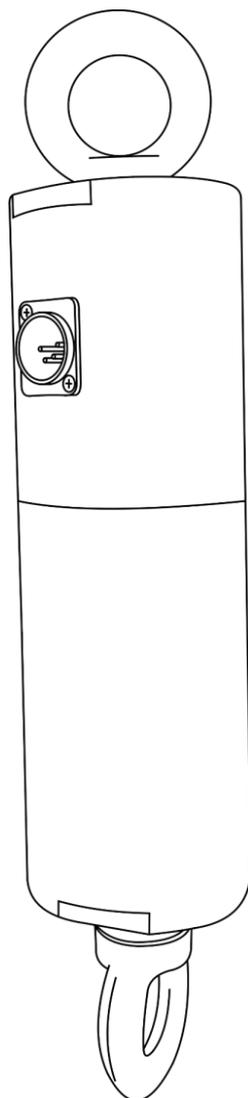




MANUAL



ENGLISH

Mirrorball Motor up to 500kg DMX V2

Ordercode: 60450

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Warning



**For your own safety, please read this user manual carefully
before your initial start-up!**

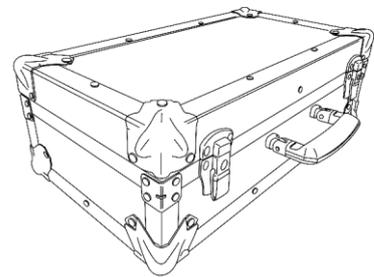


Unpacking Instructions

Immediately upon receiving this product, carefully unpack the carton and check the contents to ensure that all parts are present, and have been received in good condition. Notify the dealer immediately and retain packing material for inspection if any parts appear damaged from shipping or the carton itself shows signs of mishandling. Save the carton and all packing materials. In the event that a fixture must be returned to the factory, it is important that the fixture be returned in the original factory box and packing.

Your shipment includes:

- Showtec Mirrorball Motor up to 500kg DMX
- 1 x chain link
- 1 x flight case
- User manual



CAUTION!

**Keep this device away from rain and moisture!
Unplug mains lead before opening the housing!**



Safety Instructions

Every person involved with the installation, operation and maintenance of this device has to:

- be qualified
- follow the instructions of this manual



**CAUTION! Be careful with your operations.
With a dangerous voltage you can suffer
a dangerous electric shock when touching the wires!**



Before the initial start-up, please make sure that there is no damage caused by transportation. Should there be any, consult your dealer and do not use the device.

To maintain perfect condition and to ensure a safe operation, it is absolutely necessary for the user to follow the safety instructions and warning notes contained in this manual.

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

This device contains no user-serviceable parts. Refer servicing to qualified technicians only.

IMPORTANT:

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.

- Never let the power cord come into contact with other cables! Handle the power cord and all connections with the mains with particular caution!
- Never remove warning or informative labels from the unit. Do not open the device and do not modify the device.
- Never use anything to cover the ground contact.
- Never leave any cables lying around.
- Never use the device during thunderstorms, unplug the device immediately.
- Do not connect this device to a dimmer pack.
- Do not switch the device on and off in short intervals, as this would reduce the device's life.
- Do not touch the device's housing bare-handed during its operation (housing becomes very hot). Do not shake the device. Avoid brute force when installing or operating the device.
- Only use device indoors, avoid contact with water or other liquids.
- Only operate the fixture after having checked if the housing is firmly closed and all screws are tightly fastened.
- Only operate the device after having familiarized with its functions. Avoid flames and do not put close to flammable liquids or gases.
- Always hold the fixture by the transport handles.
- Always keep the case closed while operating.
- Always allow a free air space of at least 50 cm around the unit for ventilation.
- Make sure that the device is not exposed to extreme heat, moisture or dust. Make sure that the available voltage is not higher than stated on the rear panel.
- Make sure that the power cord is never crimped or damaged. Check the device and the power cord from time to time.
- Make sure that the rotation of the mirror ball is not interrupted in any way by decoration parts, etc.
- Make sure that the mirror ball cannot start swinging due to air streams, etc. The mirror ball and the motor should be hung and operated absolutely vibration-free.
- Regularly examine whether the chain link and the chain have any deformations. If they do, immediately detach the mirror ball.
- The length of the chain (with the mirror ball) may never exceed 100 cm.
- If the external cable is damaged, it has to be replaced by a qualified technician.
- If device was dropped or struck, disconnect mains power supply immediately. Have a qualified engineer inspect for safety before operating.
- If the device has been exposed to drastic temperature fluctuation (e.g. after transportation), do not switch it on immediately. The arising condensation water might damage your device. Leave the device switched off until it has reached room temperature.
- If your Showtec device fails to work properly, discontinue use immediately. Pack the unit securely (preferably in the original packing material), and return it to your Showtec dealer for service.
- For adult use only. The Mirrorball Motor must be installed out of the reach of children. Never leave the unit running unattended.
- Never attempt to bypass the thermostatic switch or fuses.
- The user is responsible for correct positioning and operating of the Mirrorball Motor. The manufacturer will not accept liability for damages caused by the misuse or incorrect installation of this mirror ball control system.
- This device falls under protection class I. Therefore it is essential to connect the yellow/green conductor to earth.
- Repairs, servicing and electric connection must be carried out by a qualified technician.
- WARRANTY: Till one year after date of purchase.

Operating Determinations

- This device is not designed for permanent operation. Consistent operation breaks will ensure that the device will serve you for a long time without defects.
- To eliminate wear and improve lifespan, during periods of non-use, completely disconnect from power via breaker or by unplugging.
- The maximum ambient temperature $t_a = 40\text{ °C}$ must never be exceeded.
- The relative humidity must not exceed 50 % with an ambient temperature of 40 °C.
- If this device is operated in any other way than the one described in this manual, the product may suffer damages and the warranty becomes void.
- Any other operation may lead to dangers like short-circuit, burns, electric shock, crash, etc.

You endanger your own safety and the safety of others!

Rigging

Please follow the European and national guidelines concerning rigging, trussing and all other safety issues.

Do not attempt the installation yourself !

Always let the installation be carried out by an authorized dealer !

Procedure:

- If the mirror ball or motor is lowered from the ceiling or high joists, professional trussing systems have to be used.
- The motor must never be fixed swinging freely in the room.
- The installation must always be secured with a safety attachment, e.g. an appropriate safety net or a safety cable.
- Make sure that the installation area can hold a minimum point load of 10 times the device's load (e.g. maximum load: 3 kg = point load: 30 kg).
- When rigging, derigging or servicing the device, always make sure, that the area below the installation place is blocked and staying in the area is forbidden.

Improper installation can cause serious injuries and/or damage of property!

Connection with the mains

Connect the device to the mains with the power-plug.

Always check if the right color cable is connected to the right place.

International	EU Cable	UK Cable	US Cable	Pin
L	BROWN	RED	YELLOW/COPPER	PHASE
N	BLUE	BLACK	SILVER	NEUTRAL
	YELLOW/GREEN	GREEN	GREEN	PROTECTIVE GROUND

Make sure that the device is always properly connected to the earth!

Improper installation can cause serious injuries and/or damage of property!



Return Procedure

Returned merchandise must be sent prepaid and in the original packing, call tags will not be issued. Package must be clearly labeled with a Return Authorization Number (RMA number). Products returned without an RMA number will be refused. Highlite will not accept the returned goods or any responsibility. Call Highlite 0031-455667723 or mail aftersales@highlite.com and request an RMA prior to shipping the fixture. Be prepared to provide the model number, serial number and a brief description of the cause of the return. Be sure to properly pack fixture as any shipping damage resulting from inadequate packaging is the customer's responsibility. Highlite reserves the right to use its own discretion to repair or replace product(s). As a suggestion, proper UPS packing or double-boxing is always a safe method to use.

Note: If you are given an RMA number, please include the following information on a piece of paper inside the box:

- 01) Your name
- 02) Your address
- 03) Your phone number
- 04) A brief description of the symptoms

Claims

The client has the obligation to check the delivered goods immediately upon delivery for any shortcomings and/or visible defects, or perform this check after our announcement that the goods are at their disposal. Damage incurred in shipping is the responsibility of the shipper; therefore the damage must be reported to the carrier upon receipt of merchandise.

It is the customer's responsibility to report and submit claims with the shipper in the event that a fixture is damaged due to shipping. Transportation damage has to be reported to us within one day after receipt of the delivery.

Any return shipment has to be made post-paid at all times. Return shipments must be accompanied with a letter defining the reason for return shipment. Non-prepaid return shipments will be refused, unless agreed otherwise in writing.

Complaints against us must be prepared in writing or sent by fax within 10 working days after receipt of the invoice. After this period complaints will not be handled anymore.

Complaints will only then be considered if the client has so far complied with all parts of the agreement, regardless of the agreement from which the obligation is resulting.

Description of the device

Features

The Showtec Mirrorball Motor up to 500kg DMX can be used for rotating of heavy loads up to 500 kg (mirror ball 200 cm). The robust assembly and the high-quality components guarantee a long service life.

- Loading capacity: 500 kg
- Breaking load: 6,3 t
- Rotation speed: 0,5–4 RPM
- Torque: 0,4 Nm
- Connections: 4-pin motor IN
- Housing: Anodized aluminum
- Dimensions (motor): 80 x 390 mm (WxH)
- Weight (motor): 3,9 kg
- Dimensions (flight case): 455 x 250 x 160 mm (LxWxH)
- Weight (flight case): 4,1 kg



In order to be able to use this device, you need to purchase the 60455 – Mirrorball Motorcontroller as well as the power cables listed below.



[60418](#) – Mirrorball 200 cm

[60420](#) – Mirrorball 150 cm

[60455](#) – Mirrorball Motorcontroller

[FL816](#) – FL81, XLR/M 4-pin > XLR/F 4-pin cable (6 m)

[FL8110](#) – FL81, XLR/M 4-pin > XLR/F 4-pin cable (10 m)

[FL8120](#) – FL81, XLR/M 4-pin > XLR/F 4-pin cable (20 m)

Overview

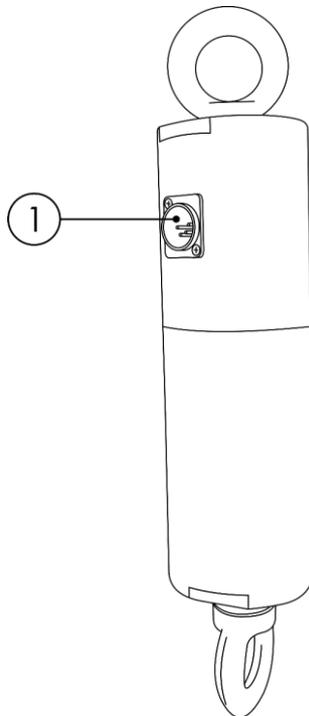


Fig. 01

01) 4-pin motor connector IN

Installation

Remove all packing materials from the Mirrorball Motor up to 500kg DMX. Check if all foam and plastic padding is removed. Connect all cables.

Do not supply power before the whole system is set up and connected properly.

Always disconnect from electric mains power supply before cleaning or servicing.

Damages caused by non-observance are not subject to warranty.

Setup and Operation

Follow the directions below, as they pertain to your preferred operation mode.

Before plugging the unit in, always make sure that the power supply matches the product specification voltage. Do not attempt to operate a 120V specification product on 230V power, or vice versa.

Connect the device to the main power supply.

Installing the Mirrorball Motor

- Install the motor in a vertical position at a vibration-free, oscillation-free and fire-resistant location. Use a water-level to make sure that the motor is installed absolutely vertically and that the motor axle points are facing the bottom.
- Perform a hazard analysis based on the location and application if the motor and the mirror ball are to be operated above persons, in order to ensure dimensioning and measures for a safe operation. Both the motor and the mirror ball meet the professional safety regulations regarding safety and operation.
- The installation of the mirror ball has to be carried out in a way that it can hold 10 times the device's weight for 1 hour, without any harming deformation.
- The installation must always be secured with a safety attachment, constructed in a way that no part of the installation can fall down if the main attachment fails.
- 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.
- Make sure that safety-related and machine-technical installations are approved by an expert before taking into operation.
- Make sure that safety-related and machine-technical installations are approved by an expert after every four years in the course of an acceptance test.
- Make sure that safety-related and machine-technical installations are approved by a skilled person once a year.
- Make sure that the chain's length is not longer than 100 cm.
- For overhead use, always install a safety chain on the mirror ball, which can hold at least 12 times the weight of the installation. The safety chain must be slightly longer than the mirror ball chain, so that the safety chain remains tension-free. Pull the safety chain through the safety eyelet of the mirror ball and through the safety eyelet of the motor.
- Make sure that the maximum drop distance never exceeds 20 cm.
- Replace a safety chain which already held the strain of a crash or which is defective.
- Never hang a mirror ball or other load at the safety eyelet. Loads must only be hanged at the quick link of the installation eyelet, at the motor axle. If, for any reason, a mirror ball hangs at the safety eyelet, immediately take the motor out of operation and uninstall the mirror ball. Have an expert check the whole installation for defects.
- Make sure that the rotation of the mirror ball is never obstructed by decoration material etc.
- Make sure that the mirror ball cannot be affected by air streams. The mirror ball and the motor must be installed and operated absolutely swivel-free.
- Please check for safety in regular intervals. If the installation material (e.g. key ring, shackles or screw-on chain links) or chain links have been deformed, uninstall the mirror ball immediately.

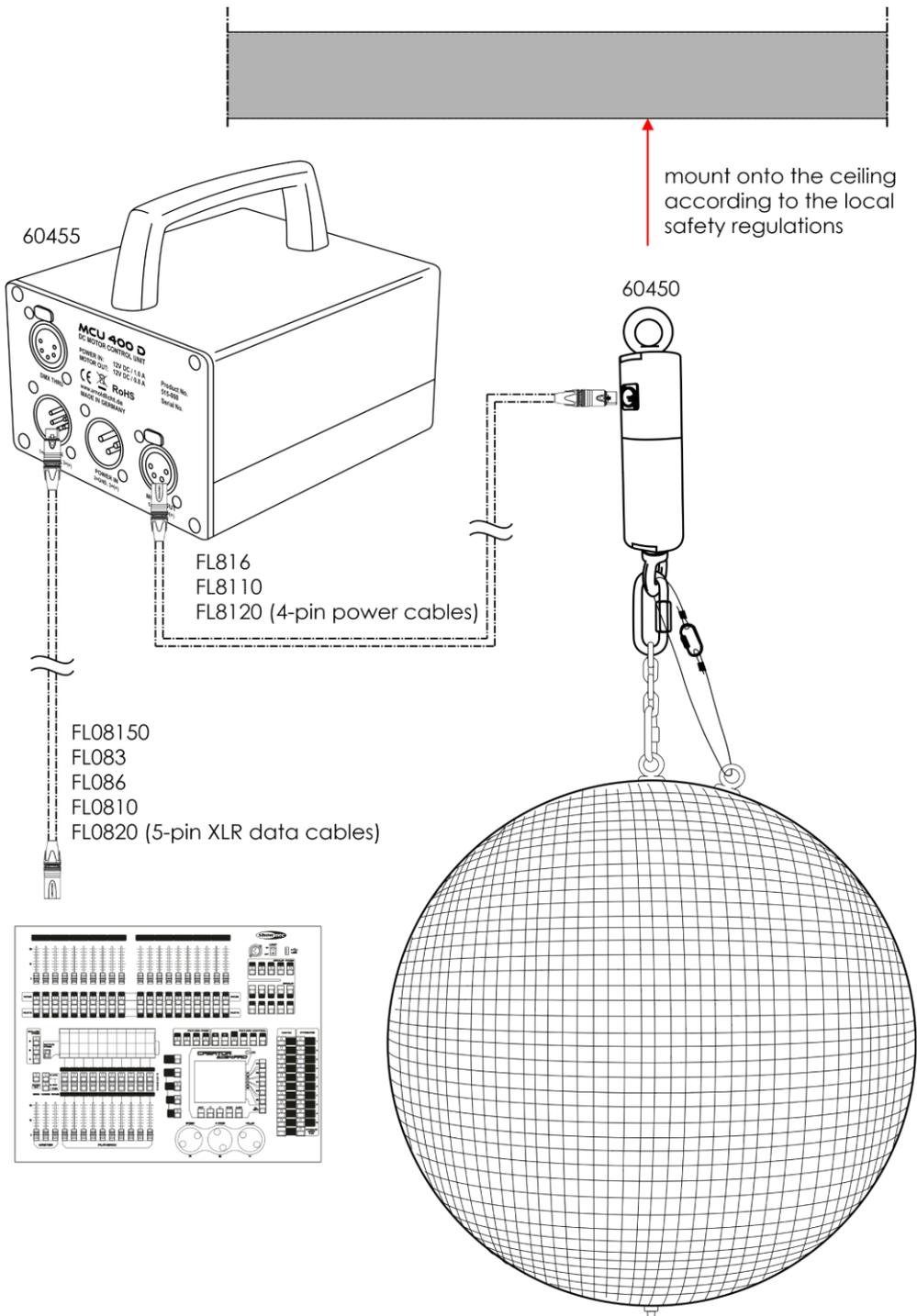


Fig. 02

Data Cabling

To link fixtures together you must obtain data cables. You can purchase DAP Audio certified DMX cables directly from a dealer/distributor or construct your own cable. If you choose to create your own cable please use data-grade cables that can carry a high quality signal and are less prone to electromagnetic interference.

DAP Audio DMX Data Cables

- DAP Audio Basic microphone cable for allround use. bal. XLR/M 3-pin > XLR/F 3-pin. **Ordercode** FL01150 (1,5 m), FL013 (3 m), FL016 (6 m), FL0110 (10 m), FL0115 (15 m), FL0120 (20 m).
- DAP Audio X-type data cable XLR/M 3-pin > XLR/F 3-pin. **Ordercode** FLX0175 (0,75 m), FLX01150 (1,5 m), FLX013 (3 m), FLX016 (6 m), FLX0110 (10 m).
- DAP Audio cable for the demanding user with exceptional audio-qualities and connector made by Neutrik®. **Ordercode** FL71150 (1,5 m), FL713 (3 m), FL716 (6 m), FL7110 (10 m).
- DAP Audio cable for the demanding user with exceptional audio-qualities and connector made by Neutrik®. **Ordercode** FL7275 (0,75 m), FL72150 (1,5 m), FL723 (3 m), FL726 (6 m), FL7210 (10 m).
- DAP Audio 110 Ohm cable with digital signal transmission. **Ordercode** FL0975 (0,75 m), FL09150 (1,5 m), FL093 (3 m), FL096 (6 m), FL0910 (10 m), FL0915 (15 m), FL0920 (20 m).
- DAP Audio data cable FL08 DMX/AES-EBU, XLR/M 5-pin > XLR/F 5-pin. **Ordercode** FL08150 (1,5 m), FL083 (3 m), FL086 (6 m), FL0810 (10 m), FL0820 (20 m).
- DAP Audio DMX adapter: 5-pin/3-pin. **Ordercode** FLA29.
- DAP Audio DMX adapter: 3-pin/5-pin. **Ordercode** FLA30.
- DAP Audio DMX Terminator 3-pin. **Ordercode** FLA42.
- DAP Audio DMX Terminator 5-pin. **Ordercode** FLA43.

Maintenance

The operator has to make sure that safety-related and machine-technical installations are to be inspected by an expert after every year in the course of an acceptance test.

The operator has to make sure that safety-related and machine-technical installations are to be inspected by a skilled person once a year.

The following points have to be considered during the inspection:

- 01) All screws used for installing the device or parts of the device have to be tightly connected and must not be corroded.
- 02) There may not be any deformations on housings, fixations and installation spots.
- 03) Mechanically moving parts like axles, eyes and others may not show any traces of wearing.
- 04) The electric power supply cables must not show any damages or material fatigue.

The Mirrorball Motor up to 500kg DMX requires almost no maintenance. However, you should keep the unit clean. Keep connections clean. Disconnect electric power, and then wipe the connections with a damp cloth. Make sure connections are thoroughly dry before linking equipment or supplying electric power.

Troubleshooting

This troubleshooting guide is meant to help solve simple problems.

If a problem occurs, carry out the steps below in sequence until a solution is found. Once the unit operates properly, do not carry out following steps.

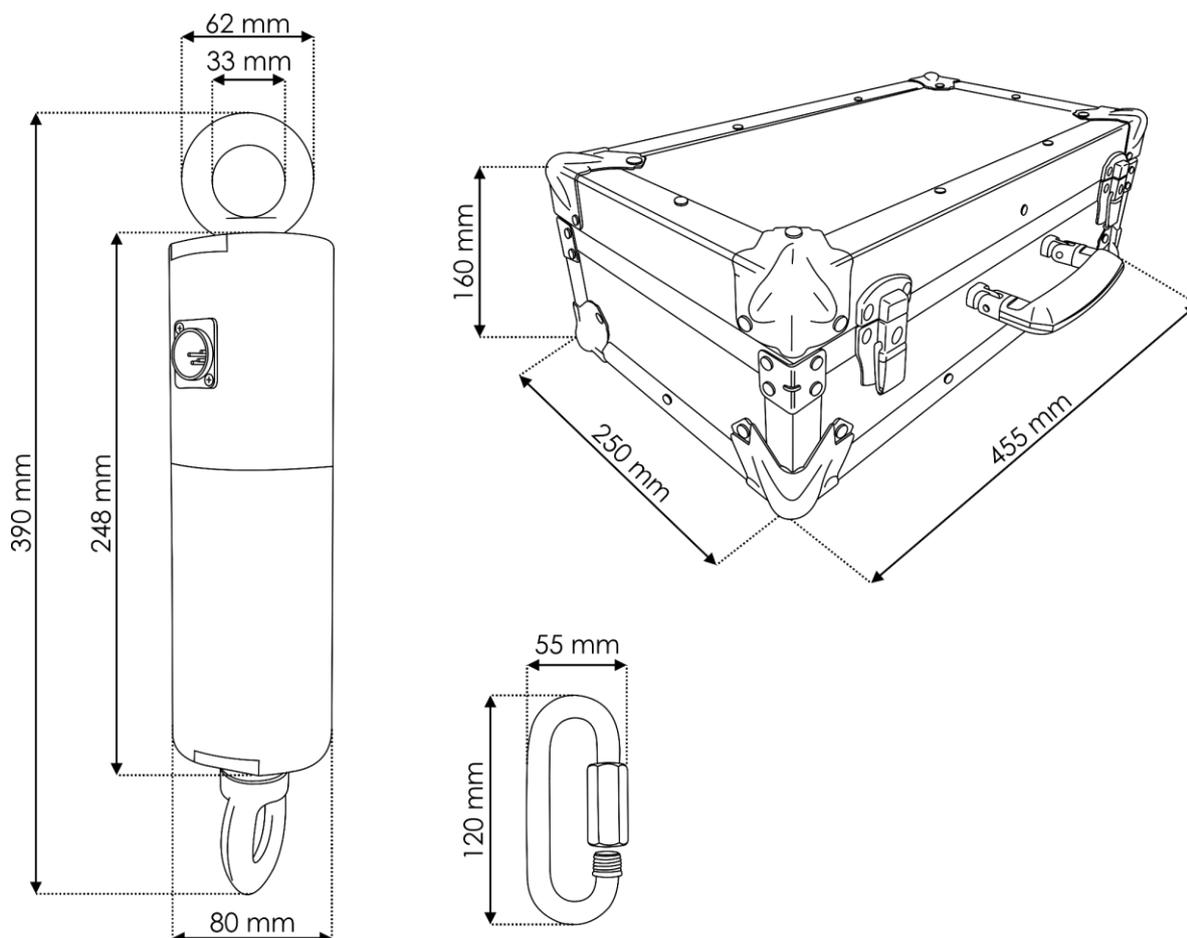
If the mirror ball control system does not operate properly, refer servicing to a technician.

Suspect three potential problem areas as: the power supply, the motor, the motor controller.

- 01) Power supply. Check if the unit is plugged into an appropriate power supply.
- 02) The motor. Return the device to your Showtec dealer.
- 03) The motor controller. Return the device to your Showtec dealer.
- 04) If all appears to be O.K., plug the unit in again.
- 05) If you are unable to determine the cause of the problem, do not open the Mirrorball Motor, as this may damage the unit and the warranty will become void.
- 06) Return the device to your Showtec dealer.

Product Specifications

Model:	Mirrorball Motor up to 500kg DMX
Dimensions (motor):	80 x 390 mm (WxH)
Weight (motor):	3,9 kg
Dimensions (flight case):	455 x 250 x 160 mm (LxWxH)
Weight (flight case):	4,1 kg
Electro-mechanical effects:	
Loading capacity:	500 kg
Breaking load:	6,3 t
Rotation speed:	0,5–4 RPM
Torque:	0,4 Nm
Connections:	4-pin motor IN
Housing:	Anodized aluminum
Max. ambient temperature t_a :	40 °C
Max. housing temperature t_B :	80 °C
Minimum distance:	
Minimum distance from flammable surfaces:	0,5 m



Design and product specifications are subject to change without prior notice.



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