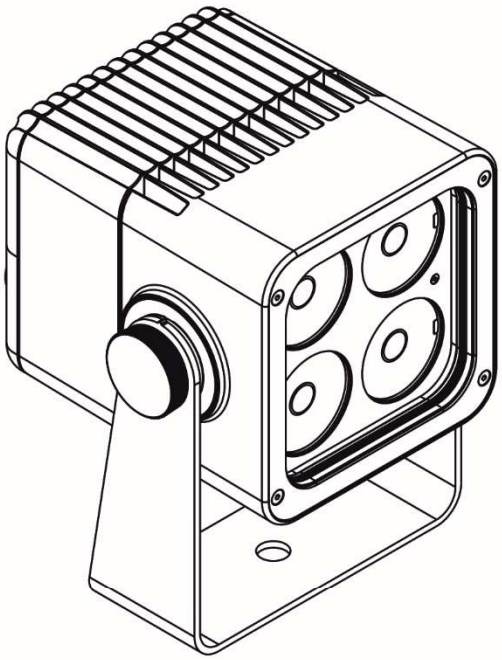
Appoli™ S MC TS



ROBE Innovative Technology

QR code for user manual

USER MANUAL

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

Version 1.0

Table of contents

FOR YOUR OWN SAFETY, PLEASE READ THIS USER MANUAL CAREFULLY
BEFORE POWERING OR INSTALLING YOUR Robin Appoli S MC TS !
Save it for future reference.

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 warning notes written 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 Appoli S MC TS was designed for outdoor use and it is intended for professional application only. It is not for household use.

1. Safety instructions

DANGEROUS VOLTAGE CONSTITUTING A RISK OF ELECTRIC SHOCK IS PRESENT WITHIN THIS UNIT!

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.

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

Make sure the power/data cable is not damaged by sharp edges.

Do not install the unit near an open flame.

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.

LED light emission. Risk of eye injury. Do not look into the beam from a short distance without suitable protective eyewear. Do not look at LEDs with magnifiers or similar optical instruments that may concentrate the light output. The intense light beam may damage your eyes. Sensitive persons may suffer an epileptic shock. Provide advance notice that strobe lighting is in use.

The fixture was designed for outdoor use. This fixture must not be used for underwater installation.

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

Avoid using the unit in locations subject to possible impacts.

The fixture body never must be covered with cloth or other materials when the fixture is under operation.

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

The fixture becomes hot during operation. Allow the fixture to cool approximately 30 minutes prior to servicing or maintenance.

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

Please use the original packaging if the fixture is to be transported.

If this device will be operated in any way different to the one described in this manual, the product may suffer damages and the warranty becomes void. Furthermore, any other operation may lead to dangers like short-circuit, burns, electric shock etc.

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.
The installation company should check levels of possible interferences above levels given by this standard (e.g. transmitters in surrounding area) before installing the equipment.

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

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.

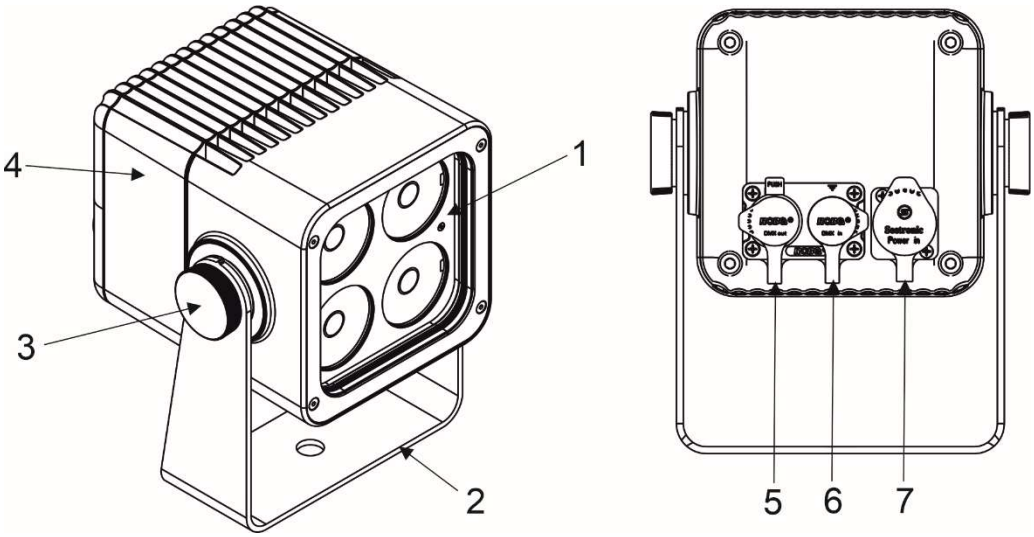
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate 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.

Warning for fixtures with Harsh Environment Finish (HEF):
Handle with care!

Avoid any damage to the painted surface.

Damaging the paint may result in corrosion and loss of warranty.

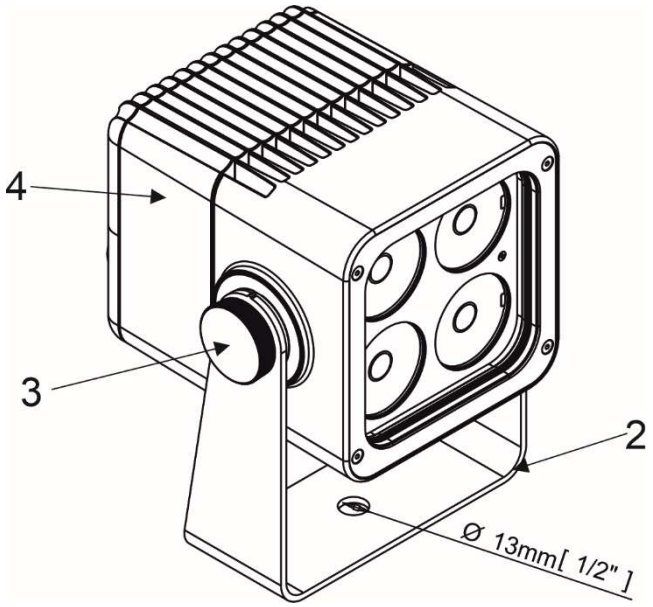
2. Fixture exterior view



1. Transparent glass cover
2. Mounting bracket
3. Tilt adjusting lock
4. LED module with heat sink
5. DMX Out (5-pin XLR)
6. DMX In (5-pin XLR)
7. Power

3. Installation

The Appoli S can be fastened in any orientation on a flat, non-flammable surface by means of the mounting bracket (2) with the hole of diameter of 13 mm.



The LED module (4) can be tilted +40°/-45° by the tilt adjusting lock (3).

Ensure that the structure to which you are attaching the fixture is secure.

3.1 Rigging the fixture

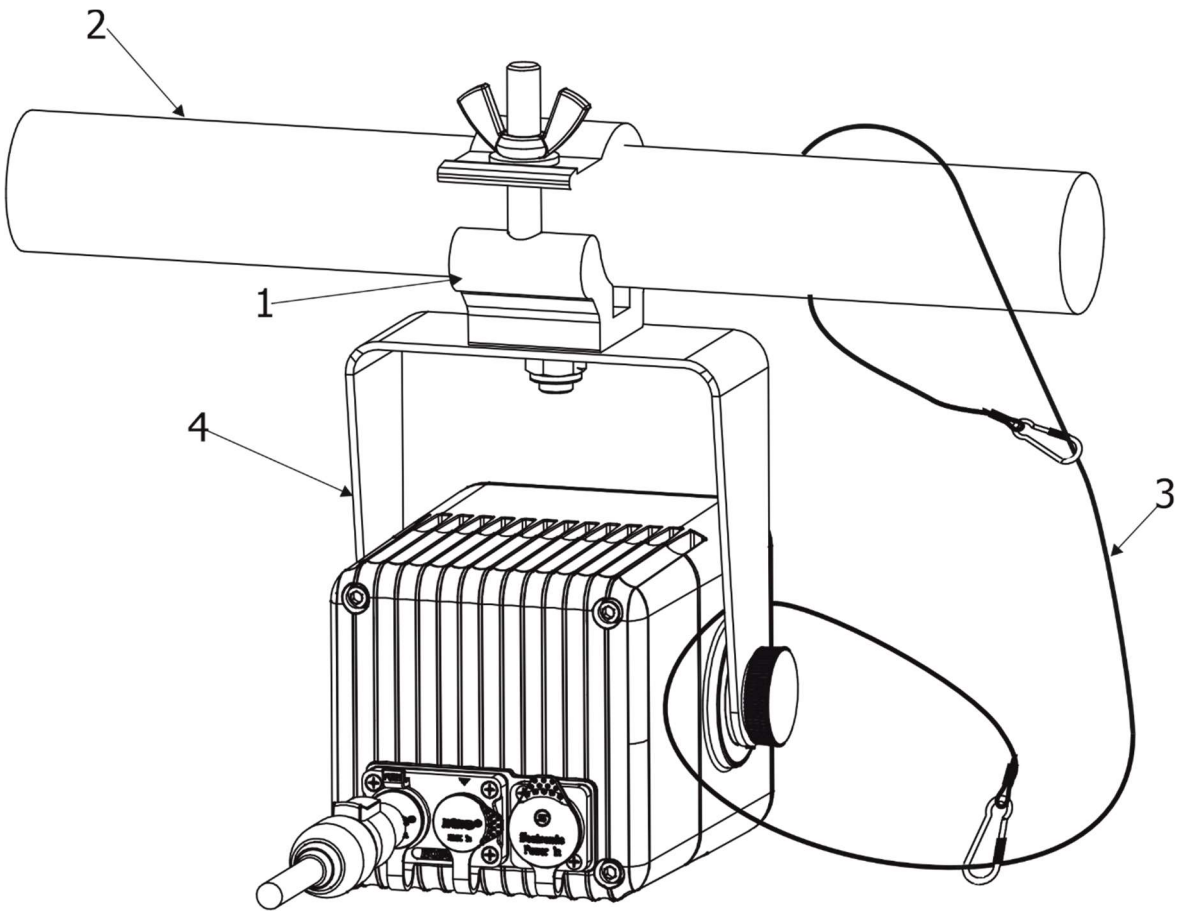
The Appoli can be rigged in any orientation on a truss without altering its operation characteristics.
For overhead use, always install a safety wire that can hold at least 10 times the weight of the fixture. You must only use a safety wire equipped with snap hook and screw lock gate.

Ensure that the structure (truss) to which you are attaching the fixture is secure

Fixture may cause severe injuries when crashing down! If you have doubts concerning the safety of a possible installation, do not install the device and consult installation with an expert.

Truss installation
1. Bolt rigging clamp (1) to the yoke (4) with M12 bolt and lock nut through the hole in the yoke.
2. Clamp the fixture on a truss (2) and tighten rigging clamp (1).
3. Pull a safety wire (3) around the truss (2) and mounting bracket (4) and lock it. as shown on the picture below.

For overhead installation, the fixture must be always secured with a safety wire that can bear at least 10 times the weight of the fixture.



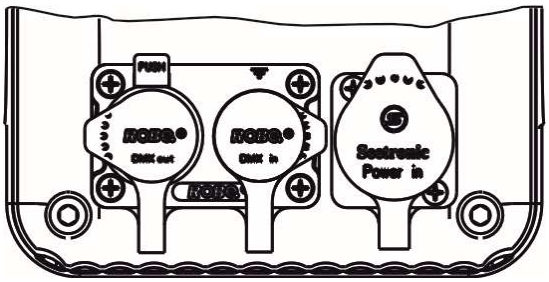
3.2 Connection to the mains

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

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)!

The Appoli S MC TCs 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!



If you install a cord cap on the power cable to allow connection to power outlets, install a grounding-type (earthed) plug, following the plug manufacturer's instructions.
The cores in the power cable are coloured according to the following table.

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

This device falls under class one and must be grounded!
Wiring and connection work must be carried out by qualified staff!

3.3 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.

Wiring of the XLR connectors:

DMX input
XLR socket (male)

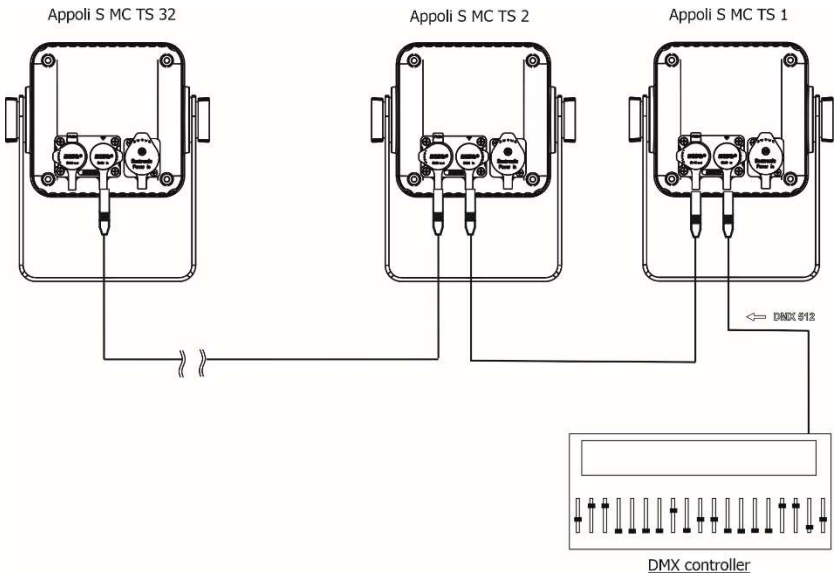
1 – Shield **2** - Signal (-) **3** - Signal (+) **4** – Not connected

DMX output
XLR socket (female)

5 – Not connected

To build a DMX chain

1. Connect the DMX output of the controller directly with the DMX input of the first fixture in the DMX chain.
2. Connect the DMX output of the first fixture in the DMX chain with the DMX input of the next fixture.
3. Always connect the DMX output with the input of the next fixture until all fixtures are connected.
   Do not overload the link. Max. 32 fixtures may be connected on a DMX link.



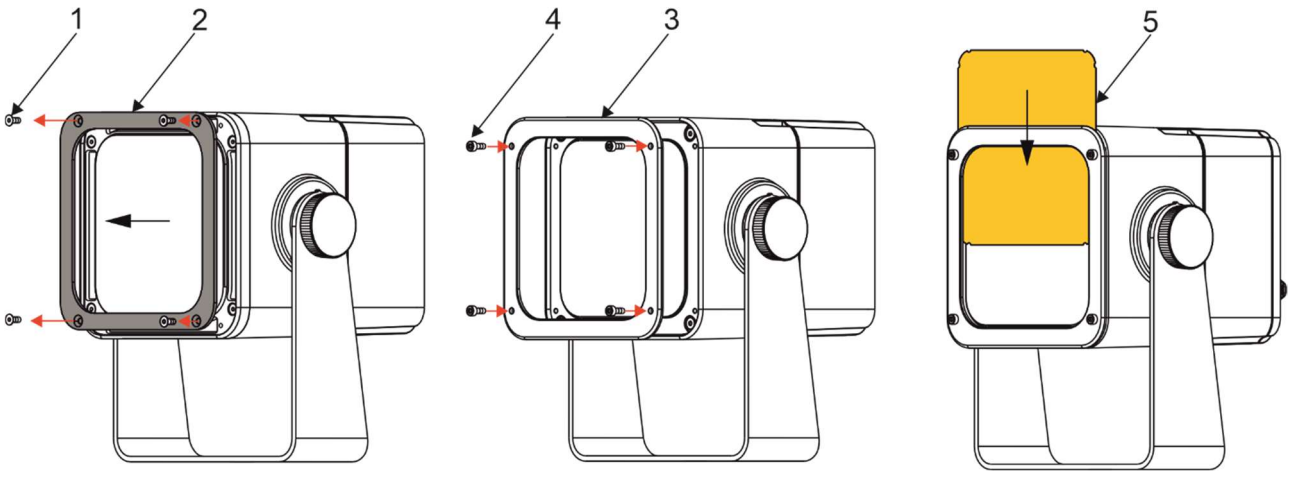
Caution: Terminate DMX link by means of the RDM Control Panel - set the 'Manufacturer PID' 'Terminator active' to '1' at last fixture in DMX link.

Behaviour when DMX data is lost.
When DMX data is lost, last valid DMX frame is held.

Optical Foil Set for Outdoor Foil Holder Appoli S TS RAL9005 (P/N 10981399)
Outdoor Foil Holder for Appoli S TS RAL9005 (P/N 10981398) -indoor use only

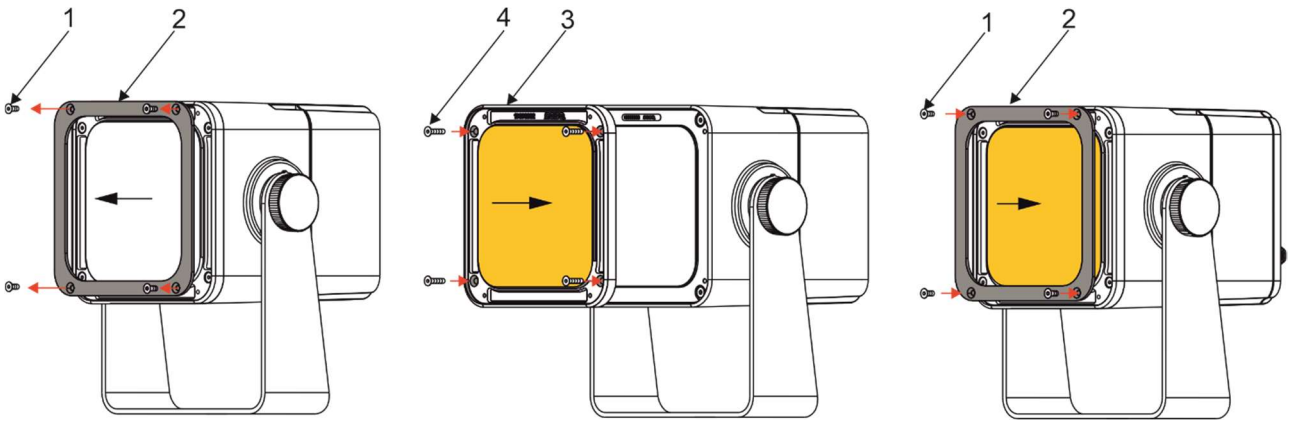
3.4 Optical foil holder installation-for indoor installation

1. Disconnect the fixture from mains and allow it to cool.
2. Unscrew the four screws (1) and remove the cover plate (2).
3. Place the foil holder (3) on the fixture and secure it with the four Allen screws (4).
   This foil holder (3) is designed for indoor use only.
4. Insert the optical foil (5) into the holder (3).



3.5 Optical foil holder installation-for outdoor installation

1. Disconnect the fixture from mains and allow it to cool.
2. Unscrew the four screws (1) and remove the cover plate (2).
3. Fasten the optical foil to the foil holder .
4. Place the foil holder (3) with foil on the fixture and secure it with the four screws (4).
   This foil holder is designed for outdoor use.
5. Turn the cover plate (2) by 90° and screw it by means of four screws (1).



4. RDM

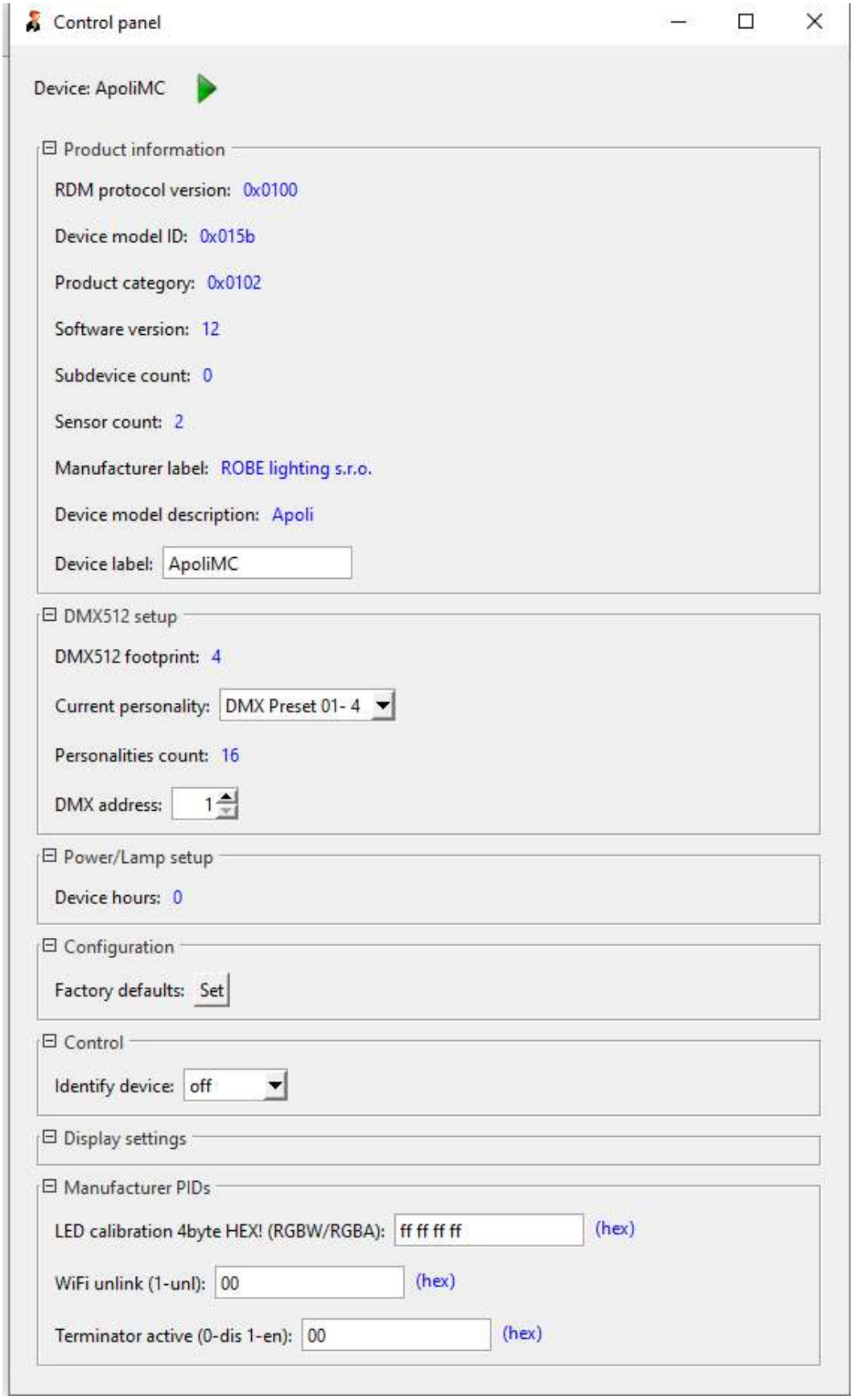
This fixture is ready for RDM operation. RDM (Remote Device Management) is a bi-directional communications protocol for use in DMX512 control systems, it is the new open standard for DMX512 device configuration and status monitoring.
The RDM protocol allows data packets to be inserted into a DMX512 data 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 the Appoli 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_LEVEL		*	*
DEVICE_RESET		*	
DMX_PERSONALITY		*	*
DMX_PERSONALITY_DESCRIPTION			*
STATUS_MESSAGES			*
STATUS_ID_DESCRIPTION			*
DEVICE_HOURS			*

Please, see the Robe Universal Interface user manual for detail description of RDM operation
RDM model ID for the Robin Appoli S MC TS is 0x015b

4.1 Example of Control panel in RDM manager

The software RDM manager is available on the ROBE website (https://www.robe.cz/support), product RUNIT WTX, Including user manual for RDM manager.



Green arrow ▶ saves changes made in the Control panel to the Appoli S MC TS.

Manufacturer PIDs

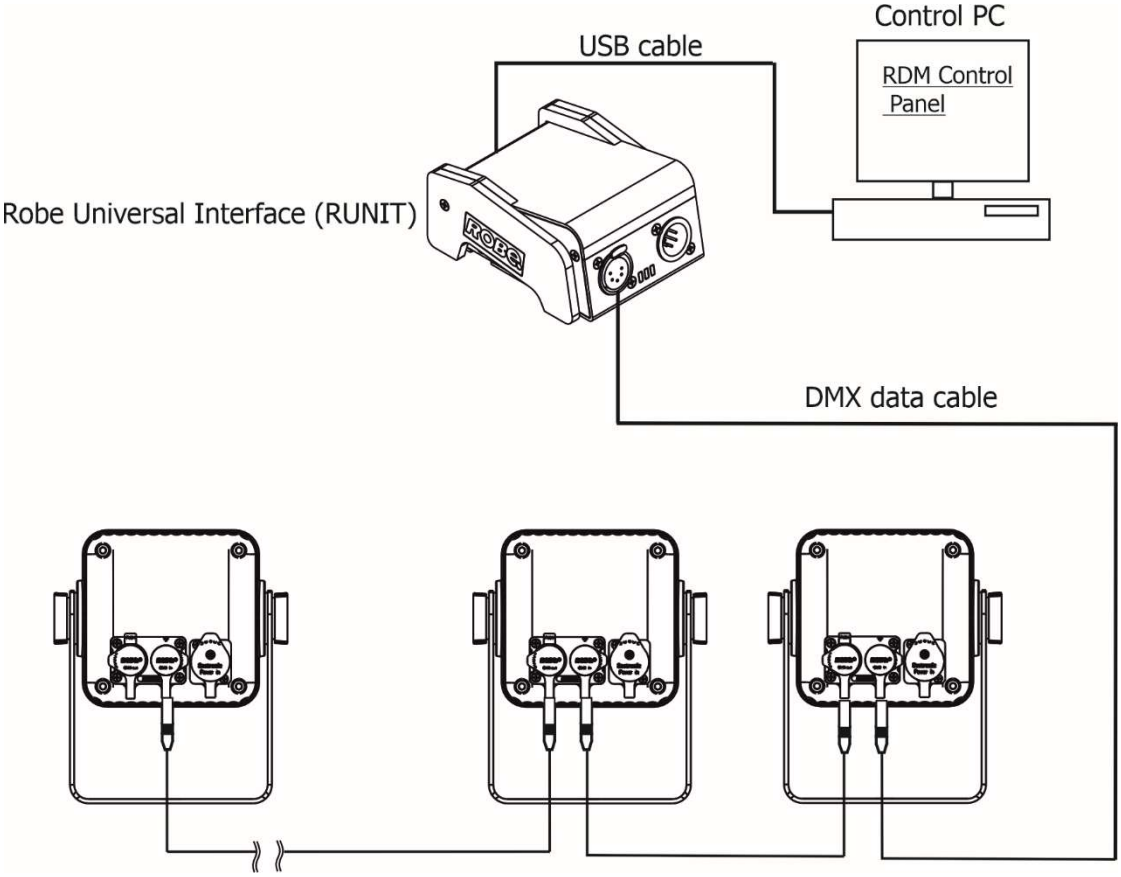
LED calibration 4byte HEX! (RGBW/RGBA) - the item shows 4 bytes of calibration values for calibrated white colours of RGBW(RGBA) Appoli S MC TS.
E.g.

CTC channel has to be set to some calibrated white colour (21 DMX-1800K, 66 DMX-2700K, 91 DMX-3200K, 141 DMX-4200K, 211 DMX-5600K, 255 DMX-6500K) otherwise the item shows values "ff ff ff ff" (and calibration values cannot be saved to the Appoli S MC TS).
Warning!
Changing and saving values in this item will affect calibrated white colour(s) of the Appoli S MC TS .

WiFi unlink - the item is inactive for Appoli S MC TS.

Terminator active - the item allows you to terminate line of Appolis S MC TS at last Appoli S MC TS .

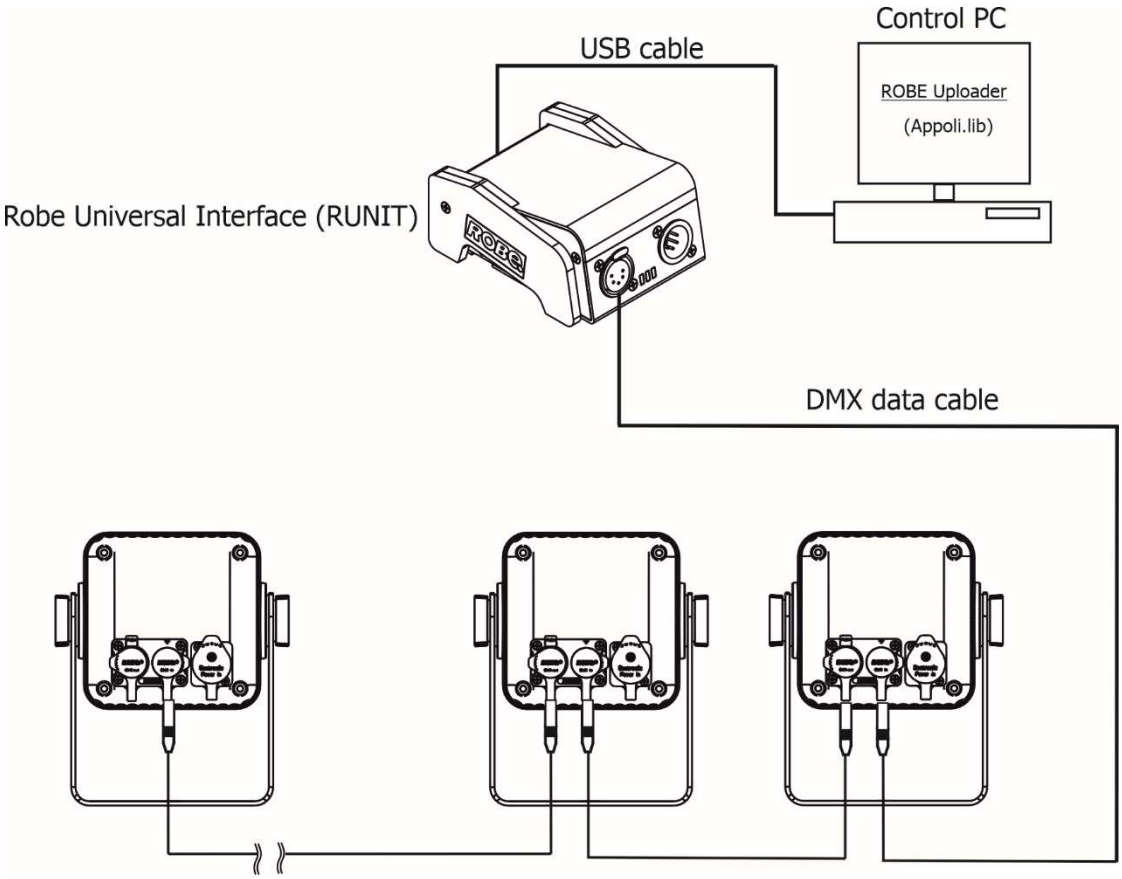
4.2 Example of RDM manager connection



5. Software update

Software update of Appoli S MC TS modules has to be done by means of the software ROBE Uploader running on PC.
The ROBE Uploader is a software for automatized software update of ROBE fixtures. The ROBE Uploader switches Appolis to the update mode automatically.
Please see https://www.robe.cz/robe-uploader/ for more information.
For updating of Appoli modules, use the file Appoli.lib.

Examples of connection:



6. Technical specifications

Power supply

- Electronic auto-ranging
- Input voltage: 120 - 277V AC, 50/60 Hz
- Power consumption: 30 W
- Inrush current: 60A/230VAC, 30A/115VAC

Optic

- Light source: 4 x high power multichip LEDs
- Colour variants: RGBW (W - 6500 K), RGBA,
- Beam Angle:
  Symmetrical: 12°, 20°, 25°, 35°, 45°, 75°, 95°
  Bi-symmetrical: 15° x 35°, 15° x 70°, 15° x 85°, 20° x 45°, 35° x 65°, 35° x 95°
- Projected Lumen Maintenance: L90B10 >90.000 hrs, Ta = 25°C / 77°F

Control

- Interface protocols: DMX (7 modes for RGBW variant, 3 modes for TW and PW variant), RDM
- Setting and addressing: RDM

Dimmer

- Smooth 16-bit dimming from 0 - 100 %

Connection

- DMX data in/out: IP65 Locking 5-pin XLR connectors Seetronic
- Power In: IP65 power conector Seetronic

Mounting method

- Via mounting bracket
- Adjustability: -45°/+40°

Minimum distances

Min. distance from flammable surfaces: 0.2 m
Min. distance to lighted object: 0.5 m

Cooling system

- Convection

Total heat dissipation

- 77 BTU/h (calculated)

Protection factor

- CE: IP 65
- US: Suitable for wet location

Impact rating

- IK10

Max. surface temperature

- +70 °C @ Ambient +50 °C (+158 °F @ Ambient +122 °F)

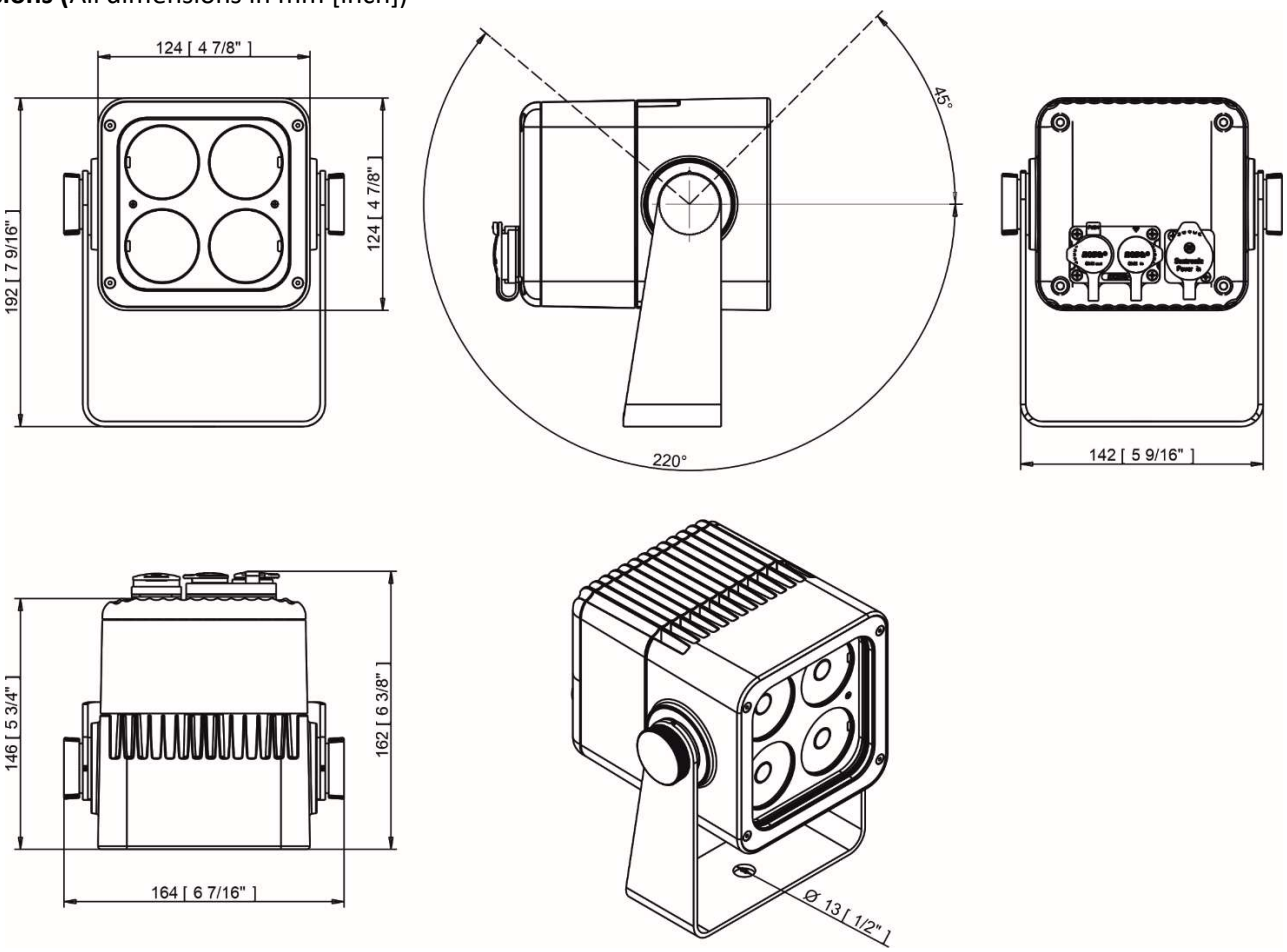
Operating ambient temperature range

- -20°C /+50°C (-4°F /+122°F)

Weight

- Appoli S MC TS: 3.0 kg (6.6 lbs)

Dimensions (All dimensions in mm [inch])



Included items

- 1 x Robin Appoli S MC TS
- 1 x User manual
- 4 x Optical foil (25°, 35°, 45°, 75°)
- 1 x Optical foil holder (indoor use only)

Optional accessories

TopHat Appoli S TS RAL9005 (P/N 10981400)
Half Top Hat Appoli S TS RAL9005 (P/N 10981401)
Floor Stand for Appoli S TS RAL9005 (P/N 10981402)
Barndoor short for Appoli S TS RAL9005 (P/N 10981403)
Barndoor long for Appoli S TS RAL9005 (P/N 10981404)
Optical Demo Set for Appoli S TS RAL9005 (P/N 10981405)
Optical Foil Set for Outdoor Foil Holder Appoli S TS RAL9005 (P/N 10981399)
Outdoor Foil Holder for Appoli S TS RAL9005 (P/N 10981398)
Pole clamp adaptor RAL 9011 (P/N 10980783) - Yoke for Pole Adaptor Required

7. Cleaning and maintenance

DANGER !
Disconnect from the mains before starting any maintenance or cleaning work

Rinse off loose dirt with low pressure water spray. Wash the housing with a soft brush or sponge and a mild, non-abrasive washing detergent. Rinse it.
Maintenance and service operations are only to be carried out by a qualified person.
Should you need any spare parts, please use ROBE OEM parts.

7.1 Disposing of the product

To preserve the environment please dispose or recycle this product at the end of its life according to the local regulations and codes.

8. ChangeLog

This section summarizes changes in the user manual.

Version of manual	Date of issue	Description of changes

DMX protocol for Appoli MC - All sizes

Version: 1.0 (16 modes in total)

Mode/Channels in all							
1	*2*	*3*	*4*	*5*	*6*	*7*	*8-10*
4	3	12	3	6	8	15	Reserved

Mode 1- RGBW(A)-8bit, Mode 2- RGB 8-bit, Mode 3- full RGBW(A)
Mode 4- White-full control, Mode 5- Reduced RGBW(A)
Mode 6- Reduced RGBW(A)+white control, Mode 7- Full control
Mode 7-Full RGBW(A)+virt. Colour wheel

RGBW/RGBA/RGB modes

Mode/channels							DMX Value	Function	Type of control
1	*2*	*3*	*4*	*5*	*6*	*7*			
-	-	-	-	-	-	1		**Special functions**	
							0	No function	step
								To activate following functions , stop in DMX value for at least 3 sec.	
							1-2	Save current DMX values to fixture as initial DMX values.	step
							3-4	Show saved initial DMX values	step
							5-6	Run factory demo sequences at switching fixture on (without DMX)	step
							7-8	Insect friendly light On (RGBA version only)	step
							9-10	Insect friendly light Off (RGBA version only)	step
							11-255	Reserved	
1	1	1	-	1	1	2		**Red**	
							0 - 255	Red LEDs saturation control (0-100%)	proportional
-	-	2	-	-	-	3		**Red Fine**	
							0 - 255	Red LEDs saturation control fine	proportional
2	2	3	-	2	2	4		**Green**	
							0 - 255	Green LEDs saturation control (0-100%)	proportional
-	-	4	-	-	-	5		**Green Fine**	
							0 - 255	Green LEDs saturation control fine	proportional
3	3	5	-	3	3	6		**Blue**	
							0 - 255	Blue LEDs saturation control (0-100%)	proportional
-	-	6	-	-	-	7		**Blue Fine**	
							0 - 255	Blue LEDs saturation control fine	proportional
4	-	7	-	4	4	8		**White (Amber)**	
							0 - 255	White LEDs saturation control (0-100%)	proportional
-	-	8	-	-	-	9		**White (Amber) Fine**	
							0 - 255	White LEDs saturation control fine	proportional
-	-	9	1	-	5	10		**Green correction**	
							0	Uncorrected white	step
							1-127	Minus green - uncorrected white	proportional
							128	Uncorrected white (128=default)	step
							129-255	Uncorrected white - Plus green	proportional
-	-	10	2	-	6	11		**Colour temperature correction (CTC)**	
							0	No function	step
							1 - 10	Tungsten dimming 2700 K	step
							11 - 20	Tungsten dimming 3200 K	step
							21-255	Colour temperature changing from 1800 K --> 6500 K	proportional
								(21-1800K, 66-2700K, 91-3200K,141-4200K, 211-5600K, 255-6500K)	
-	-	-	-	-	-	12		**Virtual Colour Wheel**	
							0	No function	step

Mode/channels							DMX Value	Function	Type of control
1	*2*	*3*	*4*	*5*	*6*	*7*			
							1-2	White 1800 K	step
							3-4	White 2700 K	step
							5-6	White 3200 K	step
							7-8	White 4200 K	step
							9-10	White 5600 K	step
							11-12	White 6500 K	step
							13	Blue (Blue=full, Red+Green+White/Amber=0)	step
							14-23	Red=0, Green->up,Blue =full, White/Amber=0	proportional
							24	Cyan (Red=0, Green=full, Blue =full, White/Amber=0)	step
							25-34	Red=0, Green=full, Blue->down, White/Amber=0	proportional
							35	Green (Red=0, Green=full, Blue =0, White/Amber=0)	step
							36-45	Red->up, Green=full, Blue=0, White/Amber=0	proportional
							46	Yellow (Red=full, Green=full, Blue=0, White/Amber=0)	step
							47-56	Red=full, Green->down, Blue=0, White/Amber=0	proportional
							57	Red(Red=full, Green=0, Blue=0, White/Amber=0)	step
							58-67	Red=full, Green=0, Blue->up, White/Amber=0	proportional
							68	Magenta (Red=full, Green=0, Blue=full, White/Amber=0)	step
							69-78	Red -> down, Green=0, Blue=full, White/Amber=0	proportional
							79	Blue (Red=0, Green=0, Blue=full, White/Amber=0)	step
								Transition effects	
							80-87	Rainbow effect (with fade time) from slow-> fast	proportional
							88-95	Rainbow effect (without fade time) from slow-> fast	proportional
							96-103	Full dynamic white (1800K->6500K->1800K) (with fade time) from slow-> fast	proportional
							104-111	Full dynamic white (1800K->6500K->1800K) (without fade time) from slow-> fast	proportional
							112-119	Dynamic warm white (1800K-3000K-1800K) (with fade time) from slow-> fast	proportional
							120-127	Dynamic warm white (1800K-3000K-1800K) (without fade time) from slow-> fast	proportional
							128-135	Rainbow effect + full dynamic white (with fade time) from slow-> fast	proportional
							136-143	Rainbow effect + full dynamic white (without fade time) from slow-> fast	proportional
							144-151	Blue/Green effect (with fade time) from slow-> fast	proportional
							152-159	Blue/Green effect (without fade time) from slow-> fast	proportional
							160-167	Red/Blue effect (with fade time) from slow-> fast	proportional
							168-175	Red/Blue effect (without fade time) from slow-> fast	proportional
							176-183	Green/Red effect (with fade time) from slow-> fast	proportional
							184-191	Green/Red effect (without fade time) from slow-> fast	proportional
							192-199	Blue/4000K effect (with fade time) from slow-> fast	proportional
							200-207	Blue/4000K effect (without fade time) from slow-> fast	proportional
							208-215	Green/4000K effect (with fade time) from slow-> fast	proportional
							216-223	Green/4000K effect (without fade time) from slow-> fast	proportional
							224-231	Red/4000K effect (with fade time) from slow-> fast	proportional
							232-239	Red/4000K effect (without fade time) from slow-> fast	proportional
						13		**Shutter/Strobe**	
							0-31	Shutter closed	step
							32-63	Shutter open	step
							64-95	Strobe-effect from slow to fast	proportional

Mode/channels							DMX Value	Function	Type of control
1	*2*	*3*	*4*	*5*	*6*	*7*			
							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
-	-	**11**	**3**	**5**	**7**	**14**		**Dimmer**	
							0 - 255	Light intensity coarse (0-100%)	proportional
-	-	**12**	-	**6**	**8**	**15**		**Dimmer Fine**	
							0 - 255	Light intensity fine	proportional

DMX protocol for Appoli MC - All sizes

Version: 1.0 (16 modes in total)

Mode/Channels in all				TW Modes: Mode 11- White selection + Dimmer, Mode 12- WW + CW
11	*12*	*13*	*14-16*	PW Mode: Mode 13- Dimmer
3	4	2	Reserved	

TW and PW modes

Mode/channels			DMX Value	Function	Type of control
11	*12*	*13*			
1	-	-		**White colour selection**	
			0 - 255	White from 2700 K - 6500 K	proportional
-	**1**	-		**Warm White**	
			0 - 255	Warm White LEDs saturation control (0-100%)	proportional
-	**2**	-		**Cool White**	
			0 - 255	Cool White LEDs saturation control (0-100%)	proportional
2	**3**	**1**		**Dimmer**	
			0 - 255	Light intensity coarse (0 - 100%)	proportional
3	**4**	**2**		**Dimmer Fine**	
			0 - 255	Light intensity fine	proportional