

DMX MultiPixx Control

User Manual



DMX [®]
4
ALL



For your own safety, please read this user manual and warnings carefully before installation.

Contents

Description.....	4
Data sheet	5
Delivery.....	5
Connection	6
Connection examples	7
Power supply with several LED-Stripes.....	8
DMX-Addressing	9
LED-Display-Codes	9
The integrated LED is a multifunctional display.....	9
Adjust LED-Stripe Type	10
Pixel control via DMX.....	11
Single color LED-Stripes.....	14
Extended Settings	15
Pixel groups.....	16
Demo programs via DMX	17
Demo programs without DMX.....	18
Pixel-Sequencer	20
Scroll-Effect.....	22
Knight Rider	22
Stars-Effect	23
Wave- Effect	23
2 Color-Wave- Effect.....	24
3 Color-Move- Effect	24
Caterpillar- Effect	24
Shake- Effect	25
Falling Point- Effect.....	25
Running Points- Effect	26
Blink- Effect.....	26
Blow- Effect.....	27
Ramp- Effect.....	27
Shift Color- Effect.....	28

Fade Moving Colors- Effect.....	29
Rainbow- Effect.....	29
Adjust settings via DMX.....	30
Additional Settings for RGBW-LED-Stripes	32
RDM (from Hardware V2.0 with Firmware V2.01 or higher)	33
Use TPM2-Protocol	37
Execute Firmware Update	38
Factory Reset	39
Dimensions.....	40
Accessory	41
CE-Conformity	42
Risk-Notes.....	43

Description

The **DMX MultiPixx Control** is especially designed for controlling digital LED-Stripes also known as Pixel-Stripes via DMX. By controlling via DMX 170 Pixel (RGB) / 128 Pixel (RGBW) / 512 Pixel (single color) can be controlled individually.

Selectable LED-Chip

The used LED-Chip within the connected digital LED-Stripe is selectable. So, the usage with several digital LED-Stripes is possible.

Adjustable color reproduction

The RGB-Color sequence is adjustable, allowing an universal application.

SingleColor-Option

A SingleColor-Option is selectable in which each pixel occupies only one channel. So up to 512 pixel in one color can be controlled via one DMX-Universe.

Adjustable pixel group

The DMX MultiPixx Control supports pixel groups with adjustable lengths. Each pixel group behaves like a single pixel which is controlled via 3 DMX-Channels (for RGB). That economizes channels in longer installations.

Easy Configuration

An easy configuration via USB with the DMX-Configurator allows a setting of all parameters. The basic-setting for each LED-Stripe is adjustable with a jumper without connecting the DMX MultiPixx Control per USB.

Pixel-Sequencer

The Pixel-Sequencer generates several effects. The settings can be made with only a few DMX channels to fit the effects individually.

RDM Support

The DMX MultiPixx Control allows configuration via RDM over DMX.

TPM2-Protocol

The DMX MultiPixx Control also supports the TPM2 protocol via the USB-Interface via Virtual Com Port (VCP).

Firmware-Update-Function

To use future functions the DMX MultiPixx Control offers a Firmware-Update-Function.

Suitable aluminium housing

An aluminium housing for mounting is available as accessory.

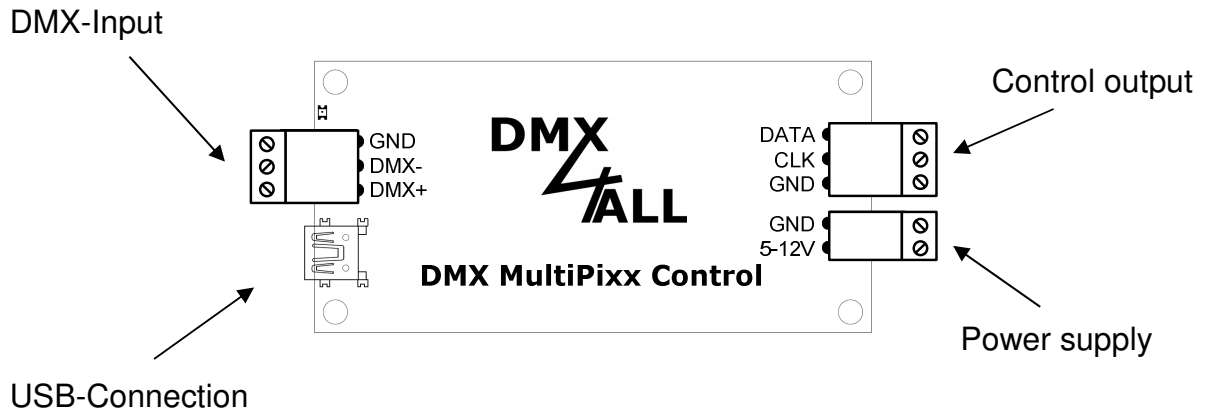
Data sheet

Power supply:	5 - 12V DC / 300mA@5V; 150mA@12V or via USB-Connection
Protocol:	DMX512 RDM
DMX channels:	up to 512 DMX-Channels
Output:	Digital control signal
Output protocol:	APA-101, APA-102, APA-104 DycoLED PB3, DycoLED PC5, GS8208, INK1002, INK1003, LPD1101, LPD6803, LPD6806, LPD8806, LPD1886 8Bit, LPD1886 12Bit, MagiarLED III flex, SK6812, SK6822, SK9822, TM1804, TM1812, TM1814, TM1829, UCS1903, UCS1912, UCS2903, UCS2912, UCS9812, WS2801, WS2811, WS2812(B), WS2813, WS2815, WS2818
Color sequence:	RGB (Color sequence adjustable) SingleColor white SingleColor red SingleColor green SingleColor blue RGBW
Pixel group:	1 – 127 Pixel
Max. number of Pixel/Pixel groups:	170 Pixel (RGB) 128 Pixel (RGBW) 512 Pixel (SingleColor)
Dimensions:	80mm x 39mm (without overhanging connectors)

Delivery

1x	DMX MultiPixx Control
2x	Connection clamps 3pin
1x	Connection clamps 2pin
1x	Quick guide german and english

Connection



Connection examples

Stripes with one control signal (DATA)

e.g. WS2811 / WS2812(B) / SK6812 / TM1804 / APA-104



Stripes with two control signals (CLK+DATA)

e.g. WS2801 / SK9822 / APA-102



Stripes with two control signals

WS2813 / SK9622



To connect the LED-Stripes to the controller, please note the manufactures instruction of the LED-Stripe. The illustrations above are based on the LED-Stripes we offer and we have tested.

Power supply with several LED-Stripes

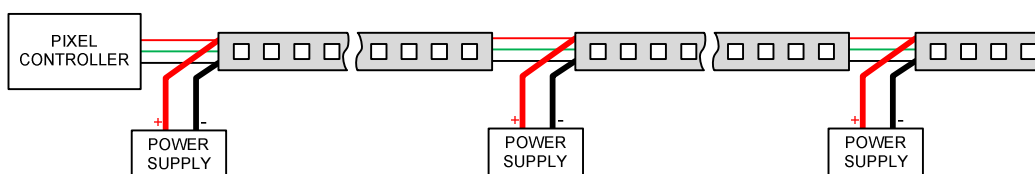
Generally digital LED-Stripes are operated with a power supply of 5V. Relatively high currents for the complete installation are the result.

A voltage drop occurs on the digital LED-Stripe itself, so little by little the brightness reduces. Furthermore, this is the reason for different color reproduction in case of using RGB/RGBW-Stripes. A steady feed of voltage is necessary.

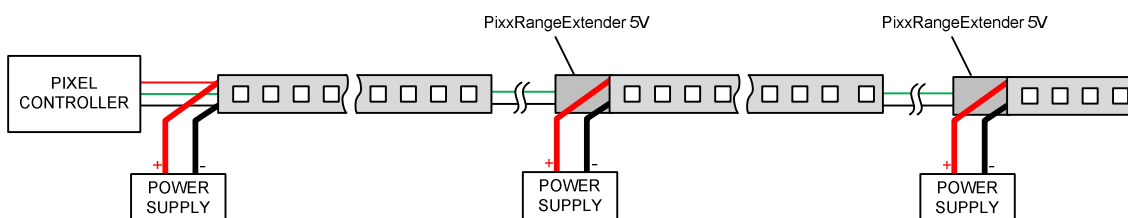
Several decentral power supplies or one central power supply can be used for voltage/power supply. The cross-sections of the supply lines to the digital LED-Stripe must be sufficiently dimensioned !

Connecting LED-Stripes with several power supplies

If several power supplies are used, these can be installed decentrally. The supply lines can be shorter in this case.

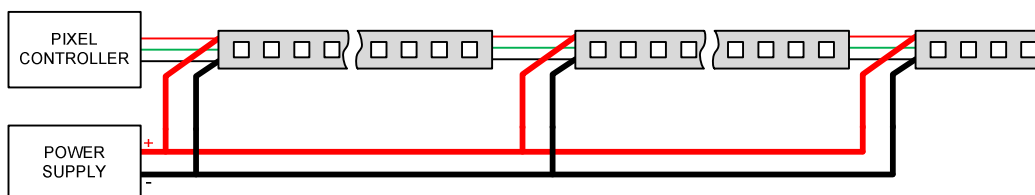


In case of long distances within the installation the PixxRangeExtender 5V can be used to purify the control signal and to isolate single areas.



Connecting LED-Stripes with one power supply

The supplies must be calculated adequately in its dimension if only one power supply with the needed high power is provided. To ensure a low voltage drop on the cable route this is necessary.

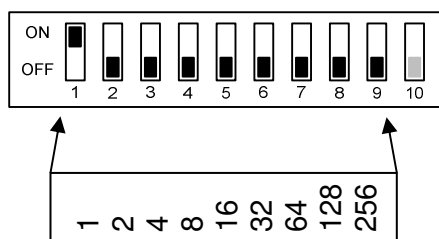


DMX-Addressing

The DMX-Start address is adjustable via the DIP-Switches 1-9.

Switch 1 has the valency 2^0 (=1), switch 2 has the valency 2^1 (=2) and so on, finally switch 9 has the valency 2^8 (=256). The sum of the switches showing ON, represent the start address.

Switch 10 is reserved for demo programs and must show OFF during the DMX-Operation.



LED-Display-Codes

The integrated LED is a multifunctional display.

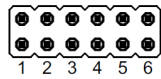
In the normal operation mode, the LED lights non-stop.

Furthermore, the LED signals the operation status. In this case, the LED lights up in short pitches and then turn into off mode. The number of flashing signals is equal to the number of the error status:

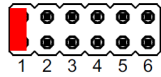
Error-Status	Error	Description
1	No DMX-Signal	No DMX signal is detected
2	Address error	Please check, if a valid DMX-Start address is adjusted via the DIP-Switches
3	DMX-Signal error	An invalid DMX-Input signal is detected. Swap the signal lines on pin 2 and pin 3 or use twisted connection cable.
4	Factory Reset OK	A Factory Reset was executed.

Adjust LED-Stripe Type

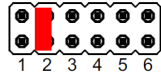
The type for the used digital LED-Stripe is adjustable via the MODE-Jumper 1-5:



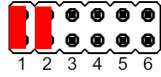
Extended settings are used



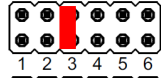
MagiarLED III flex



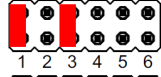
LPD1886 12 Bit (8-Bit controlled)



LPD1886 8 Bit



LPD1886 12 Bit (12-Bit controlled)



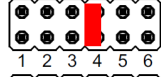
DycoLED PB3 / APA-101 / LPD1101 / LPD6803



TM1804



WS2801



WS2811 / WS2812 / WS2812B / WS2813 / APA-104
 INK1002 / INK1003 / SK6812 / SK6822



LPD8806



UCS1903 / UCS1912 / UCS2903 / UCS2912



APA-102 / SK9822



TM1812



TM1829 (High speed)



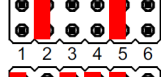
UCS9812 (8-Bit controlled)



UCS9812 (16-Bit controlled)



DycoLED PC5



TM1814



TM1829 (Low speed)



TLC3001 (8-Bit controlled)

Pixel control via DMX

The **DMX MultiPixx Control** is able to control each pixel individually. For this, for each RGB pixel 3 DMX channels, for each RGBW pixel 4 DMX channels are needed.

In each case one DMX channel is used for red, green, blue and optionally white.

The DMX channel assignment depends on the MODE settings respectively RDM Personality.



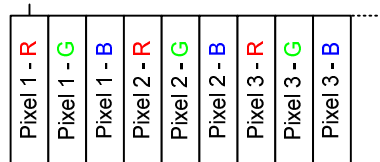
The MODE setting occurs via the extended settings. Further details are available in the chapter *Extended Settings*.

Mode: Color-Channels (RDM-Personality 1)

- No Mode-Channel
- Mode-Channel with Demo-Programms (Don't use with TPM2)
- Mode-Channel with PixelSequencer (Don't use with TPM2)

Starting from the start address the DMX channels are assigned.

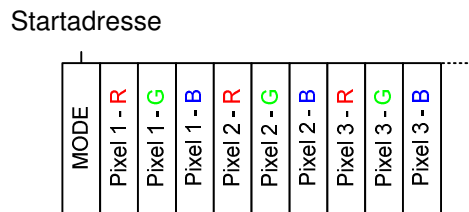
Startadresse



Mode: Color-Channels + Demo-Programs (RDM-Personality 2)

- No Mode-Channel
- Mode-Channel with Demo-Programms (Don't use with TPM2)
- Mode-Channel with PixelSequencer (Don't use with TPM2)

An additional MODE channel allows to generate pixel groups (pixel sections) and to call up the demo programs via DMX.



DMX channel 1 specifies in this mode the pixel section length with the same color (DMX value 1-127). In this case the maximum length is 127 pixel.

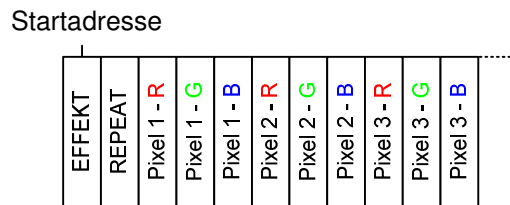
The following DMX addresses are reserved for the color settings. In this case one DMX channel is used for red, green, blue and optionally white.

Channel	Function	Value	
1	Mode	0	Pixel section length = All Pixel
		1-127	DMX-Value = Pixel section length
		128-255	see Demoprograms via DMX
2	Color	0-255	Pixel 1 Red
3		0-255	Pixel 1 Green
4		0-255	Pixel 1 Blue
:::		:::	:::

Mode: Color-Channels + Pixel-Sequencer (RDM-Personality 3)

- No Mode-Channel
- Mode-Channel with Demo-Programms (Don't use with TPM2)
- Mode-Channel with PixelSequencer (Don't use with TPM2)

An additional EFFECT channel and REPEAT channel allows to generate generate pixel groups (pixel sections), repeating the output as well as calling up the Pixel-Sequencer.



DMX channel 1 specifies in this mode the pixel section length with the same color (DMX value 1-127). In this case the maximum length is 127 pixel.

DMX channel 2 specifies after how many pixels the output should be repeated.

The following DMX addresses are reserved for the color settings. In this case one DMX channel is used for red, green, blue and optionally white.

Channel	Function	Value	
1	Effect	0	Length of pixel section = All Pixel
		1-127	DMX-Value = Length of pixel section
		128-255	see Pixel-Sequencer
2	Repeat	0	No repeat
		1-255	Length of section to be repeated
3	Color	0-255	Pixel 1 Red
4		0-255	Pixel 1 Green
5		0-255	Pixel 1 Blue
:::		:::	:::

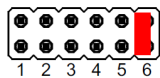
Single color LED-Stripes

 For the Configuration the DMX-Configurator from version V2.3.8 is needed!

The **DMX MultiPixx Control** controls next to the RGB-Stripes single color Stripes too, for example digital LED-Stripes with white LEDs or only one color by digital RGB-LED-Stripes.

In this case each Pixel is controlled with only one DMX-Channel.

The setting to a digital LED-Stripe with white LEDs occurs via Jumper 6 as shown:




This setting takes place additionally for the LED-Stripe type setting via jumper 1-5 !

The adjustment, that only one color is used for the RGB-LED-Stripe has to take place in the extended settings.

Please use for this the settings Color Single Red / Color Single Green / Color Single Blue:

- Color Single White
- Color Single Red
- Color Single Green
- Color Single Blue

 Please take further details from chapter *Extended Settings*.

Extended Settings

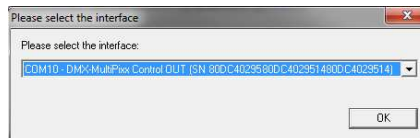


For the extended settings an USB-Connection to a PC with the program DMX-Configurator is needed.

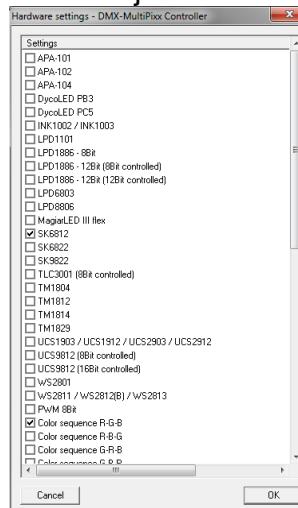
The extended settings allow using further functions of the MultiPixx DMX-Controller. These settings are not set via jumper or switches, but via the software DMX-Configurator.

Please proceed as follows to get the extended settings:

- Connect the DMX MultiPixx Control per USB at PC
 - ⇒ An USB-Cable with MiniB-Male is needed (not included in delivery)
 - ⇒ Install USB-Driver, if it is not installed
- Start the program DMX-Configurator
 - ⇒ That is available as download on www.dmx4all.de
- Generate a connection between DMX MultiPixx Control within the DMX-Configurator



- Call up the *Settings* → *Hardware Settings*
- Here the extended settings can be adjusted



- By clicking OK the settings are transferred and stored to the DMX MultiPixx Control
- Remove all jumper to set the LED-Stripe type to use the extended settings



In order to use the stored settings **no** jumper for the LED-Stripe type (jumper 1-6) must be inserted !

Pixel groups



For the configuration the DMX-Configurator from Version V2.3.8 or RDM is needed !

The **DMX MultiPixx Control** supports pixel groups with an adjustable length, which can be set with the extended settings.

Each pixel group behaves like a single pixel which is controlled with 3 DMX-Channels.

Depending on the selected LED-Protocol different numbers of pixel can be connected at the output (controlled pixel):

LED-Protocol	max. Pixel/Pixel groups	max. controlled Pixel
RGB		
APA-101	170	7199
APA-102	170	3598
APA-104	170	1200
Dyco LED PB3	170	7199
Dyco LED PC5	170	1300
GS8208	170	1200
INK1002 / INK1003	170	1200
LC8808(B)	170	1200
LPD1101	170	7199
LPD1886 8Bit	170	1200
LPD1886 12Bit (8Bit controlled)	170	800
LPD1886 12Bit (12Bit controlled)	170	800
LPD6803	170	7199
LPD8806	170	3600
MagiarLED III	170	3598
SK6812 / SK6822	170	1200
SK9822	170	3598
TM1804 / TM1812	170	1200
TM1814	128	898
TM1829	170	1200
UCS1903 / UCS1912	170	1200
UCS2903 / UCS2912	170	1200
UCS9812 (8Bit controlled)	170	685
UCS9812 (16Bit controlled)	170	685
WS2801	170	4800
WS2811 / WS2812 (B) / WS2813	170	1200
RGBW		
SK6812	128	900
TM1814	128	898
UCS2912	128	900



The set pixel group is taken into account both when controlling via DMX and when outputting the demo programs and the pixel sequencer.

Demo programs via DMX



For this function the MODE-Channels must be activated in the extended settings:

- No Mode-Channel
- Mode-Channel with Demo-Programms (Don't use with TPM2)
- Mode-Channel with PixelSequencer (Don't use with TPM2)

Please take further details from the *Extended Settings*.

The demo programs are only earmarked for using with RGB-LED-Stripes !

The predefined demo programs within the **DMX MultiPixx Control** can be called up by DMX-Channel 1 (MODE-Channel) up to DMX-Value 128.

The color reproduction is adjustable via DMX-Channel 2.

The speed is adjustable via DMX-Channel 3.

Channel	Function	Value	
1	Mode	0-127	SeePixel control via DMX
		128-135	8 color mix
		136-143	R-G-B
		144-151	RGB color star
		152-159	Single color star
		160-167	Wave 1
		168-175	Wave 2
		176-183	Snake
		184-191	Blowing
		192-199	Running Point 1
		200-207	Running point 2
		208-215	Blink
		216-223	Color change
		248-255	Rainbow
2	Color	0-31	White
		32-63	Red
		64-95	Green
		96-127	Blue
		128-159	Yellow
		160-191	Pink
		192-223	Cyan
		224-255	(Off)
3	Speed	0	STOP
		1-255	Slow → Fast

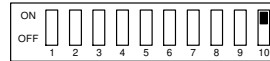
Demo programs without DMX

The demo programs, available in the DMX MultiPixx Control, can be called up via switches and without DMX.



The demo programs can only be used with RGB-LED-Stripes !

Set switch 10 to ON:



Switches 1 up to 4 the demo programs can be selected:

8-Color Mix



R-G-B



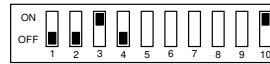
Stars RGB



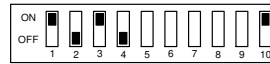
Stars single color



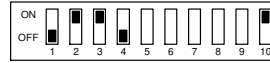
Wave 1



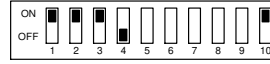
Wave 2



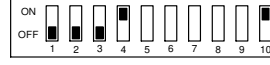
Snake



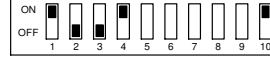
Blowing



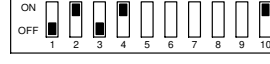
Running Point 1



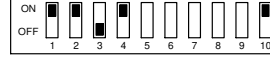
Running Point 2



Blink



Color change

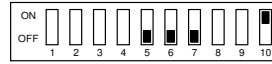


Rainbow



Switches 5, 6 and 7 the color can be selected:

White



Red



Green



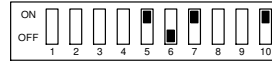
Blue



Yellow



Pink



Cyan

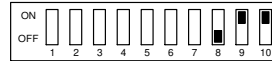
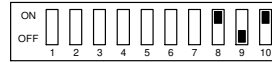
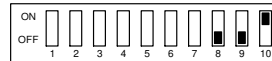


Black

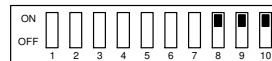


Switches 8 and 9 adjusted the speed:

Fast



Slow



Pixel-Sequencer



The pixel sequencer must be activated via RDM (Personality 3) or in the advanced settings:

- No Mode-Channel
- Mode-Channel with Demo-Programms (Don't use with TPM2)
- Mode-Channel with PixelSequencer (Don't use with TPM2)

Please take further details from chapter *Extended Settings*.

With the Pixel-Sequencer 16 different effects can be generated. Only a few DMX channels are used to adjust the settings in order to adjust the effects individually.

DMX-Channels 1 up to 5 specify effect, speed, brightness, effect length and direction.

DMX-Channel 6 specifies the number of colors with which the effect should be reproduced. Up to 16 colours are possible, depending on the effect. From channel 7, the RGB or RGBW values for the colours follow.

If a pixel group is set, this is taken into account in the output.

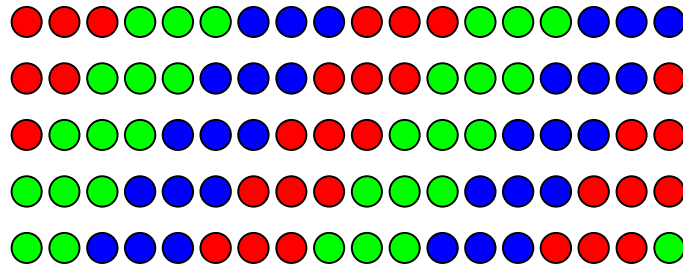
The following list shows the assignment of the DMX values for RGB pixel:

Channel	Function	DMX-Value	Description
1	Effect	0-127	See Pixel controlling via DMX
		128-135	Scroll Up to 16 colors
		136-143	Fade Colors Up to 16 colors
		144-151	Stars Up to 16 colors
		152-159	Wave Up to 16 colors
		160-167	2 Color Wave 2 colors
		168-175	3 Color Move 3 colors
		176-183	Caterpillar 2 colors
		184-191	Shake 2 colors
		192-199	Falling Point 2 colors
		200-207	Running Points 3 colors
		208-215	Blink 2 colors
		216-223	Blow Up to 16 colors
		224-231	Color Ramp 2 colors
		232-239	Shift Colors Up to 16 colors
		240-247	Fade Moving Colors Up to 16 colors
		248-255	Rainbow No color colors
2	Speed	0	STOP
		1-255	Slow → Fast
3	Brightness	0-255	0% dark → 100% bright
4	Effect length	0-255	Depends on effect
5	Effect direction	0-63	Move left
		64-191	RESERVED
		192-255	Move right
6	Number of color	0-16	Number of the following RGB-Colors
7	Color 1 - Red	0-255	
8	Color 1 - Green	0-255	
9	Color 1 - Blue	0-255	
10	Color 2 - Red	0-255	
11	Color 2 - Green	0-255	
12	Color 2 - Blue	0-255	
:::	:::		

Scroll-Effect

The scroll effect pushes the colors through the LED pixels in the selected length one after the other.

Example: Length = 3 / Color = 3 (red / green / blue)



Knight Rider

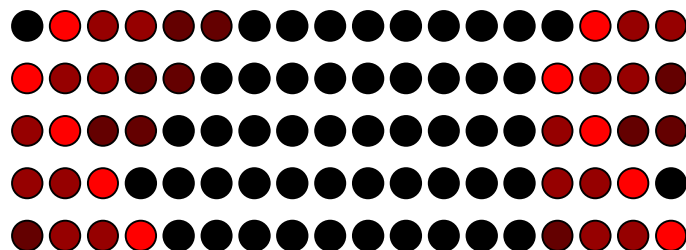
The Knight Rider effect creates a point of light with a tail that is moved from right to left and back.



The Knight Rider effect requires two DMX channels for the effect length, which is specified via DMX channels 4 and 5!

Channel	Function		
1	Effect		
2	Speed		
3	Brightness		
4	Effect length 1	→	Length after the effect is repeated
5	Effect length 2	→	Length of the tail
6	Direction	0-127	All effects in the same direction
		128-255	Every second effect in the opposite direction of the effect
ab 7	Color settings	→	First color for background
		→	Second color for effect

Example: Length1 = 14 / Length 2 = 5 / Colors = 2 (black / red)



Stars-Effect

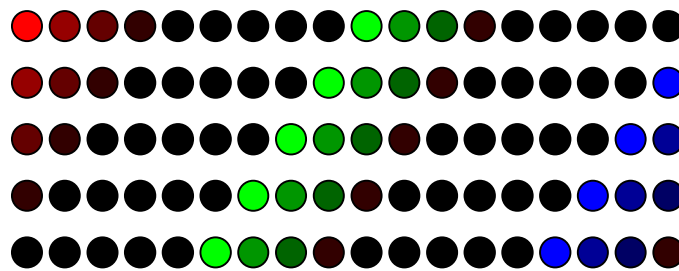
The Stars effect creates points that trail a tail.



The Stars-Effect needs two DMX channels for the effect length, the following DMX channels move by one DMX channel !

Channel	Function		
1	Effect		
2	Speed		
3	Brightness		
4	Effect length1	→	Distance between two points
5	Effect length1	→	Tail length
6	Effect direction		
7	Number of colors		
from 8	Color settings		

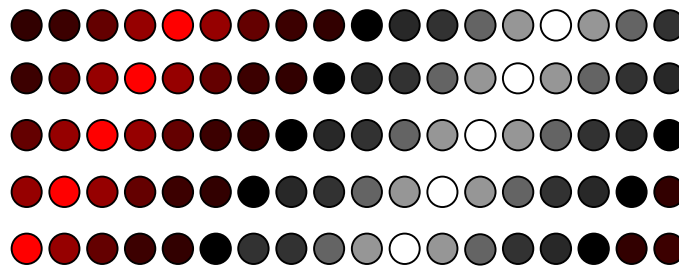
Example: Length 1 = 9 / Length 2 = 3 / Colors = 3 (red / green / blue)



Wave- Effect

The Wave-Effect generates light waves rising up to the maximum and then fall away.

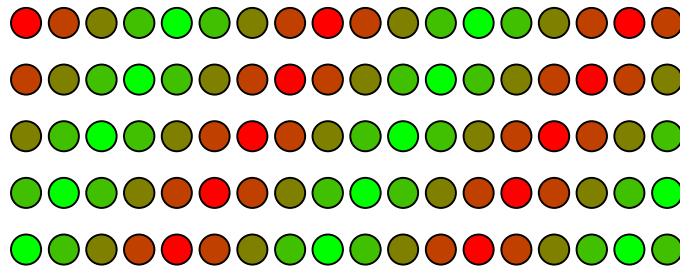
Example: Length = 10 / Colors = 2 (red / white)



2 Color-Wave- Effect

The 2 Color-Wave-Effect generates color crossing between 2 colors in the defined length.

Example: Length = 5 / Colors = 2 (red / green)



3 Color-Move- Effect

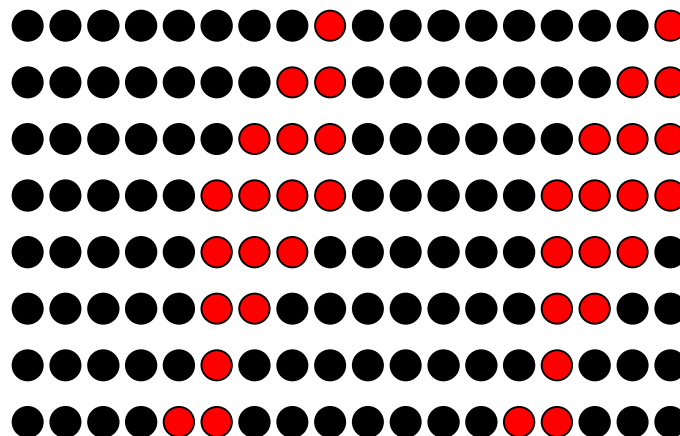
The 3 Color-Move-Effect generates a fix defined combination of three free selectable colors.

The whole effect length is 64 pixel with several sections in which the three colors are outputted alternately.

Caterpillar- Effect

The Caterpillar-Effect builds up one light point up to a defined length and then reduces it again,

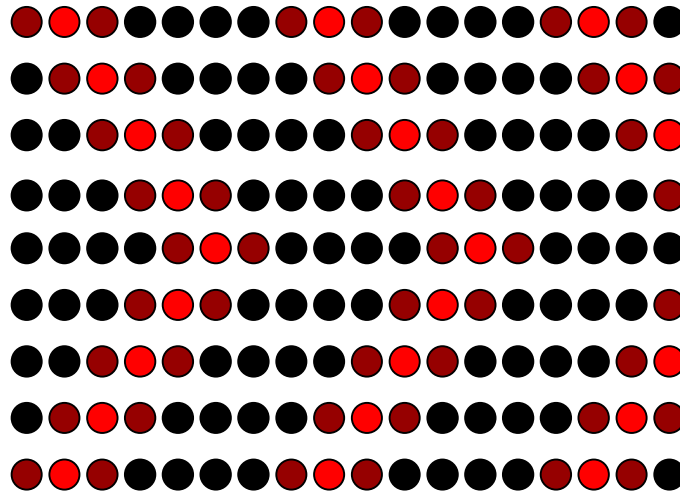
Example: Length = 4 / Colors = 2 (black / red)



Shake- Effect

The Shake-Effect generates a light point with reducing intensity in the defined length and pushes it to the right and to the left.

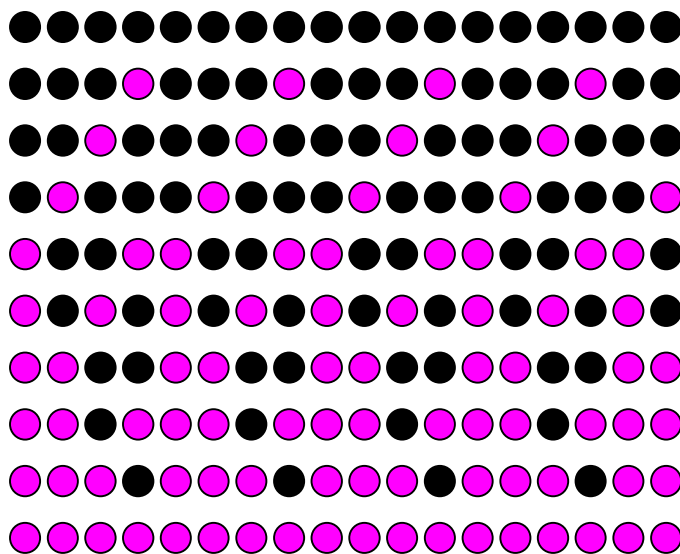
Example: Length = 4 / Colors = 2 (black / red)



Falling Point- Effect

The Falling Point-Effect generates one pixel which is moved for the defined length and stops at the end.

Example: Length = 4 / Colors = 2 (black / pink)



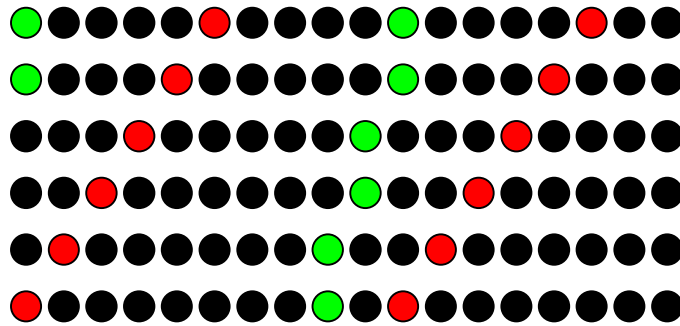
Running Points- Effect

The Running Points-Effect generates 2 moving points. One of them is moving twice as fast as the other. The background color and the one color for each of the moving points can be set. The playback length is fixed.

The effect direction can be set independently for both points:

5	Effect direction	0-63 64-127 128-191 192-255	Point 1 left / Point 2 left Point 1 left / Point 2 right Point 1 right / Point 2 left Point 1 right / Point 2 right
---	------------------	--------------------------------------	--

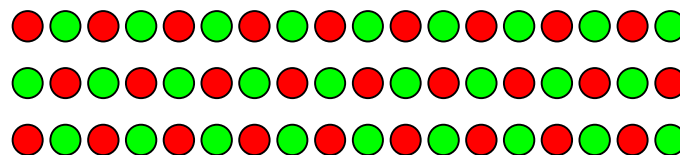
Example: Length = 1 / Colors = 3 (black / green / red)



Blink- Effect

The Blink-Effect generates 2 alternating colors with the defined length an switches these back and forth.

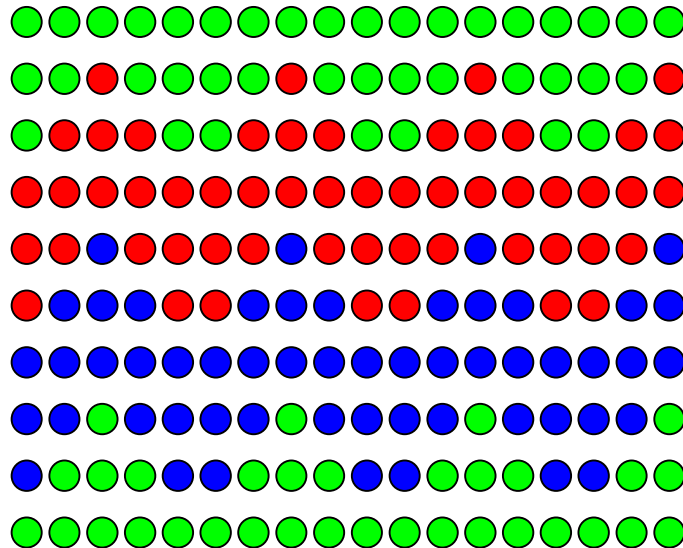
Example: Length = 1 / Colors = 2 (red / green)



Blow- Effect

The Blow-Effect alternates between the colors, as more and more pixels, starting from one point, switch into the new color.

Example: Length = 1 / Colors = 2 (red / green)



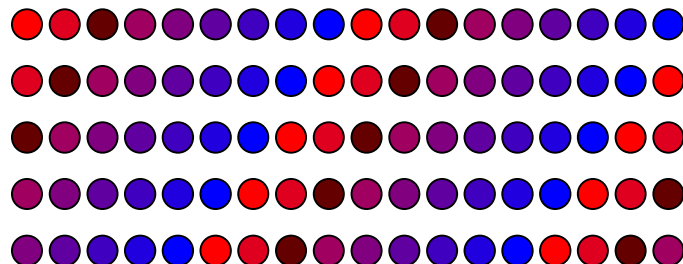
Ramp- Effect

The Ramp-Effect generates a color ramp with the defined length between the two selected colors and moves it.

The direction of the effect can be set independently for both color ramps:

5	Effect direction	0-63	Color ramp 1 left / Color ramp 2 left
		64-127	Color ramp 1 left / Color ramp 2 right
		128-191	Color ramp 1 right / Color ramp 2 left
		192-255	Color ramp 1 right / Color ramp 2 right

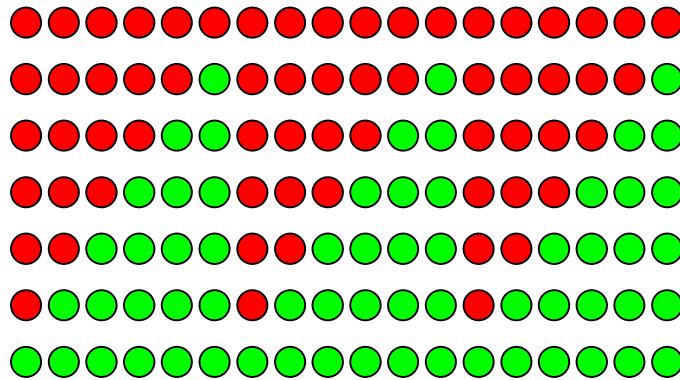
Example: Length = 8 / Colors = 2 (red / blue)



Shift Color- Effect

The Shift Color-Effect pushes the single colors one after the other with the defined lengths in the output.

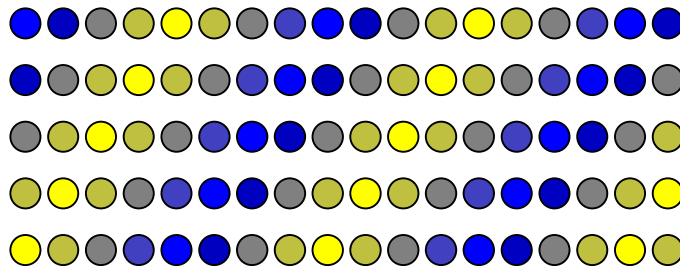
Example: Length = 6 / Colors = 2 (red / green)



Fade Moving Colors- Effect

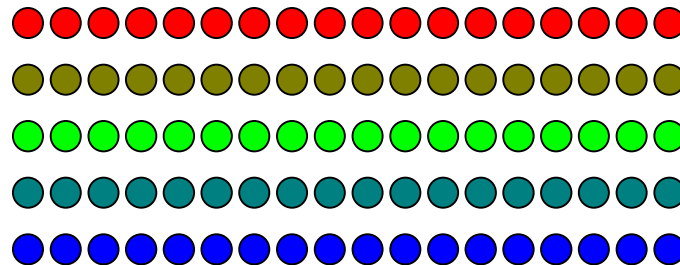
The Fade Moving Colors-Effect generates a color gradient with the defined colors and the specified length and moves this color gradient.

Example: Length = 4 / Colors = 2 (blue / yellow)



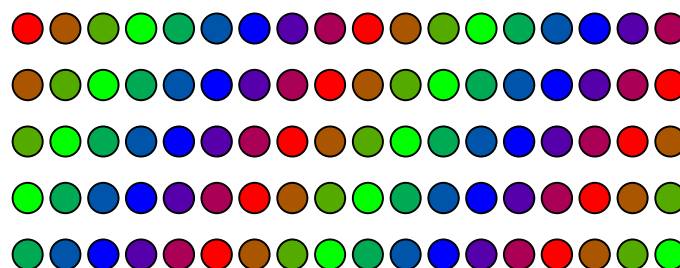
The Fade Moving Colors effect with a length equal to 0 controls all LED pixels equally. The colors are faded softly one after the other.

Example: Colors = 3 (red / green / blue)



Rainbow- Effect

The Rainbow-Effect generates a RGB gradient (Rainbow) with the defined length and moves it.



Adjust settings via DMX

The **DMX MultiPixx Control** settings are adopted via the DMX values by turning on the power supply.



To accept and save the settings after switching the power supply the DMX-Values must be set exactly. A difference of the values causes that the values are not accepted!

To set the DMX MultiPixx Control please follow the following steps:

- Connect the LED-Stripe, the power supply and the DMX MultiPixx Control
- Connect the DMX-Signal with the DMX MultiPixx Control
- Adjust the DMX-Value according to the following table
- Turn on the power supply of the LED-Stripe
- Wait ca. 10 seconds until the settings are stored
- Turn off the power supply

DMX-Channel	Value	Description
1	55	
2	77	
3	10	WS2811 / WS2812(B) / WS2813 / APA-104 / INK1002 / INK1003 / SK6812
	20	TM1804
	30	TM1803 / TM1812
	40	TM1829
	50	LPD1886 - 8Bit
	60	LPD1886 - 12Bit (8Bit controlled)
	70	UCS1903 / UCS1912 / UCS2903 / UCS2912
	80	UCS9812 (8Bit controlled)
	90	UCS9812 (16Bit controlled)
	110	LPD1886 - 12Bit (12Bit controlled)
	150	MagiarLED III flex
	160	LPD6803 / DycolLED PB3 / APA-101
	170	LPD8806
180	WS2801	
190	APA-102 / SK9822	
200	DycolLED PC5	
4	10	R-G-B
	20	R-B-G
	30	G-R-B
	40	G-B-R
	50	B-R-G
	60	B-G-R
	70	Single Color WHITE
	80	Single Color RED
	90	Single Color GREEN
	100	Single Color BLUE
110	RGBW*	
5	1-127	Pixel group length
6	22	Mode-Channel OFF
	222	Mode-Channel ON
7	0-255	DMX-Start L
8	0-255	DMX-Start H
		DMX-Start address = DMX-Start L + (DMX-Start H x 256) DMX-Start address must be in the range 1-511

* - When using RGBW LED-Stripes please note chapter *Additional Settings for RGBW-LED-Stripes*.

Examples:

LED-Stripe: APA-104
Color sequence: R-G-B
Pixel group length: 2
Mode-Channel: OFF
DMX-Start address: 1

Adjustable DMX-Values are: 55 77 10 10 2 22 1 0

LED-Stripe: WS2801
Color sequence: R-G-B
Pixel group length: 1
Mode-Channel: ON
DMX-Start address: 1

Adjustable DMX-Values are: 55 77 180 10 2 222 1 0

LED-Stripe: SK6812
Color sequence: R-G-B
Pixel group length: 1
Mode-Channel: OFF
DMX-Start address: 100

Adjustable DMX-Values are: 55 77 10 10 2 22 100 0

Additional Settings for RGBW-LED-Stripes

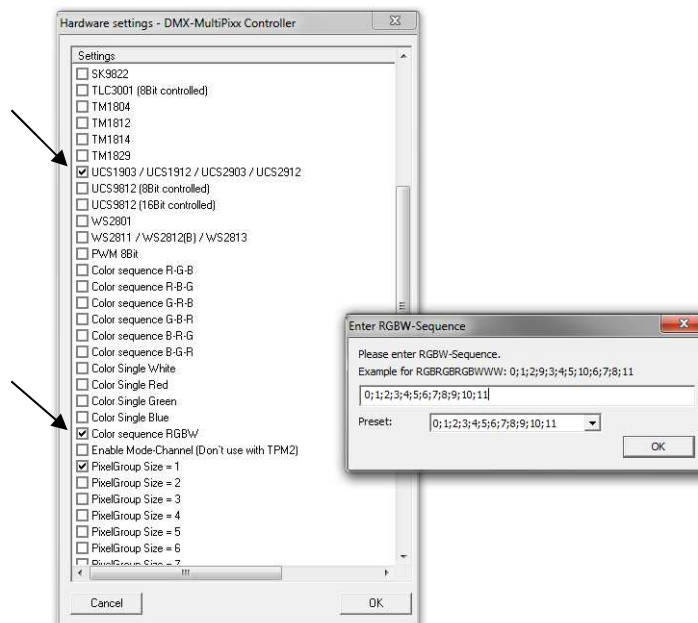
For RGBW-Control additional Offset-Settings are necessary. Because the color arrangements of the LED-Stripes are not equal, 12 Offset-Values are available for the color sequence adjustment.

By setting via DMX these 12 Offset-Values for our RGBW-LED-Stripes must be specified according to the next table:

DMX-Channel	Value	Description	Value for Art.: 52-0669	Value for Art.: 52-0670	SK6812 RGBW
10	0-11	Offset for Pixel 1 RED	0	0	No settings necessary
11	0-11	Offset for Pixel 1 GREEN	1	1	
12	0-11	Offset for Pixel 1 BLUE	2	2	
13	0-11	Offset for Pixel 1 WHITE	9	3	
14	0-11	Offset for Pixel 2 RED	3	4	
15	0-11	Offset for Pixel 2 GREEN	4	5	
16	0-11	Offset for Pixel 2 BLUE	5	6	
17	0-11	Offset for Pixel 2 WHITE	10	7	
18	0-11	Offset for Pixel 3 RED	6	8	
19	0-11	Offset for Pixel 3 GREEN	7	9	
20	0-11	Offset for Pixel 3 BLUE	8	10	
21	0-11	Offset for Pixel 3 WHITE	11	11	

If the settings are done with the DMX-Configurator the color sequence can be made as follows:

- Select UCS1903 / UCS1912 / UCS2903 / UCS2912
- Select Color sequence RGBW
- By double click to Color sequence RGBW opens the entry for the RGBW-Color sequence:



RDM (from Hardware V2.0 with Firmware V2.01 or higher)

RDM is the short form for **R**emote **D**evice **M**anagement.

As soon as the device is within the system, device-dependent settings can be made remotely via RDM command due to the uniquely assigned UID. A direct access to the device is not necessary.



If the DMX start address is set via RDM, all address switches at the DMX MultiPixx Control must be set to OFF ! A DMX start address set by the address switches is always prior !

This device supports the following RDM commands:

Parameter ID	Discovery Command	SET Command	GET Command	ANSI/ PID
DISC_UNIQUE_BRANCH	✓			E1.20
DISC_MUTE	✓			E1.20
DISC_UN_MUTE	✓			E1.20
DEVICE_INFO			✓	E1.20
SUPPORTED_PARAMETERS			✓	E1.20
PARAMETER_DESCRIPTION			✓	E1.20
SOFTWARE_VERSION_LABEL			✓	E1.20
DMX_START_ADDRESS		✓	✓	E1.20
DEVICE_LABEL		✓	✓	E1.20
MANUFACTURER_LABEL			✓	E1.20
DEVICE_MODEL_DESCRIPTION			✓	E1.20
IDENTIFY_DEVICE		✓	✓	E1.20
FACTORY_DEFAULTS		✓	✓	E1.20
DMX_PERSONALITY		✓	✓	E1.20
DMX_PERSONALITY_DESCRIPTION			✓	E1.20
DISPLAY_LEVEL		✓	✓	E1.20

Parameter ID	Discovery Command	SET Command	GET Command	ANSI/ PID
SERIAL_NUMBER ¹⁾			✓	PID: 0xD400
DMX_FAIL_MODE ¹⁾		✓	✓	PID: 0xD403
PIXEL_TYPE ¹⁾		✓	✓	PID: 0xD410
GROUP_SIZE ¹⁾		✓	✓	PID: 0xD412
COLOR_SEQUENCE ¹⁾		✓	✓	PID: 0xD413

1) Manufacturer depending RDM control commands (MSC - Manufacturer Specific Type)

Manufacturer depending RDM control commands:

SERIAL_NUMBER

PID: 0xD400

Outputs a text description (ASCII-Text) of the device serial number.

GET Send: PDL=0
 Receive: PDL=33 (33 Byte ASCII-Text)

DMX_FAIL_MODE

PID: 0xD403

Sets behavior in case of DMX fail.

GET Send: PDL=0
 Receive: PDL=1 (1 Byte Function)

SET Send: PDL=1 (1 Byte Function)
 Receive: PDL=0

Parameter	Function
0	Hold
1	Off
2	Save current values and use on DMX fail

PIXEL_TYPE

PID: 0xD410

Sets the used LED-Pixel-Typ.

GET Send: PDL=0
 Receive: PDL=1 (1 Byte PIXEL_TYPE_ID)

SET Send: PDL=1 (1 Byte PIXEL_TYPE_ID)
 Receive: PDL=0

PIXEL_TYPE_ID	Function
0	MagiarLED II
1	MagiarLED III
2	DycoLED PB3
3	TM1804
4	WS2801
5	WS2811
6	LPD8806
7	UCS1903 / UCS1912
8	APA-102
9	TM1812
13	LPD1886 8Bit
14	LPD1886 12Bit (8bit controlled)
15	WS2812
17	TM1829 High Speed
18	UCS9812 (8bit controlled)
19	UCS9812 (16bit controlled)
20	LPD6803
21	INK1002
22	INK1003
23	UCS2903 / UCS2912
25	LPD1886 12Bit (12bit controlled)
26	SK6812
27	APA-104
29	DycoLED PC5
30	TM1829 Low Speed
31	TM1814
32	SK9822
33	APA-101
34	TLS3001 8Bit
37	SK6822
40	GS8208
41	WS2815
42	WS2818
43	LC8808(B)

GROUP_SIZE

PID: 0xD412

Sets size of a pixel group.

GET Send: PDL=0
 Receive: PDL=1 (1 Byte pixel group size)

SET Send: PDL=1 (1 Byte pixel group size)
 Receive: PDL=0

Parameter	Function
1-127	Pixel group size
254	All

COLOR_SEQUENCE

PID: 0xD413

Sets used color order.

GET Send: PDL=0
 Receive: PDL=1 (1 Byte COLOR_SEQUENCE_ID)

SET Send: PDL=1 (1 Byte COLOR_SEQUENCE_ID)
 Receive: PDL=0

COLOR_SEQUENCE_ID	Function
0	R-G-B
1	R-B-G
2	G-R-B
3	G-B-R
4	B-R-G
5	B-G-R
6	WHITE Single color
7	RED Single color
8	GREEN Single color
9	BLUE Single color
10	RGBW
11	RGBRGBRGBWWW

Use TPM2-Protocol

With the DMX-MultiPixx Control it is possible to use the TPM2 protocol via USB interface. For this the VCP driver must be installed which creates a virtual COM-Port.



The COM-Port-Number can be identified via the device manager.

Now, the COM port must be set within the software. The other parameters are 115000Baud, no parity, 1 stop bit (115000 8N1).

The DMX MultiPixx Control outputs the transmitted data to the connected LEDs.

RGB LEDs always uses 3 channels per LED. This means that the first LED reserves channels 1-3, the second LED reserves channels 4-6 etc.

If the DMX MultiPixx Control is used with Jinx! so the device settings are as shown in the picture (here COM10 is used):

The screenshot shows the 'Add/Edit Device' dialog box with the following settings:

- Device Type: tpm2
- Addressing: IP Address (empty), Port (empty), Broadcast / Multicast (E1.31) (unchecked), Net (empty), Subnet (empty), Universe (empty), Send Artnet Sequence Numbers (unchecked)
- Data: Channels (48), Chan/Block (48), Blocks (1)
- Serial Port / USB Device: COM10, Baud (115200)
- Output Redirection: Redirect Output to File (unchecked), Select (button)
- Buttons: Cancel, OK

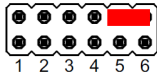
Execute Firmware Update

The **DMX MultiPixx Control** has an Update-Function which allows transferring future Firmware-Versions.

Please proceed as follows:

- Turn off the device (Cut the power supply and USB !)

- Place jumper as shown



- Turn on the device
- Generate USB-Connection to PC
- Start update-Software **DMX4ALL USB-Updater**
- Select DMX MultiPixx Control Interface from list
- Click *Firmware-Update*
- Select and confirm Firmware-File (.bin)
- Wait until the update has finished



No program is allowed to access the USB-Connection. Close the DMX-Configurator and USB-Updater before USB-Cable is connected to the DMX MultiPixx Control. Do not start the USB-Updater if the DMX MultiPixx Control is in its update-mode.

If an error occurs during the update, you can start from beginning every time.

Factory Reset



Before starting the Factory Reset please read all steps carefully.

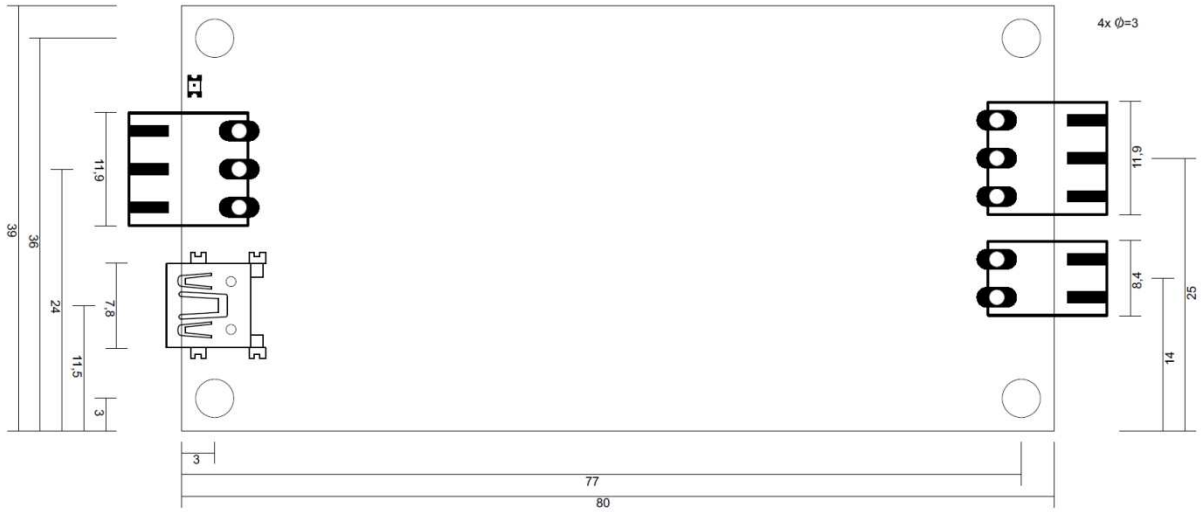
Please proceed as follows to reset the **DMX MultiPixx Control** into the delivery status:

- Turn off the device (disconnect power supply and USB !)
- Set address switches 1 up to 10 to ON
- Turn on the device (power supply or USB)
- The LED flashes within ca. 3 seconds 20x
 - ➔ While the LED is flashing set switch 10 to OFF
- Now the Factory Reset will be proceed
 - ➔ The LED flashes with error status 4.
- Turn off the device (Power supply and USB !)
- Now, the device can be used



If a new Factory Reset is necessary this procedure can be repeated.

Dimensions



All details in mm

Accessory

Digitale LED Stripes / Pixel Stripes
Several LED-Stripes



Power supply 5 V / 6A



USB-Cable A-Male MiniB-Male

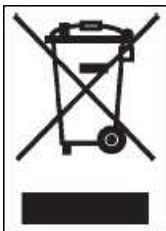


CE-Conformity



This assembly (board) is controlled by a microprocessor and uses high frequency. In order to maintain the properties of the module with regard to CE conformity, installation into a closed metal housing in accordance with the EMC directive 2014/30/EU is necessary.

Disposal



Electronical and electronic products must not be disposed in domestic waste. Dispose the product at the end of its service life in accordance with applicable legal regulations. Information on this can be obtained from your local waste disposal company.

Warning



This device is no toy. Keep out of the reach of children. Parents are liable for consequential damages caused by nonobservance for their children.

Risk-Notes



You purchased a technical product. Conformable to the best available technology the following risks should not be excluded:

Failure risk:

The device can drop out partially or completely at any time without warning. To reduce the probability of a failure a redundant system structure is necessary.

Initiation risk:

For the installation of the board, the board must be connected and adjusted to foreign components according to the device paperwork. This work can only be done by qualified personnel, which read the full device paperwork and understand it.

Operating risk:

The Change or the operation under special conditions of the installed systems/components could as well as hidden defects cause to breakdown within the running time.

Misusage risk:

Any nonstandard use could cause incalculable risks and is not allowed.

Warning: It is not allowed to use the device in an operation, where the safety of persons depend on this device.



DMX4ALL GmbH
Reiterweg 2A
D-44869 Bochum
Germany

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