

User Manual



MBM40D DMX

Mirror Ball Motor

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1 General information

This document contains important instructions for the safe operation of the product. Read and follow the safety instructions and all other instructions. Keep the document for future reference. Make sure that it is available to all those using the product. If you sell the product to another user, be sure that they also receive this document.

Our products and documentation are subject to a process of continuous development. They are therefore subject to change. Please refer to the latest version of the documentation, which is ready for download under www.thomann.de.

1.1 Symbols and signal words

In this section you will find an overview of the meaning of symbols and signal words that are used in this document.

Signal word	Meaning
DANGER!	This combination of symbol and signal word indicates an immediate dangerous situation that will result in death or serious injury if it is not avoided.
WARNING!	This combination of symbol and signal word indicates a possible dangerous situation that can result in death or serious injury if it is not avoided.
NOTICE!	This combination of symbol and signal word indicates a possible dangerous situation that can result in material and environmental damage if it is not avoided.
Warning signs	Type of danger
	Warning – high-voltage.
	Warning – suspended load.
	Warning – danger zone.

2 Safety instructions

Intended use

This device is designed as a drive motor for mirror balls. Use the device only as described in this user manual. Any other use or use under other operating conditions is considered to be improper and may result in personal injury or property damage. No liability will be assumed for damages resulting from improper use.

This device may be used only by persons with sufficient physical, sensorial, and intellectual abilities and having corresponding knowledge and experience. Other persons may use this device only if they are supervised or instructed by a person who is responsible for their safety.

Safety



DANGER!

Risk of injury and choking hazard for children!

Children can suffocate on packaging material and small parts. Children can injure themselves when handling the device. Never allow children to play with the packaging material and the device. Always store packaging material out of the reach of babies and small children. Always dispose of packaging material properly when it is not in use. Never allow children to use the device without supervision. Keep small parts away from children and make sure that the device does not shed any small parts (such knobs) that children could play with.



DANGER!

Danger to life due to electric current!

Within the device there are areas where high voltages may be present. Never remove any covers. There are no user-serviceable parts inside. Do not use the device when covers, safety equipment or optical components are missing or damaged.



DANGER!

Danger to life due to electric current!

A short circuit could lead to a fire hazard and risk of death. Do not modify the mains cable or the plug! In case of isolation damage, disconnect immediately the power supply and arrange repair. If in doubt, seek advice from a qualified electrician.



WARNING!

Risk of injury caused by falling due to incorrect ceiling installation!

If the motor is not properly installed on the ceiling, it can cause severe injury and considerable damage by falling. Make sure that the ceiling installation of the motor is carried out properly and professionally. When installing and operating, make sure to follow the standards and regulations that apply in your country.



NOTICE!

Risk of fire due to covered vents and neighbouring heat sources!

If the vents of the device are covered or the device is operated in the immediate vicinity of other heat sources, the device can overheat and burst into flames. Never cover the device or the vents. Do not install the device in the immediate vicinity of other heat sources. Never operate the device in the immediate vicinity of naked flames.



NOTICE!

Damage to the device if operated in unsuitable ambient conditions!

The device can be damaged if it is operated in unsuitable ambient conditions. Only operate the device indoors within the ambient conditions specified in the "Technical specifications" chapter of this user manual. Avoid operating it in environments with direct sunlight, heavy dirt and strong vibrations. Avoid operating it in environments with strong temperature fluctuations. If temperature fluctuations cannot be avoided (for example after transport in low outside temperatures), do not switch on the device immediately. Never subject the device to liquids or moisture. Never move the device to another location while it is in operation. In environments with increased dirt levels (for example due to dust, smoke, nicotine or mist): Have the device cleaned by qualified specialists at regular intervals to prevent damage due to overheating and other malfunctions.

**NOTICE!****Damage to the device due to high voltages!**

The device can be damaged if it is operated with the incorrect voltage or if high voltage peaks occur. In the worst case, excess voltages can also cause a risk of injury and fires. Make sure that the voltage specification on the device matches the local power grid before plugging in the device. Only operate the device from professionally installed mains sockets that are protected by a residual current circuit breaker (FI). As a precaution, disconnect the device from the power grid when storms are approaching or if the device will not be used for a longer period.

3 Features

- Drive motor for mirror balls
- Maximum load: 35 kg
- Operating modes: Master / slave, automatic, DMX
- Rotational direction selectable
- Rotating speed adjustable

4 Installation and starting up

Unpack and check carefully there is no transportation damage before using the unit. Keep the equipment packaging. To fully protect the product against vibration, dust and moisture during transportation or storage use the original packaging or your own packaging material suitable for transport or storage, respectively.

Ceiling installation



WARNING!

Risk of injury caused by falling due to incorrect ceiling installation!

If the motor is not properly installed on the ceiling, it can cause severe injury and considerable damage by falling.

Make sure that the ceiling installation of the motor is carried out properly and professionally.

When installing and operating, make sure to follow the standards and regulations that apply in your country.

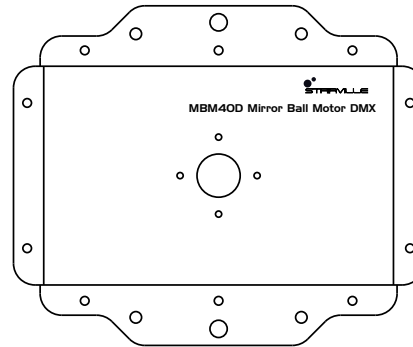
Use appropriate mounting hardware to attach the motor to the ceiling. The designated fastening area must be sufficiently stable for the load, level and vibration-free.



The device is designed for a maximum load of 35 kg (mirror ball, fastening and safety chains, hook). Including the device's own weight, the maximum tensile load is 40 kg for the fastening materials used for ceiling mounting!

Always work from a stable platform whenever installing or servicing the unit. While you do this, the area underneath the device must be cordoned off.

The following figure shows the drilling template for the ceiling mounting of the device.



When installed, the motor axis must be exactly perpendicular to the ceiling level!

For information and instructions for installing the mirror ball, in particular the applicable safety instructions, please refer to the enclosed manufacturer's guide.



NOTICE!

Data transfer errors due to improper wiring!

If the DMX connections are wired incorrectly, this can cause errors during the data transfer.

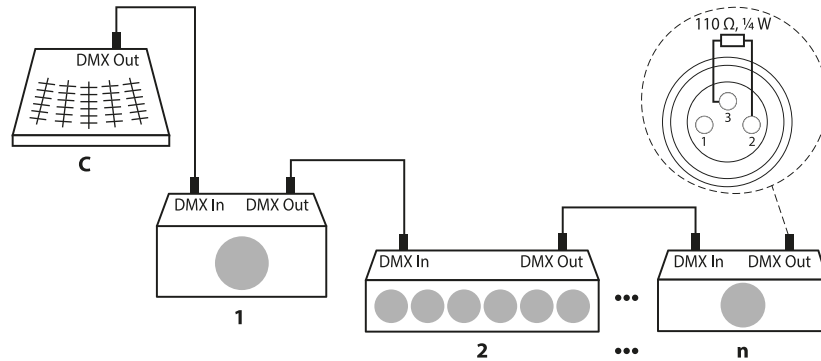
Do not connect the DMX input and output to audio devices, e.g. mixers or amplifiers.

Use special DMX cables for the wiring instead of normal microphone cables.

Create all connections while the device is off. Use the shortest possible high-quality cables for all connections. Take care when running the cables to prevent tripping hazards.

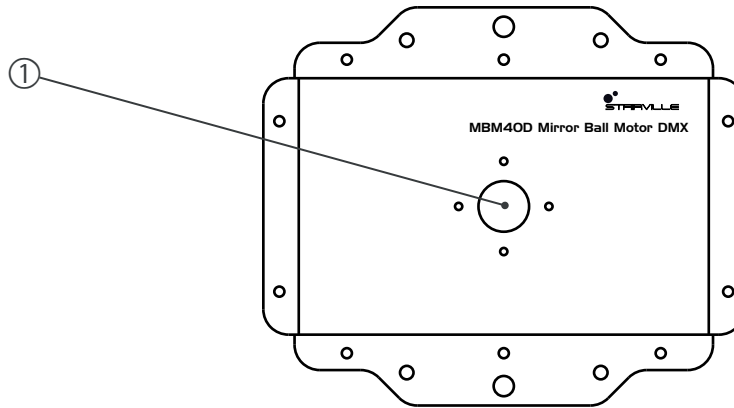
Connections in DMX mode

Connect the DMX input of the device to the DMX output of a DMX controller or another DMX device. Connect the output of the first DMX device to the input of the second one, and so on to form a daisy chain. Always ensure that the output of the last DMX device in the daisy chain is terminated with a resistor ($110\ \Omega$, $\frac{1}{4}\ \text{W}$).



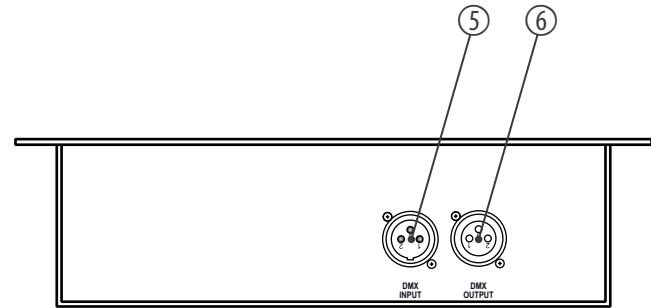
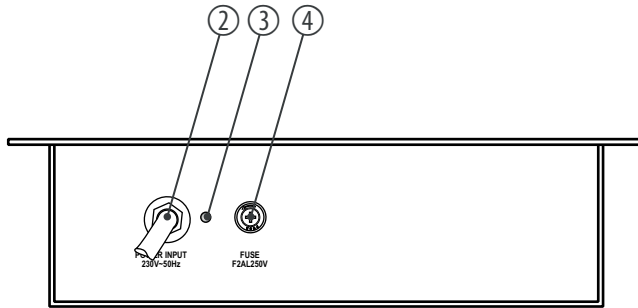
5 Connections and controls

Top view



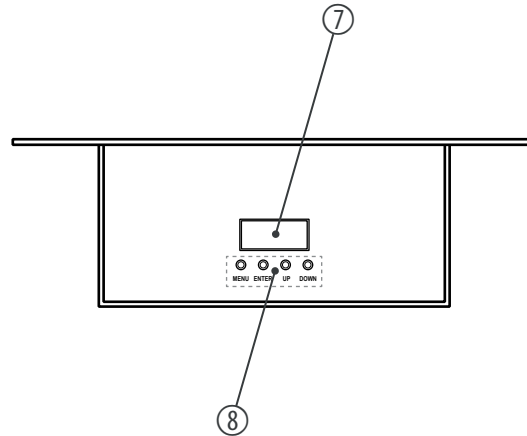
1 Motor axis.

Front and rear panel



- | | |
|---|--|
| 2 | [POWER INPUT] Mains cable for the power supply. |
| 3 | Power indicator. This LED lights up as soon as power is applied to the device. |
| 4 | [FUSE] Fuse holder-FUSE. |
| 5 | [DMX INPUT] DMX input. |
| 6 | [DMX OUTPUT] DMX output. |

Control panel and display



7 Display.

8 *[Mode]* | Activates the main menu and toggles between menu items. Closes an open submenu.

[Setup] | Selects an option of the respective operating mode, confirms the set value.

[Up] | Increases the displayed value by one.

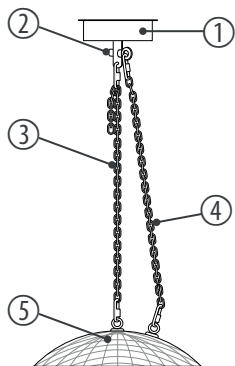
[Down] | Decreases the displayed value by one.

6 Operating

Before switching on

A suitable safety bolt is part of the delivery and is used to attach a safety chain, which must secure the attached mirror ball against falling.

Attach the safety bolt to the motor axis before turning on. When mounting the mirror ball, follow all manufacturer's advice and instructions and, in particular the applicable safety regulations.



1	Mirror ball motor
2	Safety bolt.
3	Hanging chain of the mirror ball.
4	Safety chain of the mirror ball.
5	Mirror ball.

Turning the unit on

To start up the device, connect it to the mains. The device is immediately ready for operation.

Operating mode 'Master / Slave'

This setting is only relevant if the device is working as Slave in a Master / Slave configuration and is not controlled via DMX. In this operating mode, the device responds to the control signals of the master device.

1. ➤ Establish all necessary cable connections.
2. ➤ Use *[Menu]* to open the main menu and use *[Up]* or *[Down]* to select the option 'Slave'.
⇒ The device operates in slave mode until you select another operating mode.

Operating mode 'DMX'

This setting is only relevant when the device is controlled via DMX.

1. ➤ Use *[Menu]* to open the main menu and use *[Up]* or *[Down]* to select the option 'DMX'.
2. ➤ Confirm with *[Enter]* and use *[Up]* or *[Down]* to assign a DMX address in a range from 'A001' ... 'A512'.

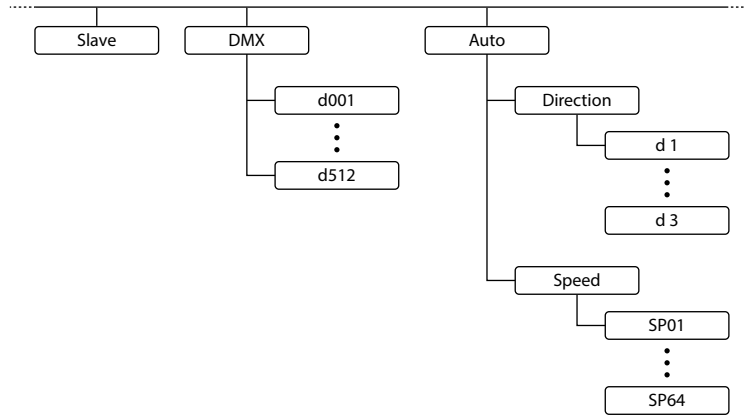
Channel	Value	Function
1	0	no rotary movement
	1 ... 127	clockwise rotation movement, speed decreasing
	128	no rotary movement
	129 ... 255	counter-clockwise rotation movement, speed increasing

Operating mode 'Automatic'

This setting is only relevant if the device is working in Stand Alone mode and is not controlled via DMX. In this operating mode, the device responds to the 'Auto' menu settings.

1. ➤ Use *[Menu]* to open the main menu and use *[Up]* or *[Down]* to select the option 'Auto'.
2. ➤ Confirm with *[Enter]* and use *[Up]* or *[Down]* to select one of the following options:
 - 'direction'
 - 'speed'
3. ➤ You can specify the rotational direction of the motor in the 'direction' menu: 'd1' (clockwise) or 'd3' (counter clockwise).
4. ➤ You can specify the rotational speed of the motor in the 'speed' menu: 'SP01' ... 'SP64' (0.5 min⁻¹ ... 5 min⁻¹).

Menu overview



7 Technical specifications

Number of DMX channels	1	
Rotational speed	adjustable from 0.5 min ⁻¹ ... 5 min ⁻¹	
Rotational direction	right / left switchable	
Maximum load:	35 kg	
Maximum tensile load	40 kg (including the self-weight of the device)	
Power consumption	16 W	
Supply voltage	230 V ~ 50 Hz	
Fuse	5 mm × 20 mm, 2 A, 250 V, slow-blow	
Dimensions (W × H × D)	285 mm × 190 mm × 235 mm	
Weight	5 kg	
Ambient conditions	Temperature range	0 °C...40 °C
	Relative humidity	20 %...80 % (non-condensing)

8 Plug and connection assignments

Introduction

This chapter will help you select the right cables and plugs to connect your valuable equipment so that a perfect light experience is guaranteed.

Please take our tips, because especially in 'Sound & Light' caution is indicated: Even if a plug fits into a socket, the result of an incorrect connection may be a destroyed DMX controller, a short circuit or 'just' a not working light show!

DMX connections

The unit offers a 3-pin XLR socket for DMX output and a 3-pin XLR plug for DMX input. Please refer to the drawing and table below for the pin assignment of a suitable XLR plug.



Pin	Configuration
1	Ground, shielding
2	Signal inverted (DMX-, 'cold signal')
3	Signal (DMX+, 'hot signal')

9 Cleaning

Components

Clean the externally accessible device parts regularly. The frequency of cleaning depends on the operating environment: wet, smoky or particularly dirty surroundings can cause more accumulation of dirt on the device parts.

- Clean with a soft dry cloth.
- Stubborn stains may be removed with a slightly damp cloth.
- Never use cleaners containing alcohol or thinner.

10 Protecting the environment

Disposal of the packaging material

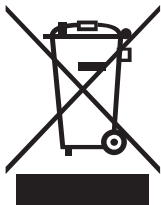


For the transport and protective packaging, environmentally friendly materials have been chosen that can be supplied to normal recycling.

Ensure that plastic bags, packaging, etc. are properly disposed of.

Do not just dispose of these materials with your normal household waste, but make sure that they are collected for recycling. Please follow the notes and markings on the packaging.

Disposal of your old device



This product is subject to the European Waste Electrical and Electronic Equipment Directive (WEEE) in its currently valid version. Do not dispose with your normal household waste.

Dispose of this device through an approved waste disposal firm or through your local waste facility. When discarding the device, comply with the rules and regulations that apply in your country. If in doubt, consult your local waste disposal facility.

