DMX REFERENCE

LED MH77B

Involight

Manufacturer	Involight
GDTF file	Involight_LED_MH77B_66229.gdtf
GDTF revision	Final2.0 · 2024-06-12
Generated	2026-11-24

Contents

1 About this manual 2
2 Quick reference 2
3 Safety instructions 3
4 Product description 4
5 Installation 4
6 Connections 5
7 Operation 5
8 Functions at a glance 6
9 DMX channels 8
Mode 19ch 8
10 Technical specifications 12
11 Maintenance and cleaning 12
12 Troubleshooting 13
13 Disposal 13

1 About this manual

This document describes the LED MH77B by Involight. It was compiled from the GDTF file Involight_LED_MH77B_66229.gdtf from the GDTF-Share library.

File revision: “Final2.0”.

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 Involight; 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
Weight	12 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Mode 19ch	19	26	1, 20, 39, 58, ...

No light? Check these channels

- Mode 19ch: CH 6 Shutter at 253–255 “Open”; CH 7 Dimmer above 0



Read the manual before use



Do not stare into the light



Indoor use only

3 Safety instructions



Read the manual before use



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

- 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.

⚠ 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.

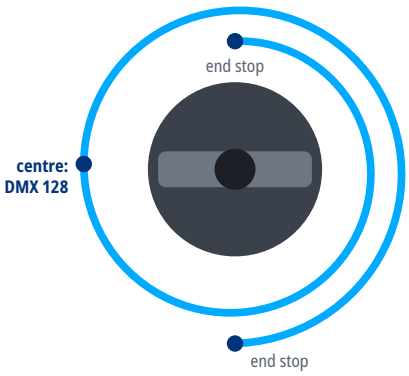
> ⚠ **WARNING**
>
> - The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
> - Keep yourself and any objects out of the range of movement. While the device is switched on, do 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

Pan 540°

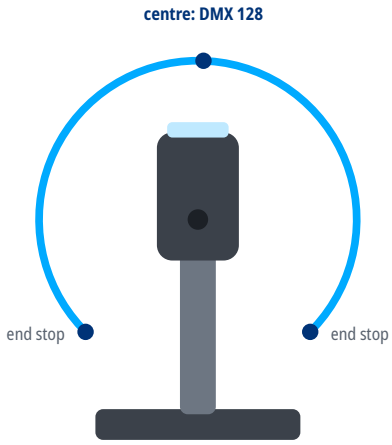
top view



full travel in 2.1 s

Tilt 270°

side view



full travel in 1.2 s

Full-travel times as stated in the GDTF file.

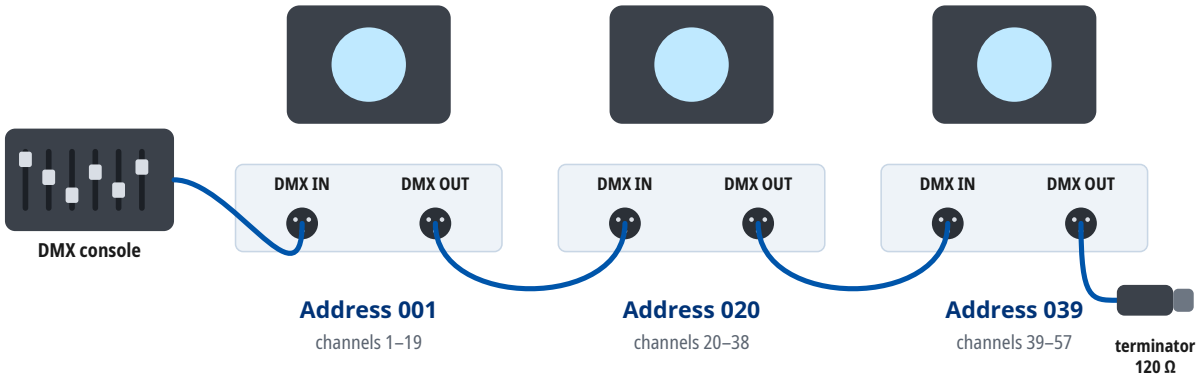
5 Installation

> ⚠ **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: 12 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 19ch: every unit occupies 19 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

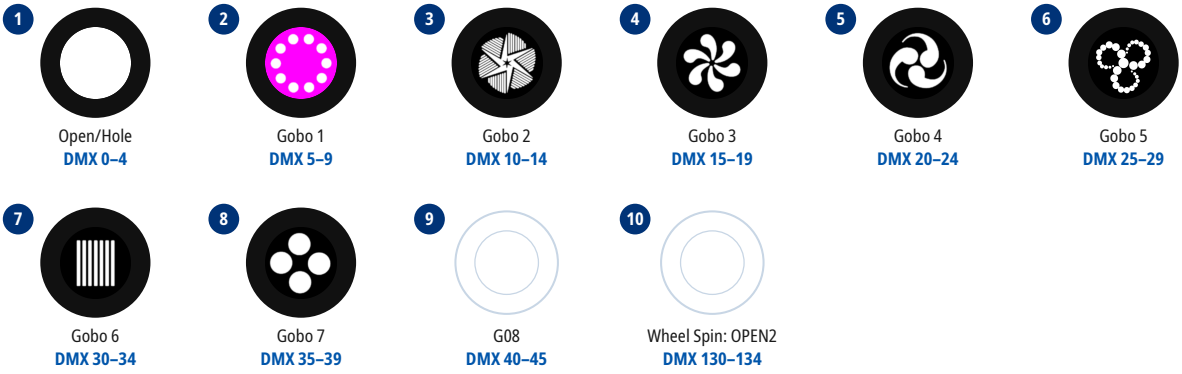
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “Mode 19ch”: 19.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied 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 19ch”, you can use, for example, the start addresses 1, 20, 39, 58.
- 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 19ch 19 channels
Pan / Tilt	1, 3
Dimmer	7
Shutter / strobe	6
Color wheel	8, 17
Gobo wheel	9
Gobo rotation	19
Prism	11, 12
Frost	13
Focus	10

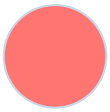
Gobo wheel

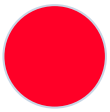


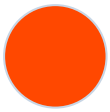
1 Open/Hole DMX 0–4
2 Gobo 1 DMX 5–9
3 Gobo 2 DMX 10–14
4 Gobo 3 DMX 15–19
5 Gobo 4 DMX 20–24
6 Gobo 5 DMX 25–29
7 Gobo 6 DMX 30–34
8 Gobo 7 DMX 35–39
9 G08 DMX 40–45
10 Wheel Spin: OPEN2 DMX 130–134

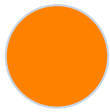
Color wheel

1
Color: Open
DMX 0–2

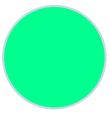
2 
C01 (Blue)
DMX 3–8

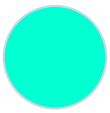
3 
C02 (Yellow)
DMX 9–12

4 
C03 (Pink)
DMX 13–18

5 
C04 (Green)
DMX 19–22

6
C05 (Red)
DMX 23–28

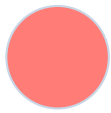
7 
C06 (Light Blue)
DMX 29–32

8 
C07 (Orange)
DMX 33–38

9 
Split Colors
DMX 39–42

10 
C09 (LB/P)
DMX 43–48

11 
C10 (Pink)
DMX 49–52

12 
C11 (P/Y)
DMX 53–58

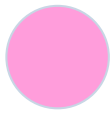
13
C12 (Yellow)
DMX 59–62

14
C13 (Y/B)
DMX 63–68

15 
C14 (Blue)
DMX 69–72

16 
C15 (B/M)
DMX 73–78

17 
C16 (Magenta)
DMX 79–82

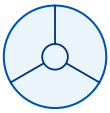
18 
C17 (M/W)
DMX 83–88

19
C18 (W)
DMX 89–92

20
Rainbow

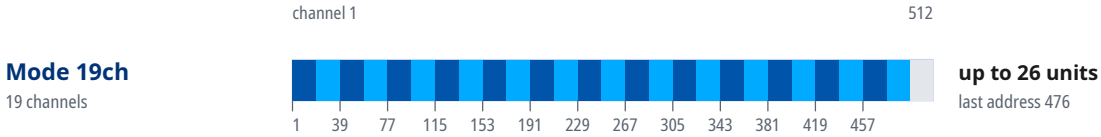
Prism

1
Open

2 
3 facets
FixedPos0-360
DMX 0–63

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Mode 19ch”

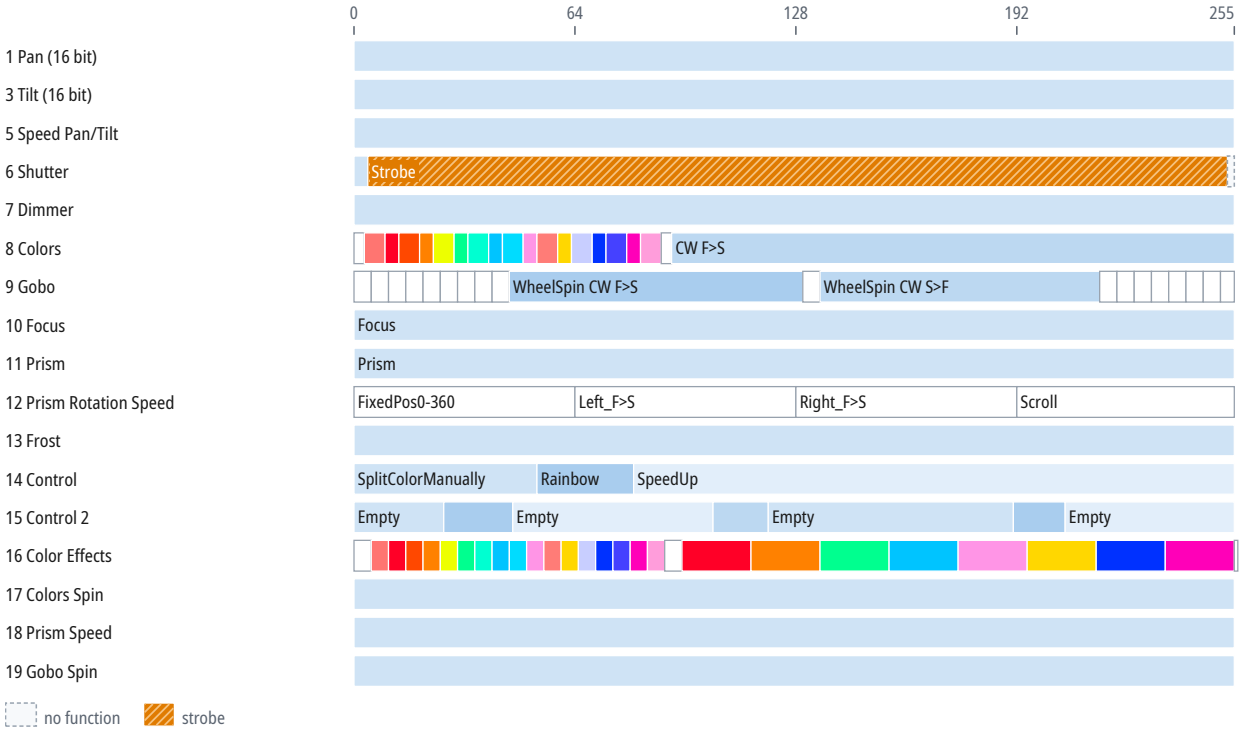
Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	96	11	191	16	286
2	20	7	115	12	210	17	305
3	39	8	134	13	229	18	324
4	58	9	153	14	248	19	343
5	77	10	172	15	267	20	362

Mode 19ch

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 6 Shutter at 253–255 “Open”; CH 7 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 6 Shutter 255, CH 7 Dimmer 255, CH 8 Colors 2.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–255	540°
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–255	270°
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt	0–255	
6	Shutter	0–3	Colsed
		4–252	Strobe
		253–255	Open
7	Dimmer	0–255	
8	Colors	0–2	Color: Open
		3–8	C01 (Blue)
		9–12	C02 (Yellow)
		13–18	C03 (Pink)
		19–22	C04 (Green)
		23–28	C05 (Red)
		29–32	C06 (Light Blue)
		33–38	C07 (Orange)
		39–42	Split Colors
		43–48	C09 (LB/P)
		49–52	C10 (Pink)
		53–58	C11 (P/Y)
		59–62	C12 (Yellow)
		63–68	C13 (Y/B)
		69–72	C14 (Blue)
		73–78	C15 (B/M)
		79–82	C16 (Magenta)
		83–88	C17 (M/W)
		89–91	C18 (W)
		92–255	CW F>S
9	Gobo	0–4	Open/Hole
		5–9	Gobo 1
		10–14	Gobo 2
		15–19	Gobo 3
		20–24	Gobo 4
		25–29	Gobo 5
		30–34	Gobo 6
		35–39	Gobo 7
		40–44	G08
		45–129	WheelSpin CW F>S
		130–134	Wheel Spin: OPEN2

CH	Function	DMX	Description
9	Gobo (continued)	135–215	WheelSpin CW S>F
		216–220	Gobo 1 shake
		221–225	Gobo 2 shake
		226–230	Gobo 3 shake
		231–235	Gobo 4 shake
		236–240	Gobo 5 shake
		241–245	Gobo 6 shake
		246–250	Gobo 7 shake
		251–255	Gobo 8 shake
10	Focus	0–255	Focus
11	Prism	0–255	Prism
12	Prism Rotation Speed	0–63	FixedPos0-360 (0–360 °/s)
		64–127	Left_F>S
		128–191	Right_F>S
		192–255	Scroll
13	Frost	0–255	
14	Control	0–52	SplitColorManually
		53–80	Rainbow
		81–255	SpeedUp
15	Control 2	0–25	Empty
		26–45	ResetExeptP/T/Software
		46–103	Empty
		104–119	ResetP/T
		120–190	Empty
		191–205	ResetALL
		206–255	Empty
16	Color Effects	0–4	Open
		5–9	C01 (Blue)
		10–14	C02 (Yellow)
		15–19	C03 (Pink)
		20–24	C04 (Green)
		25–29	C05 (Red)
		30–34	C06 (Light Blue)
		35–39	C07 (Orange)
		40–44	Split Colors
		45–49	C09 (LB/P)
		50–54	C10 (Pink)
		55–59	C11 (P/Y)
		60–64	C12 (Yellow)
		65–69	C13 (Y/B)
		70–74	C14 (Blue)

CH	Function	DMX	Description
16	Color Effects (continued)	75–79	C15 (B/M)
		80–84	C16 (Magenta)
		85–89	C17 (M/W)
		90–94	C18 (W)
		95–114	C02 (Red)
		115–134	C04 (Orange)
		135–154	C06 (Green)
		155–174	C08 (Light Blue)
		175–194	C10 (Pink)
		195–214	C12 (Yellow)
		215–234	C14 (Blue)
		235–254	C16 (Magenta)
		255	C18 (W)
17	Colors Spin	0–255	
18	Prism Speed	0–255	
19	Gobo Spin	0–255	

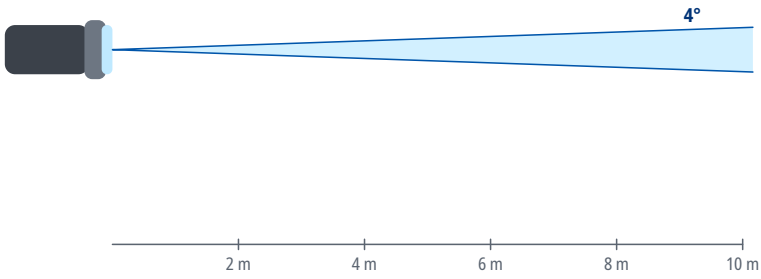
10 Technical specifications

Parameter	Value
Light	
Light source	discharge lamp
Lamp power	280 W
Luminous flux	9,870 lm
Color temperature	7,000 K
Color rendering index (CRI)	75
Optics	
Beam angle	4°
Movement	
Pan	540°
Tilt	270°
Dimensions and construction	
Weight	12 kg
Operating environment	
Operating temperature	0 to 40 °C

Speeds and ranges

Parameter	Value
Prism rotation	up to 360 °/s (60 rpm)

Spot diameter



Distance	Ø 4°
2 m	0.14 m
4 m	0.28 m
6 m	0.42 m
8 m	0.56 m
10 m	0.7 m
15 m	1 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.