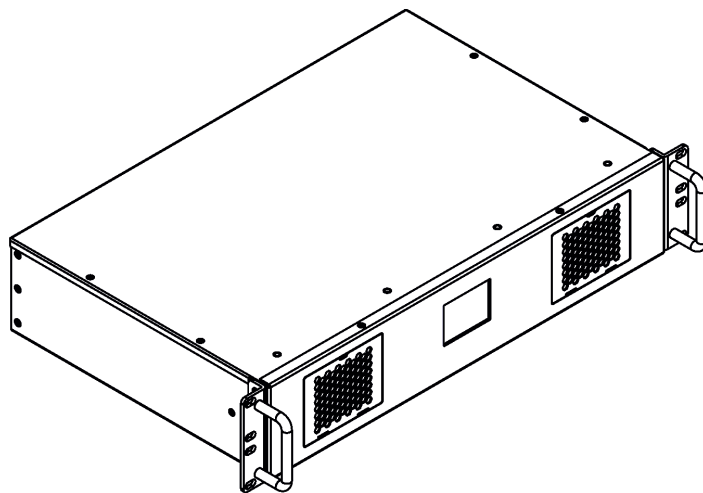# ANOLiS

ArcPower Rack Unit Pixel CE
ArcPower Rack Unit Pixel US
ArcPower Rack Unit Pixel US (LV)

USER MANUAL

version 1.8

ArcPower Rack Unit Pixel

Table of contents

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

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

1. Important safety instructions

Every person involved with installation and maintenance of this product has to:
- be qualilfied
- **follow all instructions and heed all warnings in 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.

> **WARNING**
> **To prevent injury, this device must be securely attached to a rack in accordance
> with the installation instructions."**

Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

Do not install near any heat sources such as radiators or other devices that produce heat.

Do not use this device near water. Clean only with dry cloth.

Only use accessories specified by the manufacturer.

Refer all servicing to qualified service personnel. Servicing is required when the device has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the device, the device has been exposed to rain or moisture, does not operate normally, or has been dropped.

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.

> ***This device falls under protection class I.Therefore the ArcPower Rack Unit Pixel
> has to be connected to a mains socket outlet with a protective earthing connection!***

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 50° 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 Rack Unit Pixel
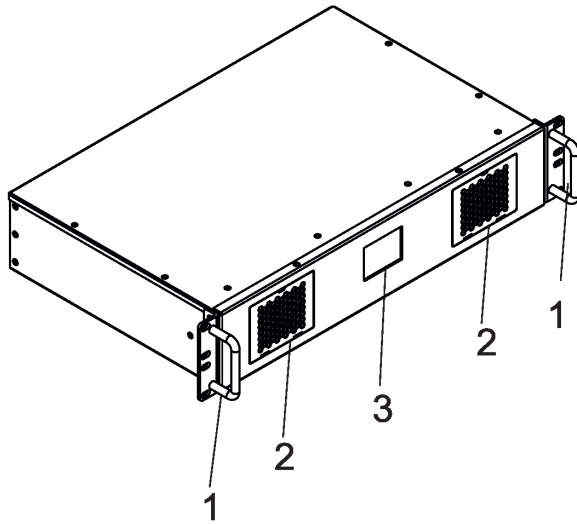
1 - Handle
2 - Air filter holder
3 - graphic touch screen

Rear panel
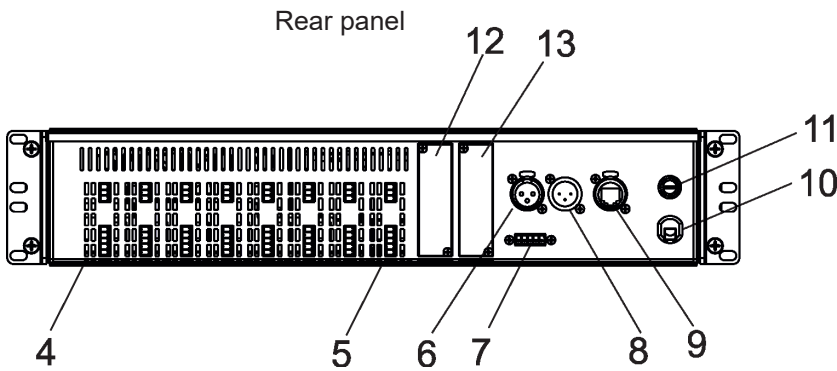
4 - LED pixel zone 1 output
5 - LED pixel zone 8 output
6 - DMX OUT (3-pin XLR)
7 - Input for trigger and
    12V output
8 - DMX IN (3-pin XLR)
9 - Ethernet (RJ45)
10 - Mains input
11 - Fuse holder
12,13 - Free slots for optional zones (e.g. Fan zone, Real Time Zone,0-10V Zone)

4. Configuration of terminals

DMX In/Out
(XLR mounting sockets)

Ethernet
(RJ 45 female)

Out   In

Pin 1: Shield
Pin 2: Signal (-)
Pin 3: Signal (+)

Pin 1: TX+   **Pin 5:** Not connected
Pin 2: TX-   **Pin 6:** RX-
Pin 3: RX+   **Pin 7:** Not connected
Pin 4: Not connected   **Pin 8:** Not connected

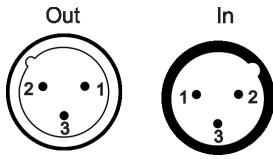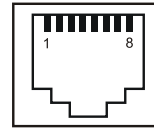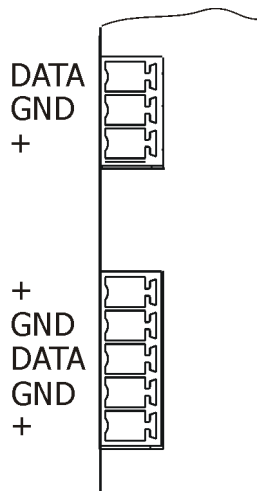LED pixel zone output

DATA
GND
+

+
GND
DATA
GND
+

Trigger input and 12V output

GND **Max 5V** GND 12V GND

Trigger input

12V input
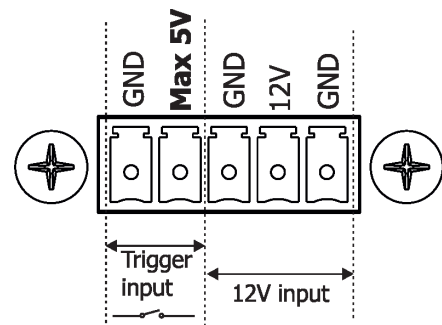
5. Installation

5.1 Connection to mains

CAUTION!
The ArcPower Rack Unit Pixel must be installed by a qualified electrician in accordance with all national and local electrical and construction codes and regulations.

These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

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

The ArcPower Rack Unit Pixel CE is equipped with auto-switching power supply that automatically adjusts to any 50-60Hz AC power source from 100-240 Volts. Connect the fixture to the mains by means of inbuilt power cord.

The ArcPower Rack Unit Pixel US (ArcPower Rack Unit Pixel US (LV)) is equipped with auto-switching power supply that automatically adjusts to any 50-60Hz AC power source from 100-277 Volts. Connect the fixture to the mains by means of inbuilt power cord.
If you need to install a cord plug on the power cord to allow connection to power outlets, install a grounding-type

(earthed) plug, following the plug manufacturer's instructions. If you have any doubts about proper installation, consult a qualified electrician.

Core (EU)	Core (US)	Connection	Plug Terminal Marking
Brown	Black	Live	L
Light blue	White	Neutral	N
Green /Yellow	Green	Earth	

This device falls under class one and must be earthed (grounded).
Wiring and connection work must be carried out by qualified staff.

5.2 Installing the ArcPower Rack Unit Pixel into a rack

The ArcPower Rack Unit Pixel is designed for mounting into 19-inch equipment rack.
Fasten the ArcPower Rack Unit Pixel into rack by means of two screws on each side the ArcPower Rack Unit Pixel front panel.
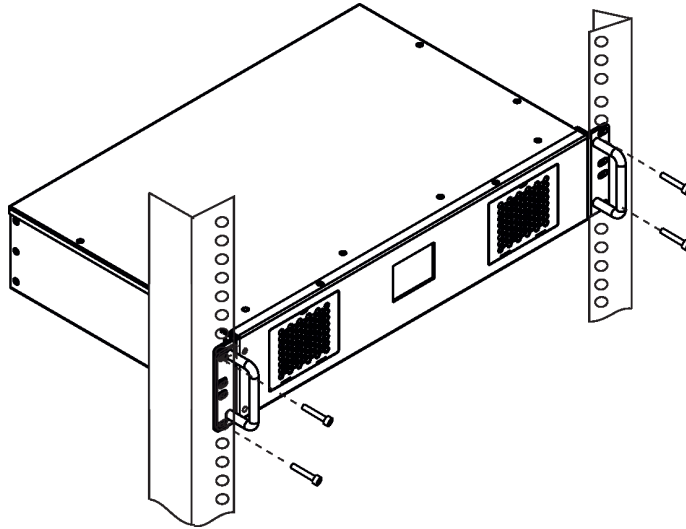
5.3. DMX 512 operation

The ArcPower Rack Unit Pixel is equipped with 3-pin XLR sockets for DMX input and output. Only use a shielded twisted-pair cable designed for RS-485 and 3-pin XLR connectors in order to connect the fixture with the DMX controller or one fixture with another.

To build a DMX chain.
1. Unplug fixtures from the mains before installation.
2. Connect the LED modules to the ArcPower Rack Unit Pixels.
3. Connect ArcPower Rack Unit Pixels each other. Max. 32 fixtures may be connected on a DMX link.
   Terminate the DMX link by installing a termination plug in the output of the last fixture.
   The termination plug is a male 3-pin XLR plug with a 120 Ohm resistor soldered between Signal (–) and Signal (+).
4. Connect ArcPower Rack Unit Pixels to mains.
5. Set each ArcPower Rack Unit Pixel.
6. Connect the DMX controller to the first fixture.
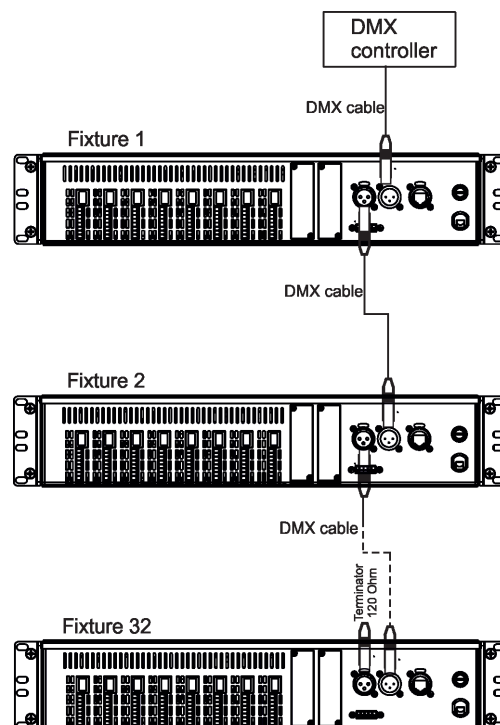
5.4. Dots connection

Dots (ArcDot-CE, ArcDot-US, ArcSource Outdoor 4MC-Pixel-CE, ArcSource Out 4MC Pixel -US) can be can be interconnected directly or by using T- connectors see the picture below.

To connect Dots

1. Disconnect the ArcPower RackUnit Pixel from mains.
2. Connect Dots to the ArcPower RackUnit Pixel. Number of dots depends on version of the ArcPower Rack Unit Pixel and length of cables in the installation (see table below). Connect active terminators to each Dots line.
3. Connect the ArcPower RackUnit Pixel to mains.
4. Run procedures "Search Pix" and "Sort Pix" from the menu "Configuration" (Configuration-->ArcZone Pixel--> Commands)
5. Save adjusted values using the the option "Save" It is important to save Dots configuration at every change in the menu "Commands".
6. Disconnect the ArcPower RackUnit Pixel from mains and replace active terminators by passive terminators*.
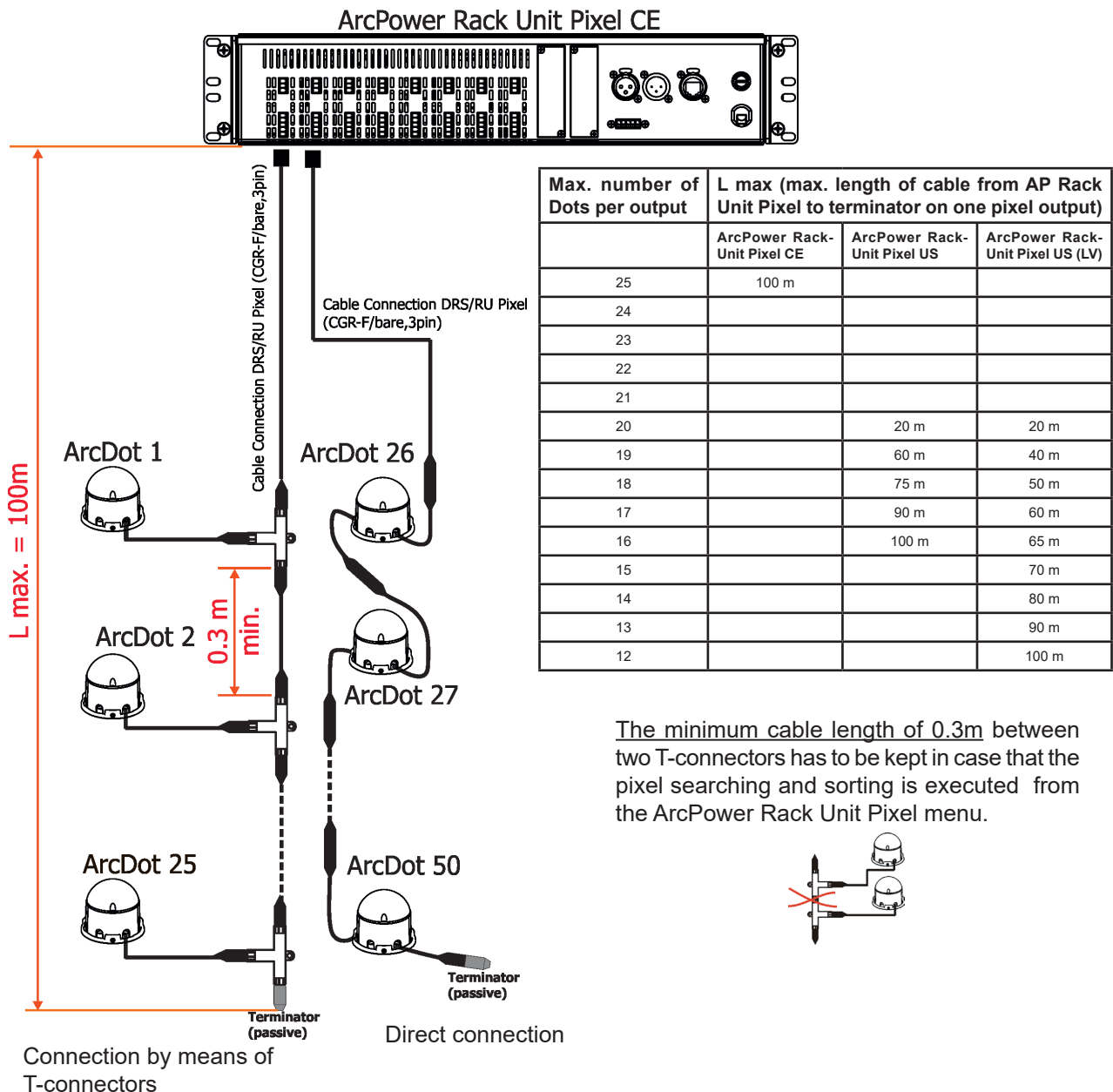**7**. Connect the ArcPower RackUnit Pixel to mains and to the pixel control system (e.g. Robe Media Server).
* Active terminators can remain permanent connected if there is place for them (they are bigger than passive terminators).

> *Always disconnect the ArcPower Rack Unit Pixel from AC power before connecting/disconnecting pixel module!*

Example of installation:

ArcPower Rack Unit Pixel CE

Max. number of Dots per output	L max (max. length of cable from AP Rack Unit Pixel to terminator on one pixel output)		
	ArcPower Rack-Unit Pixel CE	ArcPower Rack-Unit Pixel US	ArcPower Rack-Unit Pixel US (LV)
25	100 m		
24			
23			
22			
21			
20		20 m	20 m
19		60 m	40 m
18		75 m	50 m
17		90 m	60 m
16		100 m	65 m
15			70 m
14			80 m
13			90 m
12			100 m

The minimum cable length of 0.3m between two T-connectors has to be kept in case that the pixel searching and sorting is executed from the ArcPower Rack Unit Pixel menu.

Connection by means of T-connectors

Direct connection

6. DMX protocol

3CH mode (RGB)	4CH mode (RGBW)	Value	Function	Type of control
			Pixel 1	
1	1	0-255	**Red** Red LED saturation control (0-100%)	proportional
2	2	0-255	**Green** Green LED saturation control (0-100%)	proportional
3	3	0-255	**Blue** Blue LED saturation control (0-100%)	proportional
-	4	0-255	**White** White LED saturation control (0-100%)	proportional
			Pixel 2	
4	5	0-255	**Red** Red LED saturation control (0-100%)	proportional
5	6	0-255	**Green** Green LED saturation control (0-100%)	proportional
6	7	0-255	**Blue** Blue LED saturation control (0-100%)	proportional
-	8	0-255	**White** White LED saturation control (0-100%)	proportional
			Pixel 3	
7	9	0-255	**Red** Red LED saturation control (0-100%)	proportional
8	10	0-255	**Green** Green LED saturation control (0-100%)	proportional
9	11	0-255	**Blue** Blue LED saturation control (0-100%)	proportional
-	12	0-255	**White** White LED saturation control (0-100%)	proportional
			: **Pixel 128**	
382	509	0-255	**Red** Red LED saturation control (0-100%)	proportional
383	510	0-255	**Green** Green LED saturation control (0-100%)	proportional
384	511	0-255	**Blue** Blue LED saturation control (0-100%)	proportional
-	512	0-255	**White** White LED saturation control (0-100%)	proportional
			: **Pixel 170**	
508	-	0-255	**Red** Red LED saturation control (0-100%)	proportional
509	-	0-255	**Green** Green LED saturation control (0-100%)	proportional
510	-	0-255	**Blue** Blue LED saturation control (0-100%)	proportional
-	-	0-255	**White** White LED saturation control (0-100%)	proportional

7. Fixture menu

The ArcPower Rack Unit Pixel menu allows to set the fixture according to your needs, obtain information on its operation and program it, if it has to be used in a Stand-alone mode.
The fixture´s menu can is controlled directly by touching desired icon.

After switching the fixture on, the display shows the initial screen for a few seconds

and after that the main menu screen will appear.

Icons used in the touch screen menu.

- [back arrow] used to move to the previous screen

- [forward arrow] used to move to the next screen.

- [up arrow] used to scroll menu up.

- [down arrow] used to scroll menu up.

- [confirm] used to save adjusted values, to leave menu or to perform desired action.

- [cancel] used to leave menu item without saving changes.

- [back arrow] used to move to the main screen

7.1 Configuration

DMX Address ---Use the menu item to set DMX address of the ArcPower Rack Unit Pixel, which is defined as the first channel from which the ArcPower Rack Unit Pixel will respond to the DMX controller.

DMX mode --- The menu item allows to select desired DMX mode (Mode 1-fixed, Mode 2-8 bit, Mode 3 -full 16 bit, Mode 4-fixed order, Mode 5- without global effects). This menu item serves for LED zones only (not for pixel zones).

DMX In --- The menu item allows to choose type of fixture control:
        Wired - DMX signal is received by means of the standard DMX cable.
        Ethernet- The signal is received by means of the Ethernet cable, supported protocols
         are ArtNet, MANet, MANet2, sACN.
Ethernet --- The menu allows needed settings for Ethernet operation
        Ethernet mode - The option allows to select desired protocol: ArtNet, gMA1, gMA2, sACN.

Default IP Address - Preset IP address, you can change only first byte of IP address (2 or 10) e.g. **002**.XXX.XXX.XXX or **010**.XXX.XXX.XXX.
Custom IP Address - The option enables to set up all bytes of IP address.
Net Mask - The option enables to set up all bytes of Net Mask.
ArtNet Universe - Use this item to set a Universe (0-255). The Universe is a single DMX 512 frame of 512 channels.
MaNet session ID - Use this item to set a MAnet session ID (1-32).
**MANet I/2 Universe** - Use this item to set a Universe (1-256).
sACN Universe - Use this item to set a Universe (1-32000).
sACN Priority - The value of this item can be set in range of 0-255.

System config --- The menu allows to change DMX address on desired pixel zone (the red background of offsets cautions that the number is wrong). Use + and - icons to select pixel zone.

Setup Assistant --- The menu allows to change DMX Offset of selected pixel zone. Use + and - icons to set offset and $(>)$. to select next zone.

Linear/Exponential --- This menu item allows you to choose desired dimmer running. Selected dimmer curve can influence local and global dimmer (option Dimmer) or colours (option Channels).
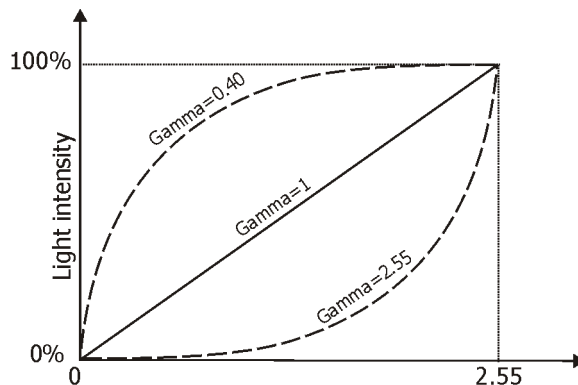
Fade Time --- The menu item allows to set fade time from 0 sec. to 25.5 sec. This time influences response on coming DMX value (e.g. dimmer is set at 20 DMX, coming DMX value is 255 and the Fade Time=10 sec. The light intensity will go from 20 DMX to 255 DMX during 10 seconds continuously without a jump).

ArcZone Pixel --- This menu allows to set all connected Pixel zones (not for LED zones).
    Commands

        Search Pix - this function checks all pixel modules connected to the PIXEL Zones.
        Sort Pix - conected pixel modules are sorted by the following rule:
        ArcPix modules are sorted according to their IDs.
        ArcDot modules are sorted according to their distances from the PIXEL Zone (the active terminator for the ArcDot has to be connected to the last ArcDot at each PIXEL Zone).
        Save - this option saves information found in during running options "Search Pix" and "Sort Pix".

    Test - use this menu item to check if all pixel modules light in pre-defined colours.
        Test Single - pixels light one by one.
        Test All - all pixels light at the same time.
        Stop Test - the item finishes a test procedure.

    Fade Time For Pix - the menu allows to set fade time for all pixel modules.
        As Global - fade time is taken from global fade time set in the menu item "Fade Time" (menu Configuration)
        Separate - allows to set fade time (0-25,5sec.) independently on the global fade time.
    3/4ch Mode - the menu offers 3-channel (RGB) or 4-channel (RGBW) mode for pixel control.

Pix Curve - the menu allows to set a dimmer running for all pixel modules.

As Global - dimmer curve is taken from a global dimmer curve set in the menu item "Linear/Exponential" (menu Configuration).

Separate - allows to set a dimmer curve independently on the global dimmer curve (menu "Linear/Exponential").

Manual Sorting - the menu allows you to change position of fixture on selected Pixel zone.

There is an example how to change a fixture position.

1. Enter the menu "Manual Sorting" and the following screen will appear:

Manual sorting ⊗

Select Pixel zone to change: 1
Nr. of fixtures: 2

Search	Sort	
-I	+I	OK
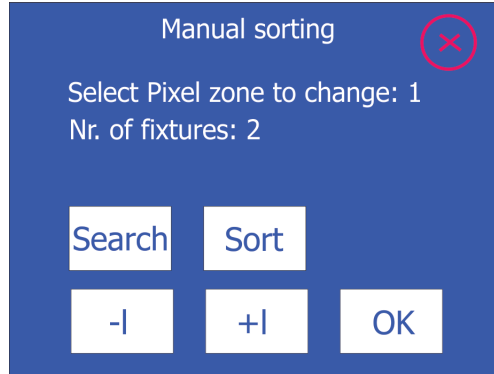
The buttons Search and Sort have the same functions as the items "Search Pix "and "Sort Pix" in the menu "Commands"

Select pixel zone by means of -I and +I buttons, all fixtures in selected zone will light in red colour.

Press OK button, the following screen will appear.

Manual sorting ⊗

Select fixture to move: 1

-I	+I	BACK
-IO	+IO	
FIRST	LAST	OK
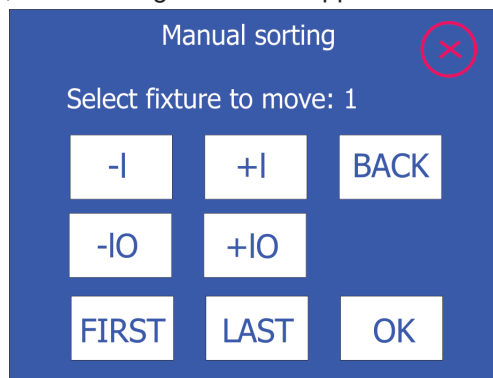
2. Select desired fixture by means of -I and +I buttons (movement by 1 position) or -I0 and +I0 buttons (movement by 10 positions) or FIRST and LAST buttons (movement on first/last fixture). Selected fixture will light in red colour.

Press OK button, the following screen will appear.

Manual sorting ⊗

New position: 2

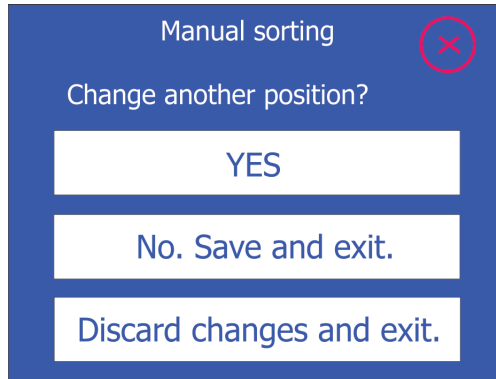| -I	+I	BACK
-IO	+IO	
FIRST	LAST	OK
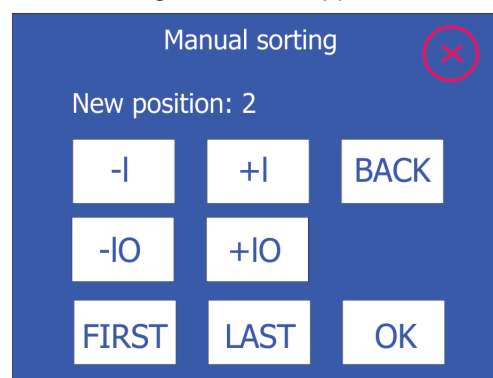
3. Select new position of the fixture by means of -I and +I buttons (movement by 1 position) or -I0 and +I0 buttons (movement by 10 positions) or FIRST and LAST buttons (movement on first/last fixture). Fixture will light in green colour.

Press OK button, the following screen will appear.

4. Select desired option:
YES - the option allows in changing pixel positions.
No. Save and exit. - the option saves changes which has been made.
Discard changes and exit. - the option cancels changes which have been made.

0-10V Zone Setting --- The menu item serves for LED zones only, not for pixel zones.

Fan Zone Setting --- Use the menu item to set the Fan Zone (if the Fan Zone is installed).

    Type of Sensor 1 - allows you to select desired type of a temperature sensor (PT500/PT1000/NTC) for temp. sensor input 1.

    Type of Sensor 2 - allows you to select desired type of a temperature sensor (PT500/PT1000/NTC) for temp. sensor input 2.

Note: as NTC sensor use the NTC thermistor NTC10K-AWG26, 500mm (P/N 13052203)

Fan 1 Voltage - allows you to set desired voltage (12V/24V/48V-ArcPower RackUnit Pixel CE/US,12V/24V for ArcPower RackUnit Pixel US (LV)) for supply of a fan connected to the fan output 1.

Fan 2 Voltage - allows you to set desired voltage (12V/24V/48V-ArcPower RackUnit Pixel CE/US, 12V/24V for ArcPower RackUnit US (LV)) for supply of a fan connected to the fan output 2. Note: max. current consumption of 1 A for fan must not be exceeded.

Fan 1 Config - allows you to select a way of control of the fan 1:

    Min. Pwr - the fan 1 runs at 50% of its set voltage (item "Fan 1 Voltage").
    E.g. if the item Fan 1 Voltage is set at 24V, the fan 1 will run at 12V.
    Max. Pwr - the fan 1 runs at 100% of its set voltage (item "Fan 1 Voltage").
    E.g. if the item Fan 1 Voltage is set at 24V, the fan 1 will run at 24V.
    By Sens 1 - the fan 1 runs according to the value set in the menu "Fan 1 Threshold"
    By Sens 2 - the fan 1 runs according to the value set in the menu "Fan 2 Threshold".

Fan 2 Config - allows you to select a way of control of the fan 2:

    Min. Pwr - the fan 2 runs at 50% of its set voltage (item "Fan 2 Voltage").
    E.g. if the item Fan 2 Voltage is set at 24V, the fan 2 will run at 12V.
    Max. Pwr - the fan 2 runs at 100% of its set voltage (item "Fan 2 Voltage").
    E.g. if the item Fan 2 Voltage is set at 12V, the fan 2 will run at 12V.
    By Sens 1 - the fan 2 runs according to the value set in the menu "Fan 1 Threshold"
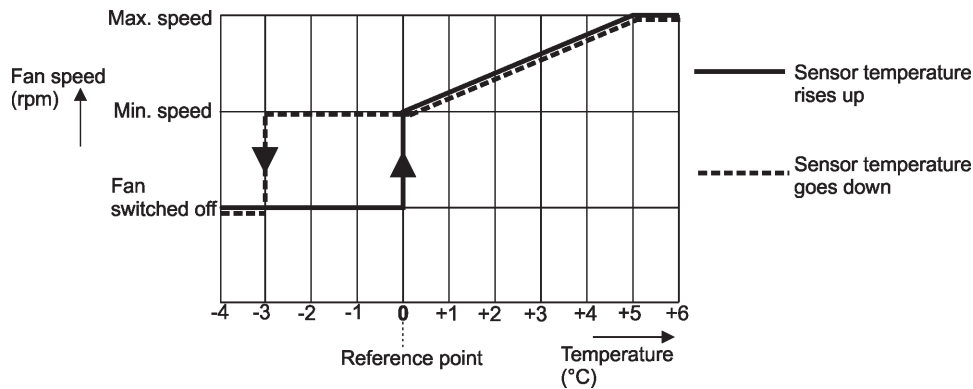   **By Sens 2** - the fan 2 runs according to the value set in the menu "Fan 2 Threshold".
    Note: Both fans can be controlled by one temperature sensor.

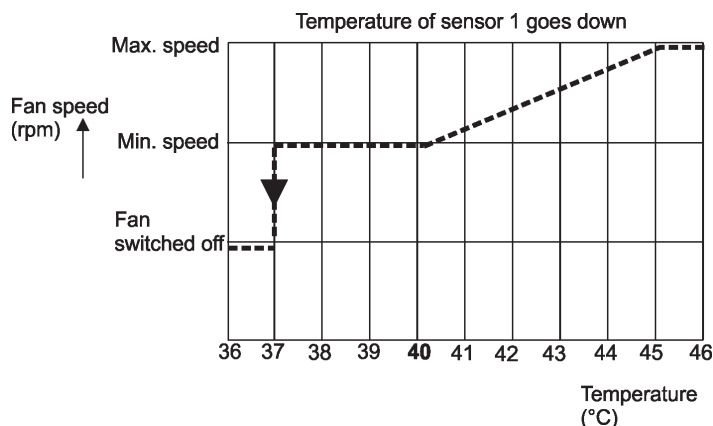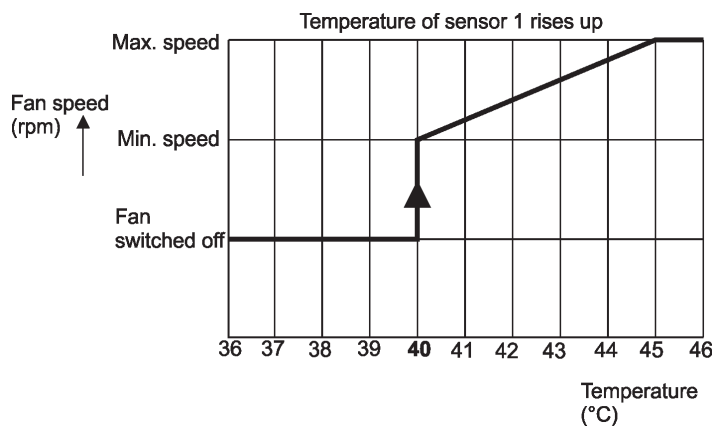**Fan 1 Threshold** - allows you to set a temperature (10°-60°) which will be used for a control of the fan 1 speed.

Fan 2 Threshold - allows you to set a temperature (10°-60°) which will be used for a control of the fan 2 speed.

Relationship between a temperature set in the Fan 1 Threshold (Fan 2 Threshold) menu describes the graph below. Ascending and descending curves do not have the same shape

Max. speed

Fan speed
(rpm)

Min. speed

Fan
switched off

Sensor temperature
rises up

Sensor temperature
goes down

-4   -3   -2   -1   **0**   +1   +2   +3   +4   +5   +6

Reference point

Temperature
(°C)

E.g. If a temperature in the Fan1 Threshold menu is set at 40°C, the controlled fan will behave as follows:

Temperature of sensor 1 rises up

Max. speed

Fan speed
(rpm)

Min. speed

Fan
switched off

36   37   38   39   **40**   41   42   43   44   45   46

Temperature
(°C)

Temperature of sensor 1 goes down

Max. speed

Fan speed
(rpm)

Min. speed

Fan
switched off

36   37   38   39   **40**   41   42   43   44   45   46

Temperature
(°C)

Fan 1 RPM Sens. - allows you to activate measuring of fan 1 revolutions if the fan is equipped with three lead wires (+,-, output signal).

Not Available - select this option if the fan 1 is not equipped with 3rd wire for measuring of rpm.

Available - select this option if the fan 1 is equipped with 3rd wire for measuring of rpm.

Fan 2 RPM Sens. - allows you to activate measuring of fan 2 revolutions if the fan is equipped with three lead wires (+,-, output signal).

Not Available - select this option if the fan 2 is not equipped with 3rd wire for measuring of rpm.

Available - select this option if the fan 2 is equipped with 3rd wire for measuring of rpm.

Main Power Fan --- Use the menu item to set a way of control of fan(s) in the ArcPower RackUnit Pixel.

Auto - revolutions of fans depend on a current load. If the current load of the ArcPower RackUnit Pixel falls below 20 W, the fans will stop operation.

If the current load of the ArcPower RackUnit Pixel exceeds 30 W, the fans will start operation at min. revolutions (=35% of max. revolutions). Fans speed will increase depending on increasing load.

Max - fans operate on max. revolutions.

Quiet- fans revolutions (noise) can be set by means of the slider in the range of 1-100 (100=max. rpm). OFF=fans off. Set value is a <u>max. speed limit for fans</u> (revolutions will move in range of min. revs to set max. revs , depend on current load). Set max. revolutions of fans influence power to LEDs.
Relationship between fans revolutions and power to LEDs:
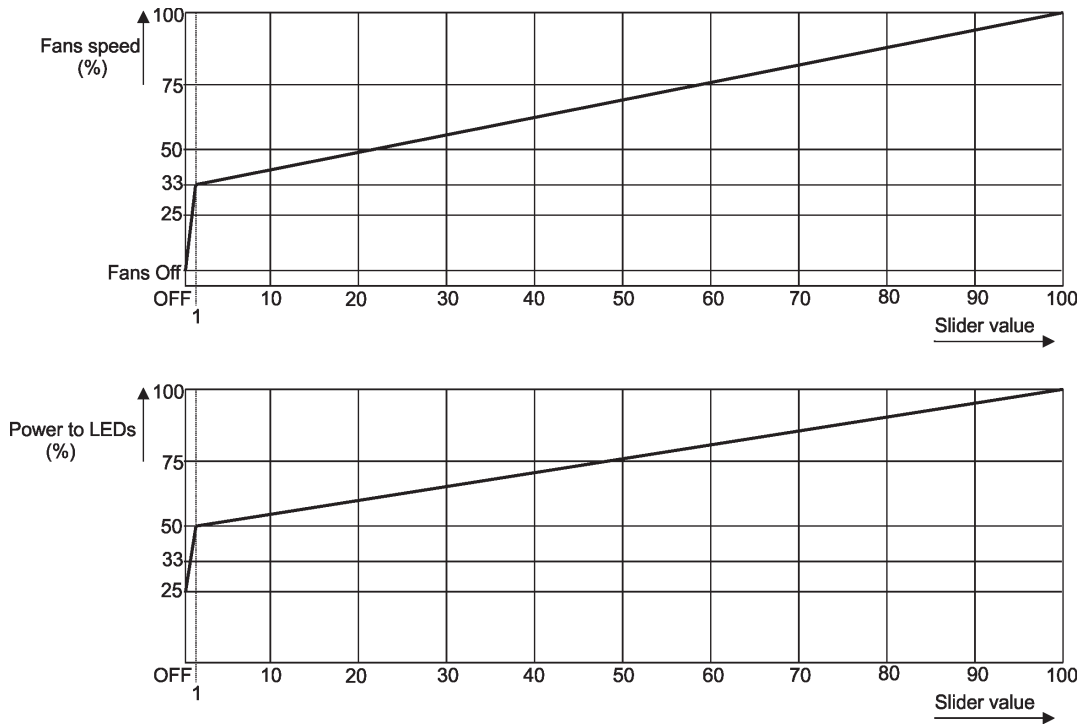
E.g. If the slider is set at 60, fans will operate in the range min. revs - 75% max. revs depend on current load.

Note: fans operate on max. speed for a short time when you switch on the ArcPower RackUnit Pixel or adjust fans speed from off to the desired level via the slider.

Power Supply --- the menu item serves for DRS only.

7.2 Information

DRS overview --- Use the menu item to read:
        DMX address
        Connected zones
        Installed load
        Selected input (red letters=no signal is receiving, green letters=signal is receiving)
        Power On Time (total number of operation years/days/hours since the ArcPower
        Rack Unit Pixel has been fabricated).
Version --- Use the menu item to read the software version of the control unit (display) and the hardware version of the control unit. The versions are separated by a slash.
On the other lines are software and hardware versions (separated by a slash) of PIXEL Zones.

DMX address range --- Use this menu item to read the range of used DMX addresses for PIXEL Zones.

Zone Info --- Use this menu to read detail information of each zone:
        Type of zone
        Fixture type
        Channels used
        Power limiting (for LED zones only)
        Current (for LED zones only)

ArcZone Pixel (number of connected pixels)
By means of the + and - icons select desired zone.

Temperatures --- Use this menu to read temperature of each zone and temperature of connected LED module (in case that LED module has a temperature sensor). Temperatures can be displayed in °C or °F.
By means of the + and - icons select desired zone.

       Board actual / max. - a current temperature of the zone inside / max.
       temperature of the zone inside since the Unit Pixel has been fabricated.
       Board max R. - a max temperature of the zone inside since the counter
       was last reset. To reset this counter, touch the button shows this temperature.
       LED actual / max. - a current temperature of the connected LED module / max.
       temperature of the connected LED module since the LED module has been fabricated.
       LED max R. - a max temperature of the LED module since the counter was last reset.
       To reset this counter, touch the button shows this temperature.

RDM info --- Use this menu item to read the RDM number and Device label.

DMX Channels overview --- Use this menu to display channels with associated effects, DMX addresses and DMX values for each effect. zone.
By means of the + and - icons select desired zone (or first or second part of desired zone).

Log View --- Use this menu to read important messages which have been recorded during fixture operation.
By means of the + and - icons browse through recorded logs.

       Log nr. - number of the log
       On date - date of recording of the log
       On POT - power on time at recording the log.
Recorded events are colour differentiated:
Notice in red - error
Notice in yellow - warning
Notice in green - change of the AtcPower RackUnit Pixel setting.

7.3 Personality

Display Intensity - Use the menu to adjust the display intensity (1-min., 10- max).

Default Settings --- The menu item sets fixture parameters to the default (factory) values.
Note: All user settings will be lost except changes in the menu "Save Init Position" (menu Personality) and changes in the menu "Edit Program" (menu Stand alone).

Screen saver --- Use this menu item to switch OFF/ON the screen saver and to set time period (30 sec.-600 sec.) after that the display will be turned off. If the option Off is selected, the screen will permanetly light.

Lock screen --- Use the menu item to lock the screen.

Set Unlock code --- The menu item allows to enter password in order to prevent unauthorized person from changing setting of the fixture. This code is required after switching the fixture on and after waking from screen saver.
Disable Unlock code --- The menu item disables "Unlock code" function.

Emergency Trig --- The menu item allows to set an action, which will be performed after pressing the emergency button (the button connected to the trigger input).
   **OFF** - state of LED modules is without change.

ON - all fixtures full - if the function is on, all LEDs in pixels modules will light.
ON - all fixtures off - if the function is on, all LEDs in pixels modules will be turned off.

Date/Time --- The menu item allows you to set a current date and time. The date and time is saved in the ArcPower Rack Unit Pixel by one of the following ways:

1. Into the control display of the ArcPower Rack Unit Pixelif the Real Time Zone (RTC) is not installed.

In case that the ArcPower Rack Unit Pixel has been disconnected from mains and after a lapse of time is connected to mains, both date and time run from values before disconnecting mains. You have to set the date and time again to keep them current.

2. Into the Real Time Zone (RTC) if the zone is installed.

In case that the ArcPower Rack Unit Pixel has been disconnected from mains and after a lapse of time is connected to mains, both date and time run without interruption and still keep current values due to a battery of the Real Time Zone.

A presence of the Real Time Zone in the ArcPower Rack Unit Pixel is indicated by the Battery line on the screen.
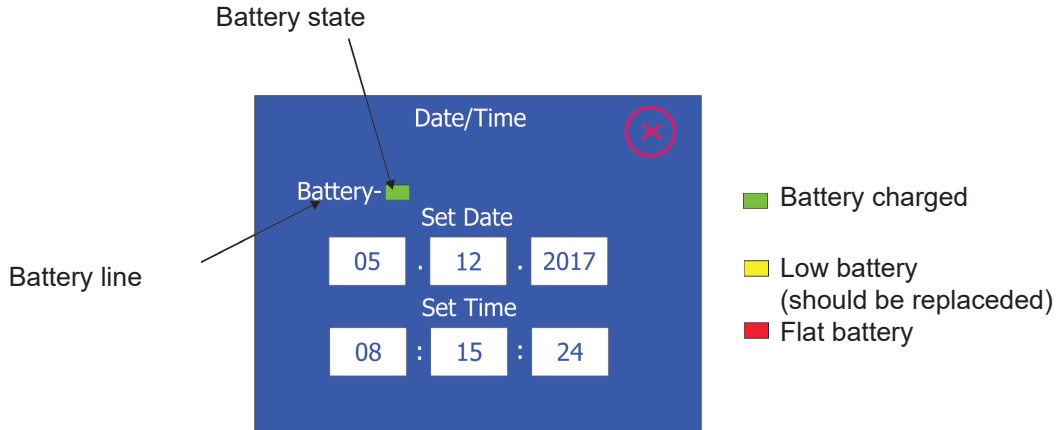
Real Time Zone information.

Accuracy of the Real Time Zone is typically +/-5 seconds per year. The battery should be replaced when a yellow field is displayed on the battery line. Disconnect the ArcPower Rack Unit Pixel from mains before changing the battery.

After connecting ArcPower Rack Unit Pixel to mains, a self-test of battery is performed and than every 24 hours. After changing the battery, set the date and time again.

In case of low or flat battery, error messages will appear on the main screen - see the item Diagnostic (in the menu Special Functions).

Init Position --- This menu relates to LED zones only.For Pixel zones does not have any function.

7.4 Manual mode

This menu serves for LED Zones only (not for PIXEL Zones).

7.5 Stand-alone setting

Only two items serve for control of the PIXEL Zones:
All Chan. Together --- the menu item allows to saturate all channels of connected pixel modules on desired level - all pixel modules will light . This function is useful for fast check of functionality of connected pixel modules.

All by channels --- the menu item allows to saturate red, green, blue and white channels on all Pixel zones.

7.6 Special Functions

Diagnostic   --- The menu item runs diagnostic of the ArcPower Rack Unit Pixel. There is a list of error (or warning) messages.
Note: message in red - error, message in yellow - warning

> **Overload** - The ArcPower Rack Unit Pixel is overloaded. Disconnect some LED modules or reduce LED current.
> **To many zones or not identified** - probably some zone is faulty.
> **LED termistors** - Some LED module with a temperature sensor hase been disconnected from the LED zone since last operation of ArcPower Rack Unit Pixel. Corresponding LED zone works, but its output power is reduced to 20% (from a safety reason).
> **Communication with A.Z. Pixel** - Some Pixe zone does not communicate with an ArcPower Rack Unit Pixel (the Pixel zone is probably faulty). Try to switch off/on the ArcPower Rack Unit Pixel.
> If the error appears again, switch the ArcPower Rack Unit Pixel off and disconnect the Pixel zones from the ArcPower Rack Unit Pixel to make sure, that problem is in some Pixel zone.
> **Some pixel fixture needs upgrade** - Some pixel modules have old software. Run the option "Pixel flash" (from menu SW update/Reset) and do a pixel upgrade.

The following error messages refer to the Fan Zone only. In all cases stated below the corresponding fan does not run.

> **Fan 1:1** - Fan 1 has been set to 48V (menu Fan 1 Voltage), but the 48V power supply is not available in the Arc Power Rack Unit Pixel US (LV).
> **Fan 2:1** - Fan 2 has been set to 48V (menu Fan 2 Voltage), but the 48V power supply is not available in the Arc Power Rack Unit Pixel US (LV).
> **Fan 1:2** - PCB of the fan 1 in the Fan Zone is overheated.
> **Fan 2:2** - PCB of the fan 2 in the Fan Zone is overheated.
> **Fan 1:4** - Type of a temperature sensor is not set in the menu Type of Sensor 1.
> **Fan 2:4** - Type of a temperature sensor is not set in the menu Type of Sensor 2.

Fan 1:8 - Short circuit on output terminals for fan 1.
Fan 2:8 - Short circuit on output terminals for fan 2.
Fan 1:16 - Max. output current (1A) for fan 1 was exceeded.
Fan 2:16 - Max. output current (1A) for fan 2 was exceeded.
Fan 1:32 - Too low revolutions (<400 rpm) of the fan 1 (if measuring of fan rpm was enabled).
Fan 2:32 - Too low revolutions (<400 rpm) of the fan 2 (if measuring of fan rpm was enabled).

The following error messages refer to the Real Time Zone only.
Battery is not in ideal condition - the battery of the Real Time Zone has low voltage and should be replaced.
Replace battery - the battery of the Real Time Zone is flat and has to be replaced.

The item "Servis" at the right bottom corner of the screen Diagnostic serves for service purposes only.

SW update/Reset --- the menu allows you to update software in the ArcPower Rack Unit Pixel or reset the ArcPower Rack Unit Pixel .
FirmWare Update - the menu item serves for updating software in the ArcPower Rack Unit Pixel and all LED zones
The following items are required in order to update software:
- PC running Windows or Linux or macOS
- DSU file
- Flash cable RS232/DMX P/N13050624 (if you want to use a serial port of PC)
- Robe Universal Interface or Robe Universal interface WTX (if you want to use an USB port of PC)

Note: Software update should be executed by a qualified person. If you lack qualification, do not attempt the update yourself and ask for help your Anolis distributor.

To update software in the fixture:
1. DSU file is available from the Anolis web site at https://www.anolislighting.com.
   File with extension zip is intended for Windows (used and tested from XP to W10 on 32/64bit systems).
   File with extension tbz is intended for Linux (used and tested on Debian and Ubuntu 32/64bit).
   File with extension dmg is intended for macOS (used and tested on OSX up to Sierra) XQuartz required,
   install it from https://www.xquartz.org/
   Save the download file to a folder on your computer.
   In case that you use windows, extract files in the zip file (e.g. DSU_ArcPowerRackUnitPixel_18020957.zip)
2. Disconnect the fixture from DMX controller.
3. If you use the flash cable RS232/DMX, connect a serial port of your computer with DMX input of the fixture
    by means of the cable.
   If you use the Robe Universal Interface, connect a USB port of your computer with the Robe Universal Interface
   by means of the USB cable and DMX input of the fixture with the DMX output of the Robe Universal Interface
   via a DMX cable.

Example for connection
via the Robe Universal Interface:
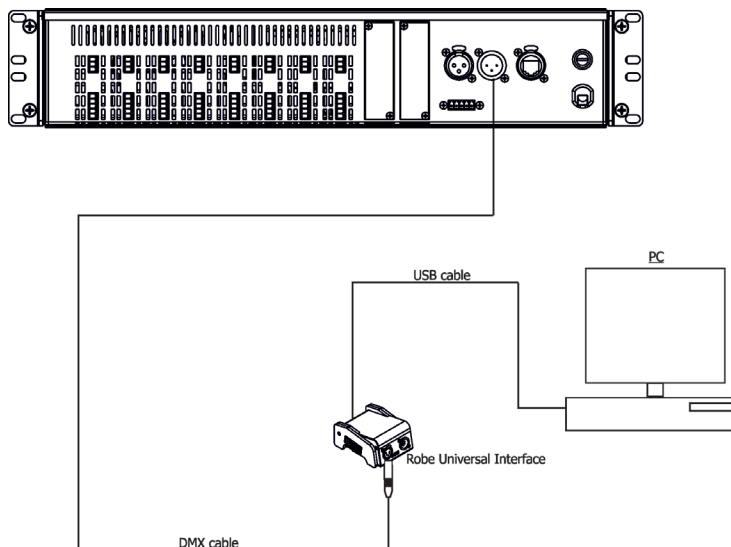
4. Switch the fixture to the update mode (Service --> SW update/Reset --> FirmWare Update).
   Note: If you do not want to continue in the software update, you have to switch off and on the fixture
   to escape from the updating mode.
   We recommend to cancel all running programs on your computer before starting the software update.

5. Double-click the software uploader file (e.g. DSU_ArcPowerRackUnitPixel_18020957.exe) in
the extracted files. The Software Uploader program will start running.
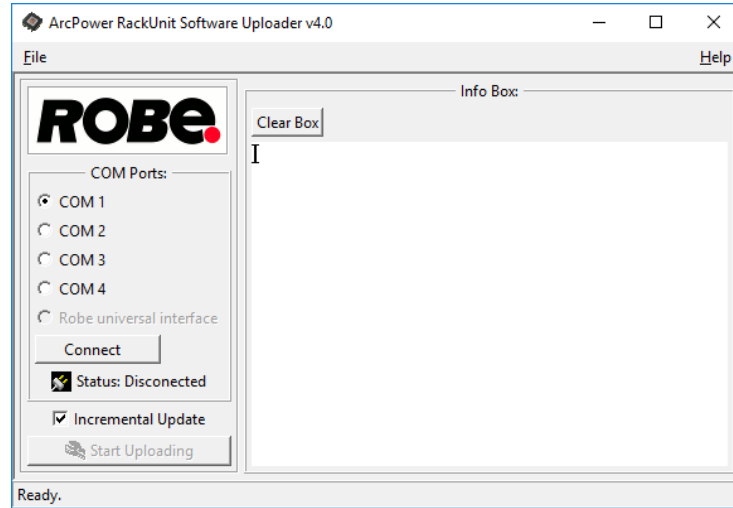
6. Select correct "COM " number if you use a Flash cable RS232/DMX or select "Robe Universal Interface "
if you use the Robe Universal Interface/Robe Universal Interface WTX and then click on the "Connect" button.
7. If the connection is OK, click the "Start Uploading" button to start software uploading. It will take several
minutes to perform software update.
If the option "Incremental Update" is not checked, all processors will be updated (including processors with
the same software version).
If you wish to update only processors with not topical versions of software, check the "Incremental Update
box".
Avoid interrupting the process. Update status is being displayed in the "Info Box" window.
When the update is finished, the line with the text "Fixture is successfully updated" will appear in
this window.

In case upload process is interrupted (e.g. power loss), the fixture stays in "Updating mode" and you will have
to repeat the software update again.

Another way, how to update software in the fixtures (especially large installation of fixtures) is to use the ROBE
Uploader. It is a software for automatized software update of Robe/Anolis fixtures. It can take advantage of
Ethernet ports and RDM support if present in the units.
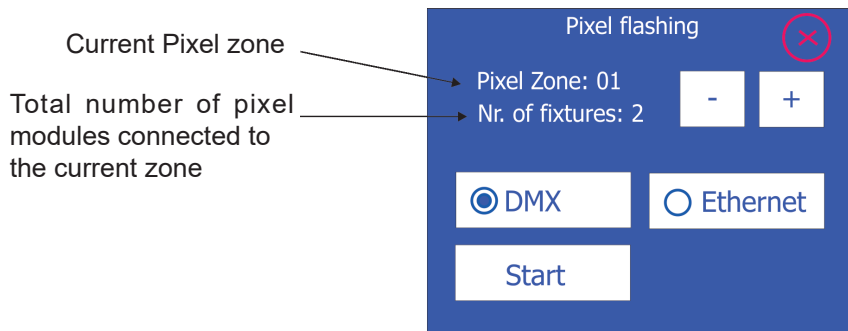For more information please see https://www.robe.cz/support/.
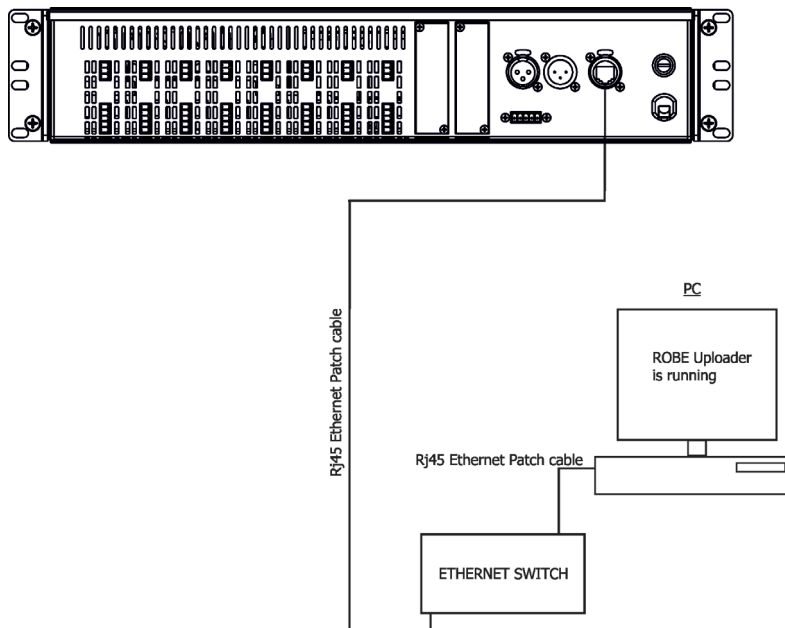
Reset device - use the menu item to reset the ArcPower Rack Unit Pixel.

Pixel flash - use the menu item to upgrade pixel modules connected to pixel zones.
There is an example, how to upgrade pixel modules.
1. Enter the menu item "Pixel flash". The following screen will appear

Current Pixel zone

Total number of pixel
modules connected to
the current zone

Pixel flashing

Pixel Zone: 01
Nr. of fixtures: 2

 -    +

◉ DMX   ○ Ethernet

Start

2. By means of the − + buttons select zone at which you need to upgrade pixel
modules (information about pixel modules is available in the menu Information-->Zone
Info).

3. Select desired input for upgrade connection:
DMX - if the upgrade will be done by means of DMX cable and the Robe Universal
Interface WTX.
Ethernet - the upgrade will be done by means of the Ethernet cable and the ROBE
Uploader.
Touch the button Start, the following screen will appear:

Pixel flashing

Pixel Zone 1 - Flashing mode
Nr. of fixtures: 1

Exit from flash mode ?
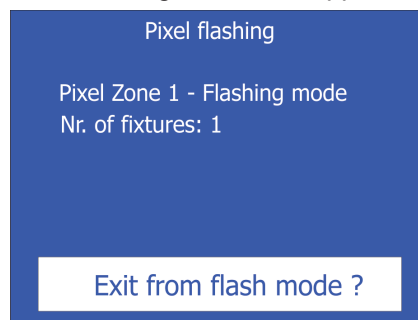
Now the ArcPower RackUnit Pixel is in the flashing mode. If you use the Robe Universal
Interface, downolad corresponding update files for pixel modules
(e.g. DSU_ArcDot_xxxxxxxxx.zip for
ArcDots, DSU_ArcPix_xxxxxxxxx.zip for ArcPixes) from Anolis web site at
https://www.anolislighting.com and continue as at FirmWareUpdate of the DRS via
the Robe Universal Interface.
If you use the ROBE Uploader, you will need corresponding lib files (e.g. ArcDot.lib,
ArcPix.lib).

4. After software update touch the button "Exit from flash mode? " , the following screen
will appear:

Pixel flashing

Pixel Zone 1 - Flashing mode
Nr. of fixtures: 1

Yes, exit   No, back
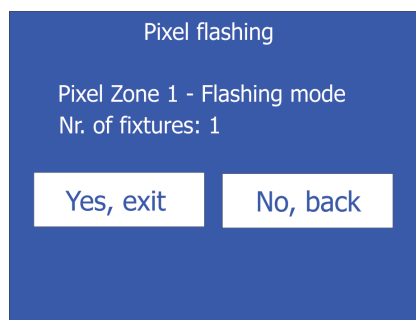
Select desired option (Yes, No).
Note: pixel flash has to be run for each pixel zone individually unlike software update
of the ArcPower RackUnit Pixel (when software update of the display unit and
all pixel zones done at the same time).

Load test --- Use this menu item to run test whether the ArcPower Rack Unit Pixel is able to supply all connected LED modules.

8.Technical Specifications

Power supply

Input voltage:

        ArcPower RackUnit Pixel CE: 100-240V AC, 50-60 Hz

        ArcPower RackUnit Pixel US: 100-277V AC, 50-60 Hz

        ArcPower RackUnit Pixel US (LV): 100-277V AC, 50-60 Hz

Max. power consumption:

        ArcPower RackUnit Pixel CE: 1400 W

        ArcPower RackUnit pixel US:1000 W

        ArcPower RackUnit Pixel US (LV): 1000 W

Max. output power*:

        ArcPower RackUnit Pixel CE: 1200 W

        ArcPower RackUnit Pixel US: 850 W

        ArcPower RackUnit Pixel US (LV): 850 W

* * Max. output power is sum of power consumptions of individual LED zones (and special zones) and their loads (e.g. LED modules, fans for ArcZone DRS Fan etc.).

Main fuse: T 16A

Control & Programming

Setting and addressing: graphic touch screen
Control options: DMX, Art-Net, MANet, MANet2, sACN
Number of pixel zones: 8
DMX data in/out: Locking 3-pin XLR
Ethernet: RJ45
Futher features: output 12V DC /100mA (counterpart P/N 13052503 included)

              input for trigger (5V DC max.) (counterpart P/N 13052503 included)

Pixel zone

Power consumption: 2W (without connected pixel module)

Max. output voltage:

        ArcPower RackUnit Pixel CE: <50V DC

        ArcPower RackUnit Pixel US: <50V DC

        ArcPower RackUnit Pixel US (LV): <30V DC

Max. output power :

        ArcPower RackUnit Pixel CE: 150 W

        ArcPower RackUnit Pixel US: 100 W

        ArcPower RackUnit Pixel US (LV): 100 W

LED connection*: pluggable terminal block 3-pin (counterpart P/N 13052504 included)

              pluggable terminal block 5-pin (counterpart P/N 13052503 included)

                Only one type of LED output can be used.

Temperatures

Operating Ambient Temperature: 0°C / +50°C (+32°F / +122°F)
Operating Temperature: +75°C @ Ambient +50°C (+167°F @ Ambient +122°F)

Total heat dissipation (calculated)

4770 BTU/h

Protection factor

ArcPower RackUnit CE: IP20
ArcPower RackUnit US: Suitable For Dry Locations
ArcPower RackUnit US (LV): Suitable For Dry Locations

Included items

1 x ArcPower RackUnit Pixel
8 x Connector BCP-381-3GN (P/N 13052504)
9 x Connector BCP-381-5GN (P/N 13052503)
2 x Air filter (P/N 17031023)

Optional zones

Two free slots of the ArcPower Rack Unit Pixel allows to install two special zones according to customer needs
0-10V Zone
Real Time Zone
Fan Zone

Optional zones specifications

ArcZone DRS 0-10V

Input voltage: 28-49.5V DC
Power consumption: 1W (without connected LED module)
Connection:
> Power input: Plug-in terminal block (5-pin)
> Power output: pluggable terminal block (5-pin)
> 4 x input 0-10V DC: pluggable terminal block 8-pin (counterpart P/N 13052502 included)
Weight: 0.2 kg
Operating Ambient Temperature: 0°C / +50°C (+32°F / +122°F)

ArcZone DRS RTC

Input voltage: 28-49.5V DC
Power consumption: 1W
Battery: CR2032/3V Lithium Battery or CR2032 P/H-T Lithium Battery (3V)
Connection:
> Power input: Plug-in terminal block (5-pin)
> Power output: pluggable terminal block (5-pin)
Operating Ambient Temperature: 0°C / +50°C (+32°F / +122°F)
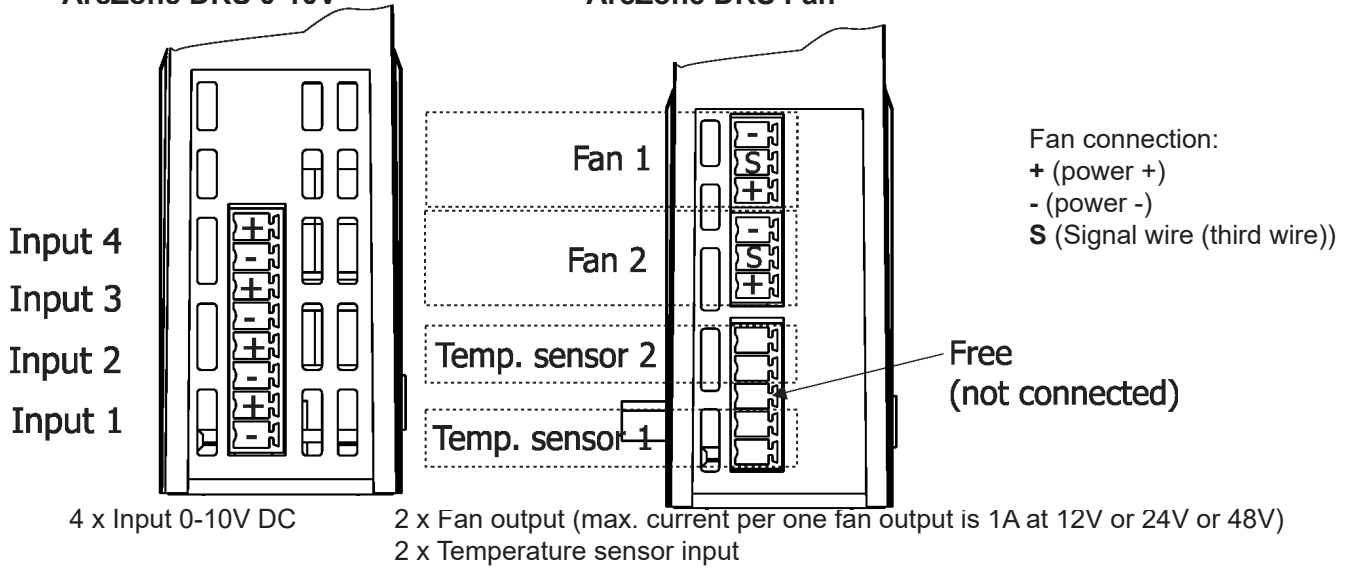Weight: 0.2 kg

ArcZone DRS Fan

Input voltage: 28-49.5V DC
Power consumption: 1W (without fans)
Max. output power: 96W (at 2 x fan 48V/1A)
Number of fan outputs: 2
Max. fan current: 1A (per one fan output)
Fan voltage:12V/24V/48V (12V/24V for ArcPower Rack Unit Pixel US LV)
RPM measurement (if fan have signal wire).
Max. number of connected temperature sensors: 2
Supported temperature sensors: PT500, PT1000, NTC (only NTC thermistor NTC10K-AWG26
> 500mm,EPCOS, P/N 13052203)
Connection:
> Power input: Plug-in terminal block (5-pin)
> Power output: pluggable terminal block (5-pin)
> Fans output: 2 x pluggable terminal block 3-pin (counterpart P/N 13052504 included)
> Temp. sensors input: pluggable terminal block 5-pin (counterpart P/N 13052503 included)
Max. 1 ArcZone DRS Fan can be connected to the ArcPower RackUnit Pixel
Weight: 0.2 kg
Operating Ambient Temperature: 0°C / +50°C (+32°F / +122°F)

NTC thermistor NTC10K-AWG26, 500mm (P/N 13052203), for ArcZone DRS Fan

Optional zones connections

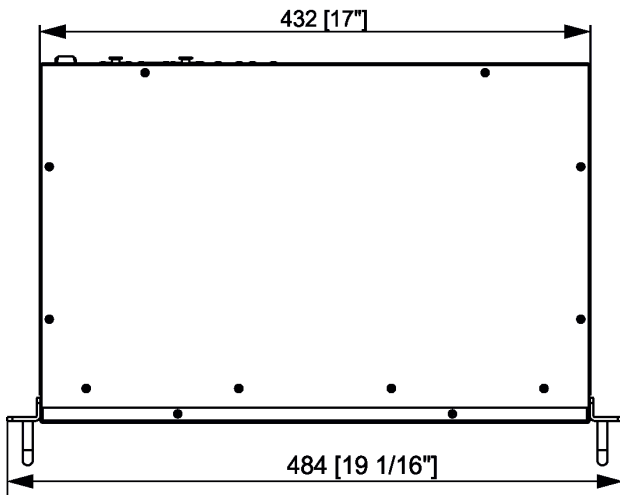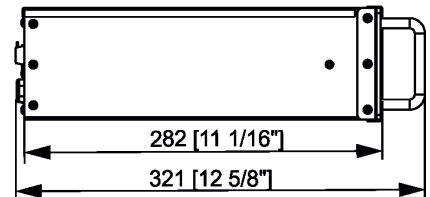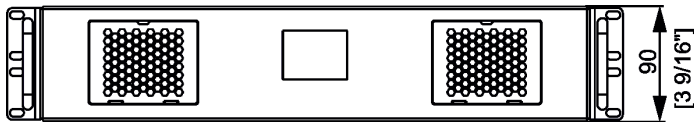### ArcZone DRS 0-10V   ### ArcZone DRS Fan

Input 4

Input 3

Input 2

Input 1

Fan 1

Fan 2

Temp. sensor 2

Temp. sensor 1

Fan connection:
+ (power +)
- (power -)
S (Signal wire (third wire))

Free
(not connected)

4 x Input 0-10V DC   2 x Fan output (max. current per one fan output is 1A at 12V or 24V or 48V)
2 x Temperature sensor input

Weight

6.3 kg

Dimensions

mm [inch]

90 [3 9/16"]

282 [11 1/16"]

321 [12 5/8"]

432 [17"]

484 [19 1/16"]

9. Maintenance

> **DANGER !**
> **Disconnect from the mains before starting any**
> **maintenance work**

9.1 Replacing the air filters

The ArcPower Rack Unit Pixel is equipped with 2 air filters placed in front panel of the fixture.
To replace the air filters.
1. Disconnect the fixture from mains.
2. Open the protective grid (1).
3. Pull out the air filter (2).
4. Clean or replace the air filter (clean the air filters with a vacuum cleaner or you can wash them and put back dry).
5. Put the filter cover back to the protective grid and close the protective grid (1).
6. Repeat the same procedure for the second air filter.
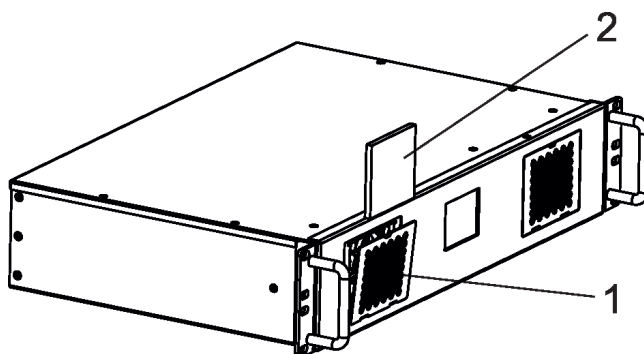
9.2 Replacing the main fuse

Only replace the fuse by the one of the same type and rating.

To replace the fuse.
1. Disconnect the fixture from mains.
2. Unscrew the fuse holder on the rear panel of the fixture with a fitting screwdriver from the housing (anticlockwise).
3. Remove the old fuse from the fuse holder.
4. Install the new fuse in the fuse holder.
5. Replace the fuse holder in the housing and screw it.

9.3 Disposing of the product

To preserve the environment please dispose or recycle this product at the end of its life according to the local regulations and codes.

10. ChangeLog

This section summarizes changes in the user manual.

Version of the manual	Date of issue	Description of changes
1.5	12/02/2018	Software update description changed
1.6	08/03/2018	Menu Linear/Exponential changed (menu Configuration)
1.7	29/03/2018	Dots installation added
1.8	18/08/2018	Added Manual sorting and Pixel flash

Specifications are subject to change without notice.
August 13, 2018
Made in CZECH REPUBLIC by ROBE LIGHTING s.r.o. Palackeho 416/20 CZ 75701 Valasske Mezirici