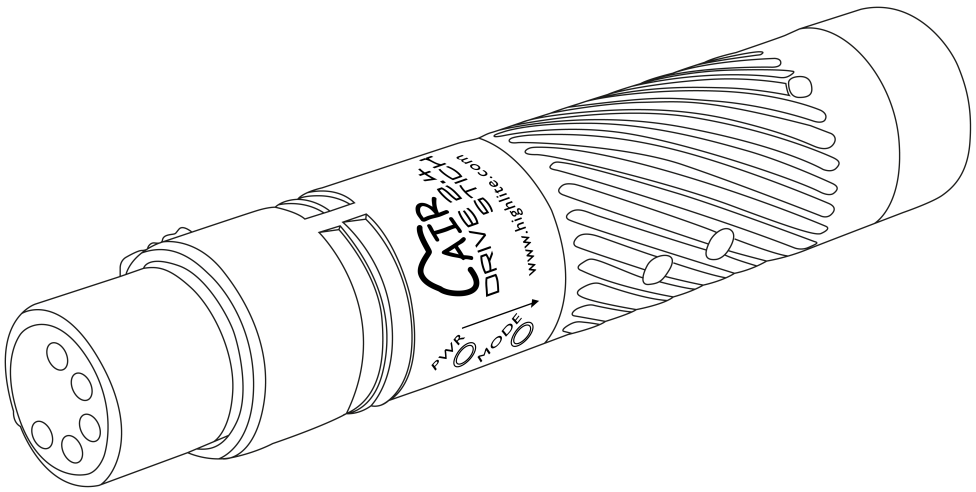
USER MANUAL

ENGLISH

V1.0



Airdrive 2.4 Stick, 5-pin XLR

Product code: 50280

Preface

Thank you for purchasing this Showtec 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
- Intended and non-intended use of the device
- Installation and operation 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.

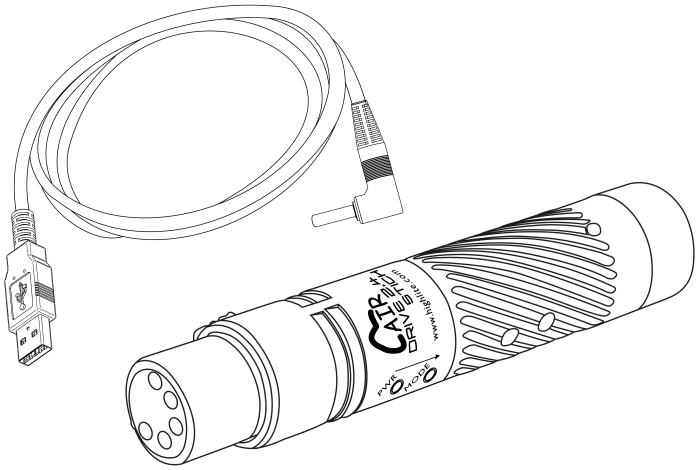
The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual.

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

Your shipment includes:

- Showtec Airdrive 2.4 Stick, 5-pin XLR
- 1 x USB-A to 5 V DC charging cable
- User manual

Figure 1



1.2. Intended Use

This device is intended for professional use as a wireless DMX-512 receiver. It can be installed only indoors. 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. Text Conventions

Throughout the user manual the following text conventions are used:

- References: References to parts of the device are in bold lettering, for example: "turn the **adjustment handle (05)**". References to chapters are hyperlinked
- 0–255: Defines a range of values
- Notes: **Note:** (in bold lettering) is followed by useful information or tips

1.4. 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.

Provides important information about the disposal of this product.

1.5. Symbols on the Information Label

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

The information label contains the following symbols:

This device shall not be treated as household waste.

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

This device falls under IEC protection class III.

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 any parts of the packaging (plastic bags, polystyrene foam, nails, etc.) within the reach of children. Packaging material is a potential source of danger for children.

DANGER
Risk of explosion caused by incorrect handling

This device contains a built-in rechargeable lithium-ion polymer battery. The battery is not replaceable. The battery may explode or cause burns if it is crushed, disassembled or exposed to fire or high temperatures.

- Do not open the device and do not attempt to remove the built-in battery.
- Do not disassemble the battery.
- Do not crush or puncture the battery.
- Do not short-circuit the battery.
- Do not expose the battery to water or other liquids.
- Keep the battery away from fire and heat.

Attention
Power supply

Before connecting the AC power adapter 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 AC power adapter.

Attention
General safety

- Do not shake the device. Avoid brute force when installing or operating the device.
- 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.

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

This device is designed to be used as a wireless DMX-512 receiver. Any incorrect use may lead to hazardous situations and result in injuries and material damage.

- This device is not suitable for households.
- 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:

- There are no deformations on housings, fixings 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 out by ordinary persons. Installation and service shall be carried out only by instructed or skilled persons. Contact your Highlite International 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 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.

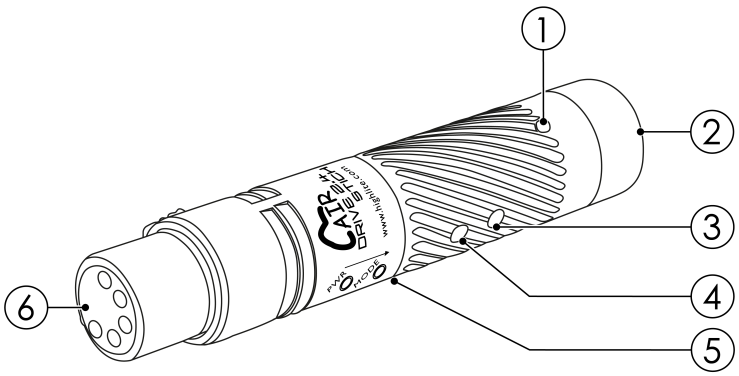
3. Description of the Device

The Showtec Airdrive 2.4 Stick, 5-pin XLR is a wireless DMX-512 receiver with integrated battery. It is compatible with the Wireless DMX and LumenRadio protocols and supports up to 79 channels for operation in the 2,4 GHz ISM band. Status and battery level indicator LEDs provide necessary information in color and flash codes.

The battery can be charged via a standard USB adapter and provides up to 20 hours of operation. A USB-A to 5 V DC charging cable is included.

3.1. Overview

Figure 2



01) Battery level LED indicator
02) LED indicator and internal antenna
03) Mode button
04) Power button
05) Low voltage DC connector
06) 5-pin DMX XLR connector OUT

The **LED indicator (02)** lights up in different colors to indicate the status of the device.

LED color	**Device status**
White	Receiver disconnected
Green (continuous)	Receiver connected, DMX present
Green (slow flashing)	Receiver connected, no DMX present
Green (fast flashing)	Linking to transmitter
Red (continuous)	Deleting connection
Red (fast flashing)	Connection from transmitter is lost

3.2. Product Specifications

Model:	Airdrive 2.4 Stick, 5-pin XLR

Battery:	
Battery type	Lithium-ion polymer
Battery voltage	3,7 V
Capacity	0,45 Ah
Battery power	1,66 Wh

Control and Programming:	
DMX channels	512
Protocols	DMX
Operational modes	Receiver

Electrical Specifications and Connections:	
Power supply	5 V DC
Power consumption	1 W
Power connector IN	Low voltage DC plug
DMX connector OUT	XLR 5P

Mechanical Specifications:	
Length	98 mm
Width	19 mm
Height	22 mm
Weight	0,07 kg
IP rating	IP20 (indoor use only)
Housing	Metal
Color	Black

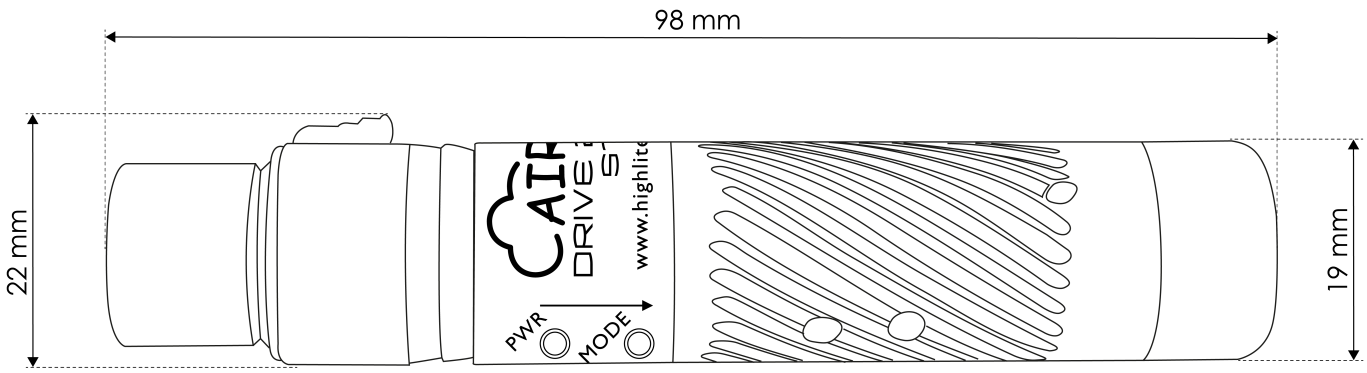
Thermal Specifications:	
Maximum ambient temperature	40 °C
Minimum ambient temperature	-10 °C

Wireless Specifications:	
Wireless mode	G3 / G4 / CRMX / CRMX²
Reaction time	5 ms
Antenna boost	3 dBi
Antenna type	Omni
Antenna radiation	360 x 180°

Power Adapter:	
Adapter type	AC-DC adapter (not included)

3.3. Dimensions

Figure 3

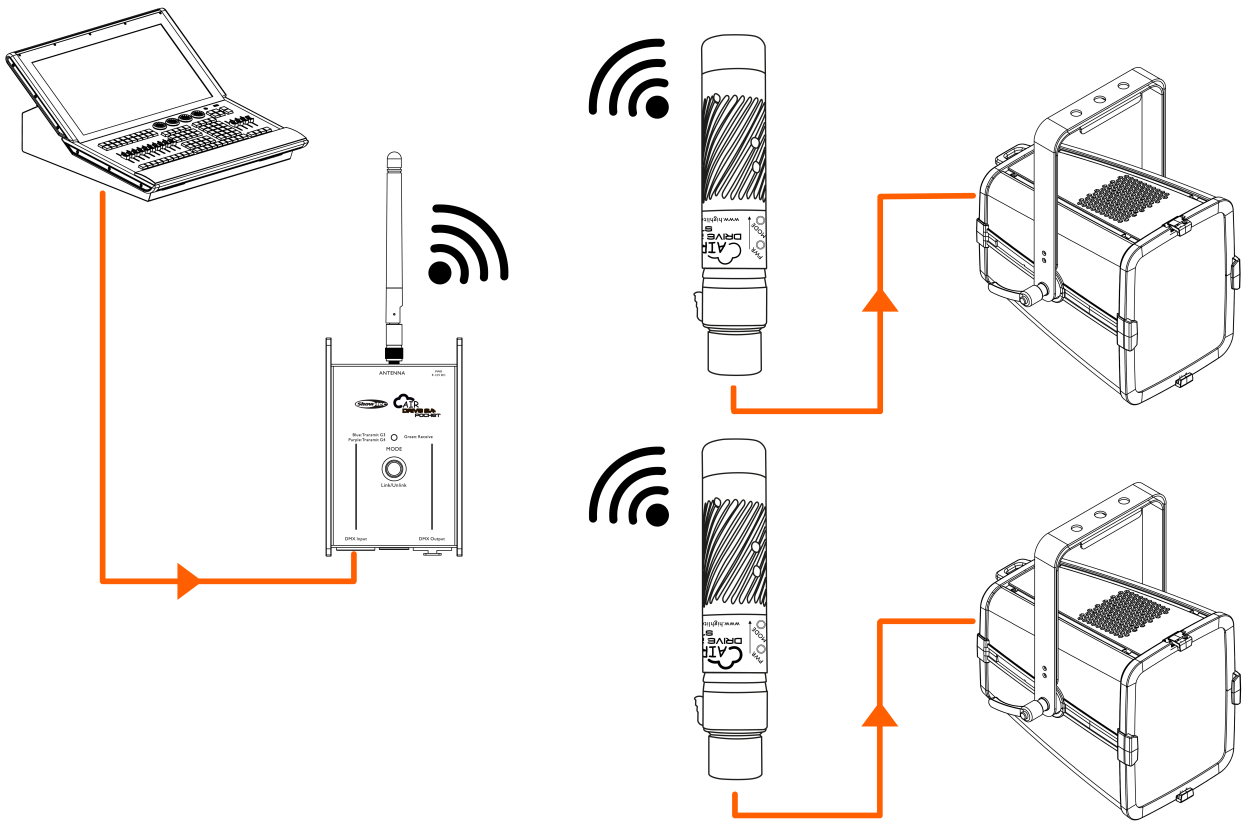


4. Setup and Operation

4.1. Setup Example

The Airdrive 2.4 Stick, 5-pin XLR can be used in combination with a transmitter device that supports the Wireless DMX or LumenRadio protocols.

Figure 4



To wirelessly connect one or more devices, follow the steps below:

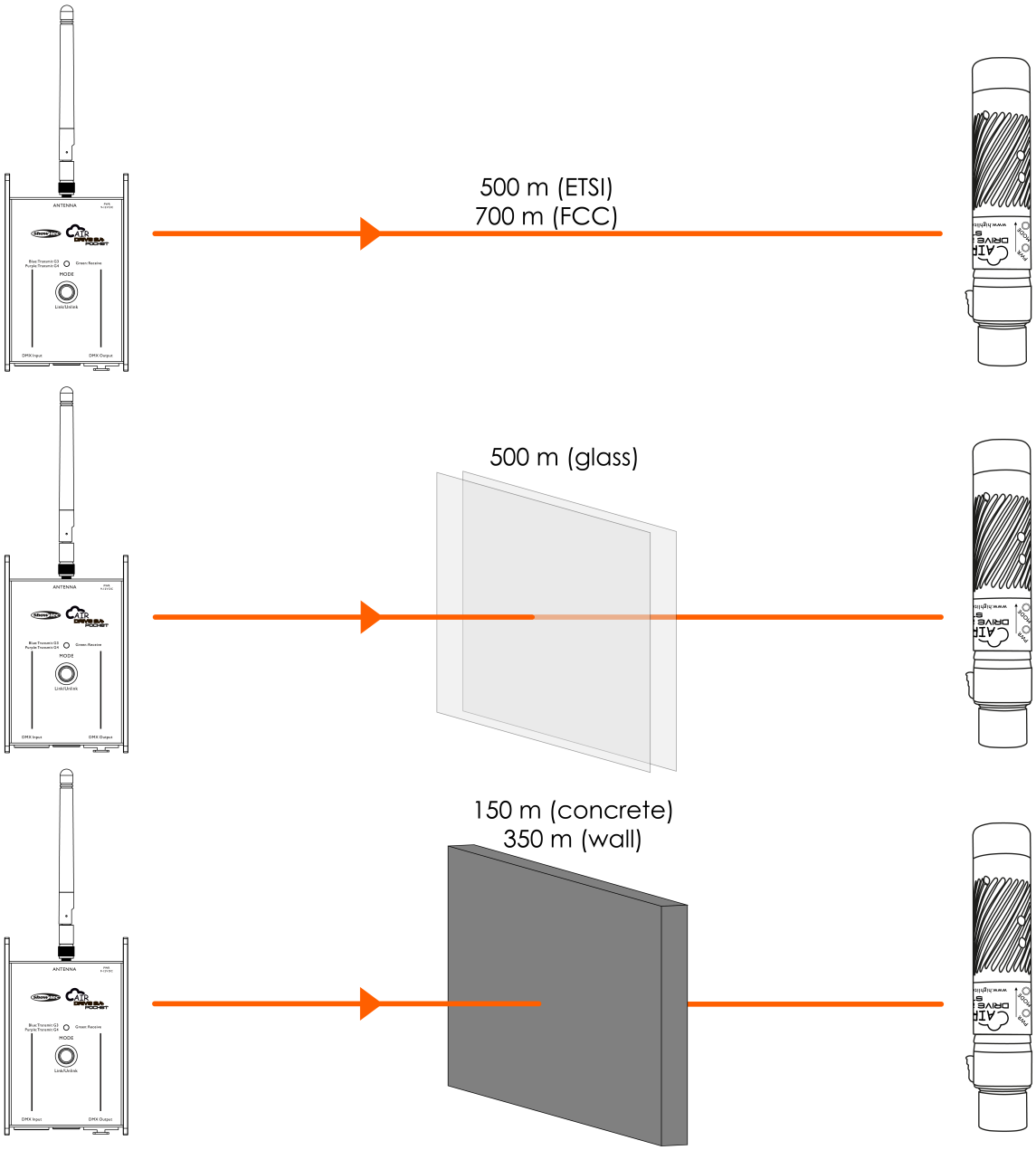
01) Connect a controller device to a transmitter device.
02) Make sure that the Airdrive 2.4 Stick, 5-pin XLR is disconnected from any previous transmitter devices (see 4.5. Disconnecting the Device from a Transmitter on page 14). The **LED indicator (02)** should light up white.
03) Connect the **5-pin DMX XLR connector OUT (06)** to the 5-pin DMX XLR connector IN of the lighting device.
04) Repeat step 2 to connect multiple devices in the setup.
05) Start the linking procedure on the transmitter device to establish a connection with the Airdrive 2.4 Stick, 5-pin XLR.

The signal from the transmitter device is now sent to the devices connected to the Airdrive 2.4 Stick, 5-pin XLR.

4.2. Line of Sight

There are limitations to how wireless waves transmit through air. Physical barriers like glass or walls limit the transmission range. It is important to always have a clear line of sight between transmitters and receivers.

Figure 5



4.3. DMX Connection

4.3.1. DMX-512 Protocol

The Airdrive 2.4 Stick, 5-pin XLR has a 5-pin DMX signal OUT connector.

The pin assignment is as follows: pin 1 (ground), pin 2 (-), pin 3 (+).

Devices on a serial data link must be daisy-chained in a single line. The number of devices that you can control on one data link is limited by the combined number of the DMX channels of the connected devices and the 512 channels available in one DMX universe.

To comply with the TIA-485 standard, no more than 32 devices should be connected on one data link. In order to connect more than 32 devices on one data link, you must use a DMX optically isolated splitter/booster, otherwise this may result in deterioration of the DMX signal.

Note:

- Maximum recommended DMX data link distance: 300 m
- Maximum recommended number of devices on a DMX data link: 32 devices
- Operation time of the Airdrive 2.4 Stick, 5-pin XLR decreases significantly when more devices are connected on the data link

4.4. Charging the Battery

DANGER
Risk of explosion caused by incorrect handling

This device contains a built-in rechargeable lithium-ion polymer battery. The battery is not replaceable. The battery may explode or cause burns if it is crushed, disassembled or exposed to fire or high temperatures.

- Do not open the device and do not attempt to remove the built-in battery.

To charge the battery do the following:

01) Connect the device to a standard USB adapter (not included) with the included USB-A to 5 V DC charging cable.
02) Connect the USB adapter to the power supply.

During charging the **battery level LED indicator (01)** indicates the charging status (see 4.4.1. Battery Level LED Indicator).

- Charge the battery before using the device for the first time.
- Do not deep discharge the battery as this will shorten the lifespan of the battery. Recharge the battery as soon as possible. Do not let the light run until the battery is depleted.
- Make sure that the battery is charged to at least 50 % before storing the device.

It is recommended to charge the device at an ambient temperature between 0 and 35 °C.

4.4.1. Battery Level LED Indicator

During charging, the **battery level LED indicator (01)** lights up in different colors to show the charging status.

LED color	Device status
Red	The battery level is below 40 %
Green (flashing)	The battery level is above 40 %, and below 70 %
Blue (flashing)	The battery level is above 70 %, and below 100 %
Blue (continuous)	The battery level is 100 %

During use, the **battery level LED indicator (01)** lights up in different colors to show the remaining charge.

LED color	Device status
Red (flashing)	The battery level is below 10 %
Red (continuous)	The battery level is above 10 %, and below 40 %
Green (continuous)	The battery level is above 40 %, and below 70 %
Blue (continuous)	The battery level is above 70 %

Note:

When the battery level is above 10 %, the **battery level LED indicator (01)** turns off after 5 seconds. Press the **power button (04)** to display the battery level again for 5 seconds.

4.5. Disconnecting the Device from a Transmitter

The Airdrive 2.4 Stick, 5-pin XLR must be disconnected from a previously connected transmitter device before it can be connected to another transmitter device.

01) Press and hold the **mode button (03)** of the Airdrive 2.4 Stick, 5-pin XLR until the **LED indicator (02)** flashes blue.
02) Release the **mode button (03)**. The **LED indicator (02)** lights up white to confirm the disconnection.

The Airdrive 2.4 Stick, 5-pin XLR is now ready to be connected to another transmitter device (see 4.1. Setup Example on page 10).

4.6. Restore Factory Settings

To restore the device to the factory settings, follow the steps below:

01) Press and hold the **mode button (03)**. The **LED indicator (02)** first flashes blue and after 10 seconds flashes green.
02) Release the **mode button (03)**. The Airdrive 2.4 Stick, 5-pin XLR will restore the factory settings and reboot.

5. 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 turn on	The battery is depleted	• Recharge the battery (see 4.4. Charging the Battery on page 13)
The device responds erratically	The factory settings of the device are changed	• Reset the parameters of the device to the default factory settings (see 4.6. Restore Factory Settings on page 14)
The device does not respond to DMX control	The controller is not connected	• Connect the controller
	The signal is reversed. The 5-pin DMX OUT of the controller does not match the DMX IN of the transmitter	• Install a phase-reversing cable between the controller and the transmitter
	The controller is defective	• Use a different controller
The device responds erratically to DMX control	Incorrect addressing	• Make sure that the address settings are correct
	In case of a setup with multiple devices, one of the devices is defective and disturbs data transmission on the link	• To find out the defective device, bypass one device at a time until normal operation is restored
The device does not respond to wireless control	The device is not paired	• Verify the pairing status of the device (see 3.1. Overview on page 7)
	The receiver device is paired to a different transmitter device	• Unpair the receiver device and pair it to the current transmitter device (see 4.1. Setup Example on page 10)
	The device is not in the range of the transmitter device	• Make sure that there is a clear line of sight between all devices in the setup (see 4.2. Line of Sight on page 11)
	The controller or the transmitter (transceiver) of the controller is defective	• Use a different controller

6. Maintenance

6.1. Preventive Maintenance

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

Make sure that:

- The housing is not damaged.
- The power cable is not damaged and does not show any material fatigue.

6.1.1. 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 at least 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. Deinstallation, Transportation and Storage

7.1. Instructions for Transportation

This device contains a rechargeable (secondary) lithium-ion polymer battery. Equipment that contains lithium-ion polymer batteries falls under the category of dangerous goods for transportation.

- Make sure that you are in compliance with all applicable transportation regulations when you transport the device.
- Use the original packaging to transport the device or other suitable packaging that complies with the regulations for transportation of (secondary) lithium-ion polymer batteries.

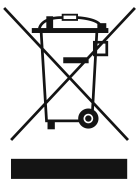
7.2. Storage

This device contains a rechargeable (secondary) lithium-ion polymer battery. The battery is not replaceable. The battery may explode or cause burns if it is crushed, disassembled or exposed to fire or high temperatures.

- Store the device in a dry place, at temperatures between 5 and 20 °C. Batteries self-discharge during storage. Temperatures above 20 °C speed up the self-discharging process.
- Do not store the device with depleted battery. Make sure that the battery is charged to at least 50 % before storing the device.
- If the device is stored for an extended period, check regularly the state of charge of the battery (see 4.4.1. Battery Level LED Indicator on page 13).
- Clean the device before storing (see 6.1.1. Basic Cleaning Instructions on page 16).
- Store the device in the original packaging, if possible.

8. Disposal

This device contains a lithium-ion polymer battery. Do not dispose of with the household waste.



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.

9. Approval

CE

Hereby, Highlite International declares that the device Airdrive 2.4 Stick, 5-pin XLR, product code 50280, is in compliance with Directive 2014/53/EU (RED – Radio Equipment Directive).

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