

DMX Splitter 8
USB 3 pin, USB 5 pin
DMX splitter

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Table of contents

1	General information	4
	1.1 Further information.....	5
	1.2 Notational conventions.....	6
	1.3 Symbols and signal words.....	6
2	Safety instructions	8
3	Features	12
4	Installation and starting up	13
5	Connections and controls	16
6	Technical specifications	23
7	Plug and connection assignment	26
8	Protecting the environment	28

1 General information

This user manual contains important information on the safe operation of the device. Read and follow all safety notes and all instructions. Save this manual for future reference. Make sure that it is available to all persons using this device. If you sell the device to another user, be sure that they also receive this manual.

Our products and user manuals are subject to a process of continuous development. We therefore reserve the right to make changes without notice. Please refer to the latest version of the user manual which is ready for download under www.thomann.de.

1.1 Further information

On our website (www.thomann.de) you will find lots of further information and details on the following points:

Download	This manual is also available as PDF file for you to download.
Keyword search	Use the search function in the electronic version to find the topics of interest for you quickly.
Online guides	Our online guides provide detailed information on technical basics and terms.
Personal consultation	For personal consultation please contact our technical hotline.
Service	If you have any problems with the device the customer service will gladly assist you.

1.2 Notational conventions

This manual uses the following notational conventions:



Letterings

The letterings for connectors and controls are marked by square brackets and italics.

Examples: *[VOLUME]* control, *[Mono]* button.

1.3 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 manual.

Signal word	Meaning
DANGER!	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.
NOTICE!	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
	Warning – high-voltage.
	Warning – danger zone.

2 Safety instructions

Intended use

This device is intended to be used for the distribution of DMX signals from one to multiple DMX chains, or to extend a DMX chain. 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.

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.

Safety**DANGER!****Danger for children**

Ensure that plastic bags, packaging, etc. are disposed of properly and are not within reach of babies and young children. Choking hazard!

Ensure that children do not detach any small parts (e.g. knobs or the like) from the unit. They could swallow the pieces and choke!

Never let children unattended use electrical devices.

**DANGER!****Electric shock caused by high voltages inside**

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 if covers, protectors or optical components are missing or damaged.



DANGER!

Electric shock caused by short-circuit

Do not modify the mains cable or the plug. Failure to do so could result in electric shock/death or fire. If in doubt, seek advice from a registered electrician.



NOTICE!

Risk of fire

Do not block areas of ventilation. Do not install the device near any direct heat source. Keep the device away from naked flames.



NOTICE!

Operating conditions

This device has been designed for indoor use only. To prevent damage, never expose the device to any liquid or moisture. Avoid direct sunlight, heavy dirt, and strong vibrations.



NOTICE!

Power supply

Before connecting the device, ensure that the input voltage (AC outlet) matches the voltage rating of the device and that the AC outlet is protected by a residual current circuit breaker. Failure to do so could result in damage to the device and possibly injure the user.

Unplug the device before electrical storms occur and when it is unused for long periods of time to reduce the risk of electric shock or fire.



NOTICE!

Possible damage due to installation of a wrong fuse

The use of different types of fuses can cause serious damage to the unit. Fire hazard!

Only fuses of the same type may be used.

3 Features

- Professional DMX splitter with following functions:
 - Distribution of the DMX-512 signal to eight DMX chains in active mode
 - Looping the DMX-512 signal in passive mode
 - Amplification of the DMX-512 signal for longer distances to the controlled DMX devices
 - Processing of attenuated or disturbed DMX-512 signals
 - Reduction of reflections that can cause transmission interference
 - The galvanic isolation of in and outputs and among the outputs ensures a protection against damage from power surges of up to 2000 V
- 1 × DMX input
- 1 × passive DMX output
- 8 × active DMX outputs
- 2 × USB ports (5 V, 1 A), for example, for charging mobile phones
- 19" rack-mountable

4 Installation and starting up

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.

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.



NOTICE!

Possible data transmission errors

To ensure trouble-free operation, use dedicated DMX cables and not normal microphone cables.

Never connect the DMX outputs to audio devices such as mixers or amplifiers.

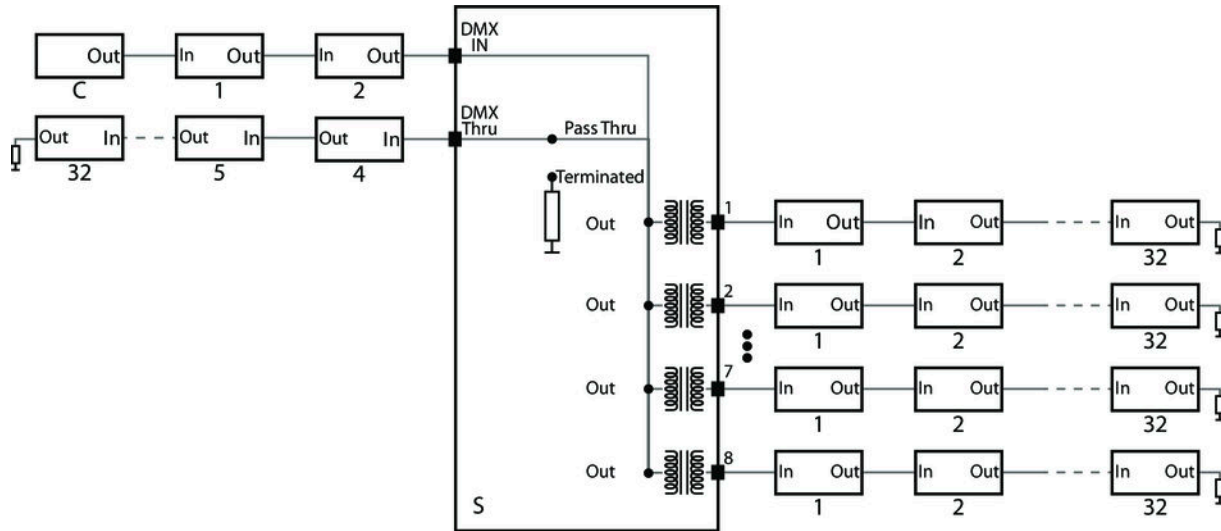
DMX connections

The following graphic illustrates how to integrate the unit into a DMX configuration.

Use the product (S) as the last part of the DMX chain that begins with your DMX controller (C). Do so, connect the output of the last device to the input of the DMX splitter.

You can connect each one DMX chain to the active DMX outputs of the device (S) (DMX splitter), each of which can consist of a maximum of 32 DMX devices. Connect the output of the first DMX device to the input of the second and continue this way until all devices are connected. Make sure that the output of the last DMX device in the chain is terminated by a resistor (110 Ω , 1/4 W). You can even expand the configuration of your DMX network if you are running additional DMX splitters at the end of the DMX chains. Keep in mind that the total number of usable DMX addresses in a 'DMX universe' is limited to 512.

At the direct DMX output [*DMX Thru*] you can connect another DMX chain from a maximum of 32 DMX devices. When using this output, the [*Pass Thru / Terminated*] switch must be in the [*Pass Thru*] position (not pressed). If the device itself terminates a DMX chain, the [*Pass Thru / Terminated*] switch must be in the [*Terminated*] (pressed) position. Then a terminating resistor is cut in.



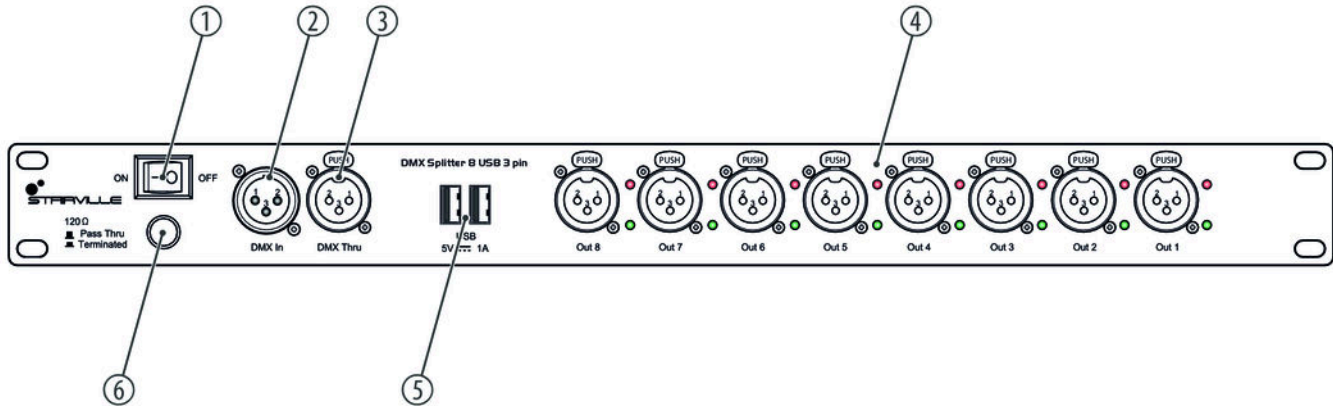
Rack mounting

The unit has been designed for rack mounting in a standard 19-inch rack; it occupies one rack unit.

DMX Splitter 8 USB 3 pin, USB 5 pin

5 Connections and controls

Front panel USB 3 pin (414203)



1	<i>[ON/OFF]</i> Mains switch. Turns the device on and off.
2	<i>[DMX In]</i> DMX input, designed as 3-pin XLR chassis-mounted plug
3	<i>[DMX Thru]</i> Passive DMX output (XLR chassis socket, 3-pin) for looping the signal to a connected device. This output is only active, if the <i>[Pass Thru / Terminated]</i> switch is not pressed.
4	<i>[Out 1]...[Out 8]</i> 8 × active DMX outputs (XLR chassis sockets, 3-pin) to buffer, amplify and distribute the signal to other DMX chains, three- and five-pin type with control LEDs for the signals on the DMX data lines of the DMX outputs. The red LED indicates the operational readiness of the DMX outputs. The green LED lights up when a DMX controller is connected and a signal is transmitted on the data line.

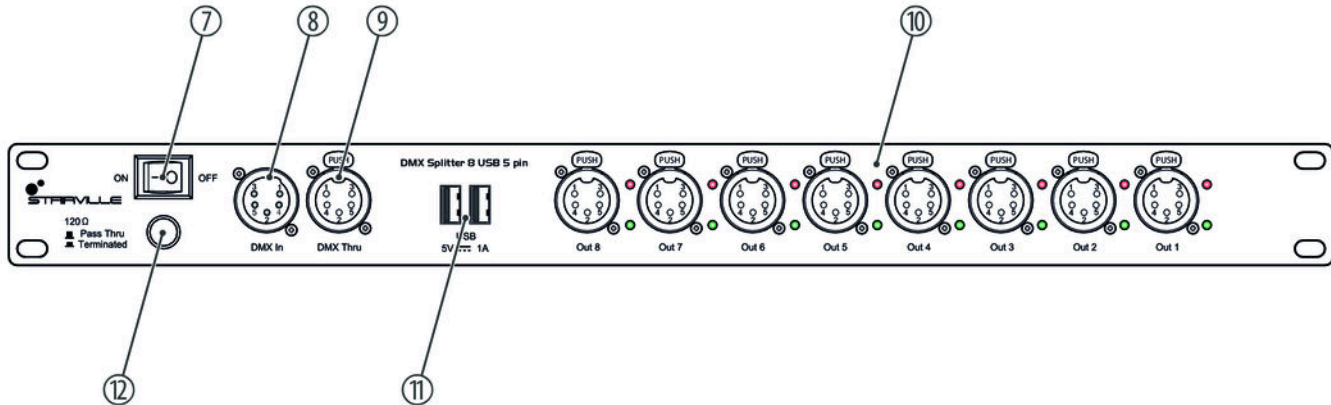
5 2 × USB ports (5 V, 1 A), for example, for charging mobile phones

6 *[Pass Thru / Terminated]*

In the *[Terminated]* position (switch pressed), the DMX wire of the DMX input is terminated with a resistor, the direct DMX output (3) is switched off.

In the *[Pass Thru]* position (switch not pressed), the direct DMX output (3) is active.

Front panel USB 5 pin (461295)



DMX Splitter 8 USB 3 pin, USB 5 pin

7	<i>[ON/OFF]</i> Mains switch. Turns the device on and off.
8	<i>[DMX In]</i> DMX input, designed as 5-pin XLR chassis-mounted plug
9	<i>[DMX Thru]</i> Passive DMX output (XLR chassis socket, 5-pin) for looping the signal to a connected device. This output is only active, if the <i>[Pass Thru / Terminated]</i> switch is not pressed.
10	<i>[Out 1]...[Out 8]</i> 8 × active DMX outputs (XLR chassis sockets, 5-pin) to buffer, amplify and distribute the signal to other DMX chains, three- and five-pin type with control LEDs for the signals on the DMX data lines of the DMX outputs. The red LED indicates the operational readiness of the DMX outputs. The green LED lights up when a DMX controller is connected and a signal is transmitted on the data line.

11	2 × USB ports (5 V, 1 A), for example, for charging mobile phones
12	<p><i>[Pass Thru / Terminated]</i></p> <p>In the <i>[Terminated]</i> position (switch pressed), the DMX wire of the DMX input is terminated with a resistor, the direct DMX output (9) is switched off.</p> <p>In the <i>[Pass Thru]</i> position (switch not pressed), the direct DMX output (9) is active.</p>

Rear panel



13	Mains cable for power supply
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14	Fuse holder
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6 Technical specifications

		DMX Splitter 8 USB 3 pin (414203)	DMX Splitter 8 USB 5 pin (461295)
Input connections	DMX control	1 × XLR chassis socket, 3-pin	1 × XLR chassis socket, 5-pin
Output connections	DMX control	8 × XLR chassis socket, 3-pin (DMX Out)	8 × XLR chassis socket, 5-pin (DMX Out)
		1 × XLR chassis socket, 3-pin (DMX Thru)	1 × XLR chassis socket, 5-pin (DMX Thru)
	USB	2 × USB port, 5 V, 1 A	2 × USB port, 5 V, 1 A
Control protocols		DMX512-A	
Power consumption		15 W	
Operating supply voltage		230 V ~ 50 Hz	
Fuse		5 mm × 20 mm, 1 A, 250 V, fast-acting	
Mounting properties		19 inch, 1 RU	
Dimensions (W × H × D)		482 mm × 44 mm × 150 mm	

DMX Splitter 8 USB 3 pin, USB 5 pin

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Weight		3.0 kg	
Ambient conditions	Temperature range	0 °C...40 °C	
	Relative humidity	50 %, non-condensing	

Further information

	DMX Splitter 8 USB 3 pin (414203)	DMX Splitter 8 USB 5 pin (461295)
Type	Splitter	Splitter
Distribution type	1in8	1in8
Input	3-pin XLR	5-pin XLR
3-pin XLR outputs	Yes	No
5-pin XLR outputs	No	Yes
19" rack-mountable	Yes	Yes
RDM compatible	No	No
WDMX capable	No	No

7 Plug and connection assignment

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')

DMX connections



A five-pin XLR socket serves as DMX output, a five-pin XLR plug serves as DMX input. The drawing below and the table show the pin assignment of a matching coupling.

Pin	Assignment
1	Ground (shielding)
2	Signal inverted (DMX-, 'cold')
3	Signal (DMX+, 'hot')
4	unused / second connection (DMX-)
5	unused / second connection (DMX+)

8 Protecting the environment

Disposal of the packaging material



For the transport and protective packaging, environmentally friendly materials have been chosen that can be supplied to normal recycling.

Ensure that plastic bags, packaging, etc. are properly disposed of.

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

Disposal of your old device



This product is subject to the European Waste Electrical and Electronic Equipment Directive (WEEE) in its currently valid version. Do not dispose with your normal household waste.

Dispose of this device through an approved waste disposal firm or through your local waste facility. When discarding the device, comply with the rules and regulations that apply in your country. If in doubt, consult your local waste disposal facility.

DMX Splitter 8 USB 3 pin, USB 5 pin



