

ENGLISH

PowerBOX 3 CRMX

V1

Product code: 90667

Preface

Thank you for purchasing this Showgear product.

The purpose of this user manual is to provide instructions for the correct and safe use of this product.

Keep the user manual for future reference as it is an integral part of the product. The user manual shall be stored at an easily accessible location.

This user manual contains information concerning:

- Safety instructions
- Installation and operation of the device
- Intended and non-intended use of the device
- Maintenance procedures
- Troubleshooting
- Transport, storage and disposal of the device

Non-observance of the instructions in this user manual may result in serious injuries and damage of property.

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1. Introduction

1.1. Before Using the Product



Important

Read and follow the instructions in this user manual before installing, operating or servicing this product.

The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual.

After unpacking, check the contents of the box. If any parts are missing or damaged, contact your Highlite International dealer.

Your shipment includes:

- Showgear PowerBOX 3 CRMX
- Schuko to Power Pro cable (1,5 m)
- User manual

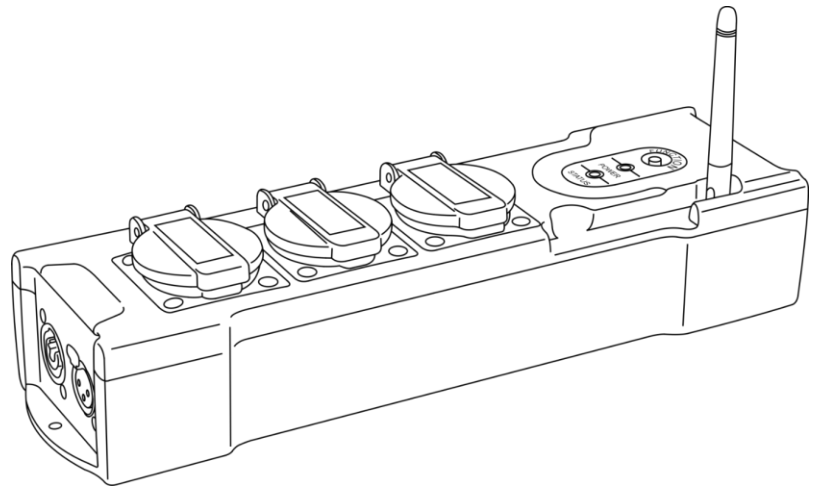


Fig. 01

1.2. Intended Use

This device is intended for professional use as a socket box. It is suitable only for indoor installation. This device is not suitable for households.

Any other use, not mentioned under intended use, is regarded as non-intended and incorrect use.

1.3. Product Lifespan

This device is not designed for permanent operation. Disconnect the device from the electrical power supply when the device is not in operation. This will reduce the wear and will improve the device's lifespan.

1.4. Text Conventions

Throughout the user manual the following text conventions are used:

- Buttons: All buttons are in bold lettering, for example "Press the **UP/DOWN** buttons"
- References: References to chapters and parts of the device are in bold lettering, for example: "Refer to **2. Safety**", "turn the **adjustment screw (02)**"
- 0–255: Defines a range of values
- Notes: **Note:** (in bold lettering) is followed by useful information or tips

1.5. Symbols and Signal Words

Safety notes and warnings are indicated throughout the user manual by safety signs.

Always follow the instructions provided in this user manual.



DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury.



Attention

Indicates important information for the correct operation and use of the product.



Important

Read and observe the instructions in this document.



Electrical hazard



Provides important information about the disposal of this product.

1.6. Symbols on the Information Label

This product is provided with an information label. The information label is located on the backside of the device.

The information label contains the following symbols:



This device shall not be treated as household waste.



This device is designed for indoor use.



Read and follow the instructions in the user manual before installing, operating or servicing the device.

2. Safety



Important

Read and follow the instructions in this user manual before installing, operating or servicing this product.

The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual.

2.1. Warnings and Safety Instructions



DANGER

Danger for children

For adult use only. The device must be installed beyond the reach of children.

- Do not leave various parts of the packaging (plastic bags, polystyrene foam, nails, etc.) within children's reach. Packaging material is a potential source of danger for children.



DANGER

Electric shock caused by dangerous voltage inside

There are areas within the device where dangerous touch voltage may be present.

- Do not open the device or remove any covers.
- Do not operate the device if the covers or the housing are open. Before operation, check if the housing is firmly closed and all screws are tightly fastened.
- Disconnect the device from electrical power supply before service and maintenance, and when the device is not in use.



DANGER

Electric shock caused by short-circuit

This device falls under IEC protection class I.

- Make sure that the device is electrically connected to ground (earth). Connect the device only to a socket-outlet with ground (earth) connection.
- Do not cover the ground (earth) connection.
- Do not bypass the thermostatic switch or fuses.
- Do not let the power cable come into contact with other cables. Handle the power cable and all connections with the mains with caution.
- Do not modify, bend, mechanically strain, put pressure on, pull or heat up the power cable.
- Make sure that the power cable is not crimped or damaged. Examine the power cable periodically for any defects.
- Do not immerse the device in water or other liquids. Do not install the device in a location where flooding may occur.
- Do not use the device during thunderstorms. Disconnect the device from the electrical power supply immediately.



Attention
Power supply

- Before connecting the device to the power supply, make sure that the current, voltage and frequency match the input voltage, current and frequency specified on the information label on the device.
- Make sure that the cross-sectional area of the extension cords and power cables is sufficient for the required power consumption of the device.



Attention
General safety

- Do not connect the device to a dimmer pack.
- Do not switch the device on and off in short intervals. This decreases the device's life.
- Do not shake the device. Avoid brute force when installing or operating the device.
- If the device is dropped or struck, disconnect the device from the electrical power supply immediately.
- If the device is exposed to extreme temperature variations (e.g. after transportation), do not switch it on immediately. Let the device reach room temperature before switching it on, otherwise it may be damaged by the formed condensation.
- If the device fails to work properly, discontinue the use immediately.



Attention
For professional use only
This device shall be used only for the purposes it is designed for.

This device is designed to be used as a socket box. Any incorrect use may lead to hazardous situations and result in injuries and material damage.

- This device is not suitable for households.
- This device is not designed for permanent operation.
- This device does not contain user-serviceable parts. Unauthorized modifications to the device will render the warranty void. Such modifications may result in injuries and material damage.



Attention
Before each use, examine the device visually for any defects.

Make sure that:

- All screws used for installing the device or parts of the device are tightly fastened and are not corroded.
- The safety devices are not damaged.
- There are no deformations on housings, fixations and installation points.
- The power cables are not damaged and do not show any material fatigue.



Attention

Do not expose the device to conditions that exceed the rated IP class conditions.

This device is IP20 rated. IP (Ingress Protection) 20 class provides protection against solid objects greater than 12 mm, such as fingers, and no protection against harmful ingress of water.

2.2. Requirements for the User

This product may be used by ordinary persons. Maintenance may be carried by ordinary persons. Installation and service shall be carried out only by instructed or skilled persons. Contact your Highlite dealer for more information.

Instructed persons have been instructed and trained by a skilled person, or are supervised by a skilled person, for specific tasks and work activities associated with the installation, service and maintenance of this product, so that they can identify risks and take precautions to avoid them.

Skilled persons have training or experience, which enables them to recognize risks and to avoid hazards associated with the installation, service and maintenance of this product.

Ordinary persons are all persons other than instructed persons and skilled persons. Ordinary persons include not only users of the product but also any other persons that may have access to the device or who may be in the vicinity of the device.

3. Description of the Device

The Showgear PowerBOX 3 CRMX is a socket box for lighting or back-line equipment. The device is equipped with a built-in CRMX receiver from LumenRadio for distributing DMX directly to external devices.

3.1. Front View

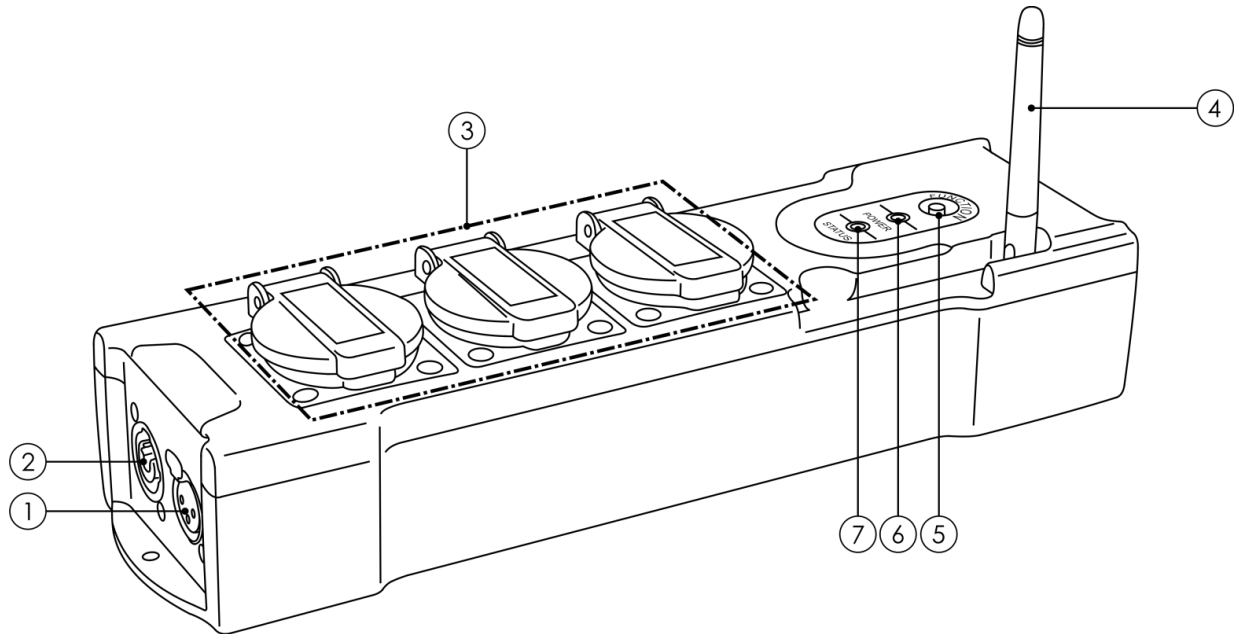


Fig. 02

- | | |
|--|----------------------------------|
| 01) 3-pin DMX signal connector OUT | 05) Function button |
| 02) 230 V Power Pro connector OUT (Gray) | 06) Power LED indicator (Red) |
| 03) 3 x Schuko power connectors OUT | 07) Status LED indicator (Green) |
| 04) Wireless DMX receiver antenna | |

3.2. Back View

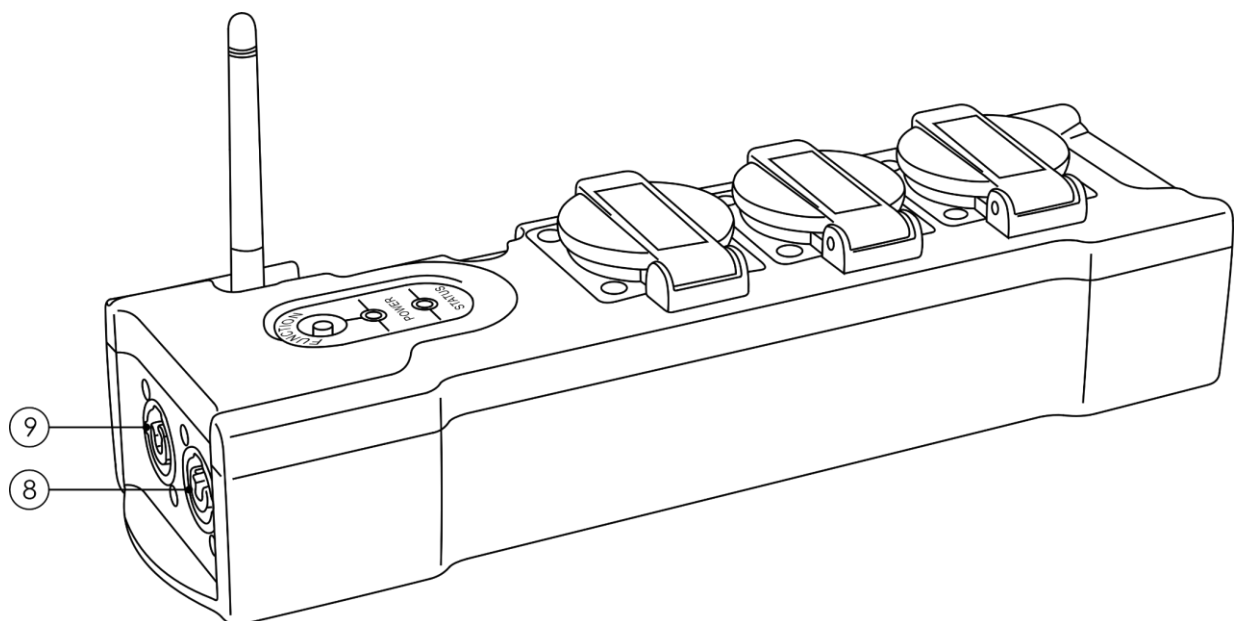


Fig. 03

- | |
|--|
| 08) 230 V Power Pro connector OUT (Gray) |
| 09) 230 V Power Pro connector IN (Blue) |

3.3. Product Specifications

Model:	PowerBOX 3 CRMX
Electrical:	
Input voltage:	230 V AC, 50/60 Hz, max. 16 A
Rated current:	10 A
Pins:	3
Conductors:	3
Physical:	
Wire connection:	1,5 mm ²
Maximum wire size:	16 AWG
Outer cable diameter:	8,5 mm
Outer isolation type:	PVC
Dimensions:	335 x 93 x 75 mm (LxWxH)
Weight:	0,88 kg
Operation and control:	
LED indicators:	Operation mode
Wireless module:	2,4 GHz
Wireless:	Lumenradio
Antenna type:	Omni
Antenna boost:	2,5 dBi
Antenna radiation:	360° x 360°
Connections:	
Power connections:	Power Pro connectors IN (Blue)/OUT (Gray)
Power connectors OUT:	3 x Schuko connectors OUT
Data connections:	3-pin DMX connector OUT
Signal pinouts:	3-pin: pin 1 (ground), pin 2 (-), pin 3 (+)
Construction:	
Housing:	ABS
Color:	Black
IP rating:	IP20
Thermal:	
Ambient temperature t _a :	From 0 °C to 40 °C

3.1. Optional Accessories

You can additionally purchase the following accessories:

- [90659](#) – PowerBOX clamp
- [D9575B](#) – Snap Fastener 22
- [52010](#) – MicroBox G6 F-1

3.2. Dimensions

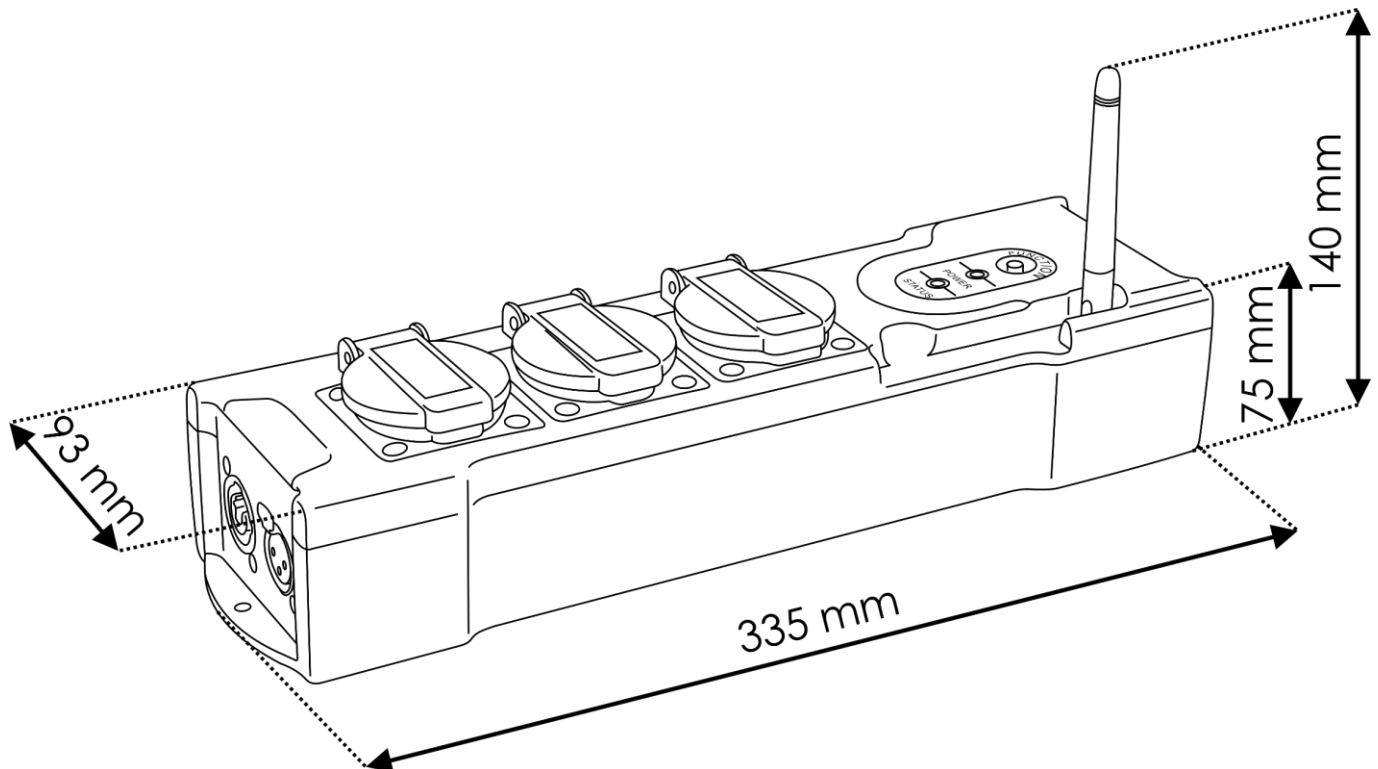


Fig. 04

4. Installation

4.1. Safety Instructions for Installation



WARNING

Incorrect installation can cause serious injuries and damage of property.

If trussing systems are used, installation must be carried out only by instructed or skilled persons.

Follow all applicable European, national and local safety regulations concerning rigging and trussing.

4.1. Personal Protective Equipment

During installation and rigging wear personal protective equipment in compliance with the national and site-specific regulations.

4.2. Installation Site Requirements

- The device must be installed only indoors.
- The device can be placed on a flat surface or be mounted to a truss or other rigging structure in any orientation.
- 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 .

4.3. Rigging

The device can be positioned on a flat surface or mounted to a truss or other rigging structure in any orientation. Make sure that all loads are within the pre-determined limits of the supporting structure.



CAUTION

Restrict the access under the work area during rigging and/or derigging.

The mounting options are as follows:

Option 1: installation with the Snap Fastener 22

Use the Snap Fastener 22 to attach the device to the supporting structure, as shown in Fig. 05. Put the snap fastener through the slot.

Note:

The Snap Fastener (product code: D9575B) is not included in the delivery. You can purchase it with any Highlite International dealer.

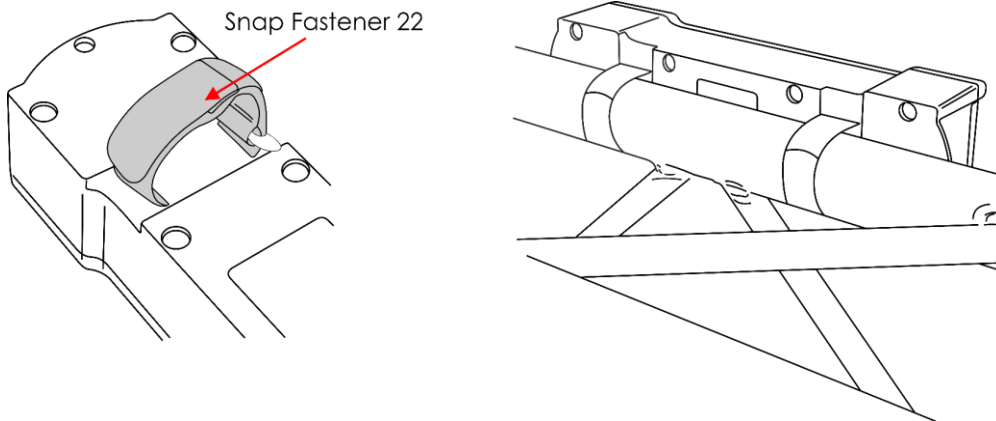


Fig. 05

Option 2: installation with the PowerBOX clamp

Use the PowerBOX clamp to attach the device to the supporting structure, as shown in Fig. 06.

Note:

The PowerBOX clamp (product code: 90659) is not included in the delivery. You can purchase it with any Highlite International dealer.

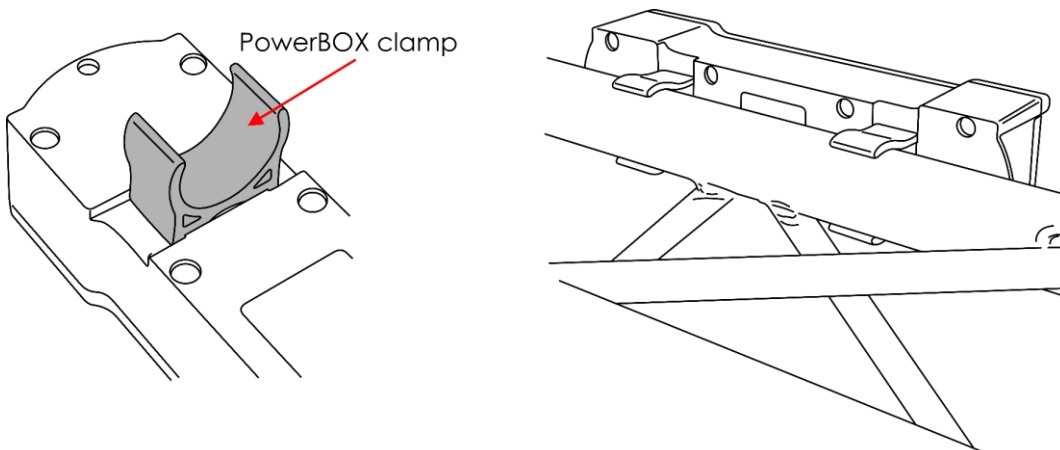


Fig. 06

4.4. Power Linking of Multiple Devices

This device supports power linking. Power can be relayed to another device via the power OUT connector. Note that the input and the output connectors have different designs: one type cannot be connected to the other.

Power linking of multiple devices must be carried out only by instructed or skilled persons.



WARNING

Incorrect power linking may lead to overload of the electrical circuit and result in serious injuries and damage of property

To prevent overload of the electrical circuit, when power linking multiple devices:

- Use cables with sufficient current-carrying capacity. The power cable supplied with the device is not suitable for power linking of multiple device.
- Make sure that the total current draw of the device and all connected devices does not exceed the rated capacity of the power cables and the circuit breaker.
- Do not link more devices on one power link than the maximum recommended number.

The maximum recommended number of devices depends on the total load of all linked PowerBOX devices and the devices connected to the **3 x Schuko power connectors OUT (03)**. The total load of all linked devices shall not exceed 3000 W.

5. Setup and Operation

5.1. Warnings and Precautions



Attention

**Connect all cables before supplying power.
Disconnect power supply before connecting or disconnecting cables.**

5.2. Safety Instructions for Operation



Attention

This device must be used only for the purposes it is designed for.

This device is intended for use as a socket box. It is suitable only for indoor installation. It is not suitable for households.

Any other use, not mentioned under intended use, is regarded as non-intended and incorrect use.



Attention

Power supply

Before connecting the device to the power supply, make sure that the current, voltage and frequency match the input voltage, current and frequency specified on the information label on the device.

To operate the device:

- 01) Connect the device to the power supply. See **5.3. Connecting to Power Supply** on page 13 for more information.
- 02) Connect external device(s) to the **3 x Schuko power connectors OUT (03)**.
- 03) Connect the device to a W-DMX transmitter. See **5.4. Wireless Connection** on page 14 for more information.
- 04) Use a DMX cable to connect the **3-pin DMX signal connector OUT (01)** to the DMX input connector on the external device. See **5.5. DMX Connection** on page 15 for more information.
- 05) After use, disconnect the device from the W-DMX transmitter. See **5.4.1. Unlinking Devices** on page 14 for more information.

5.3. Connecting to Power Supply



DANGER
Electric shock caused by short-circuit

The device accepts AC mains power at 230 V and 50/60 Hz. Do not supply power at any other voltage or frequency to the device.

This device falls under IEC protection class I. Make sure that the device is always electrically connected to the ground (earth).

Before connecting the device to the socket-outlet:

- Make sure that the power supply matches the input voltage specified on the information label on the device.
- Make sure that the socket-outlet has ground (earth) connection.

Connect the device to the socket-outlet with the power plug. Do not connect the device to a dimmer circuit, as this may damage the device.

5.4. Wireless Connection

The PowerBOX 3 CRMX is equipped with a 2,4 GHz wireless receiver of LumenRadio. The wireless DMX receiver is compatible only with other wireless and CRMX devices from Lumenradio. It can be paired only with transceivers and transmitters with a W-DMX™ module.

Recommended transceiver: [52010](#) – MicroBox G6 F-1

To connect multiple devices via wireless DMX, follow the steps below:

- 01) Connect the transceiver/transmitter to the lighting controller.
- 02) Follow the user instructions supplied with the transceiver to pair the devices and observe the **status LED indicator (07)** on the device. See **5.4.2. LED Statuses** on page 14 for more information.

Note:

You can link devices at any time, also during operation. However, this will disrupt DMX transmission.

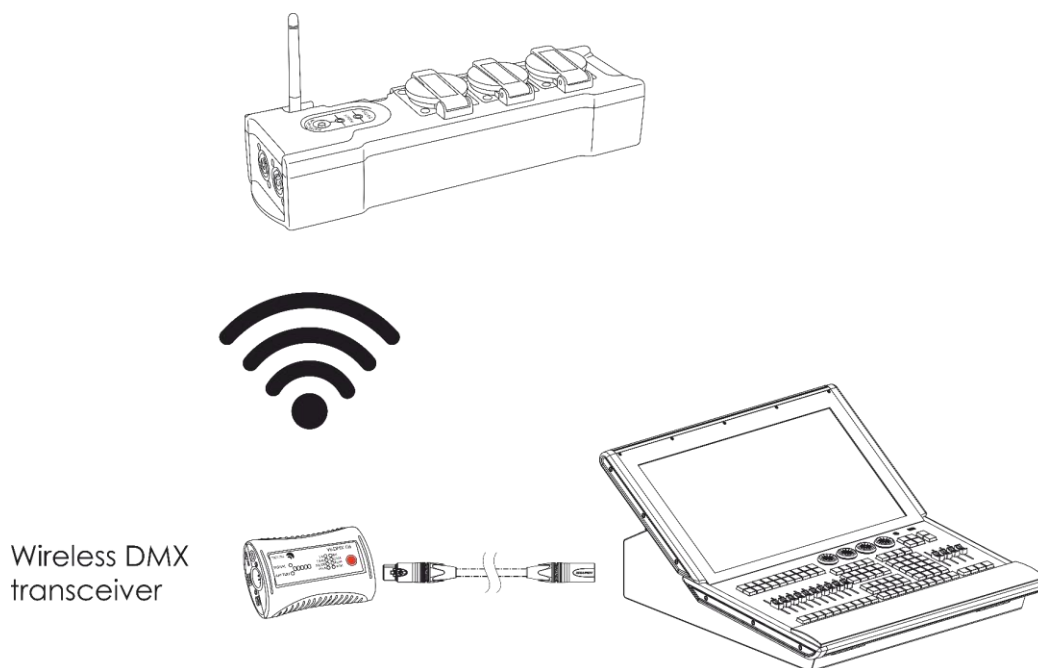


Fig. 07

5.4.1. Unlinking Devices

After use, you can terminate W-DMX connection.

Press the **function button (05)** to unlink the device. **Note:** Observe the **status LED indicator (Green) (07)** on the device. See **5.4.2. LED Statuses** on page 14 for more information.

5.4.2. LED Statuses

There are 2 LED indicators: **power LED indicator (Red) (06)** and **status LED indicator (Green) (07)**. The LED indicators have the following functions:

LED color	LED behavior	Function
● Red Power LED	On	Powered on
● Green Status LED	Off	Not linked to any transmitter
● Green Status LED	Blinking quickly	Linking process is in progress or connection is weak/lost
● Green Status LED	Blinking slowly	Linked to transmitter but does not receive any DMX signal
● Green Status LED	On	Linked to the transmitter and receives DMX signals

5.5. DMX Connection

5.5.1. DMX-512 Protocol

You need a DMX serial data link to operate external devices using a DMX-512 controller.

The PowerBox 3 CRMX has one 3-pin DMX signal OUT connector.

The pin assignment is as follows:

- 3-pin: pin 1 (ground), pin 2 (-), pin 3 (+)

5.5.2. DMX Cables

Shielded twisted-pair cables with 3-pin/5-pin XLR connectors must be used for reliable DMX connection. You can purchase DMX cables directly from your Highlite International dealer or make your own cables.

If you use XLR audio cables for DMX data transmission, this may lead to signal degradation and unreliable operation of the DMX network.

When you make your own DMX cables, make sure that you connect the pins and wires correctly as shown in Fig. 08.

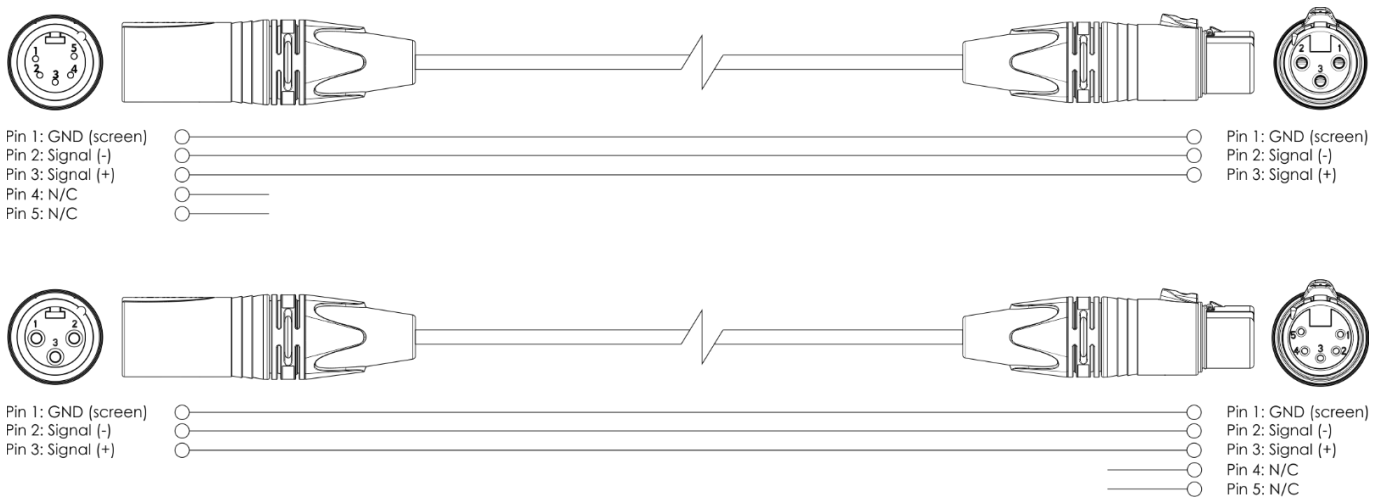


Fig. 08

6. Troubleshooting

This troubleshooting guide contains solutions to problems which can be carried out by an ordinary person. The device does not contain user-serviceable parts.

Unauthorized modifications to the device will render the warranty void. Such modifications may result in injuries and material damage.

Refer servicing to instructed or skilled persons. Contact your Highlite International dealer in case the solution is not described in the table.

Problem	Probable cause(s)	Solution
The device does not function at all	No power to the device	<ul style="list-style-type: none"> • Check if power is switched on and cables are plugged in • Check the total load of the connected devices.
The device does not respond to DMX control	The controller is not connected	• Connect the controller
	The controller is defective	• Try using another controller
	Devices are not paired	• Pair devices. See 5.4. Wireless Connection on page 14 for more information.
The device responds erratically to DMX control	Bad data link connection	<ul style="list-style-type: none"> • Examine connections and cables. Correct poor connections. Repair or replace damaged cables
	In case of a setup with multiple devices, one of the devices is defective and disturbs data transmission on the link	<ul style="list-style-type: none"> • To find out the defective device, bypass one device at a time until normal operation is restored

7. Maintenance

7.1. Safety Instructions for Maintenance



DANGER
Electric shock caused by dangerous voltage inside

Disconnect power supply before servicing or cleaning.

7.2. Preventive Maintenance



Attention
Before use, examine the device visually for any defects.

Make sure that:

- All screws used for installing the device or parts of the device are tightly fastened and are not corroded.
- There are no deformations on housings, fixations and installation points.
- The power cables are not damaged and do not show any material fatigue.

7.2.1. Basic Cleaning Instructions

To clean the device, follow the steps below:

- 01) Disconnect the device from the electrical power supply.
- 02) Allow the device to cool down for 5 minutes.
- 03) Clean the device with a soft, lint-free cloth.



Attention

- Do not immerse the device in liquid.
- Do not use alcohol or solvents.

7.3. Corrective Maintenance

The device does not contain user-serviceable parts. Do not open the device and do not modify the device.

Refer repairs and servicing to instructed or skilled persons. Contact your Highlite International dealer for more information.

8. Deinstallation, Transportation and Storage

- Disconnect power supply before deinstallation.
- Use the original packaging to transport the device, if possible.
- Clean the device before storing. Follow the cleaning instructions in chapter **7.2.1. Basic Cleaning Instructions** on page 17.
- Store the device in the original packaging, if possible.

9. Disposal



Correct disposal of this product

Waste Electrical and Electronic Equipment

This symbol on the product, its packaging or documents indicates that the product shall not be treated as household waste. Dispose of this product by handing it to the respective collection point for recycling of electrical and electronic equipment. This is to avoid environmental damage or personal injury due to uncontrolled waste disposal. For more detailed information about recycling of this product contact the local authorities or the authorized dealer.

10. Approval



Hereby, Highlite International declares that the device PowerBOX 3 CRMX, product code 90667, is in compliance with Directive 2014/53/EU (RED – Radio Equipment Directive).

The full text of the EU declaration of conformity is available at the respective product page on the website of Highlite International (www.highlite.com).



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