DMX REFERENCE

Eurolite TMH-75

LED TMH-75 Hybrid Moving-Head Spot/Wash COB

Eurolite



Manufacturer	Eurolite
GDTF file	Eurolite_Eurolite_TMH-75_60435.gdtf
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Contents

1 About this manual 2
2 Quick reference 2
3 Safety instructions 3
4 Product description 4
5 Installation 5
6 Connections 5
7 Operation 6
8 Functions at a glance 6
9 DMX channels 8
Mode 1 8
10 Technical specifications 11
11 Maintenance and cleaning 11
12 Troubleshooting 12
13 Disposal 12

1 About this manual

This document describes the LED TMH-75 Hybrid Moving-Head Spot/Wash COB by Eurolite. It was compiled from the GDTF file Eurolite_Eurolite_TMH-75_60435.gdtf from the GDTF-Share library.

File revision: “V1.0.0”.

The DMX modes, the channel functions and the technical data are given as the GDTF file states them. Installation, operation from the device's control panel, service and safety instructions are described in the manufacturer's original user manual, which takes precedence over this document.

This document was not issued or endorsed by Eurolite; product names and trademarks belong to their owners.

Safety notices are marked with signal words according to the severity of the hazard: DANGER – an imminent hazard that will result in death or serious injury; WARNING – a potential hazard that could result in death or serious injury; CAUTION – a potential hazard that could result in minor injury or property damage; NOTE – additional information for correct and safe use.

> **NOTE** This product is designed for stage and effect lighting. It is not suitable for household room illumination.

2 Quick reference

Parameter	Value
Power consumption	850 W
Weight	8 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Mode 1	21	24	1, 22, 43, 64, ...

No light? Check these channels

- Mode 1: CH 12 Dimmer 1 above 0; CH 21 Dimmer 2 above 0


Read the manual before use


Risk of electric shock


Do not stare into the light


Indoor use only

3 Safety instructions


Read the manual before use


Risk of electric shock


Do not stare into the light


Indoor use only

⚠ WARNING

- This device is intended for professional use. Installation, connection, setup and maintenance must be carried out only by suitably qualified persons who have read this manual.
- Use the device only for its intended purpose and as described in this manual.
- Do not open the housing and do not modify or tamper with the device. Refer all repairs to an authorized service center.
- Do not use the device if its housing, power or data cable, or a connector is damaged, if the device has been dropped, or if liquid or a foreign object has entered it. In such a case, have it checked by a service center.
- Disconnect the device from the power supply before cleaning, maintenance or any work on the connections.
- After moving the device from a cold to a warm environment, let it reach room temperature before switching it on to prevent condensation inside.
- The device is not a toy; keep it out of the reach of children.

⚠ WARNING

- Connect the device only to a properly installed mains outlet with a protective earth (ground) contact. The outlet or other means of disconnection must remain easily accessible.
- Power supply: 100–240 V, 50/60 Hz. Before connecting, make sure that the mains voltage matches this value and the value on the rating plate of the device.
- Do not connect the device to a dimmer or to a dimmed circuit.
- Use only the original power cable or a cable with identical ratings. Protect the cable from damage, do not run it over sharp edges, and never unplug it by pulling on the cable.
- When connecting several devices to one circuit, do not exceed its permitted load.
- Do not touch the device with wet hands.

⚠ WARNING

- This device is designed for indoor use only. Protect it from rain, splashing water, moisture and dust, and do not place containers with liquids on it.
- Do not operate the device in high humidity, near water, or where condensation can form on it.

⚠ CAUTION

- This device emits intense light. Do not look directly into the light source or the beam at close range; doing so may damage your eyes.
- Do not aim the beam at the eyes of people or animals at close range, and do not view the light source through optical instruments (binoculars, camera lenses).
- Do not aim the beam at flammable or heat-sensitive materials at close range.

⚠ WARNING

- This device emits ultraviolet (UV) radiation, which can harm the eyes and skin.
- Do not look directly into the light source and avoid prolonged exposure of the eyes and skin at close range. Install the device so that people are not exposed at close range.
- People with increased sensitivity to light, including those taking medication that increases this sensitivity, should avoid UV exposure.

⚠ CAUTION

- Strobe and fast flashing light effects can trigger epileptic seizures in susceptible people (photosensitive epilepsy) and can cause nausea or disorientation.
- Inform the audience and performers in advance that strobe effects will be used, for example with a notice at the entrance, and do not use them longer than necessary.

⚠ WARNING

- The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
- Keep yourself and any objects out of the range of movement. While the device is switched on, do not touch the moving parts, move them by hand, or obstruct their movement; this can cause injury (pinching) and damage the drive.
- Do not carry the device by its moving parts. If the device has a transport lock, engage it before transport and release it before switching on.

4 Product description

Range of movement



5 Installation

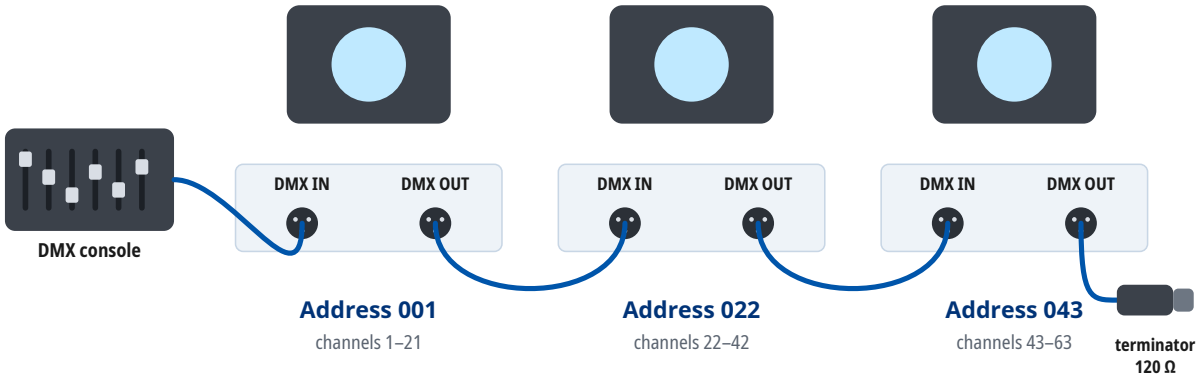
⚠ WARNING

- Rigging must be carried out only by qualified persons in accordance with applicable regulations, in particular those for work at height.
- The supporting structure and fixings must safely carry the weight of all suspended devices; verify their load capacity in advance.
- Weight of the device: 8 kg.
- Use suitable mounting hardware (for example truss clamps) and tighten all screw connections properly.
- Always secure the suspended device against falling with a safety cable of adequate load capacity, routed through a fixed point of the device and around the supporting structure.
- During installation and removal, keep people out of the area below the work position.
- Regularly inspect the fixings and the safety cable for damage, corrosion and loosening.

6 Connections

- Use shielded cable designed for DMX512 with an impedance of 110 Ω. Ordinary microphone cable is not suitable for DMX, especially over longer distances.
- Connect the devices in a daisy chain: connect the DMX OUT of one device to the DMX IN of the next. Do not split the line with Y-cables or wire it in a star; the line may be split only with a DMX splitter.
- Connect the shield to pin 1 only. Do not connect the shield (ground) to the metal shell of the connector; this can cause short circuits or erratic behavior.
- XLR pin assignment: pin 1 – shield (ground), pin 2 – Data- (Data Complement), pin 3 – Data+ (Data True). On 5-pin connectors, pins 4 and 5 are not connected; a 5-pin connector can be connected to a 3-pin one with a cable adapter.
- Terminate the end of the line (for impedance matching): plug an XLR connector with a 120 Ω, ¼ W resistor between pins 2 and 3 into the DMX OUT of the last device. This reduces the risk of erratic behavior.
- Connect no more than 32 devices to one DMX line. For more devices or longer runs, use a DMX splitter or booster.

DMX line



Mode 1: every unit occupies 21 channels from its address. At most 32 units on one line; for more units or longer runs use a DMX splitter. A 120 Ω terminator closes the last DMX OUT.

7 Operation

Setting the DMX address

- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “Mode 1”: 21.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied channel does not exceed 512. Devices with the same start address and mode respond identically.
- For several devices in a row in the DMX mode “Mode 1”, you can use, for example, the start addresses 1, 22, 43, 64.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

8 Functions at a glance

Functions in each DMX mode

	Mode 1 21 channels
Pan / Tilt	1, 2
Dimmer	12, 21
Shutter / strobe	11
Color mixing	14–19
Color wheel	6, 20
Gobo wheel	7
Gobo rotation	8
Prism	10
Focus	9

Color wheel 1

1. Open — DMX 0–15
2. Cyan — DMX 16–31
3. Neon Green — DMX 32–47
4. Magenta — DMX 48–63
5. Yellow — DMX 64–79
6. Blue — DMX 80–95
7. Green — DMX 96–111
8. Red — DMX 112–127
9. Rainbow >>> — DMX 128–191
10. Rainbow <<< — DMX 192–255

Gobo wheel

1	Open	DMX 0–18	4	Gobo 3	DMX 57–75
2	Gobo 1	DMX 19–37	5	Gobo 4	DMX 76–94
3	Gobo 2	DMX 38–56	6	Gobo 5	DMX 95–113

7	Gobo 6	DMX 114–127
8	Gobo Scroller >>>	DMX 128–191
9	Gobo Scroller <<<	DMX 192–255

Color wheel 2

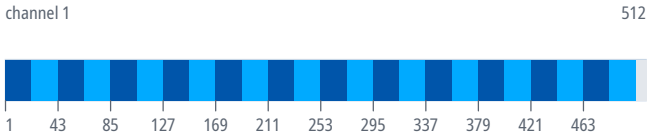
1. Blackout — DMX 0–9
2. Red — DMX 10–23
3. Green — DMX 24–47
4. Blue — DMX 48–71
5. White — DMX 72–95
6. Amber — DMX 96–119
7. UV — DMX 120–143
8. Red/Green — DMX 144–167
9. Green/Blue — DMX 168–191
10. Red/Blue — DMX 192–215
11. Red/Green/Blue/White — DMX 216–239
12. All — DMX 240–255

Prism

1. Open — DMX 0–15
2. 1 facet 3FacetPrism (no rot) — DMX 16–50
3. 1 facet 3FacetPrism (rot) — DMX 51–255

9 DMX channels

Units in one DMX universe



Mode 1
21 channels

up to 24 units
last address 484

Start addresses of 20 units in the mode “Mode 1”

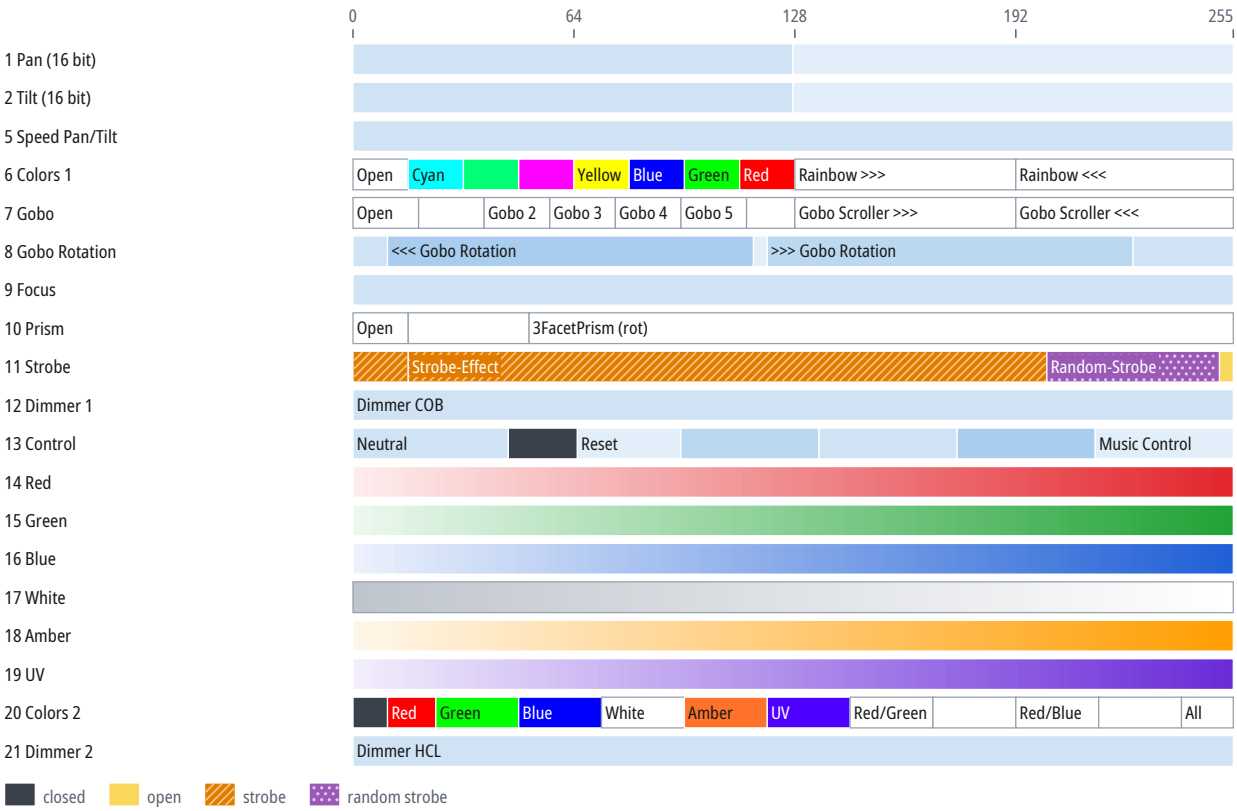
Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	106	11	211	16	316
2	22	7	127	12	232	17	337
3	43	8	148	13	253	18	358
4	64	9	169	14	274	19	379
5	85	10	190	15	295	20	400

Mode 1

16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

If the device receives DMX in this mode but gives no light, check these channels: CH 12 Dimmer 1 above 0; CH 21 Dimmer 2 above 0.

Channel functions at a glance



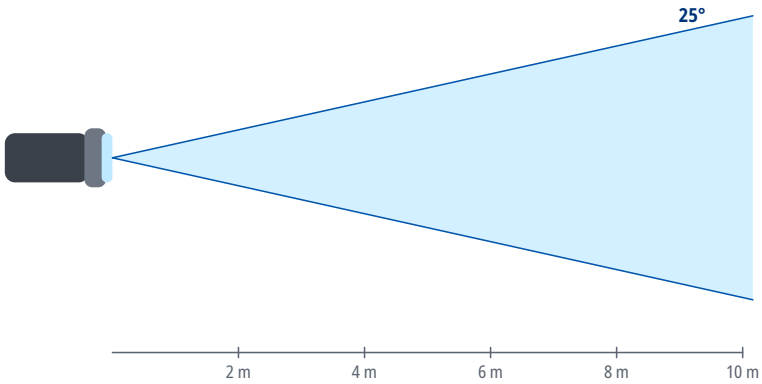
CH	Function	DMX	Description
1	Pan	0–127	Pan 1
		128	Home
		128–255	Pan 1
2	Tilt	0–127	Tilt 1
		128	Home
		128–255	Tilt 1
3	Pan Fine	0–255	Fine adjustment of CH 1
4	Tilt Fine	0–255	Fine adjustment of CH 2
5	Speed Pan/Tilt	0–255	
6	Colors 1	0–15	Open
		16–31	Cyan
		32–47	Neon Green
		48–63	Magenta
		64–79	Yellow
		80–95	Blue
		96–111	Green
		112–127	Red
		128–191	Rainbow >>>
		192–255	Rainbow <<<
7	Gobo	0–18	Open
		19–37	Gobo 1
		38–56	Gobo 2
		57–75	Gobo 3
		76–94	Gobo 4
		95–113	Gobo 5
		114–127	Gobo 6
		128–191	Gobo Scroller >>>
		192–255	Gobo Scroller <<<
8	Gobo Rotation	0–9	No Rotation
		10–115	<<< Gobo Rotation
		116–119	STOP
		120–225	>>> Gobo Rotation
		226–255	Rocking Gobo
9	Focus	0–255	
10	Prism	0–15	Open
		16–50	3FacetPrism (no rot)
		51–255	3FacetPrism (rot)
11	Strobe	0–15	Neutral
		16–200	Strobe-Effect
		201–250	Random-Strobe

CH	Function	DMX	Description
11	Strobe (continued)	251–255	LEDs on
12	Dimmer 1		Dimmer COB
		0–255	Dimmer COB
13	Control	0–44	Neutral
		45–64	Blackout during PAN/TILT
		65–94	Reset
		95–134	Internal Program low Speed
		135–174	Internal Program medium Speed
		175–214	Internal Program high Speed
		215–255	Music Control
14	Red	0–255	
15	Green	0–255	
16	Blue	0–255	
17	White	0–255	
18	Amber	0–255	
19	UV	0–255	
20	Colors 2	0–9	Blackout
		10–23	Red
		24–47	Green
		48–71	Blue
		72–95	White
		96–119	Amber
		120–143	UV
		144–167	Red/Green
		168–191	Green/Blue
		192–215	Red/Blue
		216–239	Red/Green/Blue/White
		240–255	All
21	Dimmer 2		Dimmer HCL
		0–255	Dimmer HCL

10 Technical specifications

Parameter	Value
Movement	
Pan	540°
Tilt	220°
Control	
DMX connection	5-pin XLR IN/OUT, 3-pin XLR IN/OUT
RJ45 connectors	RJ45 IN
Electrical	
Power supply	100–240 V, 50/60 Hz
Power consumption	850 W
Power connectors	powerCON TRUE1 IN/OUT
Dimensions and construction	
Weight	8 kg
Operating environment	
Operating temperature	0 to 40 °C

Spot diameter



Distance	Ø 25°
2 m	0.89 m
4 m	1.8 m
6 m	2.7 m
8 m	3.5 m
10 m	4.4 m
15 m	6.7 m

Spot diameter square to the beam axis, calculated from the beam angle.

11 Maintenance and cleaning

- Before cleaning and maintenance, switch the device off, disconnect it from the power supply and let it cool down.
- Clean the housing with a soft, dry or slightly damp cloth. Do not use solvents, abrasive cleaners or pressure washers, and make sure no liquid gets into the device.
- Clean optical parts (lenses, front glass), if the device has any, with a soft lint-free cloth and a cleaner intended for optics or glass.
- Regularly inspect the housing, cables, connectors and fixings. Have damaged parts replaced by a service center.
- How often to clean depends on the environment; dust, smoke and fog make the device dirty much faster.

12 Troubleshooting

Problem	Remedy
The device does not switch on	Check the supply voltage, the cables and the fuse, if the device has one.
The device does not respond to DMX	Check the start address, the selected DMX mode and whether it matches the profile in the controller, the cable connection to DMX IN, and the controller output (universe).
The device behaves erratically or flickers	Check the terminator at the end of the line, the condition and wiring of the cables (shield on pin 1 only), the number of devices on the line (32 at most), and that the line is not split without a splitter.
Only some devices on the line respond	Check the cable and connectors between the last working and the first non-working device, and make sure all devices on the line are switched on.
Devices respond to the wrong channels or affect each other	Check that the addresses do not overlap and that the DMX mode on the devices matches the patch in the controller.
The device or the connected load does not light up although it receives DMX	Check the values of the dimmer, shutter and strobe channels against the DMX channel table. For the DMX modes for which the sources state it, the chapter DMX channels gives under the mode's heading which channels must be open.
Movement is reversed	Check whether Pan/Tilt inversion is enabled in the device menu or in the controller.
Moving parts do not reach the correct position after power-on or transport	Switch the device off and on again to reset the position, and make sure the transport lock, if any, is released. If this does not help, contact a service center.
Movement is jerky	Check the value of the Pan/Tilt speed channel, if the device has one, and the stability of the DMX signal.

13 Disposal

The crossed-out wheeled bin symbol on the product, in the manual or on the packaging means that the product must not be disposed of with unsorted household waste at the end of its life.

Take the end-of-life equipment to a collection point, for example a municipal collection site or a retailer. Proper disposal enables materials to be recycled and helps prevent possible negative effects on the environment and human health.

Follow the regulations applicable in your country; in the Czech Republic, take-back is governed by Act No. 542/2020 Coll., on End-of-Life Products.

Recycle the packaging materials according to their type.