



# DDS 405

## digital dimmer and switcher

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# 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](http://www.thomann.de).

## 1.1 Further information

On our website ([www.thomann.de](http://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.

### Displays

Texts and values displayed on the device are marked by quotation marks and italics.

**Examples:** *'24ch'*, *'OFF'*.

## 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
<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
	Warning – high-voltage.
	Warning – danger zone.

## 2 Safety instructions

### Intended use

This appliance is intended to be used to control the brightness of connected spotlights. 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!**

#### **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.

### 3 Features

- 4 dimmer channels
- Outputs: 4 protective contact sockets
- Control via DMX 512
- Individual DMX addressing per channel
- Channel function selectable per channel
- Operating modes:
  - DMX
  - Automatic
  - Sound control
- Single channel protection

## 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.

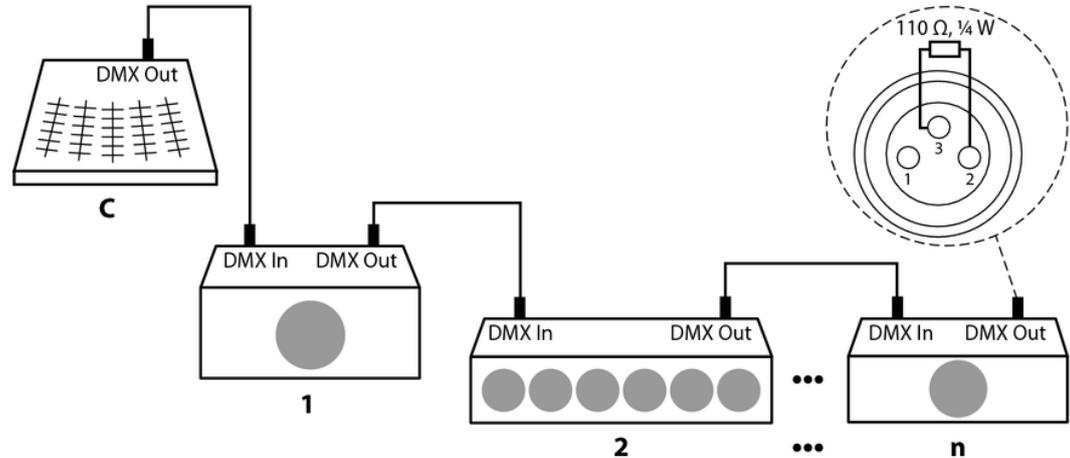
Create all connections while the device is off. Use the shortest possible high-quality cables for all connections. Take care when running the cables to prevent tripping hazards.

The unit is designed for wall or stand mounting. For this purpose, there is a mounting bracket on top of the unit. Using the two M10 threads, the device can be mounted vertically or horizontally with suitable screws on a stand. Alternatively, there are two bores available for wall mounting using suitable mounting hooks and anchors (mounting hardware not included).

First, connect the loads to the terminals on the sides of the device. If you want to operate the device in 'DMX' mode, establish the DMX connection to the controller. Finally, connect the power plug of the device to a mains power socket.

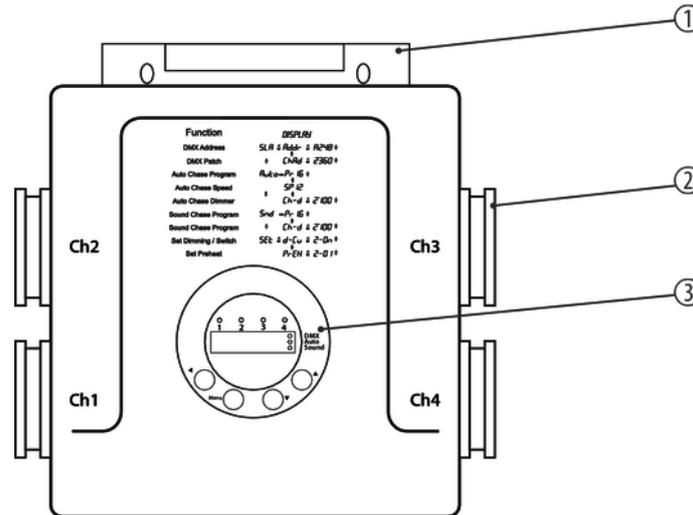
## Connections in DMX mode

Connect the DMX input of the device to the DMX output of a DMX controller or another DMX device. Connect the output of the first DMX device to the input of the second one, and so on to form a daisy chain. Always ensure that the output of the last DMX device in the daisy chain is terminated with a resistor ( $110\ \Omega$ ,  $\frac{1}{4}\text{ W}$ ).



## 5 Connections and operating elements

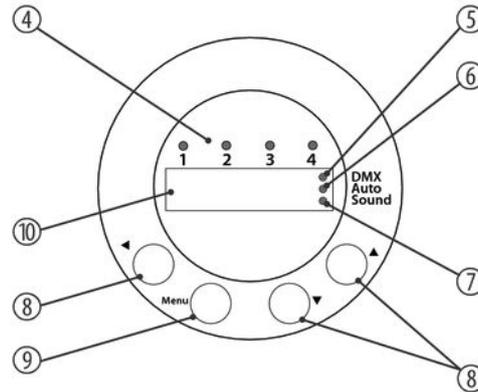
### Front panel



DDS 405

- |   |  |
|---|--|
| 1 | Mounting bracket with two thread holes M10 and to bores for wall or tripod mounting. |
| 2 | Dimmer outputs, 4 protective contact sockets.  |
| 3 | Operating panel.   |

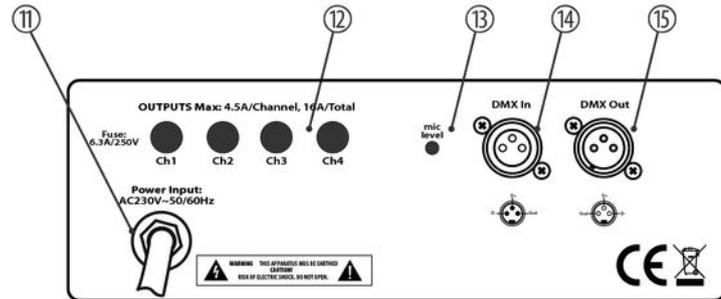
**Operating panel**



- |   |   |
|---|---|
| 4 | <p>Channel indicators [1]...[4].</p> <p>In all operating modes, the channel indicators show which channels are currently being used by the running programme (LEDs light up green).</p> |
| 5 | <p>[DMX]</p> <p>This LED lights up when the unit is operating in 'DMX' mode.</p>  |

6	<i>[Auto]</i> This LED lights up when the unit is operating in 'Automatic' mode.
7	<i>[Sound]</i> This LED lights up when the unit is operating in 'Sound control' mode.
8	Navigation buttons Buttons to navigate the device menu.
9	<i>[Menu]</i> Button to open the main menu and confirm display values.
10	Display.

Bottom



11	Mains cable.
12	[Ch1]...[Ch4] Fuses for channels 1...4.
13	[mic level] Rotary control for adjusting the sensitivity of the built-in microphone for sound control.

14	<i>[DMX In]</i> DMX input.
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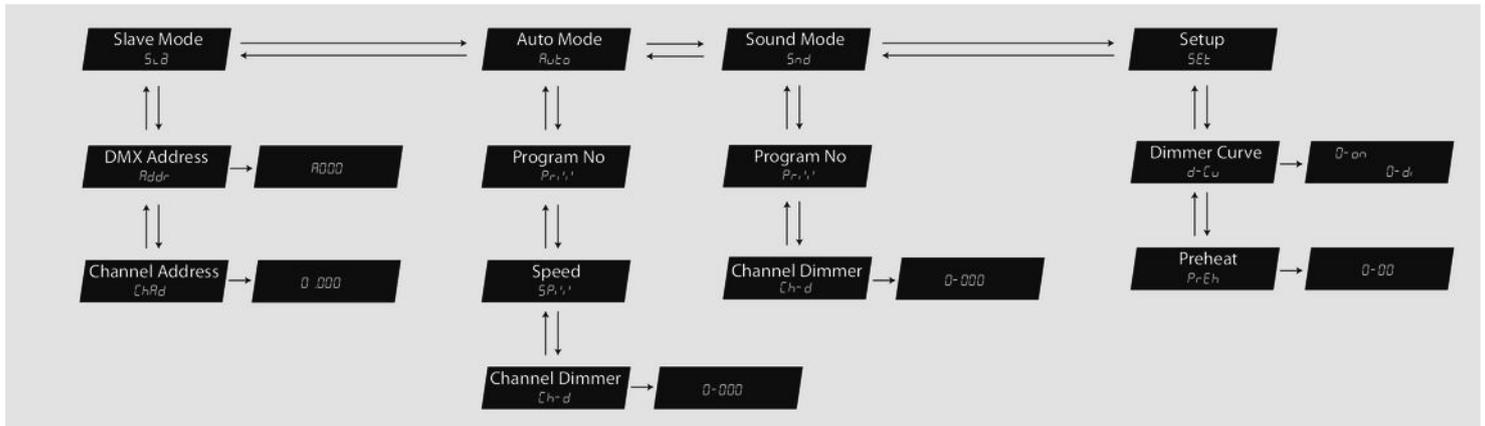
15	<i>[DMX Out]</i> DMX output.
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## 6 Operating

### Turning on and off

To start up the device, connect it to the mains. The device is immediately ready for operation. Pull the power plug of the unit to turn it completely volt-free.

## Menu overview



## Operating mode selection

Switch to normal mode and use the navigation buttons ▲ or ▼ to select the desired operating mode:

- 'Sla' (operating mode: 'DMX')
- 'Auto' (automatic mode with preprogrammed chasers)
- 'Auto' (sound controlled mode with preprogrammed chasers)

Confirm the selection with *[Menu]*. The control LED of the enabled operating mode lights in the display.

### Operating mode 'DMX'

In this mode the device is controlled via a connected DMX controller and operates in Slave mode. The control LED *[DMX]* lights permanently as soon as a DMX signal is present.

The four channels can be addressed consecutively or individually.

Consecutive addressing:

- 1.**  Use the navigation buttons ▲ or ▼ to select the operating mode 'Sla'.
  - ⇒ The control LED *[Sla]* is flashing.
- 2.**  Confirm the selection with *[Menu]*.
  - ⇒ The display changes to 'Addr'.
- 3.**  Confirm the selection with *[Menu]*.
  - ⇒ The display changes to 'A001'.
- 4.**  Confirm the selection with *[Menu]*.
- 5.**  Once the three right digits of the displayed value will flash, you can use the navigation keys ▲ or ▼ to set the address of the first channel. Confirm the selection with *[Menu]*.
- 6.**  Use navigation button ◀ to return to the previous menu level.

Individual addressing:

- 1.** ▶ Use the navigation buttons ▲ or ▼ to select the operating mode 'Sla'.  
⇒ The control LED [Sla] is flashing.
- 2.** ▶ Confirm the selection with [Menu].  
⇒ The display changes to 'Addr'.
- 3.** ▶ Use the navigation buttons ▲ or ▼ to switch to menu item 'ChAd'. Confirm the selection with [Menu].  
⇒ The display shows the current setting, e. g. '1003'.
- 4.** ▶ The first digit of the displayed value corresponds to the channel. If this digit is flashing, you can select the desired channel with the navigation keys ▲ or ▼. Confirm the selection with [Menu].  
⇒ The three right digits of the displayed value are flashing.
- 5.** ▶ Now use the navigation keys ▲ or ▼ to set the desired address for the active channel. Confirm the selection with [Menu].
- 6.** ▶ Use navigation button ◀ to return to the previous menu level.

### Automatic and sound-controlled operation

In these operating modes, the device works in Stand Alone mode. After selecting the operating mode 'Auto' or 'Snd' you can enable one of the 20 programmes (Chasers) available. Each programme consists of 32 steps. Depending on the operating mode, the control LED [Auto] or [Sound] lights up.

### Programme selecting

1. ➤ Press the [Menu] button again to select a programme after selecting an operating mode.  
⇒ The last active programme is displayed in 'Prxx' format in the display.
2. ➤ Press [Menu] again.
3. ➤ If the programme number display is flashing, you can select the desired programme with the navigation keys ▲ or ▼.
4. ➤ Confirm the selection with [Menu].
5. ➤ Use navigation button ◀ to return to the previous menu level.

## Setting dimmer values

1. ▶ Select the operating mode 'Auto' or 'Snd', press [Menu] and use the navigation buttons ▲ or ▼ to switch to menu item 'Ch-d'.
2. ▶ Press [Menu] again.
3. ▶ If the dimmer value display (right on the display) is flashing, you can adjust the desired value (in percent) with the navigation keys ▲ or ▼.
4. ▶ Use [Menu] to toggle between dimmer value and channel number.
5. ▶ If the channel number display (left on the display) is flashing, you can adjust the desired channel with the navigation keys ▲ or ▼.
6. ▶ Use navigation button ◀ to return to the previous menu level.

### Programme progress speed

In 'Auto' mode you can adjust the programme speed using the 'SPxx' menu.

1. ➤ Select the operating mode 'Auto', press [Menu] and use the navigation buttons ▲ or ▼ to switch to menu item 'SPxx'.
2. ➤ Press [Menu] again.
3. ➤ If the speed display (right on the display) is flashing, you can adjust the desired programme speed with the navigation keys ▲ or ▼.
4. ➤ Confirm the selection with [Menu].
5. ➤ Use navigation button ◀ to return to the previous menu level.

In 'Snd' mode, all programmes run sound-controlled, the programme speed can not be changed manually.

## Channel function

Depending on the settings, the channels of the device operate in Dimmer or Switch mode.

Proceed as follows to adjust the Channel mode:

1. ➤ Open the menu 'd-Cu', (see menu overview).
2. ➤ Press [Menu].
3. ➤ If the channel number display (left on the display) is flashing, you can adjust the desired channel with the navigation keys ▲ or ▼.
4. ➤ Confirm the selection and use [Menu] to toggle between channel number and channel function.
5. ➤ If the channel function display (right on the display) is flashing, you can assign the desired function 'di' (Dimmer) or 'On' (Switch) with the navigation keys ▲ or ▼.
6. ➤ Confirm the selection with [Menu].
7. ➤ Use navigation button ◀ to return to the previous menu level.

### Lamp preheat

In dimmer mode, a certain amperage can be set for each channel to preheat the connected lamps.

Proceed as follows to adjust the amperage:

1. ▶ Open the menu '*PrEh*', (see menu overview).
2. ▶ Press [*Menu*].
3. ▶ If the channel number display (left on the display) is flashing, you can adjust the desired channel with the navigation keys ▲ or ▼.
4. ▶ Confirm the selection and use [*Menu*] to toggle between channel number and amperage.
5. ▶ If the default value display (right on the display) is flashing, you can determine the desired amperage in a range from '0' ... '15' with the navigation keys ▲ or ▼.
6. ▶ Confirm the selection with [*Menu*].
7. ▶ Use navigation button ◀ to return to the previous menu level.

## 7 Technical specifications

Control principle	Leading edge phase control	
Input connections	Power supply	One-phase connection, max. 16 A
	Signal input	DMX 512 via 3-pin XLR plug
Output connections	Power supply	4 × outlets, 230 V
	Signal output	DMX 512 via 3-pin XLR socket
Channel fuse	Micro fuse per channel	5 mm × 20 mm, 6.3 A, 250 V, fast-acting
Power consumption	max. 3680 W	
Supply voltage	230 V ~ 50 Hz	
Degree of protection	IP54/IP20	
Mounting options	Thread, M10 × max. H15	
Dimensions (W × H × D)	200 mm × 180 mm × 65 mm	
Weight	2.0 kg	

## Technical specifications

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Ambient conditions	Temperature range	5 °C...35 °C
	Relative humidity	50 %, non-condensing

## 8 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')

## 9 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.



