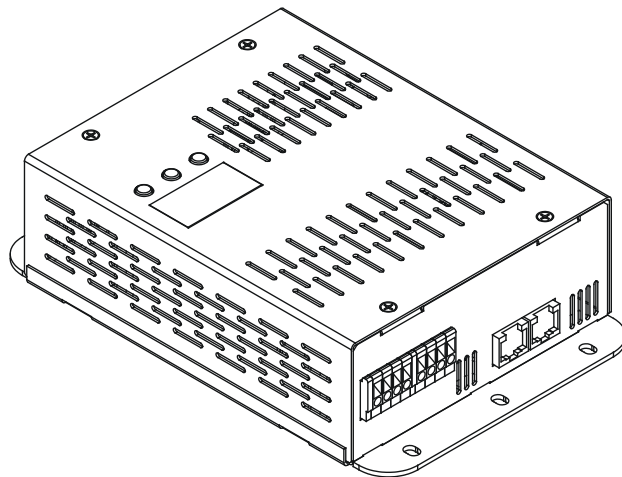




# ArcPower Micro 270



**USER MANUAL**

# ArcPower Micro 270

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**CAUTION!**  
***Unplug mains lead before opening the housing!***

**FOR YOUR OWN SAFETY, PLEASE READ THIS USER MANUAL CAREFULLY  
BEFORE YOU INITIAL START - UP!**

## **1. Safety instructions**

Every person involved with installation and maintenance of this product has to:

- be qualified
- follow the instructions of this manual

**CAUTION!**  
***Be careful with your operations. With a high voltage you can suffer  
a dangerous electric shock when touching the wires inside the unit!***

This product has left our premises in absolutely perfect condition. In order to maintain this condition and to ensure a safe operation, it is absolutely necessary for the user to follow the safety instructions and warning notes written in this manual.

### **Important:**

The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual or any unauthorized modification to the product.

Always ground the unit.

The electric connection, repairs and servicing must be carried out by a qualified employee.

Do not connect this unit to a dimmer pack.

Use a source of AC power that complies with local building and electrical rules. AC power has to have both overload and short circuit protection

## **2. Operating determinations**

This product was designed for indoor use only.

If the unit has been exposed to drastic temperature fluctuation (e.g. after transportation), do not switch it on immediately. The arising condensation water might damage your unit. Leave the unit switched off until it has reached room temperature.

Avoid brute force when installing or operating the unit.

When choosing the installation-spot, please make sure that the unit is not exposed to extreme heat, moisture or dust.

Only operate the unit after having checked that the housing is firmly closed and all screws are tightly fastened.

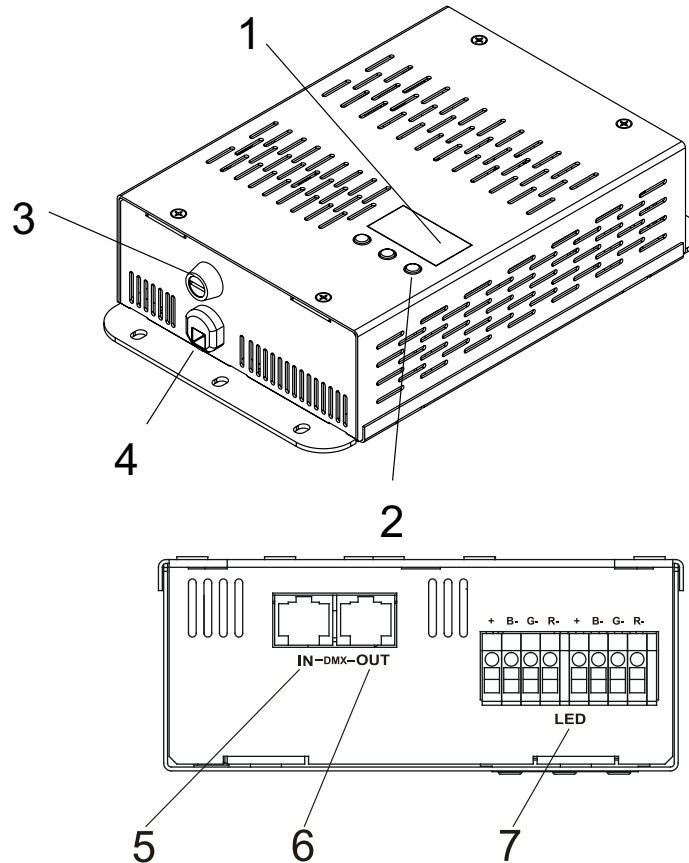
The maximum ambient temperature 40° C must never be exceeded.

Operate the unit only after having familiarized with its functions. Do not permit operation by persons not qualified for operating the unit. Most damages are the result of unprofessional operation!

Please use the original packaging if the product is to be transported.

Please consider that unauthorized modifications on the unit are forbidden due to safety reasons!

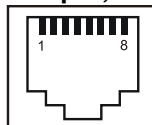
### 3.Description of the ArcPower Micro 270



- 1 - Display
- 2 - Control buttons
- 3 - Fuse Holder
- 4 - Power cord
- 5 - DMX input
- 6 - DMX output
- 7 - LED Module input

#### DMX Input,Output

RJ45 socket  
Front view of the socket:



- Pin 1: Not connected
- Pin 2: Not connected
- Pin 3: Not connected
- Pin 4: Not connected
- Pin 5: +5V
- Pin 6: Data +
- Pin 7: Data -
- Pin 8: GND

### 4.Connection to the mains.

The ArcPower Micro 270 is equipped with auto-switching power supply that automatically adjusts to any 50/60 Hz AC power source from 100-240 volts.

Connect the ArcPower Micro 270 to the mains with the power cord.

If the plug on the flexible cord is not the right type for your socket outlets,do not use an adaptor,but remove the plug from the cord and discard.Carefully prepare the end of the the supply cord and fit a suitable plug.

The earth has to be connected!

Cord plug connections:

Cable (EU)	Cable (US)	Pin	International
Brown	Black	Live	L
Light blue	White	Neutral	N
Yellow/Green	Green	Earth	

This device falls under protection class I. Therefore the ArcPower Micro 270 has to be connected to a mains socket outlet with a protective earthing connection.

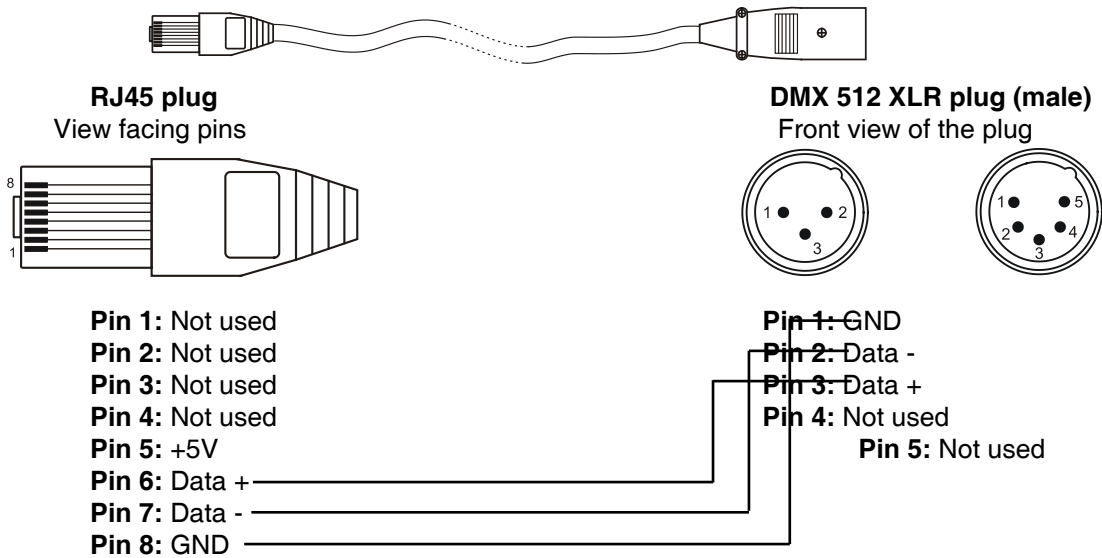
## 5. Installing instructions.

### 5.1. Mounting the ArcPower Micro 270

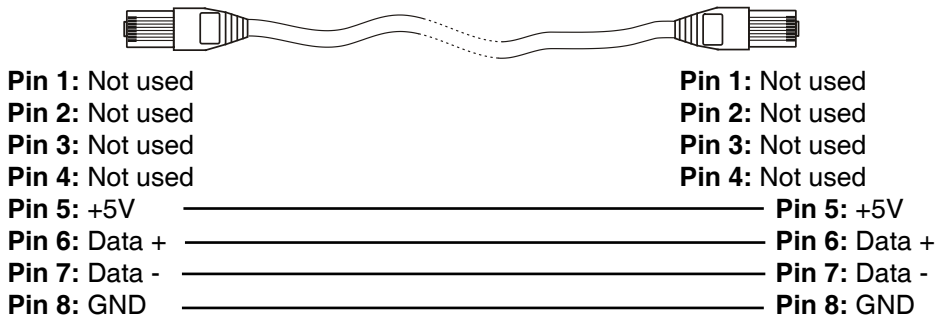
The ArcPower Micro 270 should be placed on a non-flammable flat surface in any orientation and fixed by the 2 screws. There are 6 mounting holes of 5x7 mm in housing of the driver.

### 5.2. Connection cables

1. The adapter cable RJ45/XLR connects the ArcPower Micro 270 to the DMX controller. If your DMX controller has RJ45 socket for DMX output, use RJ45 patch cable for connection with the ArcPower Micro 270.

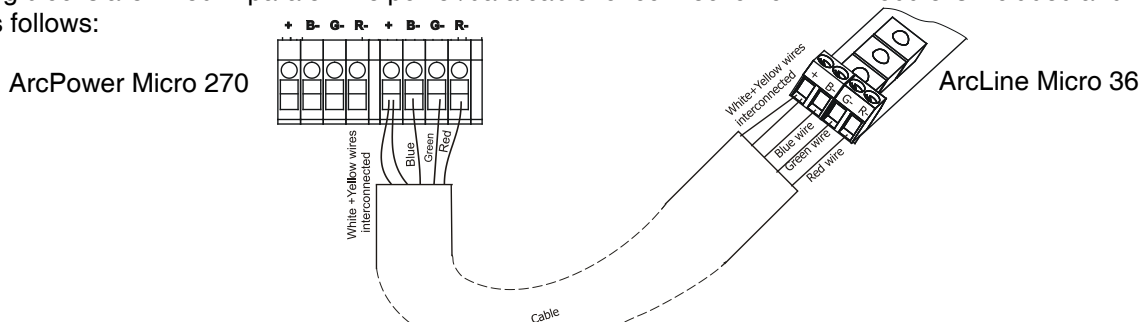


2. RJ45 patch cables category 5 that connect the ArcPower Micro 270 each other are wired 1:1, that is, pins with the same numbers are connected together.



### 5.3. Interconnecting the ArcPower Micro 270 and ArcLine Micro 36

The ArcPower Micro 270 is equipped two wiring blocks for easy connection of ArcLine Micro 36 modules. The wiring blocks are wired in parallel. The power/data cable for connection of LED module is included and its wiring is as follows:

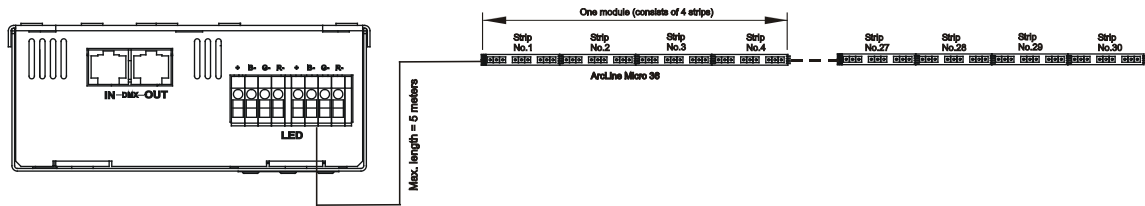


The ArcLine Micro 36 module consists of four 100mm-long stripes (with 9 LEDs each).

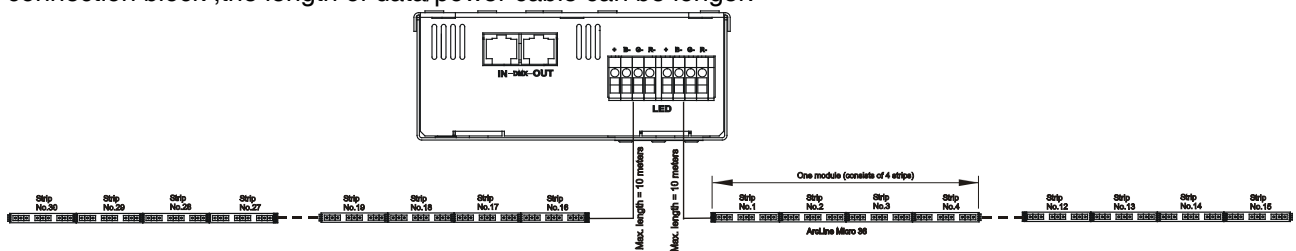
**Maximum number of connected ArcLine Micro 36 modules to the ArcPower Micro 270 is 7 (30 stripes maximum).**

The data/power cable with a standard length of 1m (2 pieces) for connection to the ArcLine Micro 360 is a part of delivery. If you need a longer cable, use five-core cable 5x 1.35 mm<sup>2</sup> with max. length of 5 m (for common + use 2 cores of this cable as shown on the picture above).

Examples of connection:



Note: The max. length 5m of the cable stands for full load of the driver, if the loading is reduced to 15 stripes per connection block, the length of data/power cable can be longer:

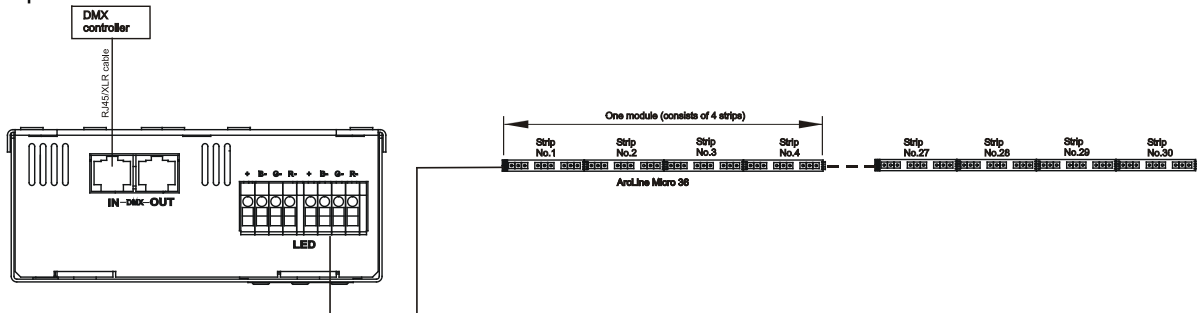


## 5.4.DMX operation

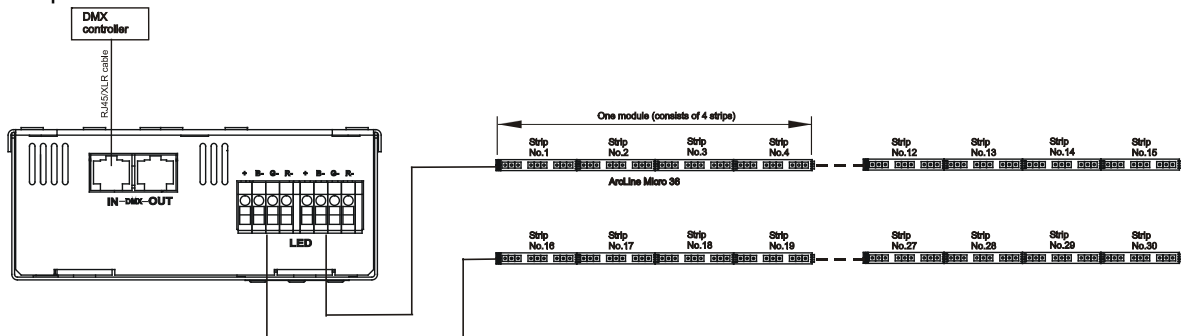
- 1.Unplug from the mains before installation.
- 2.Connect the LED stripes to the fixture.
- 3.Connect DMX controller to the fixture
- 4.Connect the fixture to the mains
- 5.Set the DMX address on the control board of the fixture (see chapter "Control board").

### Single ArcPower Micro 270 installation:

Example 1



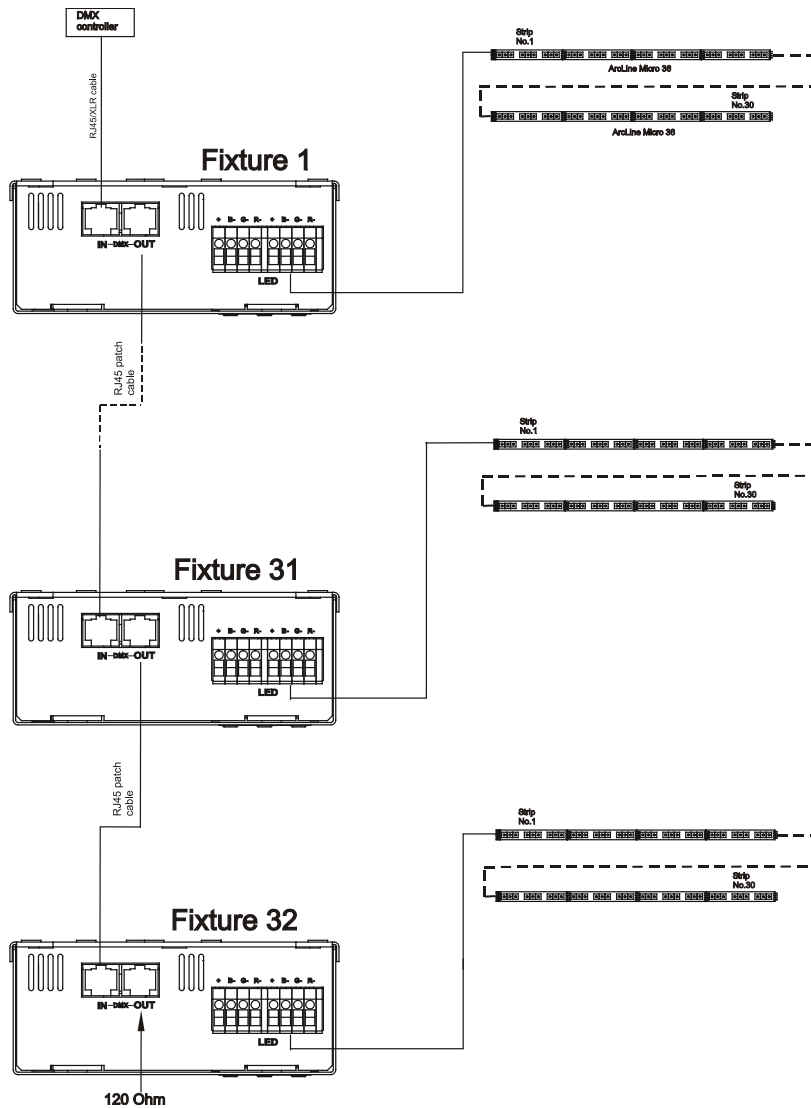
Example 2



## Multiple ArcPower Micro 270 installation:

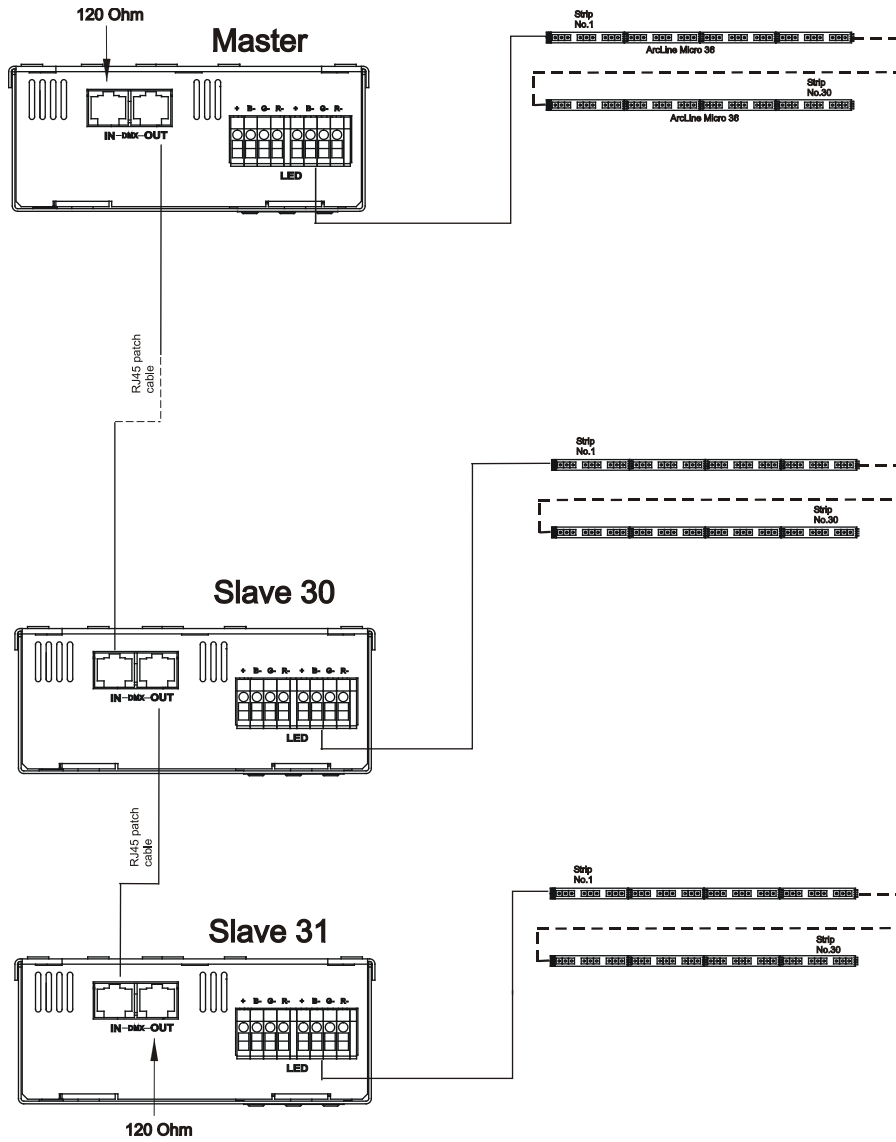
Connect the DMX output of the first ArcPower Micro 270 with the DMX input of the next ArcPower Micro 270. Always connect one output with the input of the next ArcPower Micro 270 until all fixtures are connected. In this way, up to 32 fixtures can be chained together.

At the last ArcPower Micro 270 the data link has to be terminated with a terminator. A termination plug is a XLR connector with a 120  $\Omega$  resistor between pins Data (-) and Data (+). Plug terminator in the DMX output of the last ArcPower Micro 270.



## 5.5. Master-slave operation

1. Unplug from the mains before installation.
2. Connect the LED stripes to the fixtures.
3. Connect the DMX output of the master fixture in the data-chain with the DMX input of the first slave. Always connect output with the input of the next slave until all slaves are connected. Up to 32 fixtures can be connected in master/slave chain
4. Insert the termination plug (with 120 Ohm) into DMX input of the master fixture and into the DMX output of the last slave fixture in the link in order to ensure proper transmission on the data link.
5. Connect the fixtures to the mains.
6. See chapter "Stand-alone mode" in order to set the fixture as a master or slave.

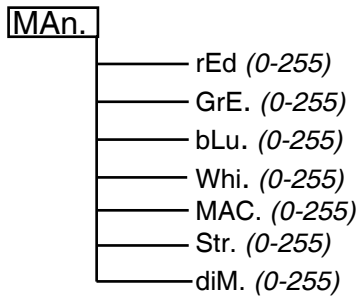
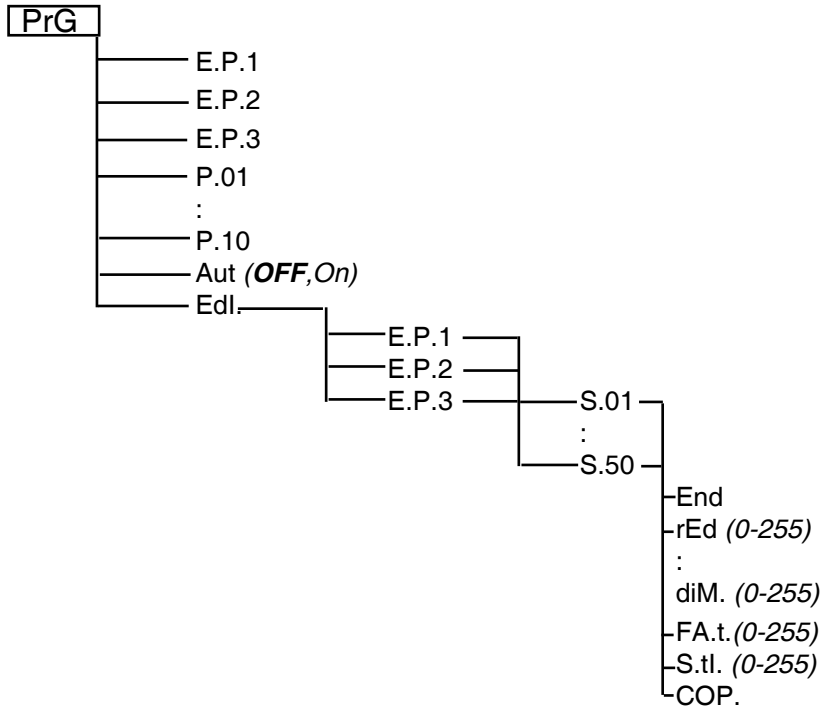




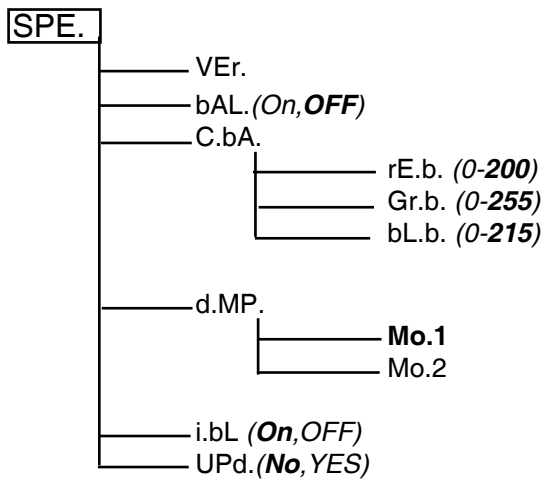
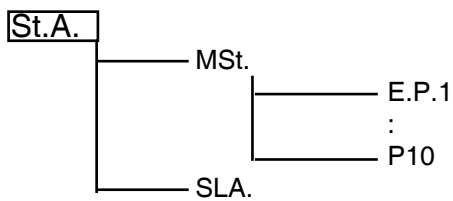
## 6.ArcPower Micro 270 - Control menu map

Default settings=**Bold print**

**001** (001-507)



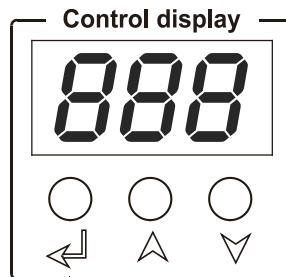
**tSt**







## 8. Control board

The control panel situated on the top cover of the ArcPower Micro 270 allows DMX addressing, calling built-in programs and setting the fixture behaviour



### Control elements:

-  [ENTER] button- enters menu, confirms adjusted values and leaves menu.
-  [UP] button and [DOWN] button- moves between menu items on the the same level, sets values. In order to leave the menu without saving value, press [UP] and [DOWN ] at the same time.

After switching on the ArcPower Micro 270 ,the display shows the initial DMX address:



Use [UP],[DOWN] to browse through the menu. In order to to select a function or submenu, press [ENTER].

### 8.1 Addressing the ArcPower Micro 270



The fixture can be operated in the two modes: **DMX mode**-fixture is controlled via DMX 512 by an external DMX controller

**Stand-alone mode** - fixture uses Built-in programs and is able to control other fixtures in the master/slave chain.

See the chapter "Stand-alone mode" for detail description.

For DMX mode, it is important to define the starting DMX address from which the ArcPower 36 will respond to the DMX controller

#### Setting the DMX start channel for DMX operating:

1. Connect ArcPower Micro 270 to the mains.
2. Browse through the menu by pressing the [UP] and [DOWN] buttons until the display shows current address "001". Confirm by pressing [ENTER] button and "001" will start to flash frequently.
3. Use the [UP] and [Down] buttons to select the desired address.
4. Confirm by pressing [ENTER].

After having addressed ArcPower Micro 270 , you may now start operating ArcPower Micro 270 via your DMX controller.

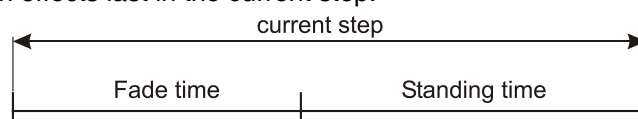
### 8.2 Program running



By entering this menu a complete overview of all programs is offered, from which the program to be run can be selected, by pressing [ENTER]. Selected program runs in a loop. The fixture includes 10 built-in programs (P.01-P.10) and 3 free editable programs (E.P.1-E.P.3), each up to 50 steps.

If Item "Aut" is On, the fixture in DMX mode will remember last running program and this program will run after switching on the fixture.

Each program step has a fade time-the time during which effects go to the current step and a Standing time-the time, during which effects last in the current step.



Programming procedure:

1. Enter "Edl." menu
2. Press [UP] or [DOWN] to select the desired program which you wish to edit and press [ENTER].
3. Press [UP] or [DOWN] to select the desired program step ("S.01" - "S.50") and press [ENTER].
4. Press [UP] or [DOWN] to select the desired item and press [ENTER]-button. Now you can edit by using [UP] or [DOWN] buttons the DMX values selected item (the list of items depends on selected DMX mode):

**End.** - a total number of the program steps (value 1-50). This value you must set before start programming (e.g. if you want to create program with 10 steps, set End=10).

**rED** - a red LED saturation, value 0-255

**GrE.** - a green LED saturation, value 0-255

**bLu.** - a blue LED saturation, value 0-255

**MAC.** - a macro selection, value 0-255

**Str.** - a strobe, value 0-255

**dim.** - a dimmer, value 0-255

**FA.t.** - fade time, value 0-255 \*

**S.tl.** - standing time, value 0-255 \*

**COP.** - copying the current prog. step to the next prog. step.

Press [ENTER]-button to confirm adjusted value .

5. Repeat steps 3 and 4 for next prog. step. If you want to copy current prog. step to the next prog. step, select option "COP." and confirm it by pressing [ENTER].

\*Both Fade time and Standing time use the same conversion table in order to convert DMX value to the time value:

DMX	Time [sec.]	DMX	Time [sec.]	DMX	Time [sec.]	DMX	Time [sec.]	DMX	Time [sec.]
1	0.5	50	20	105	41	160	62	215	84
2	0.8	55	22	110	43	165	64	220	86
5	2	60	23	115	45	170	66	225	88
10	4	65	25	120	47	175	68	230	90
15	6	70	27	125	49	180	70	235	92
20	8	75	29	130	51	185	72	240	94
25	10	80	31	135	53	190	74	245	96
30	12	85	33	140	55	195	76	250	98
35	14	90	35	145	57	200	78	255	100
40	16	95	37	150	59	205	80		
45	18	100	39	155	61	210	82		

## 8.3 Manual mode



This menu gives access to the control of the fixture channels by means of the control buttons.

Use [UP] and [DOWN] buttons until the display shows "MAN." menu. Press [ENTER] button and by using [UP] and [DOWN] buttons select desired effect, press [ENTER] and and by using [UP] and [DOWN] buttons adjust desired DMX value for selected effect. Confirm by [ENTER].

**rED** a red LED saturation

**GrE.** a green LED saturation

**bLu.** a blue LED saturation

**MAC** a macro selection

**Str.** a strobe

**dim.** a dimmer

The list of items depends on selected DMX mode.

## 8.4 Test sequences

**EST**

Use the item to run a special demo-test sequences without an external controller, which will show you some possibilities of using the fixture.

## 8.5 Stand-alone mode

**SLA**

Select this menu to set fixture behaviour in stand-alone mode without an external controller.

Synchronous operation of multiple fixtures requires that they must be connected on a data link and one of them is set as a master ("MSt") and the rest as the slaves ("SLA"). Only one fixture can be set as the master. The slaves mimic the behavior of the master. Effect actions are triggered by an internal timer of the master fixture.

**Important!:** Disconnect the fixtures from the DMX controller before master/slave operating, otherwise data collisions can occur and the fixtures will not work properly!

**MSt.** --- **Master.** Enter this menu if you want to set the fixture as a master. Use [UP] and [DOWN] buttons to select desired program and press [ENTER] to confirm selection.

**SLA.** --- **Slave.** Enter this menu if you want to set the fixture as a slave.

The master fixture starts simultaneous program start in the other slave fixtures. All fixtures are synchronized in every prog.steps. The fixtures run their programs repeatedly (e.g. if master runs its program "P05", all slaves will be executed program "P05" too).

**Note:** If the master runs its editable program (EP1, EP2 or EP3), all slaves will execute their own editable programs (EP1, EP2 or EP3) according to the master, but both fade time (FA.t.) and standing time (S.tl.) for each step will be taken from the master's step (slaves' times are eliminated in each step).

## 8.6 Special functions

**SPE**

Use this menu for special services.

**VER.** --- **Software Version.** Select this function to read the number of the fixture software.

**bAL.** --- **Balance.** Select this function to enable (On) or disable (OFF) the white balance which is set in "White colour balance" menu below. If this function is set OFF, ArcPower Micro 270 will use maximum values (255) of saturation for red, green and blue channel.

**C.bA.** --- **White colour balance.** Using this menu you can set white balance:

1. Browse through the menu by pressing the [UP] and [DOWN] buttons until the display shows "C.bA." menu. Press [ENTER] button and "rE.b." will appear on the display.
2. Press [ENTER] button again and use [UP] and [DOWN] buttons to adjust the new maximum value required for the red channel. Confirm your choice by pressing [ENTER]. Use the [UP] and [Down] buttons to select next colour.
3. Repeat step 2 for green channel "Gr.b." and for blue channel "bL.b".

**d.MP.** --- **DMX presetting.** The function makes possible to select from the 2 DMX- channels settings. Use [UP] and [DOWN] buttons to select desired channel mode ("Mo.1, Mo.2") and press [ENTER] to confirm selection. For detail description of all channels see DMX protocol.

**i.bL.** --- **Initial blink.** If this function is on, ArcPower Micro 270 makes auto-calibration (All LEDs light on 100% for short time) after switching it on. If this function is set off, you have to set manually every colour on max. brightness after switching on the driver before starting regular operating. This action should last min. one second. In this moment, the ArcPower Micro 270 finds out the load connected to its LED output and makes auto-calibration.

**UPd.** --- **Software update** - Using this function you can update software in the fixture via PC and serial link. The following are required in order to update software:

- PC running Windows 95/98/2000/XP or Linux
- DMX Software Uploader
- Flash cable RS232/DMX (No.13050624)

**Note1:**Software update should execute a qualified person.If you lack qualification, do not attempt the update yourself and ask for help your ANOLIS distributor.

**Note 2:**DMX address,programs and all settings will be set to their default values.

**To update software in the fixture:**

**1.Installation of DMX Software Uploader:**

- 1.DMX Software Uploader program is available from the ANOLIS web site at WWW.anolis.cz.
- 2.Make a new directory ( e.g. ANOLIS\_Uploader) on your hard disk and download the software to it.
- 3.Unpack the program from the archives. Program file has name:DSU\_name of corresponding fixture\_SoftwareID.SoftwareID describes the versions of fixture software included in DMX Software Uploader. Higher number means later software versions.

**2.Fixture software updating:**

- 1.Determine which of your COM port is available on your PC and connect it with to the DMX input of the fixture using the Flash cable. Do not extend this cable! Disconnect the fixture from the other fixtures in DMX chain! Turn on the computer and the fixture.
- 2.Switch the fixture to the update mode by selecting the option Software update in menu Special Functions on the fixture control panel:SPE-->UPd-->yES.(From this option you cannot return back to the main menu. If you do not want to continue in software update, you have to switch off and on the fixture to leave this option!)
- 3.It is recommended that you exit all programs before running the Software Uploader.
- 4.Start the Software Uploader program. Select desired COM and then click Connect button. If the connection is OK, click Start Uploading button to start uploading. It will take several minutes to perform software update.All processors will be updated (including processors with the same software version).  
If you wish to update only later versions of processors, enable the Incremental Update check box. Avoid interrupting the process. Update status is being displayed in the list window.  
When the update is finished, the line with the text "The fixture is successfully updated" will appear in this window and the fixture will reset with the new software.

**Note:** In the case of interruption of the upload process (e.g. power cut), the fixture remains in the update mode and you have to repeat the software update again.

For example: The fixture was switched off before finishing software upload. After switching the fixture on again, the fixture is still in the update mode and the display is dark. Restart the Software Uploader program and repeat software update from your PC.

## 9. Technical Specifications:

### Power supply:

Input Voltage: 100-240V AC, 50/60 Hz  
 Fuse: T 1.25A H  
 Max. Power Consumption: 60VA

### Input:

Control: DMX 512  
 DMX connection: RJ 45

### Output:

Max. Output Voltage: 12V DC  
 Total output power: 50.4Watts  
 Max. load: 7 modules of ArcLine Micro 36 (30 stripes-270 LEDs)\*  
 \*The ArcLine Micro 36 module consists of four 9-LEDs stripes

### DMX channels:

Channel	Mode 1	Mode 2
1	Red LED	Red LED
2	Green LED	Green LED
3	Blue LED	Blue LED
4		Macro
5		Shutter/Strobe
6		Dimmer

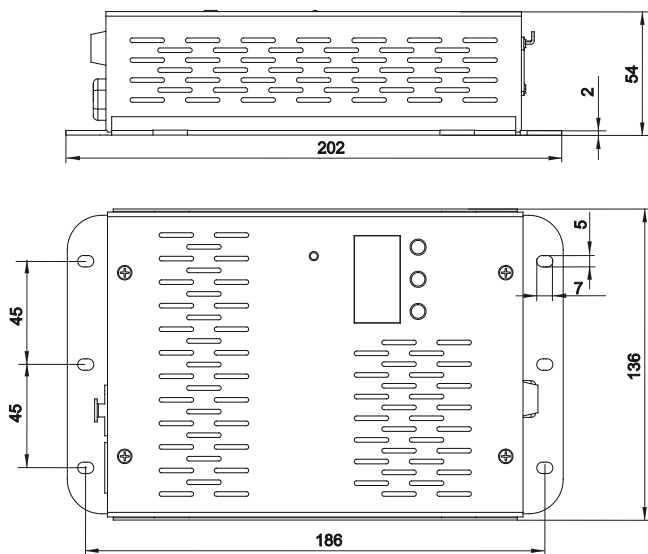
### Control and programming:

Protocol: USITT DMX-512  
 Two DMX protocol modes for RGB light sources  
 Control options: DMX, Auto-trigger  
 Operation modes: Master/Slave, Stand alone  
 Programs: 10 built-in programs + 3 user editable programs up to 50 steps each  
 Display: 3 digit LED  
 White colour balance adjusting  
 Manual control of all DMX channels with LED control panel

### Operating temperature:

-10°C/+40°C

### Dimensions(mm):



### Weight:

1kg

### Accessories:

Power/data cable P-MKA, 5x1.34 mm<sup>2</sup>, 1m standard length (No.13050866)..... 1 pcs

**Optional accessories:**

Adaptor RJ45/DMX 3 pin.....No.13050730

Adaptor RJ45/DMX 5 pin.....No.13050731

Flash cable RS232/DMX 3 pin .....No.13050624

## **10. Replacing the fuse**

**1. Before replacing the fuse, unplug mains lead!**

**2.** Unscrew the fuse holder on the rear side of the ArcPower Micro 270 with a fitting screwdriver from the housing (anti-clockwise).

**3.** Remove the old fuse from the fuse holder.

**4.** Install the new fuse in the fuse holder.



