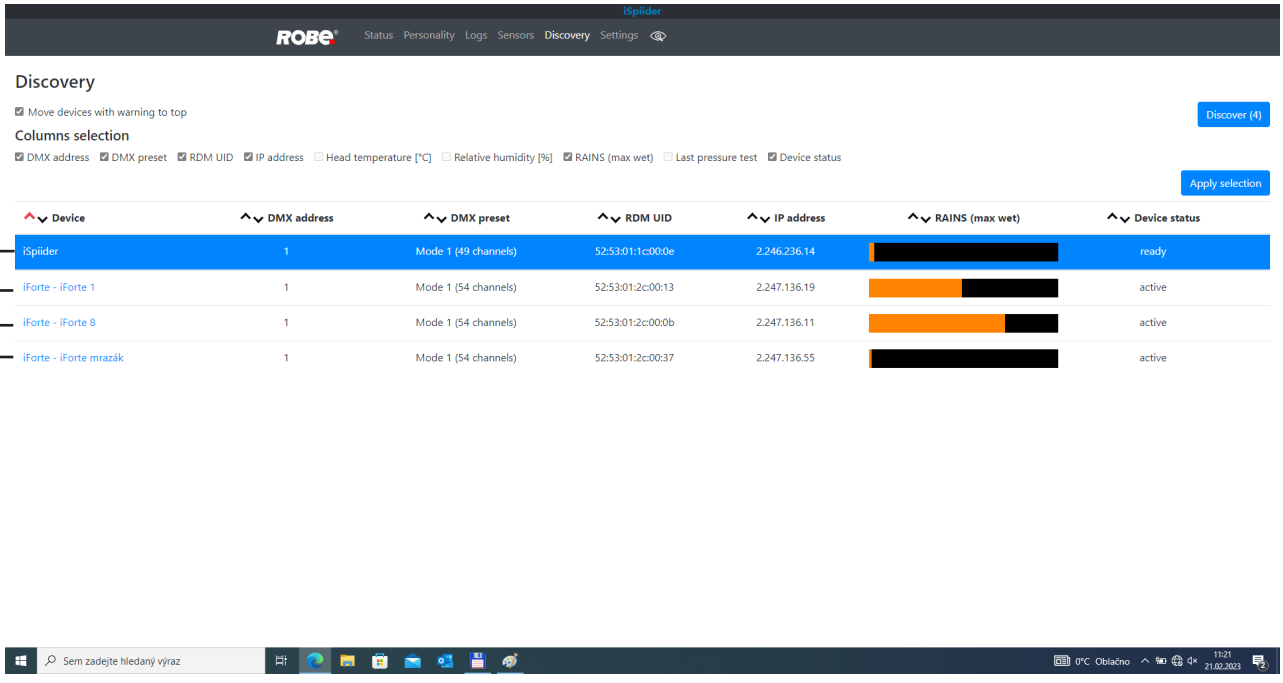
You can select range of temperature, humidity and pressure in desired time interval.



Tab Pressure measurements shows history of pressure tests.



If you have two and more fixtures, the **Discovery screen** allows you to show all connected fixtures in network. Click on the blue button Discover and fixtures connected in the network will be displayed.



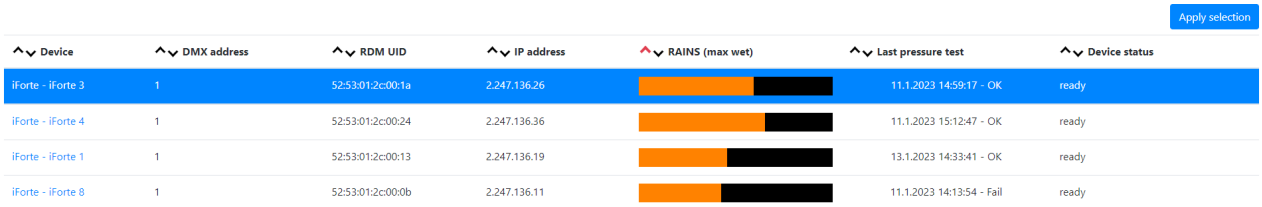
The background colour in the device row denotes state of the fixture:

- indicates "server fixture"(fixture of which IP address you have written to your WEB browser).
- indicates fixture ready for operation.
- indicates fixture which does not communicate with computer or "server fixture".
- indicates fixture with error messages.

If the option Move devices with warning to top is checked, fixtures with some error will be displayed on the top of fixture list.

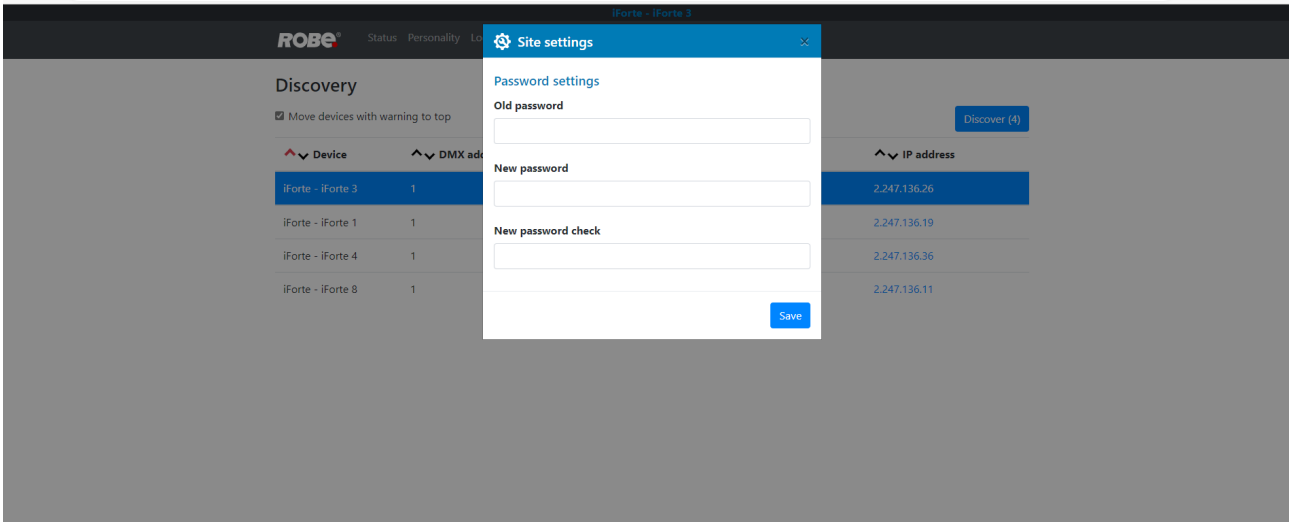
The option Columns selection allows you to check desired items which will be displayed in columns. Max. 6 items can be selected. After checking desired items, click on the blue button Apply selection to activate selection.
Icons ^v allows you to order values in the column in descending or ascending order.
Note: The values of the fixture in the first blue row ("server fixture") will not be included into ordering.

Example.



Item **ready** in the column Device status does not assess state of desiccants or result of pressure test!

The **screen Settings** allows you to change password to REAP.



The icon  serves for identification of the fixture in a group of fixtures. After clicking on the icon, the fixture´s head will start to move.

17. Technical Specifications

Electrical

Power supply:.....electronic auto-ranging
Input voltage range:..... supply 100-240V, 50-60Hz
Fuse:.....T 8 A
Max. power consumption .....660W (power factor= 0.98)
Inrush current:..... < 12A @ 230Vac (cold start)

Optic

Light source: 19 RGBW LED multichips
RGBW or CMY colour mixing
19 controllable LED multichips (pixels)
LED life expectancy: min. 50.000 hours
Typical lumen maintenance: L70/B50 @ 50.000 hours

Virtual colour wheel

66 preset colours
CTC in range of 2700K-8000K
Halogen lamp effect at whites 2700K and 3200K
Rainbow effect with in both directions with variable speed

Zoom

Linear motorized zoom
Min. beam angle: 4° (1/2 beam)
Max. beam angle: 50°(1/10 beam)

Effect

Flower effect rotating in both directions
10 Flower effect macros

Strobe

Strobe effect with variable speed (0.3 - 20Hz)

Dimmer

Smooth dimmer from 0 - 100 %

Control

Graphic screen for fixture setting and addressing
Gravitation sensor for auto screen positioning
Battery backup of the touch screen
Readout fixture and LED module usage, receiving DMX values, temperatures, etc
Built-in analyzer for easy fault finding, error messages
Built-in demo sequences
Individual pixel control of each LED
Stand-alone operation
3 user editable programs, each up to 100 steps
Supported protocols: USITT DMX 512, RDM, ArtNet, MANet, MANet2, sACN, Kling-Net
Support of RDM (Remote Device Management)
10 DMX modes (49, 27, 33, 90, 27,47, 91,110,104,123 control channels)

Wireless DMX/RDM module (type RW 001)

Supported protocols: full RDM support, CRMX , W-DMX™ G2, G3,G4 and G4S
Operational frequency range: 2402-2480 MHz
Output power: 100 mW
Receiver sensitivity (0.1% BER): -93 dBm
Crystal Clock Frequency : 16.0 MHz

Pan/Tilt

Pan movement range 540°
Tilt movement range 220°
16 bit movement resolution
Pan/Tilt electronic motion stabilizer
Automatic Pan/Tilt position correction
Remotely controllable speed of pan/tilt movement for easy programming
Pan/tilt-lock mechanism

Max. number of fixtures in Ethernet IN/Out line

8

Battery

Size: AA (R6)
Type: IFR 1450, 600mA/3.2V

Connection

DMX data In/Out: 2 x IP65 Locking 5-pin XLR connector Seetronic
AC power In: IP65 power connector Seetronic
Ethernet In/Out: 2 x IP65 RJ45 connector Seetronic

Rigging

Mounting points: 2 pairs of 1/4-turn locks
Mounting horizontally via two Omega brackets

Temperatures

Maximum ambient temperature: +45° C
Minimum ambient temperature:-30°C
Maximum housing temperature: 75° C

Minimum distances

Min. distance from flammable surfaces: 0.5 m
Min. distance to lighted object: 1 m

Total heat dissipation

Maximum: 1614 BTU/hr

Ingress protection

IP65

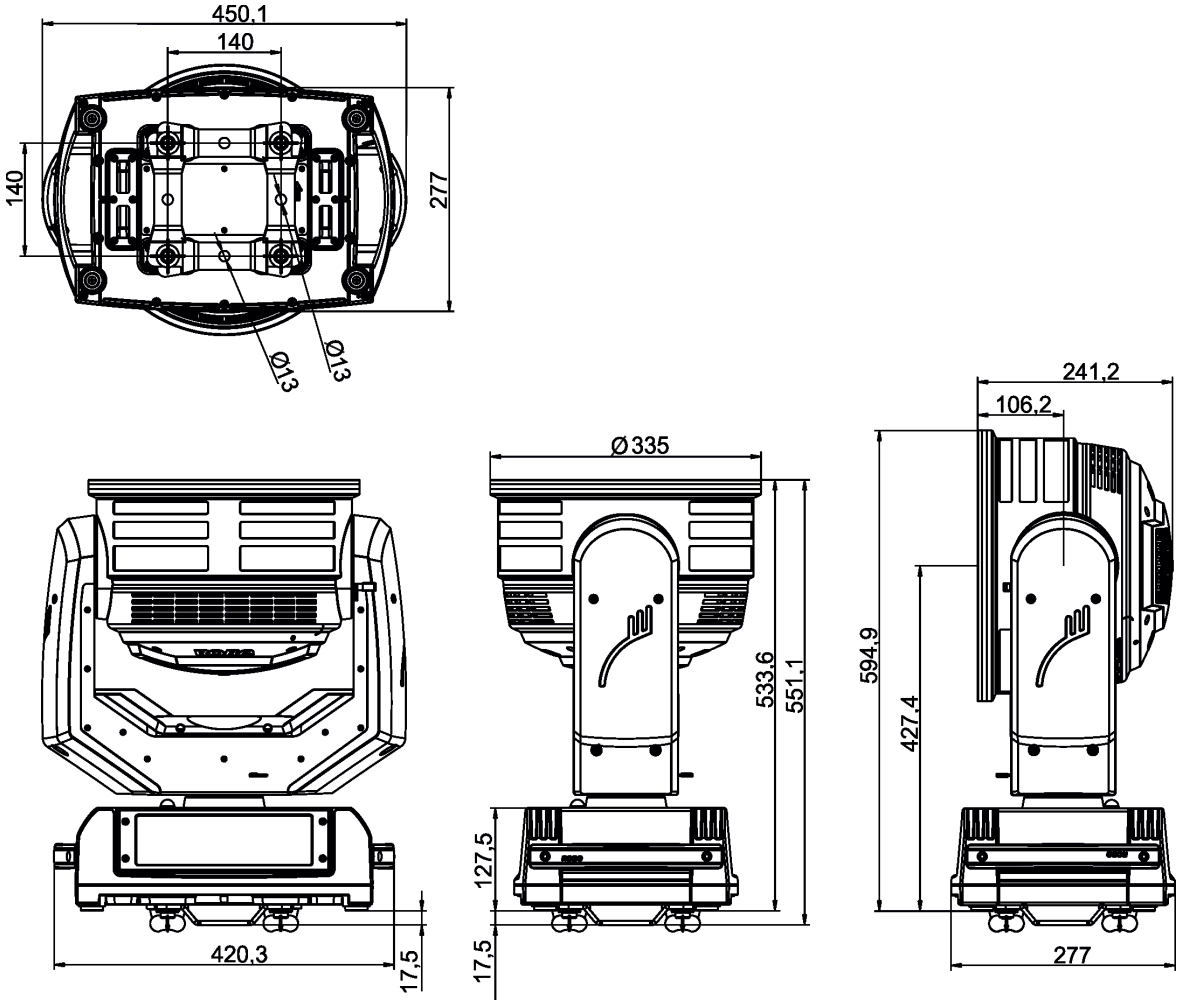
Included items

1 x Omega adaptor CL-regular 2 pcs in box (P/N 10980033)
1 x power cable (IP65 rating)
1 x user manual

Weight

24.7 kg

Dimensions (mm)



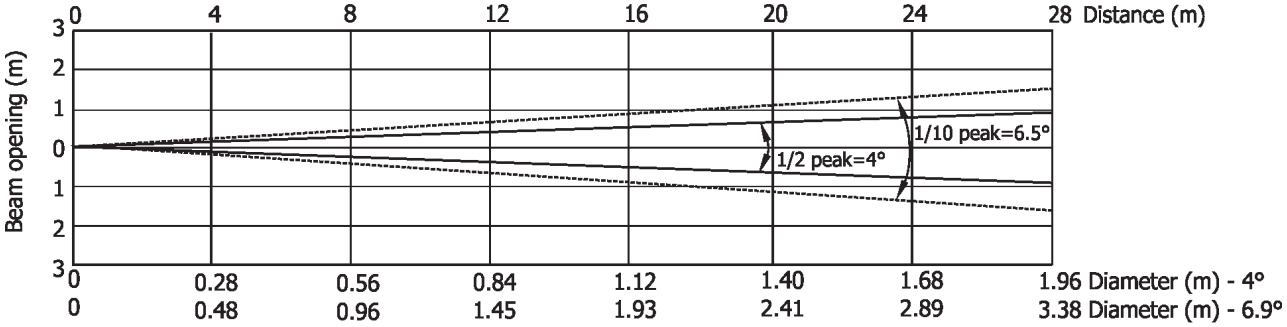
Optional accessories

Doughty Trigger Clamp (P/N 17030386)
Safety wire 35 kg (P/N 99011963)

18. Photometric diagrams

Min. Zoom

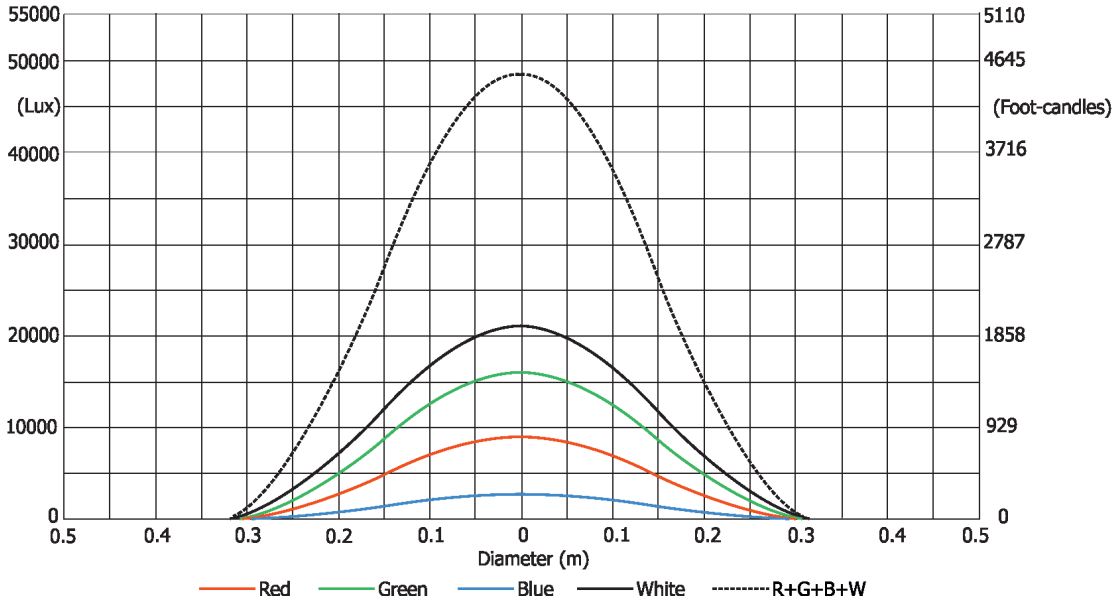
Total Output: 5115 lumens



Distance (m)	4	5	8	12	16	20	24	28	
Red	14125/1312	9040/840	3530/328	1570/146	883/82	565/53	892/37	288/27	Intensity (center) Lux/Footcandles
Green	24734/2298	15830/1471	6184/575	2478/255	1546/144	989/92	687/64	505/47	
Blue	4765/443	3050/283	1191/1141	530/49	298/28	191/18	132/12	97/9	
White	33969/3156	21740/2019	8492/789	3774/350	2123/197	1358/126	943/88	693/64	
R+G+B+W	75922/7053	48590/4514	18980/1763	8436/784	4745/441	3036/282	2108/196	1549/144	

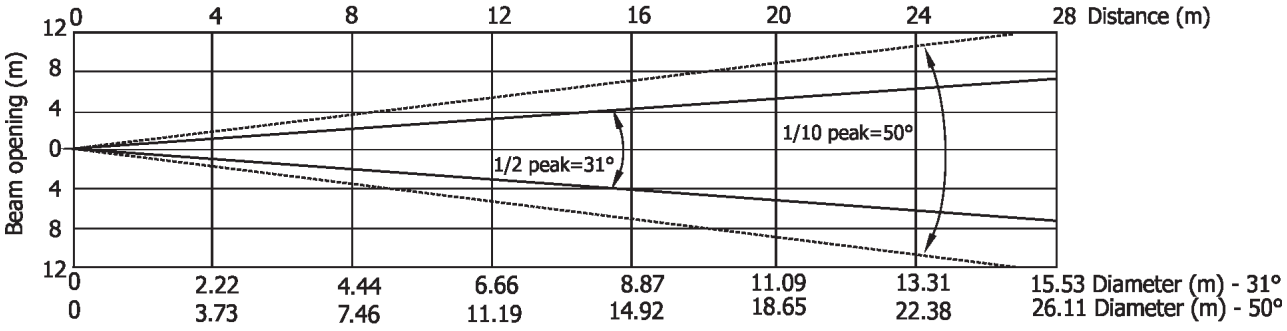
Illuminance distribution

Distance=5m



Max. Zoom

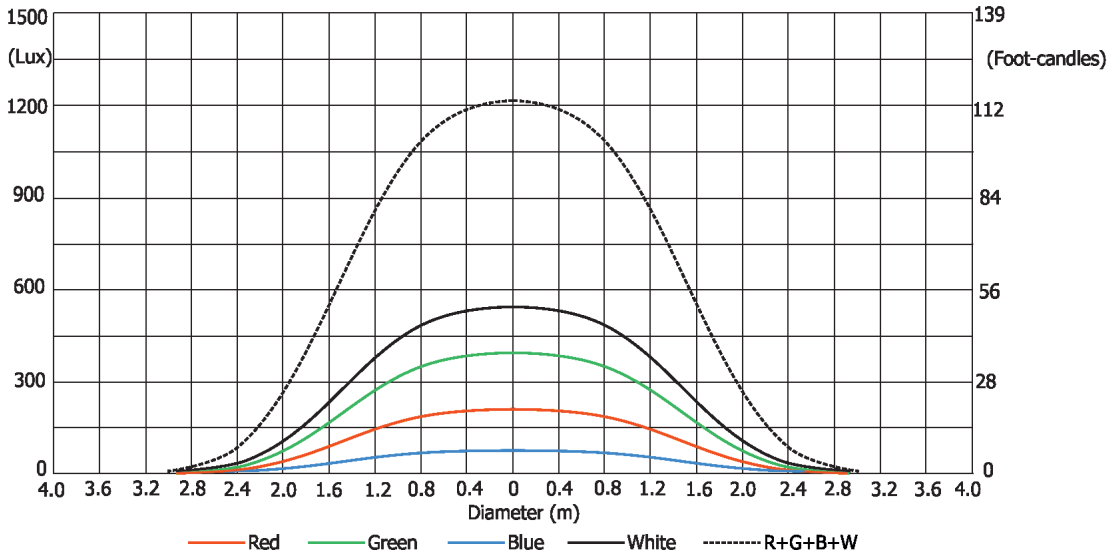
Total Output: 10230 lumens



Distance (m)	4	5	8	12	16	20	24	28	
Red	328/31	210/20	82/8	37/3.4	21/1.9	13/1.2	9/0.8	7/0.6	Intensity (center) Lux/Footcandles
Green	636/59	407/38	159/15	71/6.6	40/3.7	25/2.4	18/1.6	13/1.2	
Blue	128/12	82/8	32/3	14/1.3	8/0.7	5/0.5	4/0.3	2.6/0.2	
White	859/80	550/51	215/20	96/9	54/5.0	34/3.2	24/2.2	18/1.6	
R+G+B+W	1890/176	1210/112	473/44	210/20	118/11	76/7	53/4.9	39/3.6	

Illuminance distribution

Distance=5m



19. Appendix - DMX modes overview

Pixel modes underlined

Mode	DMX Channels	Main Features
Mode 1	49	16-bit pan/tit Control of three rings separately 16-bit control of four colours (R,G,B,W) on each LED ring 16-bit Dimmer Pixel effect control (shape,speed, fade) Flower effect control Without control of individual pixels
Mode 2	27	16-bit pan/tit Circle active zone 8-bit control of four colours (R,G,B,W) and Dimmer Pixel effect control (shape,speed, fade) Flower effect control Without control of individual pixels
Mode 3	33	16-bit pan/tit Circle active zone 16-bit control of four colours (R,G,B,W) and Dimmer Pixel effect control (shape,speed, fade) Flower effect control Without control of individual pixels
Mode 4	90	16-bit pan/tit Circle active zone 16-bit control of four individual colours (R,G,B,W) and Dimmer Pixel effect control (shape,speed, fade) Flower effect Individual pixels control (R,G,B)
Mode 5	27	16-bit pan/tit Selection of active zone (rings, sectors) 8-bit control of four individual colours (R,G,B,W) and Dimmer Flower effect control Without control of individual pixels.
Mode 6	47	16-bit pan/tit Selection of active zone (rings, sectors) 16-bit control of four individual colours (R,G,B,W) and Dimmer Pixel patterns control (shape, repeat/size, rotation, transition, fade, crossfade, colour) Flower effect control Without control of individual pixels
Mode 7	91	16-bit pan/tit Selection of active zone (rings, sectors) 16-bit control of four individual colours (R,G,B,W) and Dimmer Flower effect control Individual control of pixels (R,G,B)
Mode 8	110	16-bit pan/tit Selection of active zone (rings, sectors) 16-bit control of four individual colours (R,G,B,W) and Dimmer Flower effect control Individual control of pixels (R,G,B,W)
Mode 9	104	16-bit pan/tit Selection of active zone (rings, sectors) 16-bit control of four individual colours (R,G,B,W) and Dimmer Pixel patterns control (shape, repeat/size, rotation, transition, fade, crossfade, colour) Flower effect control Individual control of pixels (R,G,B)
Mode 10	123	16-bit pan/tit Selection of active zone (rings, sectors) 16-bit control of four individual colours (R,G,B,W) and Dimmer Pixel patterns control (shape, repeat/size, rotation, transition, fade, crossfade, colour) Flower effect control Individual control of pixels (R,G,B,W)

20. ChangeLog

This section summarizes changes in the user manual.

Version of the manual	Date of issue	Description of changes
1.1	26/06/2021	Technical specification changed
1.2	13/08/2021	Fixture installation positions changed
1.3	30/09/2021	Locking/unlocking screen added
1.4	25/01/2022	Ethernet operation with E-pass
1.5	20/04/2022	Tightening torque for front cover added
1.6	02/01/2023	Operating determination changed
1.7	17/04/2023	REAP added

Robin iSpiider® - DMX protocol

Version: 1.1 (10 modes) **Mode 1** - 3-zones, **Mode 2**-Basic, **Mode 3** -Advanced, **Mode 4** -Full RGBW

Mode/channel				DMX Value	Function	Type of control
1	2	3	4			
1	**1**	**1**	**1**		**Pan (8 bit)**	
				0 - 255	Pan movement by 540° (128=default)	proportional
2	**2**	**2**	**2**		**Pan Fine (16 bit)**	
				0 - 255	Fine control of pan movement (0=default)	proportional
3	**3**	**3**	**3**		**Tilt (8 bit)**	
				0 - 255	Tilt movement by 220° (128=default)	proportional
4	**4**	**4**	**4**		**Tilt fine (16 bit)**	
				0 - 255	Fine control of tilt movement (0=default)	proportional
5	**5**	**5**	**5**		**Pan/Tilt speed , Pan/Tilt time**	
				0	Standard mode (0=default)	step
				1	Max. Speed Mode	step
					Pan/Tilt speed mode	
				2 - 255	Speed from max. to min.	proportional
					Pan/Tilt time mode	
				2 - 255	Time from 0.2 s to 25.5 sec.	proportional
6	**6**	**6**	**6**		**Power/Special functions**	
				0 -5	Reserved (0=default)	
					To activate following functions, stop in DMX value for at least 3 s and shutter must be closed at least 3 sec. („Shutter,Strobe" channel 53/27/31/31 must be at range: 0-31 DMX). Corresponding menu items are temporarily overriden (unless otherwise stated)	
				6	Standby mode: On (fixture effects are deactivated, light output is closed)	step
				7	Standby mode: Off	
				8	Pressure test: On (fixture does not respond to DMX during the test except value 9 (Pressure test: Off))	step
				9	Pressure test: Off	step
				10-14	DMX input: Wired DMX	step
				15-19	DMX input: Wireless DMX *	step
				20-24	Graphic display On	step
				25-29	Graphic display Off	step
				30-34	RGBW colour mixing mode	step
				35-39	CMY colour mixing mode	step
				40-44	Pan/Tilt speed mode	step
				45 - 49	Pan/Tilt time mode	step
				50 -54	Blackout while pan/tilt moving	step
				55 -59	Disabled blackout while pan/tilt moving	step
				60 - 64	Dimmer curve-square law	step
				65 - 69	Dimmer curve-linear	step
				70 - 74	Fans mode: Auto	step
				75 - 79	Fans mode: High	step
				80 - 84	White point 8000K On	step
				85 - 89	White point 8000K Off	step
				90 -109	Reserved	
				110-114	Kling-Net ON	step

Mode/channel				DMX Value	Function	Type of control
1	2	3	4			
				115-119	Kling-Net Off	step
				120-124	Parking position On	step
				125-129	Parking position Off	step
					To activate following functions, stop in DMX value for at least 3 seconds (except function Pixel index and Pixel Mirror). Corresponding menu items are temporarily overriden	
				130 - 139	Fixture reset (except pan/tilt)	
				140 - 149	Pan/Tilt reset	step
				150 - 159	Zoom reset	step
				160 - 169	Flower effect reset	step
				170-171	Tungsten effect simulation (750W) On **	step
				172-173	Tungsten effect simulation (1000W) On **	step
				174-175	Tungsten effect simulation (1200W) On **	step
				176-177	Tungsten effect simulation (2000W) On **	step
				178-179	Tungsten effect simulation (2500W) On **	step
				180-181	Tungsten effect simulation Off	step
				182-184	Reserved	
				185	PWM output frequency of LEDS: Standard (300Hz)****	step
				186	PWM output frequency of LEDS: High (600Hz)****	step
					**** You can adjust selected frequency in 6 steps Up or Down around selected frequency - see table below . Default value of PWM frequency set in the fixture is Standard.	
				187	LED Frequency (step -6)	step
				188	LED Frequency (step -5)	step
				189	LED Frequency (step -4)	step
				190	LED Frequency (step -3)	step
				191	LED Frequency (step -2)	step
				192	LED Frequency (step -1)	step
				193	LED Frequency (Standard or High)	step
				194	LED Frequency (step +1)	step
				195	LED Frequency (step +2)	step
				196	LED Frequency (step +3)	step
				197	LED Frequency (step +4)	step
				198	LED Frequency (step +5)	step
				199	LED Frequency (step +6)	step
				200 - 209	Total fixture reset	step
				210 - 221	Pixel index	proportional
				222 - 223	Pixel mirror On	step
				224 - 225	Pixel mirror Off	step
				226 - 236	Reserved	
				237	Save Pixel index and mirror to fixture	step
					The following RoboSpot related commands are only applicable when the RoboSpot is connected:	
				238 - 239	RoboSpot enabled	step
				240 - 241	RoboSpot disabled - except handle faders and pan/tilt	step
				242 - 243	RoboSpot fully disabled	step
				244	Disabled "Silent mode"	step
				245 - 255	Silent mode - fan noise control from min. to max.	proportional
7	**7**	**7**	**7**		**Virtual colour wheel**	

Mode/channel				DMX Value	Function	Type of control
1	2	3	4			
				0	No function (0=default)	step
				1-2	Filter 4 (Medium Bastard Amber)	step
				3-4	Filter 25 (Sunset Red)	step
				5-6	Filter 19 (Fire)	step
				7-8	Filter 26 (Bright Red)	step
				9-10	Filter 58 (Lavender)	step
				11-12	Filter 68 (Sky Blue)	step
				13-14	Filter 36 (Medium Pink)	step
				15-16	Filter 89 (Moss Green)	step
				17-18	Filter 88 (Lime Green)	step
				19-20	Filter 90 (Dark Yellow Green)	step
				21-22	Filter 49 (Medium Purple)	step
				23-24	Filter 52 (Light Lavender)	step
				25-26	Filter 102 (Light Amber)	step
				27-28	Filter 103 (Straw)	step
				29-30	Filter 140 (Summer Blue)	step
				31-32	Filter 124 (Dark Green)	step
				33-34	Filter 106 (Primary Red)	step
				35-36	Filter 111 (Dark Pink)	step
				37-38	Filter 115 (Peacock Blue)	step
				39-40	Filter 126 (Mauve)	step
				41-42	Filter 117 (Steel Blue)	step
				43-44	Filter 118 (Light Blue)	step
				45-46	Filter 122 (Fern Green)	step
				47-48	Filter 182 (Light Red)	step
				49-50	Filter 121 (Filter Green)	step
				51-52	Filter 128 (Bright Pink)	step
				53-54	Filter 131 (Marine Blue)	step
				55-56	Filter 132 (Medium Blue)	step
				57-58	Filter 134 (Golden Amber)	step
				59-60	Filter 135 (Deep Golden Amber)	step
				61-62	Filter 136 (Pale Lavender)	step
				63-64	Filter 137 (Special Lavender)	step
				65-66	Filter 138 (Pale Green)	step
				67-68	Filter 798 (Chrysalis Pink)	step
				69-70	Filter 141 (Bright Blue)	step
				71-72	Filter 147 (Apricot)	step
				73-74	Filter 148 (Bright Rose)	step
				75-76	Filter 152 (Pale Gold)	step
				77-78	Filter 154 (Pale Rose)	step
				79-80	Filter 157 (Pink)	step
				81-82	Filter 143 (Pale Navy Blue)	step
				83-84	Filter 162 (Bastard Amber)	step
				85-86	Filter 164 (Flame Red)	step
				87-88	Filter 165 (Daylight Blue)	step
				89-90	Filter 169 (Lilac Tint)	step
				91-92	Filter 170 (Deep Lavender)	step
				93-94	Filter 172 (Lagoon Blue)	step

Mode/channel				DMX Value	Function	Type of control
1	2	3	4			
				95-96	Filter 194 (Surprise Pink)	step
				97-98	Filter 180 (Dark Lavender)	step
				99-100	Filter 181 (Congo Blue)	step
				101-102	Filter 197 (Alice Blue)	step
				103-104	Filter 201 (Full C.T. Blue)	step
				105-106	Filter 202 (Half C.T. Blue)	step
				107-108	Filter 203 (Quarter C.T. Blue)	step
				109-110	Filter 204 (Full C.T. Orange)	step
				111-112	Filter 219 (Fluorescent Green)	step
				113-114	Filter 206 (Quarter C.T. Orange)	step
				115-116	Filter 247 (Filter Minus Green)	step
				117-118	Filter 248 (Half Minus Green)	step
				119-120	Filter 281 (Three Quarter C.T. Blue)	step
				121-122	Filter 285 (Three Quarter C.T. Orange)	step
				123-124	Filter 352 (Glacier Blue)	step
				125-126	Filter 353 (Lighter Blue)	step
				127-128	Filter 507 (Madge)	step
				129-130	Filter 778 (Millennium Gold)	step
				131-132	Filter 793 (Vanity Fair)	step
				133-235	Raw DMX	proportional
				236-245	Rainbow effect (with fade time) from slow-> fast	proportional
				246-255	Rainbow effect (without fade time) from slow-> fast	proportional
*	8	8	8		**Red/Cyan (8 bit)- all pixels*** **	
				0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
*	*	9	9		**Red/Cyan (16bit)- all pixels*** **	
				0 - 255	Colour saturation control - fine (255=default)	proportional
*	9	10	10		**Green/Magenta (8 bit) - all pixels *** **	
				0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
*	*	11	11		**Green/Magenta (16bit) - all pixels*** **	
				0 - 255	Colour saturation control - fine (255=default)	proportional
*	10	12	12		**Blue/Yellow (8 bit) - all pixels *** **	
				0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
*	*	13	13		**Blue/ Yellow (16bit) -all pixels*** **	
				0 - 255	Colour saturation control - fine (255=default)	proportional
*	11	14	14		**White (8 bit) - all pixels**	
					If RGBW mode is selected:	
				0-255	Colour saturation control - coarse 0-100% (255=default)	proportional
					If CMY mode is selected:	
				0 - 255	No function	
*	*	15	15		**White (16 bit) - all pixels**	
				0 - 255	Colour saturation control - fine (255=default)	proportional
8	*	*	*		**Red/Cyan (8 bit) - zone 1*** **	
				0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
9	*	*	*		**Red/Cyan (16bit)- zone 1*** **	
				0 - 255	Colour saturation control - fine (255=default)	proportional
10	*	*	*		**Green/Magenta (8 bit) - zone 1*** **	
				0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
11	*	*	*		**Green/Magenta (16bit)- zone 1*** **	

Mode/channel				DMX Value	Function	Type of control
1	2	3	4			
				0 - 255	Colour saturation control - fine (255=default)	proportional
12	*	*	*		**Blue/Yellow (8 bit) - zone 1*** **	
				0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
13	*	*	*		**Blue/Yellow (16bit)- zone 1*** **	
				0 - 255	Colour saturation control - fine (255=default)	proportional
14	*	*	*		**White (8 bit) - zone 1**	
					If RGBW mode is selected:	
				0-255	Colour saturation control - coarse 0-100% (255=default)	proportional
					If CMY mode is selected:	
				0 - 255	No function	
15	*	*	*		**White (16 bit) - zone 1**	
				0 - 255	Colour saturation control - fine (255=default)	proportional
16	*	*	*		**Red/Cyan (8 bit) - zone 2*** **	
				0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
17	*	*	*		**Red/Cyan (16bit)- zone 2*** **	
				0 - 255	Colour saturation control - fine (255=default)	proportional
18	*	*	*		**Green/Magenta (8 bit) - zone 2*** **	
				0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
19	*	*	*		**Green/Magenta (16bit)- zone 2*** **	
				0 - 255	Colour saturation control - fine (255=default)	proportional
20	*	*	*		**Blue/Yellow (8 bit) - zone 2*** **	
				0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
21	*	*	*		**Blue/Yellow (16bit)- zone 2*** **	
				0 - 255	Colour saturation control - fine (255=default)	proportional
22	*	*	*		**White (8 bit) - zone 2**	
					If RGBW mode is selected:	
				0-255	Colour saturation control - coarse 0-100% (255=default)	proportional
					If CMY mode is selected:	
				0 - 255	No function	
23	*	*	*		**White (16 bit) - zone 2**	
				0 - 255	Colour saturation control - fine (255=default)	proportional
24	*	*	*		**Red/Cyan (8 bit) - zone 3*** **	
				0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
25	*	*	*		**Red/Cyan (16bit)- zone 3*** **	
				0 - 255	Colour saturation control - fine (255=default)	proportional
26	*	*	*		**Green/Magenta (8 bit) - zone 3*** **	
				0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
27	*	*	*		**Green/Magenta (16bit)- zone 3*** **	
				0 - 255	Colour saturation control - fine (255=default)	proportional
28	*	*	*		**Blue/Yellow (8 bit) - zone 3*** **	
				0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
29	*	*	*		**Blue/Yellow (16bit)- zone 3*** **	
				0 - 255	Colour saturation control - fine (255=default)	proportional
30	*	*	*		**White (8 bit) - zone 3**	
					If RGBW mode is selected:	
				0-255	Colour saturation control - coarse 0-100% (255=default)	proportional
					If CMY mode is selected:	
				0 - 255	No function	

Mode/channel				DMX Value	Function	Type of control
1	2	3	4			
31	*	*	*		**White (16 bit) - zone 3**	
				0 - 255	Colour saturation control - fine (255=default)	proportional
32	**12**	**16**	**16**		**CTC**	
					If function "White Point 8000K" is ON	
				0-255	Col. temperature correction from 8000K to 2700K -for whites only	proportional
					(0=8000K, 64=5600K, 128=4200K, 192=3200K, 255=2700K)	
					To get colour temperatures stated above, RGBW channels have to be set at the same value (e.g. 255DMX) or RGB=0 and White channel > 0 DMX (0=default)	
					(To activate Tungsten effect at 2700K and 3200K , set DMX value at "Power/Special functions" channel)	
					If function "White Point 8000K" is OFF	
				0-255	Colour temperature correction from cool col. to warm colours	proportional
33	**13**	**17**	**17**		**Colour Mix control**	
					The channel defines relation between color channels	
					IF Flower effect is active, its colour channels always have priority!	
					Global = Global Colours (RGBW, Virtual Colour Wheel)	
					Pixel = Pixel Colours (RGB individual pixels or Kling-Net)	
				0-9	Global colours (Global has priority)	
				10-19	Maximum mode (highest values have priority)	step
				20-29	Minimum mode (lowest values have priority)	step
				30-39	Multiply mode (multiply Global and Pixel)	step
				40-49	Addition mode (Global + Pixel) (45=default)	step
				50-59	Subtraction mode (Global – Pixel)	step
				60-69	Inverted Subtraction mode (Pixel – Global)	step
				70-79	Coloured background	step
				80-127	Raw DMX	proportional
				128	Global colours only (Global has priority)	step
				129-254	Crossfade (crossfade between Global and Pixel)	proportional
				255	Pixel colours (Pixel has priority)	step
34	**14**	**18**	**18**		**Pixel effects**	
				0-2	No function (0=default)	
				3-4	Effect 1	step
				5-6	Effect 2	step
				:	:	:
				181-182	Effect 90	step
				183-255	Raw DMX	proportional
35	**15**	**19**	**19**		**Pixel effects speed**	
				0-127	Speed from from min. to max. (0=default)	proportional
				128-255	Speed from max. to min. (opposite direction)	proportional
36	**16**	**20**	**20**		**Pixel effects fade**	
				0	Without fade time (0=default)	step
				1-255	Fade time from min. to max.	proportional
37	**17**	**21**	**21**		**Flower Effect**	
				0	Open position-without Flower Effect (0=default)	step
				1 - 127	Flower Effect forwards rotation from fast to slow	proportional
				128	Flower Effect -without rotation	step
				129-255	Backwards rotation from slow to fast	proportional

Mode/channel				DMX Value	Function	Type of control
1	2	3	4			
38	**18**	**22**	**22**		**Flower Effect - Red (8 bit)**	
				0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
39	**19**	**23**	**23**		**Flower Effect - Green (8 bit)**	
				0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
40	**20**	**24**	**24**		**Flower effect - Blue (8 bit)**	
				0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
41	**21**	**25**	**25**		**Flower Effect - White (8 bit)**	
				0-255	Colour saturation control - coarse 0-100% (255=default)	proportional
42	**22**	**26**	**26**		**Flower Effect - colour macros**	
					(Flower Effect channel has to be set > 0 DMX)	step
				0	Open position - without macros (0=default)	
					(Flower effect colour macros have priority to RGBW colours/Virtual colour wheel,Flower effect colours)	
				1-2	Flower Effect colour macro 1	step
				3-4	Flower Effect colour macro 2	step
				5-6	Flower Effect colour macro 3	step
					:	
				119-120	Flower Effect colour macro 60	step
				121-255	Raw DMX	proportional
43	**23**	**27**	**27**		**Flower Effect - Shutter/ strobe**	
				0 - 31	Shutter closed	step
				32 - 63	Shutter open (32=default)	step
				64 - 95	Strobe-effect from slow to fast	proportional
				96 - 127	Shutter open	step
				128 - 143	Opening pulse in sequences from slow to fast	proportional
				144 - 159	Closing pulse in sequences from fast to slow	proportional
				160 - 191	Shutter open	step
				192 - 223	Random strobe-effect from slow to fast	proportional
				224 - 255	Shutter open	step
44	**24**	**28**	**28**		**Flower Effect - Dimmer intensity (8 bit)**	
				0 - 255	Dimmer intensity from 0% to 100% (0=default)	proportional
45	**25**	**29**	**29**		**Zoom**	
				0-255	Zoom from max. to min.beam angle (128=default)	proportional
46	*****	**30**	**30**		**Zoom - fine**	
				0-255	Fine zooming (0=default)	proportional
47	**26**	**31**	**31**		**Shutter/ strobe**	
				0 - 31	Shutter closed	step
				32 - 63	Shutter open (32=default)	step
				64 - 95	Strobe-effect from slow to fast	proportional
				96 - 127	Shutter open	step
				128 - 143	Opening pulse in sequences from slow to fast	proportional
				144 - 159	Closing pulse in sequences from fast to slow	proportional
				160 - 191	Shutter open	step
				192 - 223	Random strobe-effect from slow to fast	proportional
				224 - 255	Shutter open	step
48	**27**	**32**	**32**		**Dimmer intensity (8 bit)**	
				0 - 255	Dimmer intensity from 0% to 100% (0=default)	proportional
49	*****	**33**	**33**		**Dimmer intensity - fine (16 bit)**	

Mode/channel				DMX Value	Function	Type of control
1	2	3	4			
				0 - 255	Fine dimming (0=default)	proportional
*	*	*	34		**Red pixel 1**	
				0-255	Red LED saturation control 0-100% (0=default)	proportional
*	*	*	35		**Green pixel 1**	
				0-255	Green LED saturation control 0-100% (0=default)	proportional
*	*	*	36		**Blue pixel 1**	
				0-255	Blue LED saturation control 0-100% (0=default)	proportional
					:	
*	*	*	88		**Red pixel 19**	
				0-255	Red LED saturation control 0-100% (0=default)	proportional
*	*	*	89		**Green pixel 19**	
				0-255	Green LED saturation control 0-100% (0=default)	proportional
*	*	*	90		**Blue pixel 19**	
				0-255	Blue LED saturation control 0-100% (0=default)	proportional

* function is active only 10 seconds after switching the fixture on

** In the Tungsten effect simulation the Dimmer channel imitates behaviour of the halogen lamp during dimming

*** Select RGB or CMY mixing mode on channel "Power/Special functions"

All Specifications subject to change without notice

Robin iSpiider® - DMX protocol

Version: 1.1 (10 modes) **Mode 5**-Wash, **Mode 6**-Pattern, **Mode 7**-Pixel RGB, **Mode 8**-Pixel RGBW, **Mode 9**-Pattern full RGB, **Mode 10**-Pattern full RGBW

Mode/channel						DMX Value	Function	Type of control
5	6	7	8	9	10			
1	**1**	**1**	**1**	**1**	**1**		**Pan (8 bit)**	
						0 - 255	Pan movement by 540° (128=default)	proportional
2	**2**	**2**	**2**	**2**	**2**		**Pan Fine (16 bit)**	
						0 - 255	Fine control of pan movement (0=default)	proportional
3	**3**	**3**	**3**	**3**	**3**		**Tilt (8 bit)**	
						0 - 255	Tilt movement by 220° (128=default)	proportional
4	**4**	**4**	**4**	**4**	**4**		**Tilt fine (16 bit)**	
						0 - 255	Fine control of tilt movement (0=default)	proportional
5	**5**	**5**	**5**	**5**	**5**		**Pan/Tilt speed , Pan/Tilt time**	
						0	Standard mode (0=default)	step
						1	Max. Speed Mode	step
							Pan/Tilt speed mode	
						2 - 255	Speed from max. to min.	proportional
							Pan/Tilt time mode	
						2 - 255	Time from 0.2sec. to 25.5 sec.	proportional
6	**6**	**6**	**6**	**6**	**6**		**Power/Special functions**	
						0 -5	Reserved (0=default)	
							To activate following functions, stop in DMX value for at least 3 s and shutter must be closed at least 3 sec. („Master Shutter/Strobe" channel 26/45/32/32/45/45 must be at range: 0-31 DMX). Corresponding menu items are temporarily overriden (unless otherwise stated)	
						6	Standby mode: On (fixture effects are deactivated, light output is closed)	step
						7	Standby mode: Off	
						8	Pressure test: On (fixture does not respond to DMX during the test except value 9 (Pressure test: Off))	step
						9	Pressure test: Off	step
						10-14	DMX input: Wired DMX	step
						15-19	DMX input: Wireless DMX *	step
							* function is active only 10 seconds after switching the fixture on	
						20-24	Graphic display ON	step
						25-29	Graphic display OFF	step
						30-34	RGBW colour mixing mode	step
						35-39	CMY colour mixing mode	step
						40-44	Pan/Tilt speed mode	step
						45-49	Pan/Tilt time mode	step
						50-54	Blackout while pan/tilt moving	step
						55-59	Disabled blackout while pan/tilt moving	step
						60-64	Dimmer curve-square law	step
						65-69	Dimmer curve-linear	step
						70-74	Fans mode: Auto	step
						75-79	Fans mode: High	step
						80-84	White point 8000K ON	step
						85-89	White point 8000K OFF	step
						90 -109	Reserved	

Mode/channel						DMX Value	Function	Type of control
5	6	7	8	9	10			
						110-114	Kling-Net On	step
						115-119	Kling-Net Off	step
						120-124	Parking position On	step
						125-129	Parking position Off	step
							To activate following functions, stop in DMX value for at least 3 seconds (except function Pixel index and Pixel mirror). Corresponding menu items are temporarily overriden.	
						130 - 139	Fixture reset (except pan/tilt)	
						140 - 149	Pan/Tilt reset	step
						150 - 159	Zoom reset	step
						160 - 169	Flower effect reset	step
						170-171	Tungsten effect simulation (750W) On **	step
						172-173	Tungsten effect simulation (1000W) On **	step
						174-175	Tungsten effect simulation (1200W) On **	step
						176-177	Tungsten effect simulation (2000W) On **	step
						178-179	Tungsten effect simulation (2500W) On **	step
						180-181	Tungsten effect simulation Off	step
						182-184	Reserved	
						185	PWM output frequency of LEDS: Standard (300Hz)*	step
						186	PWM output frequency of LEDS: High (600Hz)*	step
							* You can adjust selected frequency in 6 steps Up or Down around selected frequency - see table below . Default value of PWM frequency set in the fixture is Standard.	
						187	LED Frequency (step -6)	step
						188	LED Frequency (step -5)	step
						189	LED Frequency (step -4)	step
						190	LED Frequency (step -3)	step
						191	LED Frequency (step -2)	step
						192	LED Frequency (step -1)	step
						193	LED Frequency (Standard or High)	step
						194	LED Frequency (step +1)	step
						195	LED Frequency (step +2)	step
						196	LED Frequency (step +3)	step
						197	LED Frequency (step +4)	step
						198	LED Frequency (step +5)	step
						199	LED Frequency (step +6)	step
						200 - 209	Total fixture reset	step
						210 - 221	Pixel index	proportional
						222 - 223	Pixel mirror On	step
						224 - 225	Pixel mirror Off	step
						226 - 236	Reserved	
						237	Save Pixel index and mirror to fixture	step
							The following RoboSpot related commands are only applicable when the RoboSpot is connected:	
						238 - 239	RoboSpot enabled	step
						240 - 241	RoboSpot disabled - except handle faders and pan/tilt	step
						242 - 243	RoboSpot fully disabled	step
						244	Disabled "Quiet mode"	step
						245 - 255	Quiet mode - fan noise control from min. to max.	proportional

Mode/channel						DMX Value	Function	Type of control
5	6	7	8	9	10			
7	**7**	**7**	**7**	**7**	**7**		**Background - Virtual colour wheel**	
						0	No function (0=default)	step
						1-2	Filter 4 (Medium Bastard Amber)	step
						3-4	Filter 25 (Sunset Red)	step
						5-6	Filter 19 (Fire)	step
						7-8	Filter 26 (Bright Red)	step
						9-10	Filter 58 (Lavender)	step
						11-12	Filter 68 (Sky Blue)	step
						13-14	Filter 36 (Medium Pink)	step
						15-16	Filter 89 (Moss Green)	step
						17-18	Filter 88 (Lime Green)	step
						19-20	Filter 90 (Dark Yellow Green)	step
						21-22	Filter 49 (Medium Purple)	step
						23-24	Filter 52 (Light Lavender)	step
						25-26	Filter 102 (Light Amber)	step
						27-28	Filter 103 (Straw)	step
						29-30	Filter 140 (Summer Blue)	step
						31-32	Filter 124 (Dark Green)	step
						33-34	Filter 106 (Primary Red)	step
						35-36	Filter 111 (Dark Pink)	step
						37-38	Filter 115 (Peacock Blue)	step
						39-40	Filter 126 (Mauve)	step
						41-42	Filter 117 (Steel Blue)	step
						43-44	Filter 118 (Light Blue)	step
						45-46	Filter 122 (Fern Green)	step
						47-48	Filter 182 (Light Red)	step
						49-50	Filter 121 (Filter Green)	step
						51-52	Filter 128 (Bright Pink)	step
						53-54	Filter 131 (Marine Blue)	step
						55-56	Filter 132 (Medium Blue)	step
						57-58	Filter 134 (Golden Amber)	step
						59-60	Filter 135 (Deep Golden Amber)	step
						61-62	Filter 136 (Pale Lavender)	step
						63-64	Filter 137 (Special Lavender)	step
						65-66	Filter 138 (Pale Green)	step
						67-68	Filter 798 (Chrysalis Pink)	step
						69-70	Filter 141 (Bright Blue)	step
						71-72	Filter 147 (Apricot)	step
						73-74	Filter 148 (Bright Rose)	step
						75-76	Filter 152 (Pale Gold)	step
						77-78	Filter 154 (Pale Rose)	step
						79-80	Filter 157 (Pink)	step
						81-82	Filter 143 (Pale Navy Blue)	step
						83-84	Filter 162 (Bastard Amber)	step
						85-86	Filter 164 (Flame Red)	step
						87-88	Filter 165 (Daylight Blue)	step
						89-90	Filter 169 (Lilac Tint)	step
						91-92	Filter 170 (Deep Lavender)	step

Mode/channel						DMX Value	Function	Type of control
5	6	7	8	9	10			
						93-94	Filter 172 (Lagoon Blue)	step
						95-96	Filter 194 (Surprise Pink)	step
						97-98	Filter 180 (Dark Lavender)	step
						99-100	Filter 181 (Congo Blue)	step
						101-102	Filter 197 (Alice Blue)	step
						103-104	Filter 201 (Full C.T. Blue)	step
						105-106	Filter 202 (Half C.T. Blue)	step
						107-108	Filter 203 (Quarter C.T. Blue)	step
						109-110	Filter 204 (Full C.T. Orange)	step
						111-112	Filter 219 (Fluorescent Green)	step
						113-114	Filter 206 (Quarter C.T. Orange)	step
						115-116	Filter 247 (Filter Minus Green)	step
						117-118	Filter 248 (Half Minus Green)	step
						119-120	Filter 281 (Three Quarter C.T. Blue)	step
						121-122	Filter 285 (Three Quarter C.T. Orange)	step
						123-124	Filter 352 (Glacier Blue)	step
						125-126	Filter 353 (Lighter Blue)	step
						127-128	Filter 507 (Madge)	step
						129-130	Filter 778 (Millennium Gold)	step
						131-132	Filter 793 (Vanity Fair)	step
						133-235	Raw DMX	proportional
						236-245	Rainbow effect (with fade time) from slow-> fast	proportional
						246-255	Rainbow effect (without fade time) from slow-> fast	proportional
8	**8**	**8**	**8**	**8**	**8**		**Background - Red/Cyan (8 bit)*** **	
						0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
*	**9**	**9**	**9**	**9**	**9**		**Background - Red/Cyan (16bit)*** **	
						0 - 255	Colour saturation control - fine (255=default)	proportional
9	**10**	**10**	**10**	**10**	**10**		**Background - Green/Magenta (8 bit)*** **	
						0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
*	**11**	**11**	**11**	**11**	**11**		**Background - Green/Magenta (16bit) *** **	
						0 - 255	Colour saturation control - fine (255=default)	proportional
10	**12**	**12**	**12**	**12**	**12**		**Background - Blue/Yellow (8 bit)*** **	
						0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
*	**13**	**13**	**13**	**13**	**13**		**Background - Blue/ Yellow (16bit)*** **	
						0 - 255	Colour saturation control - fine (255=default)	proportional
11	**14**	**14**	**14**	**14**	**14**		**Background - White (8 bit) - all pixels**	
							If RGBW mode is selected:	
						0-255	Colour saturation control - coarse 0-100% (255=default)	proportional
							If CMY mode is selected:	
						0 - 255	No function	
*	**15**	**15**	**15**	**15**	**15**		**Background - White (16 bit) - all pixels**	
						0 - 255	Colour saturation control - fine (255=default)	proportional
12	**16**	**16**	**16**	**16**	**16**		**Background - CT0**	
							If function "White Point 8000K" is ON	
						0-255	Col. temperature correction from 8000K to 2700K -for whites only	proportional
							(0=8000K, 64=5600K, 128=4200K, 192=3200K, 255=2700K)	

Mode/channel						DMX Value	Function	Type of control
5	6	7	8	9	10			
							To get colour temperatures stated above, RGBW channels have to be set at the same value (e.g. 255DMX) or RGB=0 and White channel > 0 DMX (0=default)	
							(To activate Tungsten effect at 2700K and 3200K , set DMX value at "Power/Special functions" channel)	
							If function "White Point 8000K" is OFF	
						0-255	*Colour temperature correction from cool col. to warm colour*	proportional
13	**17**	**17**	**17**	**17**	**17**		**Background - Shutter/ strobe**	
						0 - 31	Shutter closed	step
						32 - 63	Shutter open (32=default)	step
						64 - 95	Strobe effect from slow to fast	proportional
						96 - 127	Shutter open	step
						128 - 143	Opening pulse in sequences from slow to fast	proportional
						144 - 159	Closing pulse in sequences from fast to slow	proportional
						160 - 191	Shutter open	step
						192 - 223	Random strobe effect from slow to fast	proportional
						224 - 255	Shutter open	step
14	**18**	**18**	**18**	**18**	**18**		**Background - Dimmer intensity (8 bit)**	
						0 - 255	Dimmer intensity from 0% to 100% (255=default)	proportional
*****	**19**	**19**	**19**	**19**	**19**		**Background Dimmer intensity - fine (16 bit)**	
						0 - 255	Fine dimming (255=default)	proportional
15	**20**	**20**	**20**	**20**	**20**		**Background - Active zone**	
						0-2	All pixels (0=default)	
						3-4	Ring 1 (Middle pixel)	step
						5-6	Ring 2	step
						7-8	Ring 3	step
						9-10	Ring 1+ Ring 2	step
						11-12	Ring 1+ Ring 3	step
						13-14	Ring 2 + Ring 3	step
						15-16	Sector 1	step
						17-18	Sector 2	step
						19-20	Sector 3	step
						21-22	Sector 4	step
						23-24	Sector 5	step
						25-26	Sector 6	step
						27-28	Sector 1+4	step
						29-30	Sector 1+4+Ring 1	step
						31-32	Sector 2+5	step
						33-34	Sector 2+5+Ring 1	step
						35-36	Sector 3+6	step
						37-38	Sector 3+6+Ring 1	step
						39-40	Sector 1+3+5	step
						41-42	Sector 1+3+5+Ring 1	step
						43-44	Sector 2+4+6	step
						45-46	Sector 2+4+6+Ring 1	step
						47-48	Sector 1+2+3	step
						49-50	Sector 2+3+4	step
						51-52	Sector 3+4+5	step
						53-54	Sector 4+5+6	step

Mode/channel						DMX Value	Function	Type of control
5	6	7	8	9	10			
						55-56	Sector 5+6+1	step
						57-58	sector 6+1+2	step
						59-255	Raw DMX	proportional
16	**21**	**21**	**21**	**21**	**21**		**Colour Mix control**	
							The channel defines relation between color channels	
							IF Flower effect is active, its colour channels always have priority!	
							Global = Global Colours (Background RGBW, Background Virtual Colour Wheel, Background CTO)	
							Pixel = Pixel Colours (RGB individual pixels or Kling-Net)	
						0-9	Global colours (Global has priority)	
						10-19	Maximum mode (highest values have priority)	step
						20-29	Minimum mode (lowest values have priority)	step
						30-39	Multiply mode (multiply Global and Pixel)	step
						40-49	Addition mode (Global + Pixel) (45=default)	step
						50-59	Subtraction mode (Global – Pixel)	step
						60-69	Inverted Subtraction mode (Pixel – Global)	step
						70-79	Coloured background	step
						80-127	Raw DMX	proportional
						128	Global colours only (Global has priority)	step
						129-254	Crossfade (crossfade between Global and Pixel)	proportional
						255	Pixel colours (Pixel has priority)	step
17	**22**	**22**	**22**	**22**	**22**		**Flower Effect**	
						0	Open position-without Flower Effect (0=default)	step
						1 - 127	Flower Effect forwards rotation from fast to slow	proportional
						128	Flower Effect -without rotation	step
						129-255	Backwards rotation from slow to fast	proportional
18	**23**	**23**	**23**	**23**	**23**		**Flower Effect - Red/Cyan (8 bit)**	
						0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
19	**24**	**24**	**24**	**24**	**24**		**Flower Effect - Green/Magenta (8 bit)**	
						0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
20	**25**	**25**	**25**	**25**	**25**		**Flower effect - Blue/Yellow (8 bit)**	
						0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
21	**26**	**26**	**26**	**26**	**26**		**Flower Effect - White (8 bit)**	
						0-255	Colour saturation control - coarse 0-100% (255=default)	proportional
22	**27**	**27**	**27**	**27**	**27**		**Flower Effect - colour macros**	
							(Flower Effect channel has to be set > 0 DMX)	step
						0	Open position - without macros (0=default)	
							(Flower effect colour macros have priority to RGBW colours/Virtual colour wheel,Flower effect colours, channels Flower effect-Shutter/strobe and Flower effect-dimmer has to be open)	
						1-2	Flower Effect colour macro 1	step
						3-4	Flower Effect colour macro 2	step
						5-6	Flower Effect colour macro 3	step
							:	
						119-120	Flower Effect colour macro 60	step
						121-255	Raw DMX	proportional
23	**28**	**28**	**28**	**28**	**28**		**Flower Effect - Shutter/ strobe**	
						0 - 31	Shutter closed	step
						32 - 63	Shutter open (32=default)	step

Mode/channel						DMX Value	Function	Type of control
5	6	7	8	9	10			
						64 - 95	Strobe-effect from slow to fast	proportional
						96 - 127	Shutter open	step
						128 - 143	Opening pulse in sequences from slow to fast	proportional
						144 - 159	Closing pulse in sequences from fast to slow	proportional
						160 - 191	Shutter open	step
						192 - 223	Random strobe-effect from slow to fast	proportional
						224 - 255	Shutter open	step
24	**29**	**29**	**29**	**29**	**29**		**Flower Effect - Dimmer intensity (8 bit)**	
						0 - 255	Dimmer intensity from 0% to 100% (255=default)	proportional
25	**30**	**30**	**30**	**30**	**30**		**Zoom**	
						0-255	Zoom from max. to min.beam angle (128=default)	proportional
*	**31**	**31**	**31**	**31**	**31**		**Zoom - fine**	
						0-255	Fine zooming (0=default)	proportional
*	**32**	*	*	**32**	**32**		**Pattern selection**	
						0-2	No pattern (0=default)	
						3-4	Pattern 1	step
						5-6	Pattern 2	step
						7-8	Pattern 3	step
						9-10	Pattern 4	step
						11-12	Pattern 5	step
						13-14	Pattern 6	step
						15-16	Pattern 7	step
						17-18	Pattern 8	step
						19-20	Pattern 9	step
						21-22	Pattern 10	step
						23-24	Pattern 11	step
						25-26	Pattern 12	step
						27-28	Pattern 13	step
						29-30	Pattern 14	step
						31-255	RAW DMX	proportional
*	**33**	*	*	**33**	**33**		**Pattern - Repeat (Size)**	
						0-2	Variant 1 (0=default)	step
						3-4	Variant 2	step
						5-6	Variant 3	step
						7-8	Variant 4	step
						9-10	Variant 5	step
						11-12	Variant 6	step
						13-14	Variant 7	step
						15-16	Variant 8	step
						17-18	Variant 9	step
						19-20	Variant 10	step
						21-22	Variant 11	step
						23-255	Raw DMX	proportional
*	**34**	*	*	**34**	**34**		**Pattern - Rotation**	
						0	No rotation (0=default)	step
						1-127	Pattern indexing	proportional
						128-190	Forwards rotation from fast to slow	proportional
						191-192	Pause - without rotation	step

Mode/channel						DMX Value	Function	Type of control
5	6	7	8	9	10			
						193-255	Backwards rotation from slow to fast	proportional
*	**35**	*	*	**35**	**35**		**Pattern - Fade**	
						0	Snap (0=default)	step
						1-255	Fade from min. to max.	proportional
*	**36**	*	*	**36**	**36**		**Pattern -Transition**	
						0	No fade (0=default)	step
						1	100ms	step
							:	
						255	4 sec	step
*	**37**	*	*	**37**	**37**		**Pattern - Crossfade**	
						0	Background	step
						1-255	Crossfade between Background and Pattern 0-100% (255=default)	proportional
*	**38**	*	*	**38**	**38**		**Pattern - Red (8-bit)**	
						0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
*	**39**	*	*	**39**	**39**		**Pattern - Green (8-bit)**	
						0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
*	**40**	*	*	**40**	**40**		**Pattern - Blue (8-bit)**	
						0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
*	**41**	*	*	**41**	**41**		**Pattern - White (8-bit)**	
						0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
*	**42**	*	*	**42**	**42**		**Pattern - Colour macro**	
						0-2	No macro (0=default)	step
							Macros 1-15 allow control of colour change speed from max. to min.	
						3-8	Macro 1	proportional
						9-14	Macro 2	proportional
						15-20	Macro 3	proportional
						21-26	Macro 4	proportional
						27-32	Macro 5	proportional
						33-38	Macro 6	proportional
						39-44	Macro 7	proportional
						45-50	Macro 8	proportional
						51-56	Macro 9	proportional
						57-62	Macro 10	proportional
						63-68	Macro 11	proportional
						69-74	Macro 12	proportional
						75-80	Macro 13	proportional
						81-86	Macro 14	proportional
						87-92	Macro 15	proportional
						93-98	Macro 16	step
						99-104	Macro 17	step
						105-110	Macro 18	step
						111-255	Raw DMX	proportional
*	**43**	*	*	**43**	**43**		**Pattern - Shutter/ strobe**	
						0 - 31	Shutter closed	step
						32 - 63	Shutter open (32=default)	step
						64 - 95	Strobe effect from slow to fast	proportional
						96 - 127	Shutter open	step
						128 - 143	Opening pulse in sequences from slow to fast	proportional

Mode/channel						DMX Value	Function	Type of control
5	6	7	8	9	10			
						144 - 159	Closing pulse in sequences from fast to slow	proportional
						160 - 191	Shutter open	step
						192 - 223	Random strobe effect from slow to fast	proportional
						224 - 255	Shutter open	step
*	44	*	*	44	44		**Pattern - Dimmer intensity (8 bit)**	
						0 - 255	Dimmer intensity from 0% to 100% (255=default)	proportional
26	45	32	32	45	45		**Master Shutter/ strobe**	
						0 - 31	Shutter closed	step
						32 - 63	Shutter open (32=default)	step
						64 - 95	Strobe effect from slow to fast	proportional
						96 - 127	Shutter open	step
						128 - 143	Opening pulse in sequences from slow to fast	proportional
						144 - 159	Closing pulse in sequences from fast to slow	proportional
						160 - 191	Shutter open	step
						192 - 223	Random strobe effect from slow to fast	proportional
						224 - 255	Shutter open	step
27	46	33	33	46	46		**Master Dimmer intensity (8 bit)**	
						0 - 255	Dimmer intensity from 0% to 100% (0=default)	proportional
*	47	34	34	47	47		**Master Dimmer intensity - fine (16 bit)**	
						0 - 255	Fine dimming (0=default)	proportional
*	*	35	35	48	48		**Red pixel 1**	
						0-255	Red LED saturation control 0-100% (0=default)	proportional
*	*	36	36	49	49		**Green pixel 1**	
						0-255	Green LED saturation control 0-100% (0=default)	proportional
*	*	37	37	50	50		**Blue pixel 1**	
						0-255	Blue LED saturation control 0-100% (0=default)	proportional
*	*	*	38	*	51		**White pixel 1**	
						0-255	White LED saturation control 0-100% (0=default)	proportional
							:	
*	*	89	107	102	120		**Red pixel 19**	
						0-255	Red LED saturation control 0-100% (0=default)	proportional
*	*	90	108	103	121		**Green pixel 19**	
						0-255	Green LED saturation control 0-100% (0=default)	proportional
*	*	91	109	104	122		**Blue pixel 19**	
						0-255	Blue LED saturation control 0-100% (0=default)	proportional
*	*	*	110	*	123		**White pixel 19**	
						0-255	White LED saturation control 0-100% (0=default)	proportional

* function is active only 10 seconds after switching the fixture on

** In the Tungsten effect simulation the Dimmer channel imitates behaviour of the halogen lamp during dimming

*** Select RGB or CMY mixing mode on channel "Power/Special functions"