

OPERATING INSTRUCTIONS

**MOTOR - CONTROLLER MCU 400 D**



**1. General**

The Controller (controllable power supply) is used to regulate the Universal Drives UA 500 and UA 1500. Its technical data are specified for the operation of these appliances. The front panel contents a OLED display, 3 push buttons as well as 4 status LEDs. The DMX as well as the POWER jacks and the motor connection can be found at the back side of the unit. The DMX control signal is converted into a PWM clocked signal with additional reversal inversion of the direction.

## 2. Operating elements / Display / Operating philosophy

### 2.1 Controls / Display

For the operation and parameterization of the Controller, the unit is equipped on the front with a 2-line OLED display and three pushbuttons. The display shows the current system status, adjustable parameters and service functions.



**Start screen (DMX operation mode):**

**MODE: 1<1CH>** - MODE is showing the present selected operation mode  
**DMX ADD: 001** - DMX ADD is showing the present selected DMX address

**Start screen (manual mode):**

**MODE: 3<MAN>** - MODE is showing the present selected operation mode  
**0% RIGHT** - value of the speed in „%“  
direction of rotation with „LEFT“ or „RIGHT“

**The status LEDs arranged on the left side of the display indicate the following states:**

1. POWER [green] - Mains voltage is applied
2. DMX OK [green] - DMX signal is present
3. MANUAL [yellow] - Manual mode is activated
4. ERROR [red]
  - blinking → increased motor current (advanced warning)
  - static → overload, motor current too high  
(Controller turns off automatically)

## **2.2 Operating philosophy**

The first line of the display always shows the currently selected operating mode. After pressing the button SELECT, the character '>' appears, which indicates the focus on the respective parameter of the first line. If '>' is in the first line, you are able to switch to the next available parameter by pressing the SELECT button one more time. By pressing the arrow keys up / down, you can change the parameters. Each parameter change is immediately taken over, stored and activated without other actuation of operating elements. The controller is confirming every saved parameter by a short blinking of the POWER LED. By repeatedly pressing the SELECT button, the available parameters can be selected continuously.

### 3. Operating modes

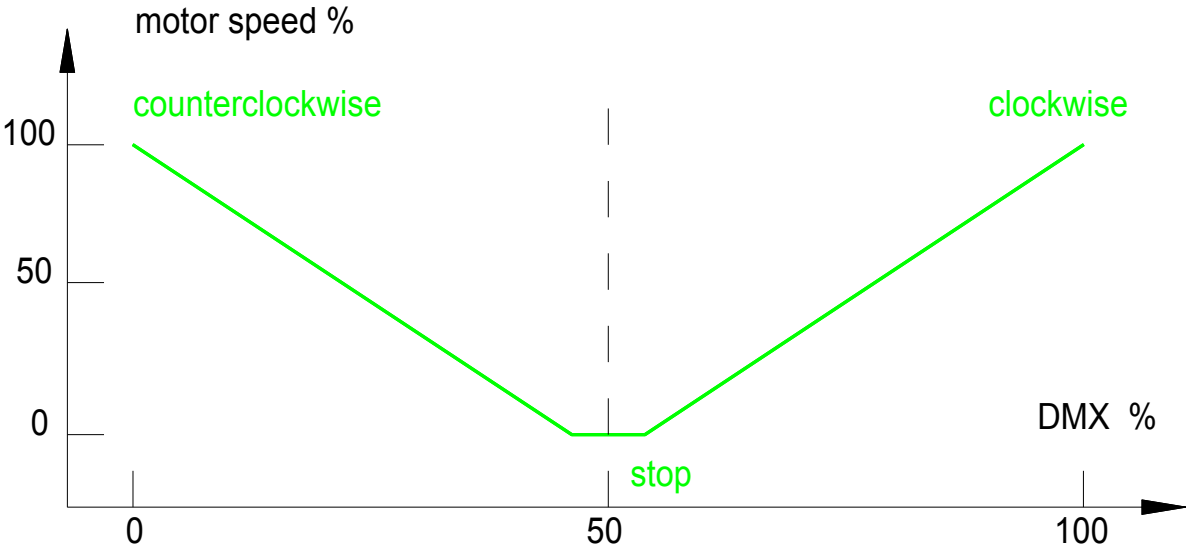
For the controlling of the UA500 / 1500 devices, there are three kind of operating modes available:

**MODE: 1<1CH>** 1 Channel-Mode, DMX start-address controls the direction of rotating and speed **(Figure A)**

**MODE: 2<2CH>** 2 Channel-Mode, DMX start-address controls the direction of rotating, the following address controls the speed  
**(Page 5, Figure B)**

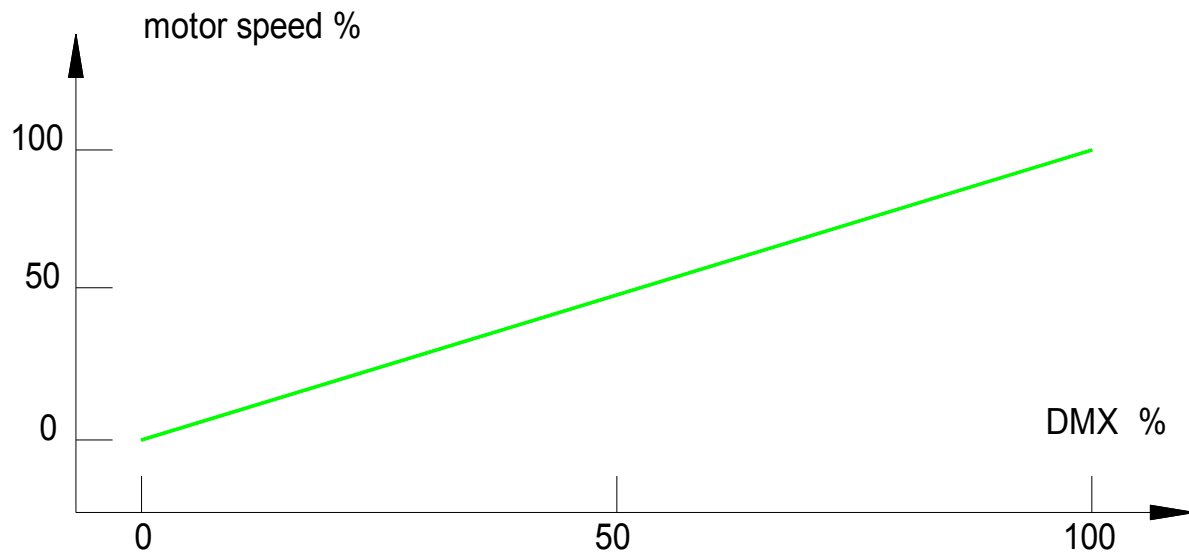
**MODE: 3<MAN>** Manual-Mode, speed and direction of rotating are set manually at the controller, no DMX signal is need for this operation mode

#### 3.1 One-Channel-Mode (Figure A):



The curve characteristic is illustrated by the above graphic. Direction of rotation and speed can be controlled by using DMX signal. DMX values 0-119 controls the counter-clockwise rotation, DMX value 136-255 the clockwise rotation. In the DMX value range 120-135 the motor stops. If the DMX signal fails, the motor stops immediately (no "HOLD" function).

### 3.2 Two-Channel-Mode (Figure B):



The DMX start address controls the direction of rotation. The following address controls the speed of the motor. When the DMX value is 0, the motor stops. The curve characteristics of this mode is linear as shown in the figure above. If the DMX signal fails, the motor stops immediately (no "HOLD" function).

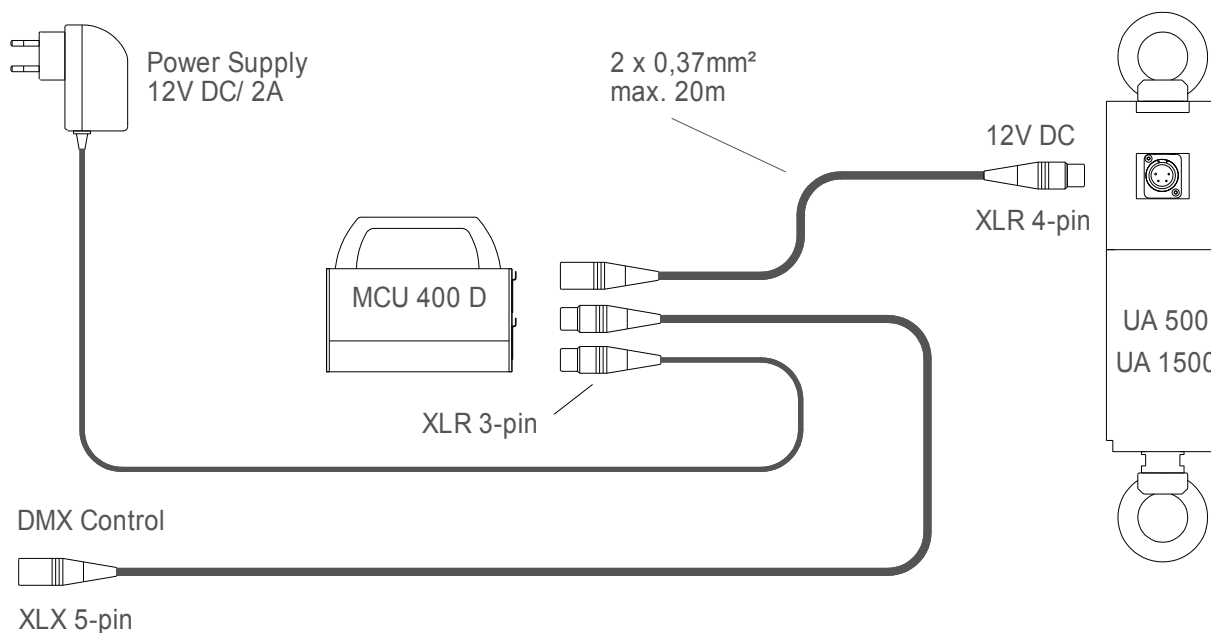
### 3.3 Manual mode

Manual mode, speed and direction are set manually on the controller, no DMX signal is required for this mode. If the manual Mode is activated, the yellow status LED lights up permanently.

#### Start screen (manual mode):

**MODE: 3(MAN)** - MODE is showing the present selected operation mode  
**0% RIGHT** - value of the speed in „%“  
direction of rotation with „LEFT“ or „RIGHT“

## 4. Cabling diagram



Please note that the maximum cable length between controller and motor should not exceed 20 m. Microphone cables or the like are recommended. The operation of the unit is allowed in dry rooms only. Please inform the manufacturer in case of failures and damage of the unit.

### 4.1 View from back side



## 5. Technical Data

Product No.:	515-060
Voltage supply:	12 V DC / 1.0 A
Output voltage:	0 – 12 V DC (PWM 0.3 kHz)
Output current:	max. 800 mA
Protection class:	III
Power – Input:	XLR 3-pole 2=GND, 3=(+)
DMX – Input:	XLR 5-pole 1=GND, 2=(-), 3=(+)
DMX – Thru	XLR 5-pole (BUS Auto- termination 120 Ohm)
Motor – Output:	XLR 4-pole 1=GND, 4=(+)
DMX – Channels:	max. 2
Setting:	3 pushbutton / OLED display 2x12 character
Dimension (without handle):	105 / 69 / 126 mm (W / H / L)
Weight:	0,65 kg

### Safety advice:



In opposition to the regulations of the machinery directive, the drive automatically restarts as soon as the power supply returns after a mains power failure. Please consider possible resulting dangers. An emergency switch is to be provided between the controller and the motor for safe operation. In exceptional cases, this requirement is considered fulfilled if the operator, using a connector, can unplug the drive from the controller unit.

■ MADE IN  
■ GERMANY

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