



## Wireless DMX Receiver IP65

# Wireless DMX Receiver

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24.05.2024, ID: 574006 (V2)

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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](http://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
<b>DANGER!</b>	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.
<b>NOTICE!</b>	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
 A yellow triangular warning sign with a black border and a black lightning bolt symbol in the center, indicating high voltage.	Warning – high-voltage.
 A yellow triangular warning sign with a black border and a black exclamation mark in the center, indicating a general danger zone.	Warning – danger zone.

## 2 Safety instructions

### Intended use

This device is intended for the wireless transmission of DMX signals in lighting systems. 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. Always use proper ready-made insulated triple-core mains cable with a safety plug. 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.



### **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 over-heat 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 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.



### **NOTICE!**

#### **Radio interference due to electromagnetic fields!**

The unit emits electromagnetic radio signals. Overlapping radio waves may cause interference with the device and other devices. Do not use the device in locations where the use of wireless devices is prohibited.

### 3 Features

Special features of the device:

- Professional W-DMX receiver, suitable for outdoor use, compatible with Wireless Solution G5
- Wireless signal transmission in the 2.4 GHz frequency range (ISM band) without interference
- Toll-free operation in the EU and NAFTA countries, no permit required
- Operation via button on the unit
- LED for monitoring the operating status
- Lockable input socket (Power Twist IP65) for mains power supply.
- Suitable power cable included
- Robust aluminium die-cast housing with various mounting options
- Outdoor operation is possible due to International Protection Rating IP65
- Pressure compensation element (prevents condensation inside the device)

As a suitable transmitter we recommend item no. 573998.

#### **Information about protection class IP65**

Equipment with protection class IP65 are dust-tight and completely protected against contact (first code number). They are also protected against splash water from any angle (second code digit). That is why this equipment can also be used outdoors. Event technology equipment is generally only designed for temporary use however (event lighting) and not for permanent use outdoors.

The specified protection class does not make a statement about the weather resistance of the equipment (resistance to changing ambient conditions as well as against the effects of sunlight and UV rays).

The seals and screw connections of the equipment must be checked regularly to ensure a fault-free operation. In cases of doubt, consult a specialist workshop in due time.

## 4 Installation

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.



### 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.

### Notes on radio transmission

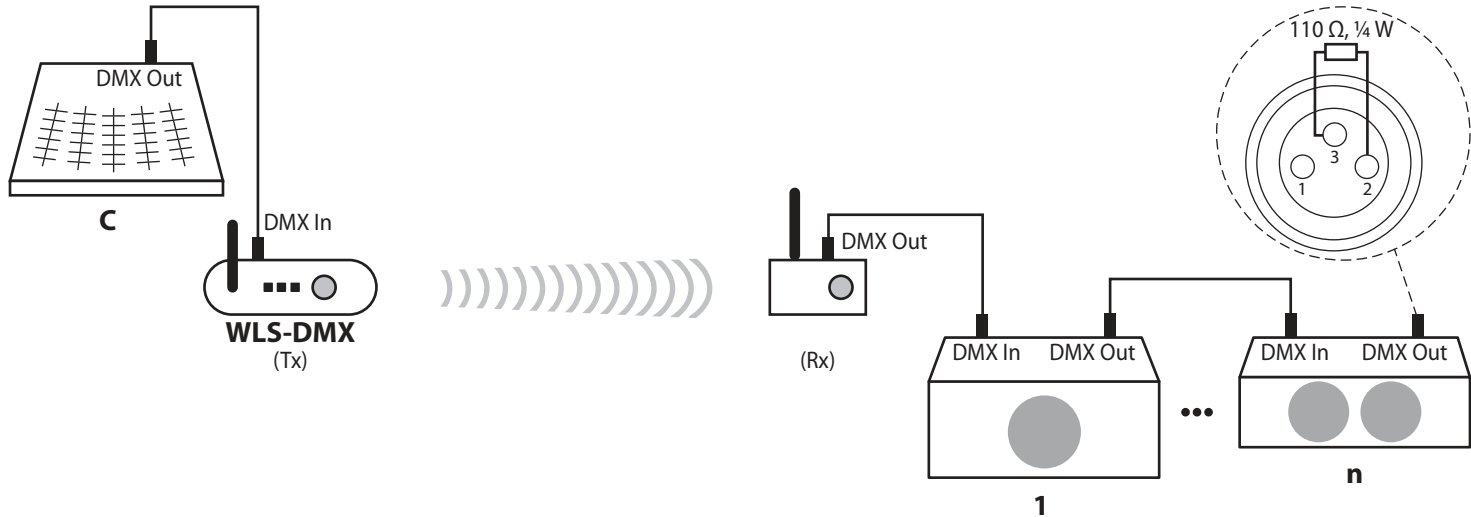
- This equipment uses a frequency range that is free of charge and registration within the European Union.  
For more information, please visit: <http://www.thomann.de>.
- Make sure that no metal objects are located between transmitter and receiver.
- Avoid interference by other radio and in-ear systems.

## 5 Starting up

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.

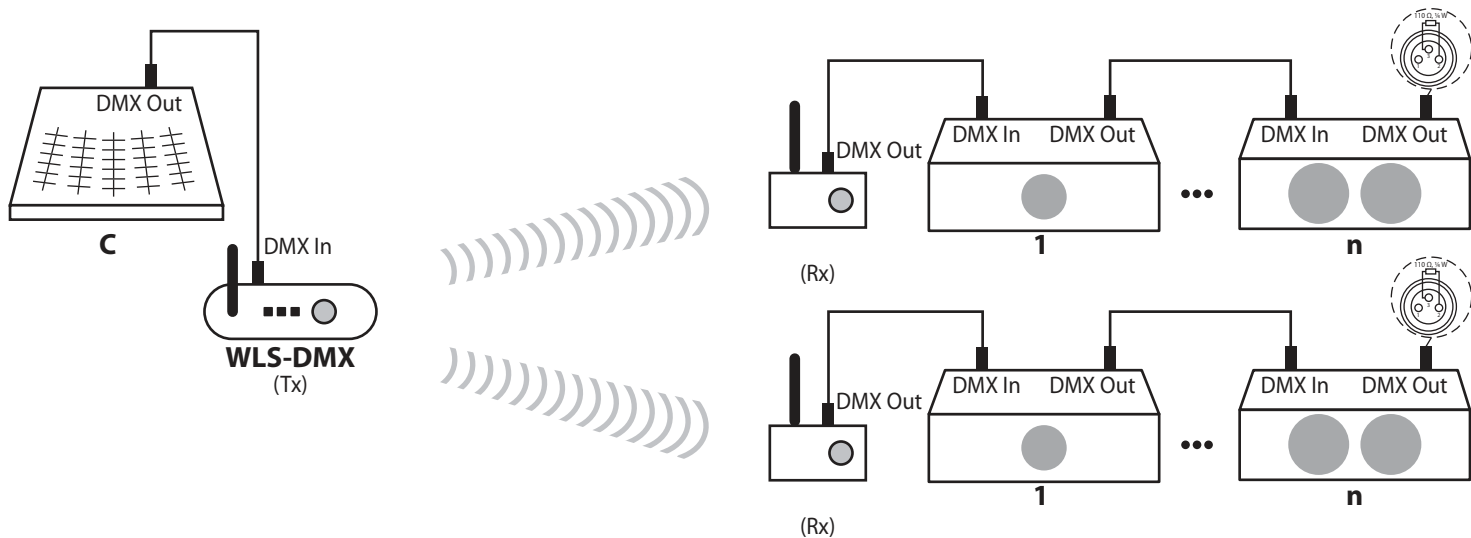
**Point-to-point connection**

Connect a compatible transmitter to the DMX output of your DMX controller and a receiver to the DMX input of the first DMX device in the DMX chain that is to be controlled. In this point-to-point configuration the DMX signal from one transmitter is sent to one receiver.



**Point-to-multipoint connection**

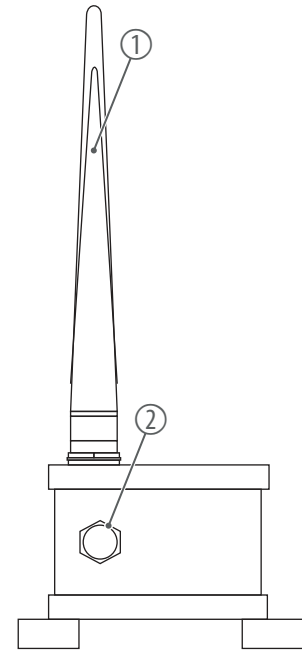
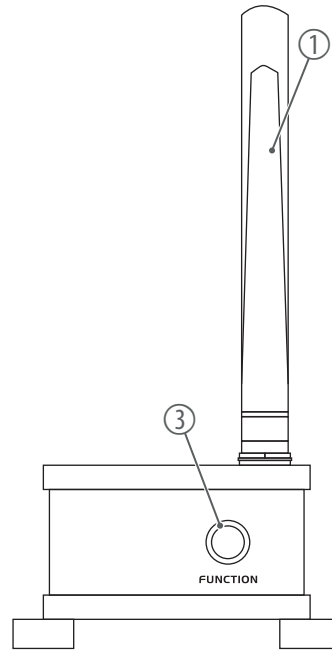
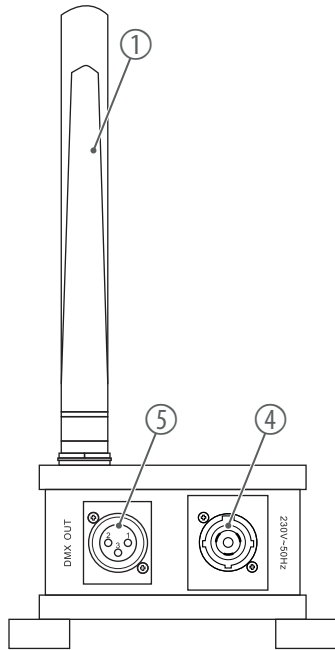
Connect a compatible transmitter to the DMX output of your DMX controller and a receiver to the DMX input of each first DMX device in the DMX chains that are to be controlled. In this point-to-multipoint configuration the DMX signal from one transmitter is sent to several receivers. Transmitter and all receivers must be set to the same frequency range.



**DMX chain**

Connect the output of the first DMX device to the input of the second one and so on, to form a series connection. Make sure that the output of the last DMX device in the chain is terminated by a resistor (110  $\Omega$ , 1/4 W).

## 6 Connections and controls



1	Antenna
2	Pressure equalisation element
3	<p><i>[FUNCTION]</i>   Illuminated button for switching the operating mode. The LED shows the current operating status.</p> <ul style="list-style-type: none"><li>■ Off: The receiver is not connected to a transmitter.</li><li>■ On: The receiver is connected to a transmitter, the transmission of the DMX data is running.</li><li>■ Flashing: The receiver is connected to a transmitter, but no DMX signal is being transmitted.</li></ul>
4	<i>[230V~50Hz]</i>   Lockable input socket (Power Twist IP65) for mains power connection
5	<i>[DMX Out]</i>   DMX output, designed as XLR panel socket, 3-pin

## 7 Operating

### Connecting to transmitter

1. ➤ Connect the receiver to the mains and make sure that also the transmitter is switched on.
2. ➤ If the ring-shaped *[FUNCTION]* LED on the receiver is not on, press *[FUNCTION]* on the transmitter. The LEDs on the transmitter and receiver flash quickly for a few seconds.
  - ⇒ If the LEDs are permanently lit, the connection is established.

### Disconnecting from the transmitter

- Press *[FUNCTION]* on the receiver for about six seconds.
  - ⇒ The *[FUNCTION]* LED goes out, the connection is broken.

## 8 Technical specifications

Input connections	Power supply	Power Twist TR1
Output connections	DMX output	XLR panel socket, 3-pin
Frequency	2.4 GHz	
Sensitivity	-96 dBm	
Antenna gain	5 dBi	
W-DMX	Frequency range	2.403 GHz...2.479 GHz
	Max. transmission power	20 dBm
	Range (outdoors)	approx. 500 m
Power consumption	6 W	
Supply voltage	230 V ~ 50 Hz	
International Protection Rating	IP65	
Dimensions (W × H × D, without antenna)	135 mm × 90 mm × 80 mm	
Weight	1.0 kg	
Ambient conditions	Temperature range	0 °C...40 °C
	Relative humidity	20%...80% (non-condensing)

# 9 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')

## 10 Troubleshooting



### **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.

In the following we list a few common problems that may occur during operation. We give you some suggestions for easy troubleshooting:

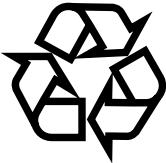
Symptom	Remedy
<p>No response to the DMX controller</p>	<p>1. Check the power supply of the transmitter and receiver.</p>
	<p>2. Make sure that transmitter and receiver are operating in the same frequency range.</p>
	<p>3. Check the DMX connections and cables for proper connection.</p>
	<p>4. Check the address settings and the DMX polarity.</p>
	<p>5. Try using another DMX controller.</p>
	<p>6. Check whether the DMX cables run near or parallel to high-voltage cables that may cause damage or interference to a DMX interface circuit.</p>
<p>Transmission is interrupted</p>	<p>1. Try to improve the audio transmission by moving the transmitter closer to the receiver.</p>
	<p>2. Make sure that no metal objects near the transmitter or receiver are obstructing the transmission.</p>
	<p>3. Modify the orientation of the antennas.</p>

Symptom	Remedy
	4. If you are using more than one wireless system at the same time, check the used frequencies and channels
	5. Interference can also be caused by other radio or in-ear systems.

If the procedures recommended above do not succeed, please contact our Service Center. You can find the contact information at [www.thomann.de](http://www.thomann.de).

# 11 Protecting the environment

## Disposal of the packing material



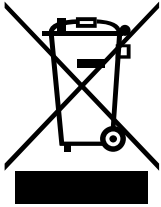
Environmentally friendly materials have been chosen for the packaging. These materials can be sent for normal recycling. Ensure that plastic bags, packaging, etc. are disposed of in the proper manner.

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



Observe the disposal note regarding documentation in France.

### Disposal of your old device



This product is subject to the European Waste Electrical and Electronic Equipment Directive (WEEE) as amended.

Do not dispose of your old device with your normal household waste; instead, deliver it for controlled disposal by an approved waste disposal firm or through your local waste facility. If in doubt, consult your local waste management facility. You can also return the device to a retailer if they offer to take the device back for free or if they are legally obliged to do so. When disposing of the device, comply with the rules and regulations that apply in your country. You can also return your old device to Thomann GmbH at no charge. Check the current conditions on [www.thomann.de](http://www.thomann.de).

Proper disposal protects the environment as well as the health of your fellow human beings. This is because the proper handling of old devices negates the potential negative effects of hazardous substances, and because it conserves resources by recycling them.

Also note that waste avoidance is a valuable contribution to environmental protection. Repairing a device or passing it on to another user is an ecologically valuable alternative to disposal.

If your old device contains personal data, delete those data before disposing of it.







