Futurelight WDS-CRMX TX Wireless DMX Transceiver User Manual

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Contents

INTRODUCTION

Welcome to Futurelight! Thank you for choosing one of our products. Futurelight offers professional and reliable lighting solutions for demanding applications.

If you follow the instructions given in this manual, we are sure that you will enjoy this product for a long period of time. This user manual will show you how to install, set up and operate your new Futurelight product.

Users of this product are recommended to carefully read all warnings in order to protect yourself and others from damage. Please keep this manual for future needs and pass it on to further owners.

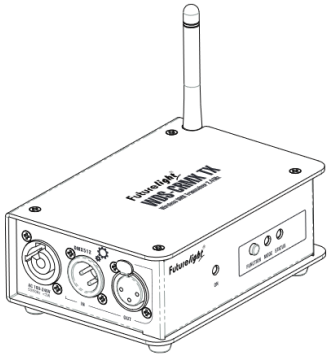
Product features

- Wireless DMX transceiver, to be used as transmitter or receiver
- LumenRadio CRMX unit and antenna
- Adaptive frequency hopping ensures interference-free operation in the 2.4 GHz band
- Operating range up to 600 m (with line-of-sight)
- Plug & play: quick and easy setup with one operating button
- LEDs for monitoring the operating status
- 3-pin XLR connectors
- Suitable power cord included

- 2.4 GHz – license-free worldwide

Package contents

- Power cord
- these instructions



Experience Futurelight.
Product videos, suitable accessories, firmware and software updates, documentation and the latest news about the brand. You will find this and much more on our website. You are also welcome to visit our YouTube channel and find us on Facebook.

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www.futurelight.com

www.youtube.com/futurelightvideo

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IMPORTANT SAFETY INSTRUCTIONS

CAUTION!

Operating conditions
This device has been designed for indoor use only. Keep this device away from rain and moisture.

DANGER!

Electric shock caused by short-circuit
Be careful with your operations. With a dangerous voltage you can suffer a dangerous electric shock when touching the wires!

Intended use

- The wireless DMX transceiver serves for wireless transmission of DMX512 signals in indoor areas. The maximum range is 600 m. The device operates in the ISM band in the 2.4 GHz range and is license-free and generally approved in EU and EFTA countries. The housing has a thread for fixing the unit to a truss. This device is designed for professional use in the field of event technology, e.g. on stage.
- Only use the device according to the instructions given herein. Damages due to failure to follow these operating instructions will void the warranty! We do not assume any liability for any resulting damage.
- We do not assume any liability for material and personal damage caused by improper use or non-compliance with the safety instructions. In such cases, the warranty/guarantee will be null and void.
- Unauthorized rebuilds or modifications of the device are not permitted for reasons of safety and render the warranty invalid.

Danger due to electricity

- The device is suitable for indoor use only. Do not use it outdoors. Never expose it to rain or moisture. Do not store it in rooms exposed to moisture.
- To reduce the risk of electric shock, do not open any part of the device. There are no serviceable parts inside the device.
- Only connect the device to a properly installed mains outlet. The outlet must be protected by residual current breaker (RCD). The voltage and frequency must exactly be the same as stated on the device. If the mains cable is equipped with an earthing contact, then it must be connected to an outlet with a protective ground. Never defeat the protective ground of a mains cable. Failure to do so could result in damage to the device and possibly injure the user.
- The mains outlet must be easily accessible so that you can unplug the device quickly if need be.
- Never touch the mains plug with wet or damp hands. There is the risk of potentially fatal electric shock.
- The mains cable must not be bent or squeezed. Keep it away from hot surfaces or sharp edges.
- Never pull the mains cable to disconnect the mains plug from the mains outlet, always seize the plug.
- Unplug the device during lighting storms, when unused for long periods of time or before cleaning.
- Do not expose the device to any high temperatures, direct sunlight, dripping or splashing water, strong vibrations or heavy mechanical stress.
- Do not place any objects filled with liquids on the device.
- Do not place any open sources of fire, such as burning candles, on or directly next to the device.
- Make sure that objects cannot fall into the device, in particular metal parts.
- Only have repairs to the device or its mains cable carried out by qualified service personnel. Repairs are required when the device or the mains cable is visibly damaged, liquid has been spilled or objects have fallen into the device; when the device has been exposed to rain or moisture, has been dropped or malfunctions occur.
- Cleaning of the device is limited to the surface. Make sure that moisture does not come into contact with any areas of the terminal connections or mains voltage control parts. Only wipe off the product with a soft lint-free and moistened cloth. Never use solvents or aggressive detergents.

Danger to children and people with restricted abilities

- This product is not a toy. Keep it out of the reach of children and pets. Do not leave packaging material lying around carelessly. Never leave this device running unattended.
- 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.

Warning – risk of burns and fire

- The admissible ambient temperature range is -5 to +45°C. Do not operate the device outside of this temperature range.
- Do not use the device near highly flammable materials. Always place the device at a location where sufficient air circulation is ensured. Leave 50 cm of free space around the device. Never cover the air vents of the housing.

Warning – risk of injuries

- Make sure that the product is set up or installed safely and expertly and prevented from falling down. Comply with the standards and rules that apply in your country, in particular EN 60598-2-17.
- If you lack the qualification, do not attempt the installation yourself, but instead use a professional installer. Improper installation can result in bodily injury and or damage to property.
- The manufacturer cannot be made liable for damages caused by incorrect installations or insufficient safety precautions.
- For overhead use, always secure the device with a secondary safety attachment such as a safety bond or safety net.
- Make sure that the area below the installation place is blocked when rigging, derigging or servicing the device.
- For commercial use the country-specific accident prevention regulations of the government safety organization for electrical facilities must be complied with at all times.

Caution – material damage

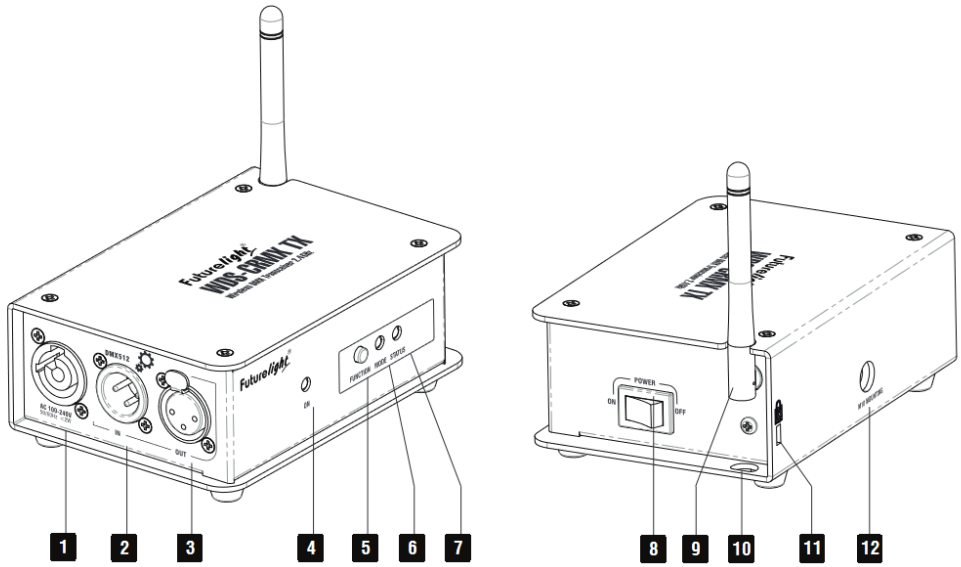
- If the device has been exposed to drastic temperature fluctuation, do not switch it on immediately. The resulting condensation may destroy the device. Allow the device to reach room temperature before connecting it. Wait until the condensation has evaporated.
- Please use the original packaging to protect the device against vibration, dust and moisture during transportation or storage.
- If a serial number label is affixed to the device, do not remove the label as this would make the guarantee void.

PROTECTING THE ENVIRONMENT

Disposal of old equipment
When to be definitively put out of operation, take the product to a local recycling plant for a disposal which is not harmful to the environment. Devices marked with this symbol must not be disposed of as household waste. Contact your retailer or local authorities for more information. Remove any inserted batteries and dispose of them separately from the product.

You as the end user are required by law (Battery Ordinance) to return all used batteries/rechargeable batteries. Disposing of them in the household waste is prohibited. You may return your used batteries free of charge to collection points in your municipality and anywhere where batteries/rechargeable batteries are sold. By disposing of used devices and batteries correctly, you contribute to the protection of the environment.

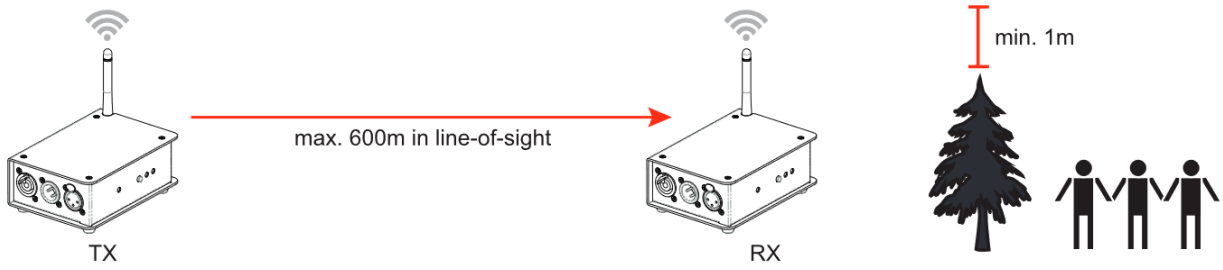
OPERATING ELEMENTS AND CONNECTIONS



No.	Element	Function
1	Power input	Used to plug the supplied power cord in.
2	DMX IN jack	3-pin XLR male socket, used to receive DMX data.
3	DMX OUT jack	3-pin XLR female socket, used to send DMX data.
4	ON indicator	Lights up red when the device is turned on.
5	FUNCTION button	TX (transmission) mode: Press this button shortly to pair receivers. In both modes: To unpair the receiver, press this button until the blue indicator on the receiver goes out (approx. 3 seconds). Further functions →section Operation, page 18.
6	MODE RGB indicator	Meaning of the LED in TX (transmission) mode: shows which frequency band is used (→Switching the TX protocol, page 19). Meaning of the LED in RX (receiver) mode: shows the signal strength = green > 80%, green + red 60-80%, red 30-60%, red flashing <30%, off: Transmission path not active
7	Blue STATUS indicator	TX (transmission) mode: • Lights permanently: Transmission path active, DMX signals are being sent • Flashes every 1.0 sec: Transmission path active, no DMX signal present • Flashes every 0.2 sec: The device tries to set up a transmission path to a receiver RX (receiver) mode: • Lights permanently: Transmission path active, DMX signals are being received • Flashes every 1.0 sec: Transmission path active, no DMX signal present • Flashes every 0.2 sec: The device tries to set up a transmission path to a transmitter • Off: Transmission path not active
8	Power on/off	Turns the device on and off.
9	Antenna	Put the antenna in a vertical position for proper operation.
10	Cutout	For attaching a safety bond.
11	Kensington security slot	Connect to an anti-theft wire.
12	M10 threaded insert	For mounting a truss clamp.

INSTALLATION

Placing transmitter and receiver



1. The maximum distance between the transmitter and receiver is dependent on the ambient conditions. To optimize range and performance maintain a line-of-sight between the transmitter and receiver and position the devices at least 1 m above the audience, trees and other obstacles.
2. Find a suitable location for the receiver and if necessary, fasten it using a truss clamp.

Suspended installation

WARNING!

Risk of injury caused by falling objects
Devices in overhead installations may cause severe injuries when crashing down. Make sure that the device is installed securely and cannot fall down. The installation must be carried out by a specialist who is familiar with the hazards and the relevant regulations.

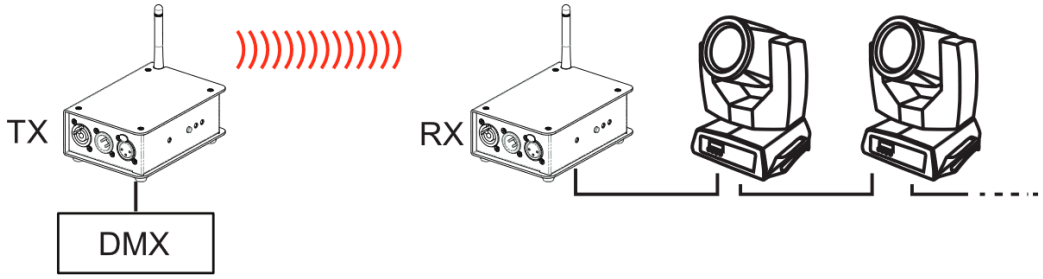
The device may be fastened to a truss or similar rigging structure. The device must never be fixed swinging freely in the room.

1. The rigging structure must support at least 10 times the weight of all fixtures to be installed on it.
2. Block access below the work area and work from a stable platform when installing the device.
3. Use rigging hardware that is compatible with the structure and capable of bearing the weight of the device. Please refer to the “Accessories” section for a list of suitable rigging hardware.
4. Secure the device with a safety bond or other secondary attachment. This secondary safety attachment must be sufficiently dimensioned in accordance with the latest industrial safety regulations and constructed in a way that no part of the installation can fall down if the main attachment fails. Use the designated cutout for fixation of the safety bond. Fasten the safety bond in such a way that, in the event of a fall, the maximum drop distance of the device will not exceed 20 cm.
5. After installation, the device requires inspections periodically to prevent the possibility of rot, deformation and looseness.

APPLICATIONS

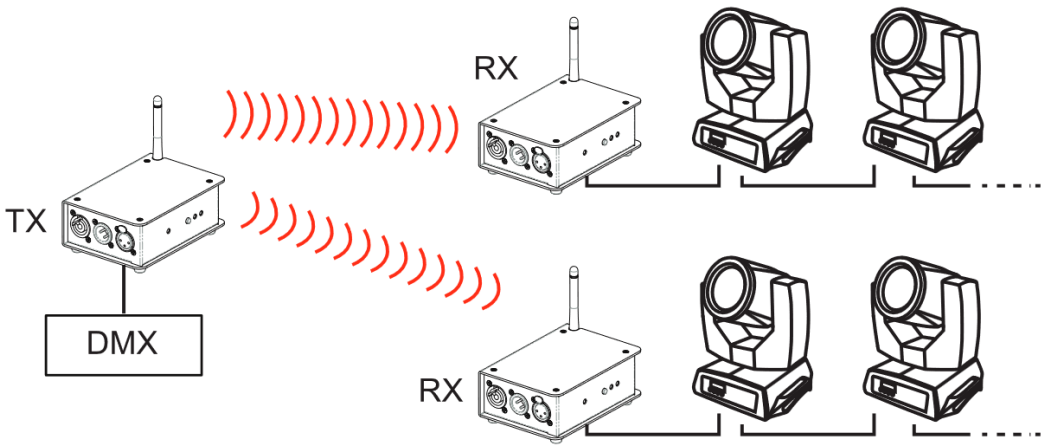
CRMX allows creating reliable point-to-point and multipoint installations over large distances and in any environment. Adaptive frequency hopping enables interference-free operation alongside Bluetooth and Wi-Fi. Depending on the ambient conditions, parallel operation with up to 10 DMX universes is possible. There is no limitation for the number of receivers linked to a transmitter.

Point-to-point connection



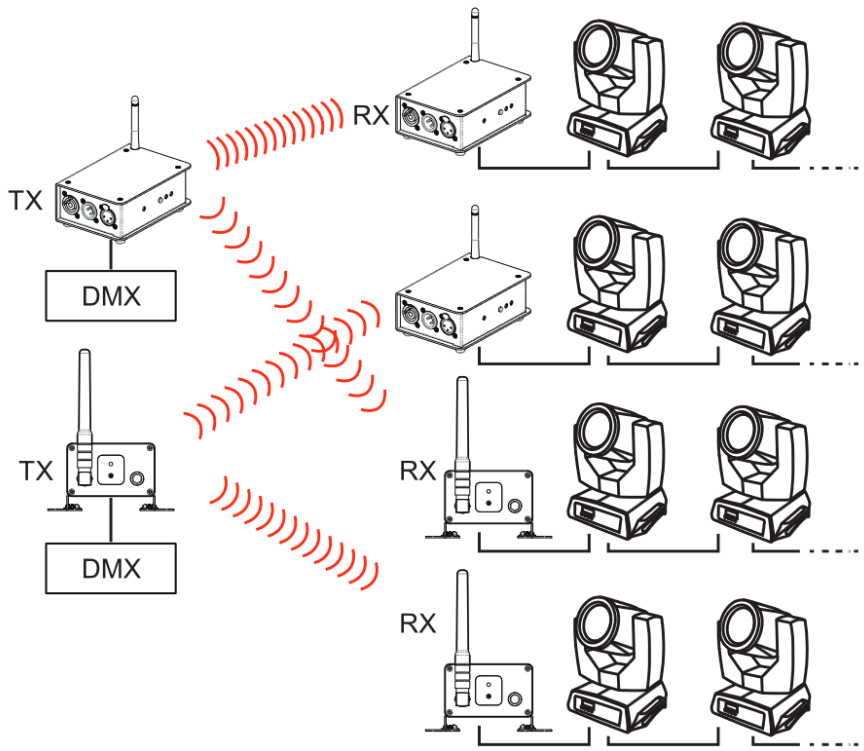
The DMX signal is fed to a transmitter which sends it via RF. A receiver with the same transmission protocol receives the RF signal and distributes it as a DMX signal.

Point-to-multipoint connection



The DMX signal is fed to a transmitter which sends it via RF. An unlimited number of receivers with the same transmission protocol receive the RF signal and distribute it as a DMX signal.

Multipoint connection



Up to 10 DMX universes may be transmitted simultaneously using multipoint-to-multipoint operation. All receivers will respond only to the designated transmitter without any delay or interference from other systems.

Notes

- For connection, use special DMX cables for high data flow.
- Always connect one DMX output to the DMX input of the next unit until all units are connected, to form a DMX chain. Connect a 120 Ω terminating plug to the DMX output of the last DMX unit in the chain.
- If the cable length exceeds 300 m or the number of DMX devices is greater than 32, it is recommended to insert a DMX level amplifier to ensure proper data transmission.

OPERATION

Pairing the transmitter and receiver

1. Connect transmitter and receiver to the mains power and switch them on.
   ▶ Parallel operation: To set up a universe, unlink all devices from previous links. Then only switch on the receivers that you have designated for this universe. Leave all other receivers switched off temporarily.
2. Shortly press **FUNCTION** on the **transmitter**.
   ▶ The blue LEDs on the transmitter and receiver flash quickly until the wireless connection is established. Once connected, the LEDs flash slowly without a DMX signal present or permanently with a DMX signal.
   ▶ The assignment of the receiver to the transmitter is kept memorized even after switching off.
   ▶ You can assign additional receivers to the transmitter at any time, even during operation. In an operational system, assigning an additional receiver will make the connected units revert to idle mode for 10 seconds; they will be reactivated once the new units are connected.

Note

- Some status indications via the LEDs may occur with a short delay.

Disconnecting a receiver from the transmitter
Press **FUNCTION** on the receiver or transmitter for about **3 seconds**.

▶ RX mode: The blue LED goes off and the receiver is unlinked.
▶ TX mode: The blue LED will flash quickly repeatedly; then slowly without a DMX signal present or permanently with a DMX signal.

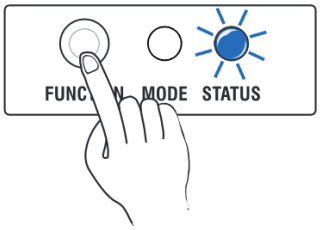
Changing the operating mode

The device can operate either as transmitter or as receiver. The operating mode can be changed in two ways.

Method 1 at power up:

1. Press and hold **FUNCTION** and switch on the device.
2. Release **FUNCTION** (within 3 seconds).
   ▶ The device switches the operating mode.

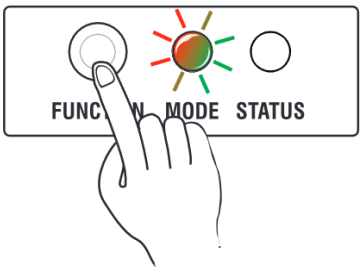
Method 2 during operation:



1. Briefly press **FUNCTION** 5 times. Then press and hold **FUNCTION** for at least **3 seconds**, until the state of the blue LED changes. The unit enters RX/TX selection mode.
   The blue LED indicates the currently selected mode:
   ▶ Quick flashing (every 0.2 sec): **RX mode**
   ▶ Slow flashing (every 1.0 sec): **TX mode**
2. Press **FUNCTION** briefly to change the mode.
3. Press and hold **FUNCTION** for three seconds to save the setting.
   ▶ The device switches the operating mode after a short delay.

Switching the TX protocol

The device can switch the transmission protocol in TX (transmitter) mode. The setting determines which frequency band is used and if legacy G4 and G3 units can be used in the wireless environment.

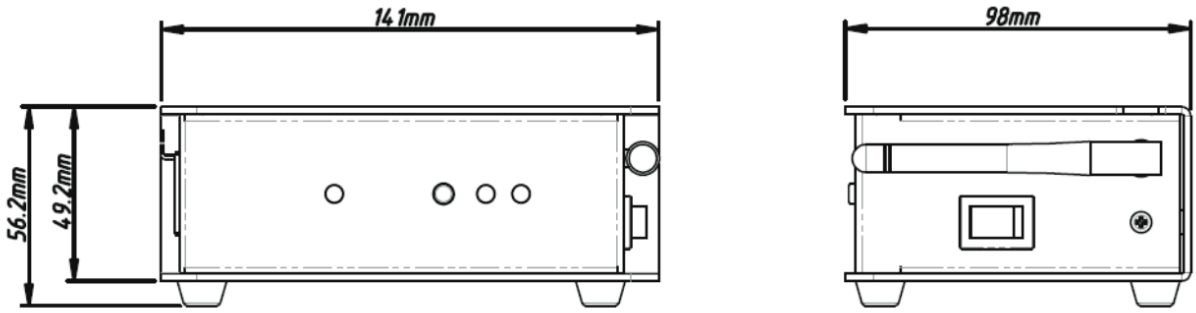


1. Unlink any receivers currently connected first.
2. Briefly press **FUNCTION** 3 times. Then press and hold **FUNCTION** for at least 3 seconds, until the **RGB LED** starts flashing. The unit enters TX protocol selection mode.
   The **RGB LED** will blink fast in different colors to indicate the currently selected protocol.
   ▶ CRMX: R + G + B (white)
   ▶ G4S: R + B
   ▶ G3: G
3. Press **FUNCTION** briefly to change the mode.
4. Press and hold **FUNCTION** for **3 seconds** to save the setting.
   ▶ The RGB LED shows the new mode with a short delay.
5. Connect the transmitter and receiver(s) as previously described.

TECHNICAL SPECIFICATIONS

WDS-CRMX TX	
Power supply:	100-240 V AC, 50/60 Hz
Power consumption:	<2 W
IP classification:	IP20
Control:	TX: CRMX by LumenRadio + W-DMX (G4S/G3) by Wireless Solution RX: CRMX by LumenRadio, RDM
DMX channels:	512
Parallel operation:	max. 10 DMX universes
Carrier frequency:	2.4 GHz ISM band
Modulation:	GFSK
Coverage:	up to 600 m (line-of-sight)
Antenna:	3 dBi
DMX connector:	3-pin XLR (pin 1: ground, pin 2: signal -, pin 3: signal +)
Dimensions (L x W x H):	141 x 98 x 56 mm
Weight:	0.66 kg

Specifications are subject to change without notice due to product improvements.



Accessories

No. 59006856	TPC-10 Coupler, silver
No. 58010372	Safety Bond UNV-5 3x600mm up to 5kg silver

Futurelight

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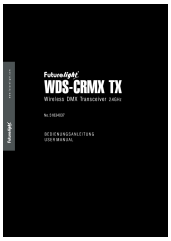
Documents / Resources

	Futurelight WDS-CRMX TX Wireless DMX Transceiver [pdf] User Manual WDS-CRMX TX Wireless DMX Transceiver, WDS-CRMX TX, Wireless DMX Transceiver, DMX Transceiver, Transceiver

References

- High quality light equipment for professionals
- User Manual