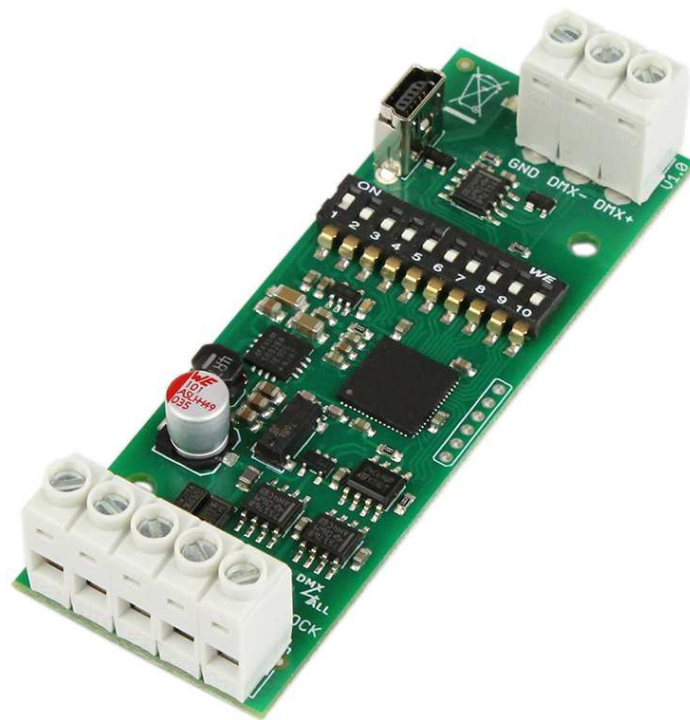


DMX PixxControl DR

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
Content	5
Connection	6
Connection examples.....	7
Connection with long data lines	9
Power supply of Digital LED-Stripes	10
DMX-Addressing	11
LED-Display-Codes	11
Pixel Control	12
LED-Typ.....	12
Personality 1: Color-Channels	12
Personality 2: Color-Channels + Demo-Programs	13
Personality 3: Color-Channels + Pixel-Sequencer	14
RGB LEDs	15
RGBW LEDs.....	15
Single Color LED-Stripes	16
Pixel groups	17
Demo Programs via DMX.....	18
Demo Programs without DMX	19
Pixel-Sequencer	21
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
Settings via USB.....	30
Settings via DMX.....	31
RDM.....	33
TPM2-Protocol.....	37
Firmware Update.....	38
Factory Reset.....	39
Dimension.....	40
Accessory.....	41
CE-Conformity.....	42
Disposal.....	42
Risk-Notes.....	43

Description

The **DMX PixxControl DR** is especially designed for controlling digital LED-Stripes or 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 needs only one channel. So up to 512 pixel in one color can be controlled via one DMX-Universe.

Adjustable pixel group

The DMX PixxControl DR 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 RDM, USB via DMX-Configurator or DMX allows the setting of all parameters.

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 PixxControl DR allows configuration via RDM over DMX.

TPM2-Protocol

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

Firmware-Update-Function

To use future functions, the DMX PixxControl DR offers a Firmware-Update-Function.

Top-hat rail housing available

The top-hat rail housing 350 or 350flat is available as accessory for the DMX PixxControl DR.

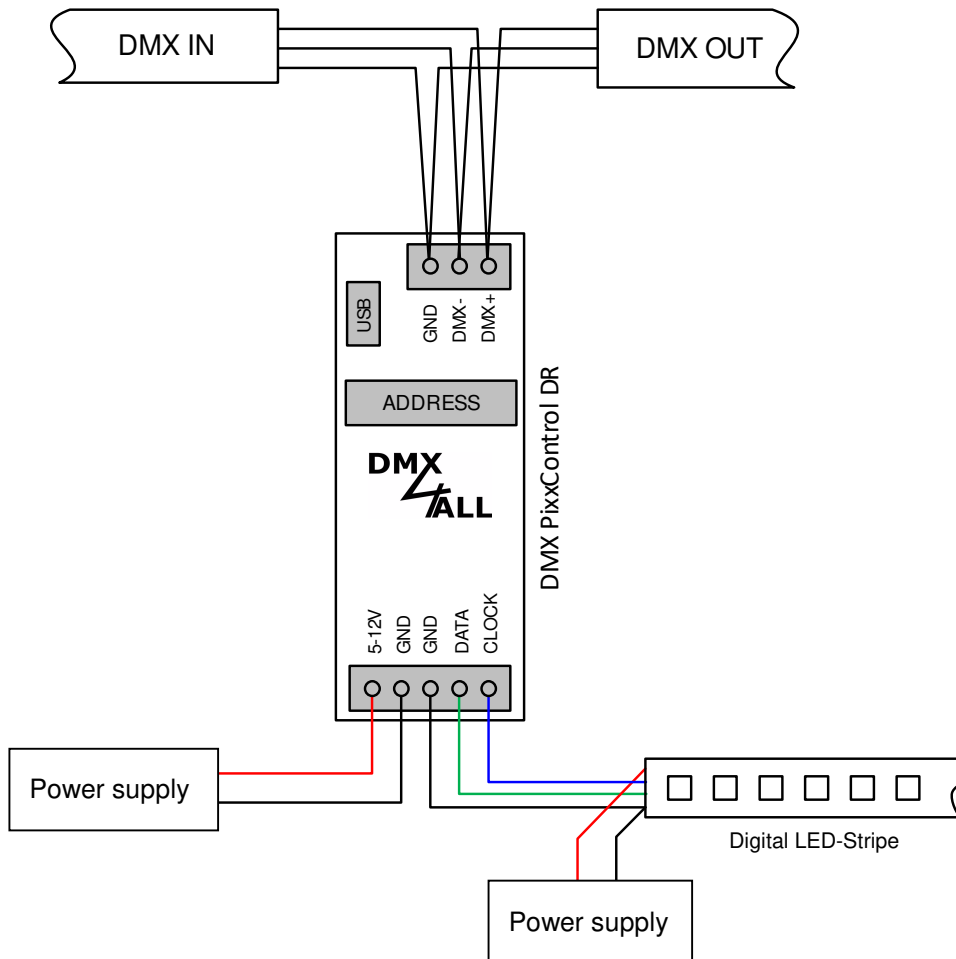
Data sheet

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, 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:	29,2mm x 82mm

Content

- 1x DMX PixxControl DR
- 1x Quick guide german and english

Connection

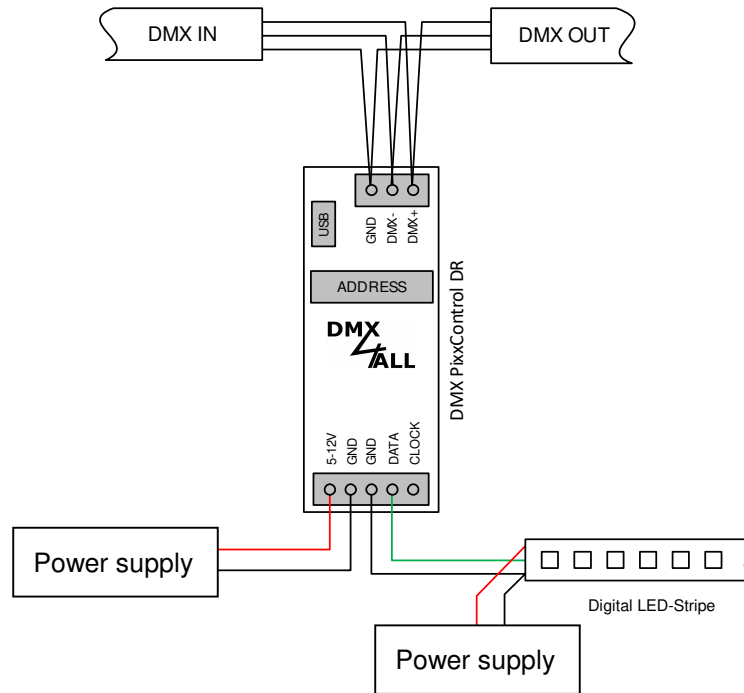


Connection examples

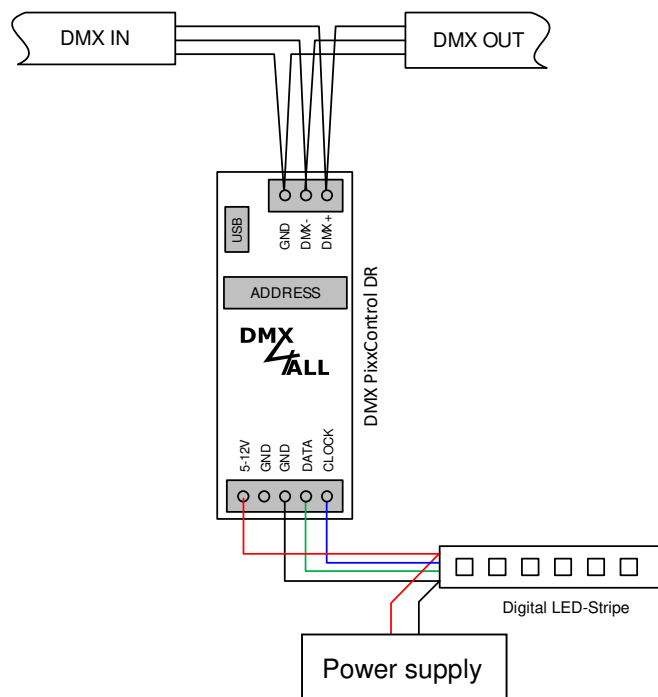
Stripes with one control signal (DATA)

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

with several power supplies:



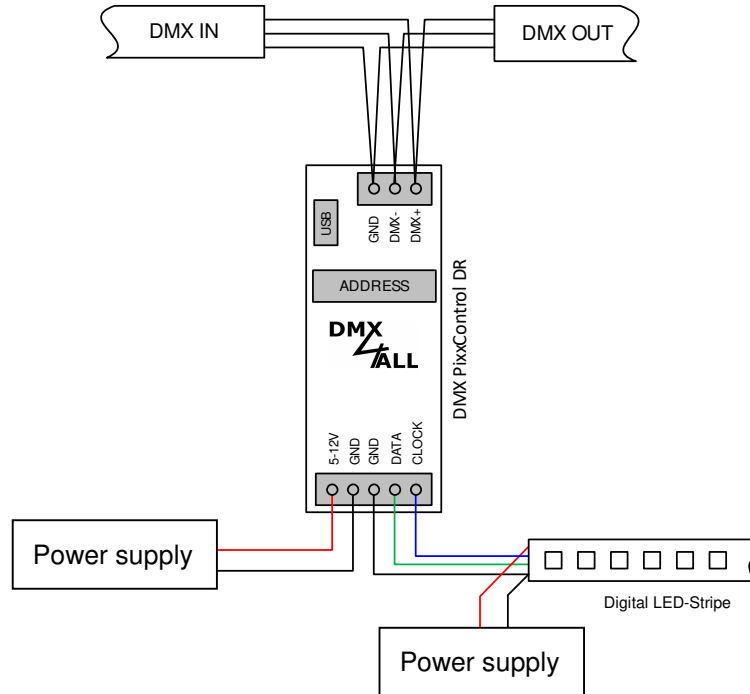
With one power supply:



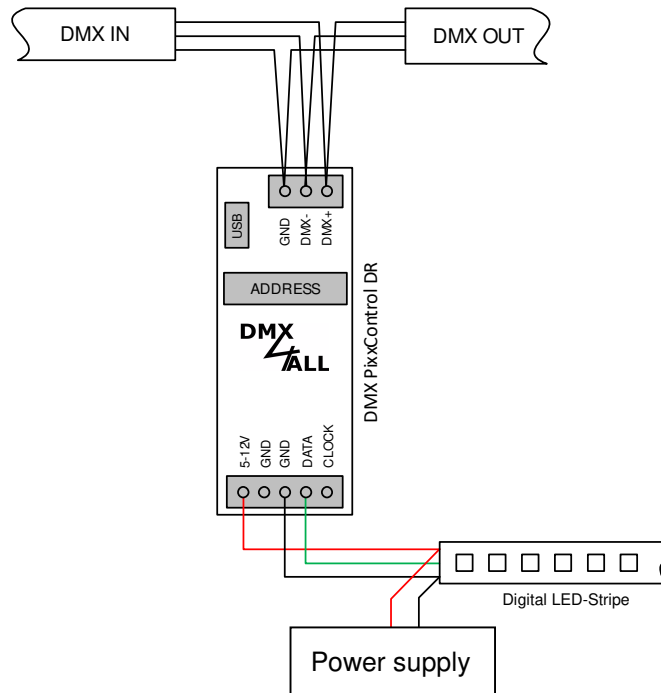
Stripes with two data signals (CLK+DATA)

e.g. WS2801 / SK9822 / APA-102

With several power supplies:



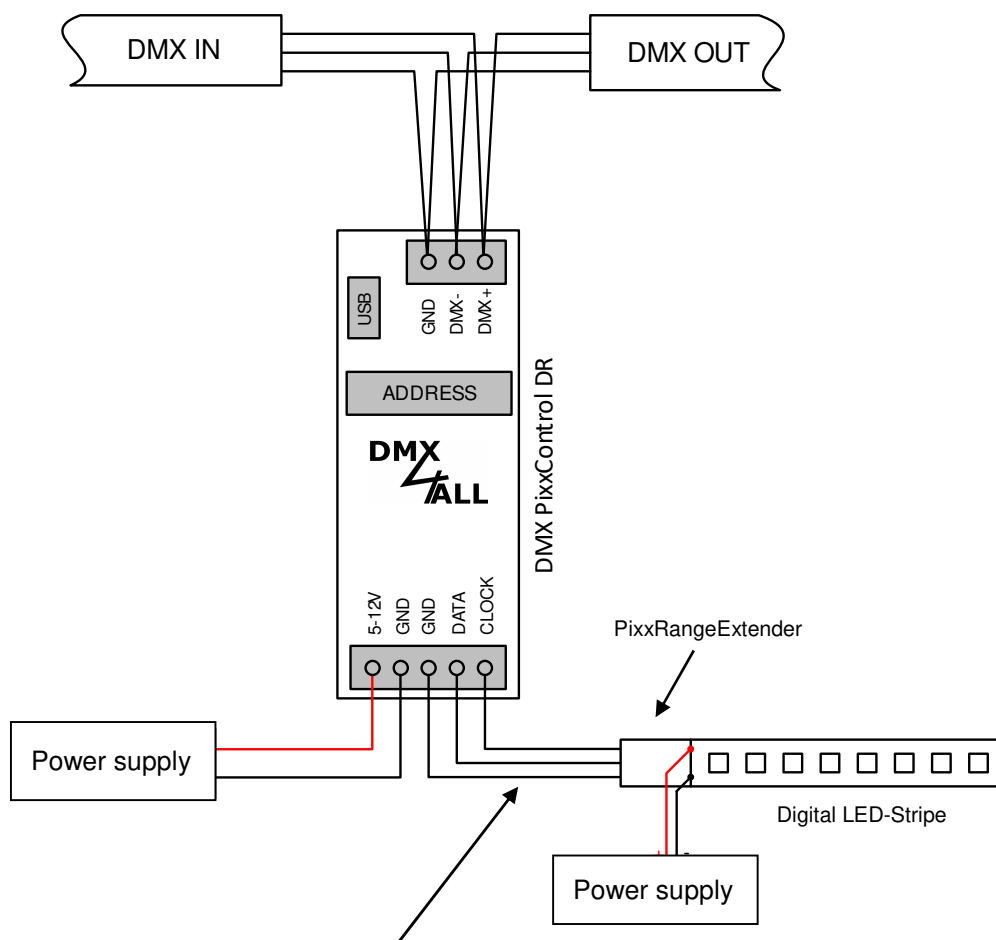
With one power supply:



Connection with long data lines

With longer data lines (longer than 1m) and using digital LED stripes, the use of a PixxRangeExtender is recommended to prepare the control signal and isolate the individual areas.

For this, the PixxRangeExtender is connected directly before the signal input of the digital LED stripe.



Also longer data lines are possible with the PixxRangeExtender (not recommended for over 50m).

Power supply of Digital LED-Stripes

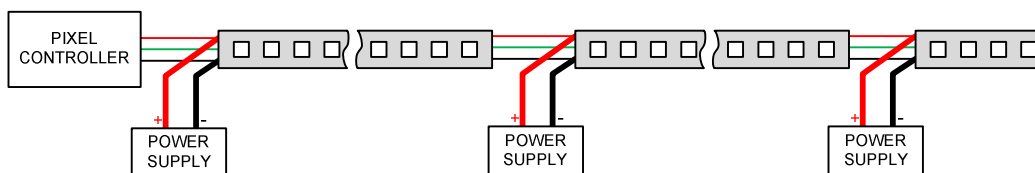
Generally digital LED-Stripes are operated with a power supply of 5V. Relatively high currents for the complete installation are the result.

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.

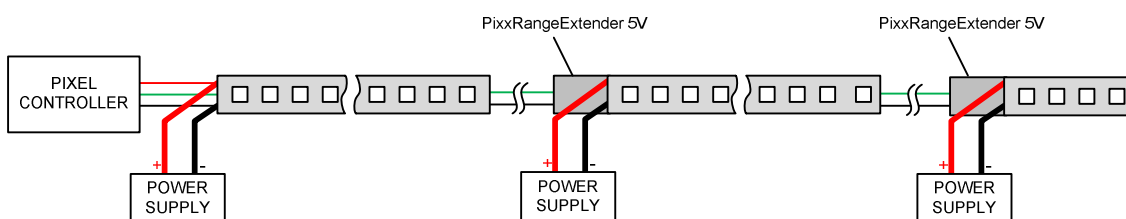
Several decentral power supplies or one central power supply can be used for voltage/power supply. The cross-sections of the supply lines to the digital LED-Stripe must be sufficiently dimensioned !

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.

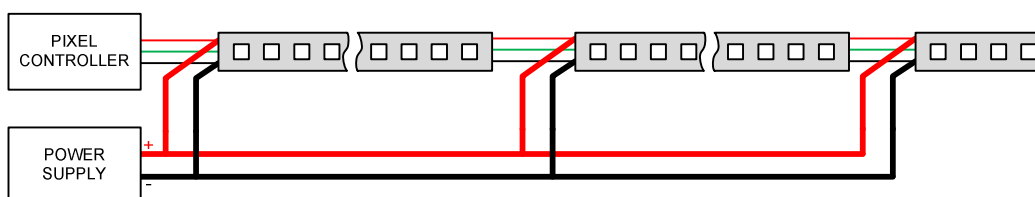


In case of long distances within the installation the PixxRangeExtender 5V can be used to purify the control signal and to isolate single areas.



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.

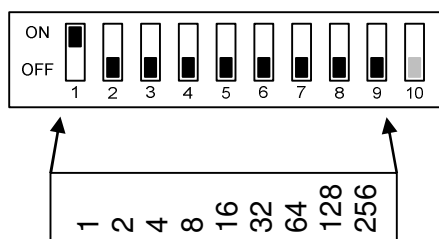


DMX-Addressing

The DMX-Start address is adjustable via the switches 1 up to 9 or via RDM.

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 is executed.

Pixel Control

The **DMX PixxControl DR** 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 assignment of the DMX channels depends on the Personality, which can be set via RDM, USB or DMX.

LED-Typ

The DMX PixxControl DR can control different LED types and uses the corresponding LED protocol for that.

The setting of the LED type is done by the RDM parameter PIXEL_TYPE, by the settings via USB or the settings via DMX.

Personality 1: Color-Channels

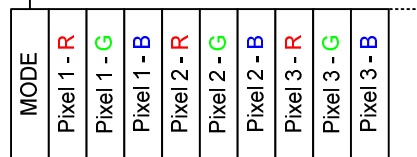
Starting from the start address the DMX channels are assigned to the pixel:



Personality 2: Color-Channels + Demo-Programs

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

Start address



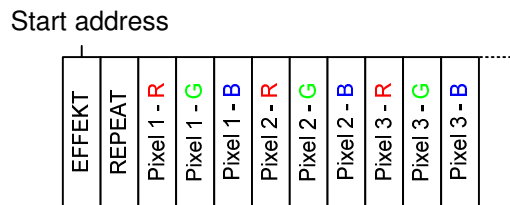
DMX channel 1 specifies in this mode the pixel section length with the same color (DMX value 1-127). In this case the maximum length is 127 pixel.

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 demo programs via DMX
2	Color	0-255	Pixel 1 Red
3		0-255	Pixel 1 Green
4		0-255	Pixel 1 Blue
...	 Red/Green/Blue for each pixel

Personality 3: Color-Channels + Pixel-Sequencer

An additional EFFECT channel and REPEAT channel allows to 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
...	

RGB LEDs

The **DMX PixxControl DR** controls digital RGB LEDs with an adjustable color sequence.

The setting of the color sequence occurs by the RDM parameter `COLOR_SEQUENCE`, by the settings via USB or the settings via DMX.

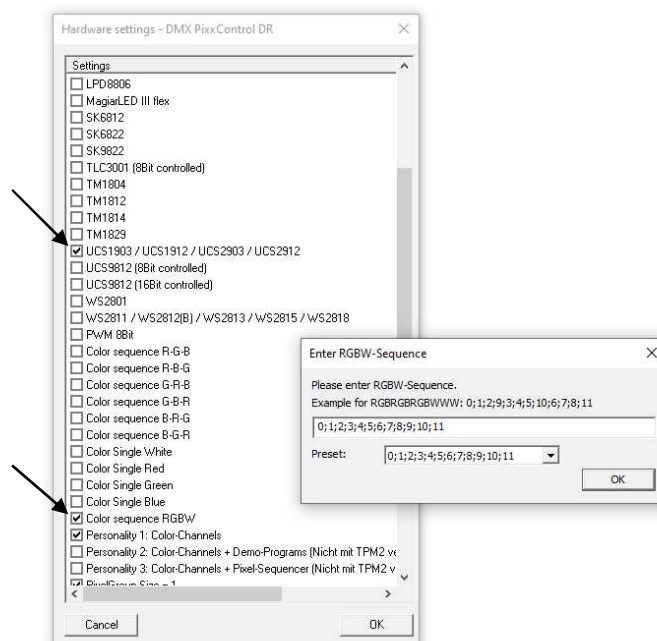
RGBW LEDs

The **DMX PixxControl DR** also controls digital RGBW LEDs where the color sequence can be adjusted depending on the LED type.

Because the color order of digital LED stripes is not always the same, 12 offset values are available for setting the color order. These values are needed, if the standard setting RGBW doesn't match.

If the settings are made with the DMX Configurator, the RGBW color sequence is made as follows:

- Select UCS1903 / UCS1912 / UCS2903 / UCS2912
- Select Color sequence RGBW
- Double-click on Color sequence RGBW opens the input for the RGBW color sequence:



Single Color LED-Stripes

The **DMX PixxControl DR** controls next to the RGB and RGBW LEDs 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, that only one color is used for the RGB-LED-Stripe, is to configure via RDM, in the settings via USB or in the settings via DMX.

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

Pixel groups

The **DMX PixxControl DR** supports pixel groups with an adjustable length, which can be configured via RDM (1-127/all), within the settings via USB or within the settings via DMX (1-20/all).

Each pixel group behaves like a single pixel which is controlled with 3 DMX channels for RGB / 4 DMX channels for RGBW.

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
DycoLED PB3	170	7199
DycoLED 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
SK6812 / SK6822	170	1200
SK9822	170	3598
TM1804 / TM1812	170	1200
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 considers both, when controlling via DMX and when outputting the demo programs and the Pixel-Sequencer.

Demo Programs via DMX



For this function Personality 2 must be activated.

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

The predefined demo programs within the **DMX PixxControl DR** can be called up by DMX channel 1 (MODE-Channel) up to DMX value 128.

The color replay 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
		224-247	RESERVED
		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

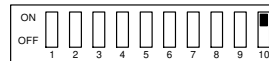
Demo Programs without DMX

The demo programs available in the DMX PixxControl DR can be called up via switches and without DMX.



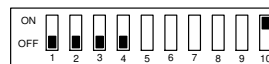
The demo programs can only be used with RGB-LED-Stripes !

Set switch 10 to ON:

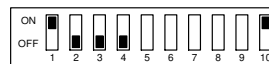


Switches 1 up to 4 the demo programs can be selected:

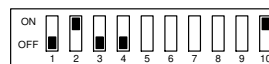
8-Color Mix



R-G-B



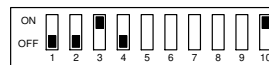
Stars RGB



Stars single color



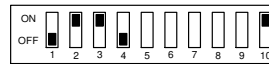
Wave 1



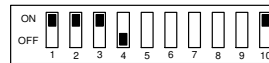
Wave 2



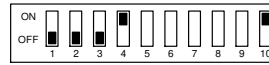
Snake



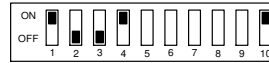
Blowing



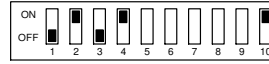
Running Point 1



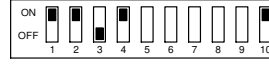
Running Point 2



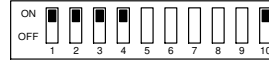
Blink



Color change



Rainbow

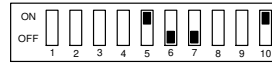


Switches 5, 6 and 7 the color can be selected:

White



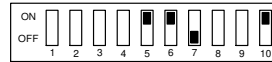
Red



Green



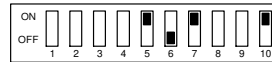
Blue



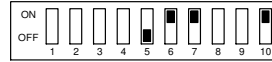
Yellow



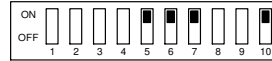
Pink



Cyan

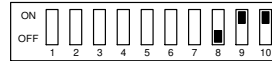
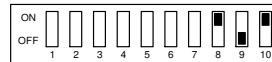
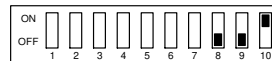


Black



Switches 8 and 9 adjust the speed:

Fast



Slow



Pixel-Sequencer



The Pixel Sequencer must be activated via Personality 3.

With the Pixel-Sequencer up to 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 colors are possible, depending on the effect.

From DMX channel 7, the RGB or RGBW values for the colors follow.

If a pixel group is set, this is considered at the output.

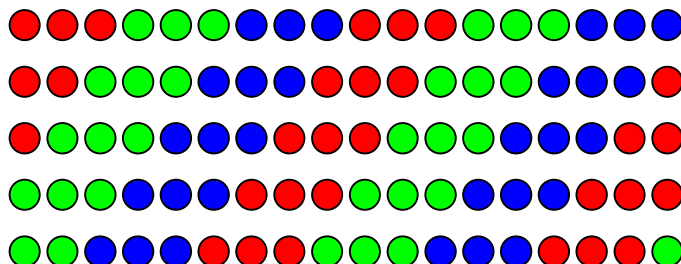
The following table shows the DMX value assignment for the pixel sequencer with RGB pixel:

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

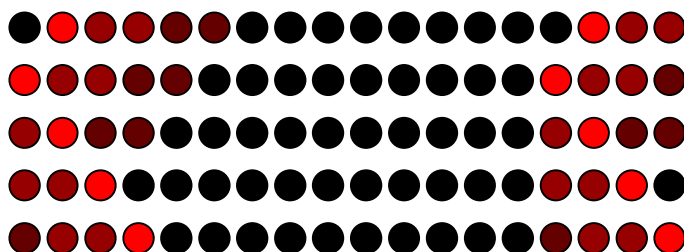
The Knight Rider effect creates a point of light with a tail that is moved from right to left and back.



The Knight Rider effect needs 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	Effect 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

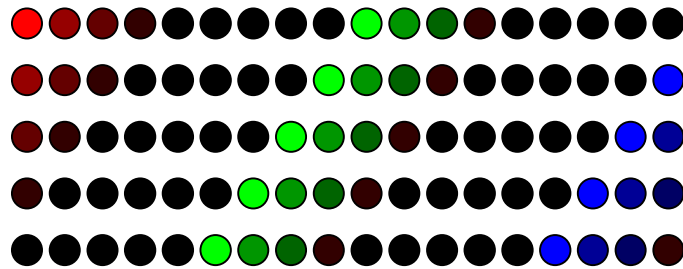
Example: Length1 = 14 / Length 2 = 5 / Colors = 2 (black / red)



Stars-Effect

The Stars effect creates points that trail a tail.

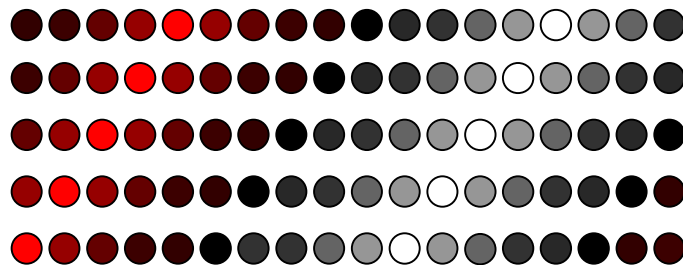
Example: Length 9 (Minimum 4) / Colors = 3 (red / green / blue)



Wave-Effect

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

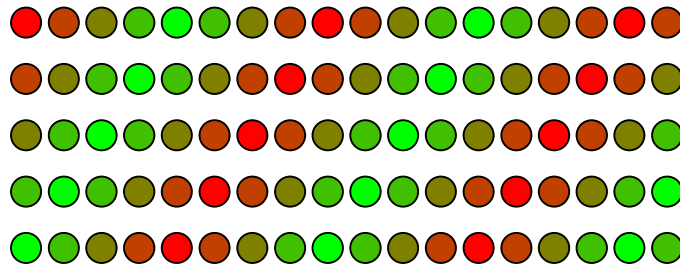
Example: Length = 10 / Colors = 2 (red / white)



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

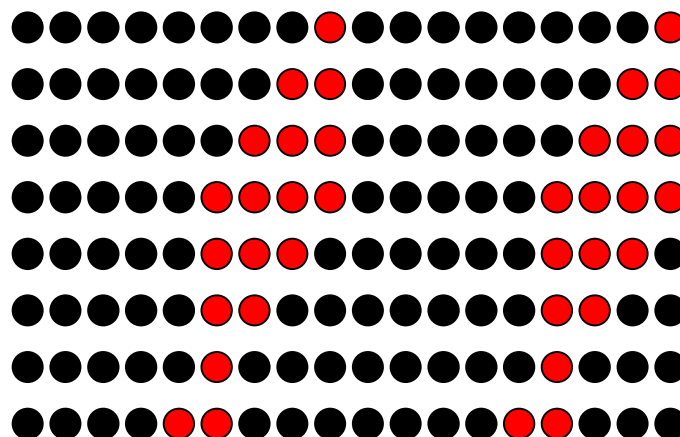
The 3 Color-Move-Effect generates a fix defined combination of three free selectable colors.

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,

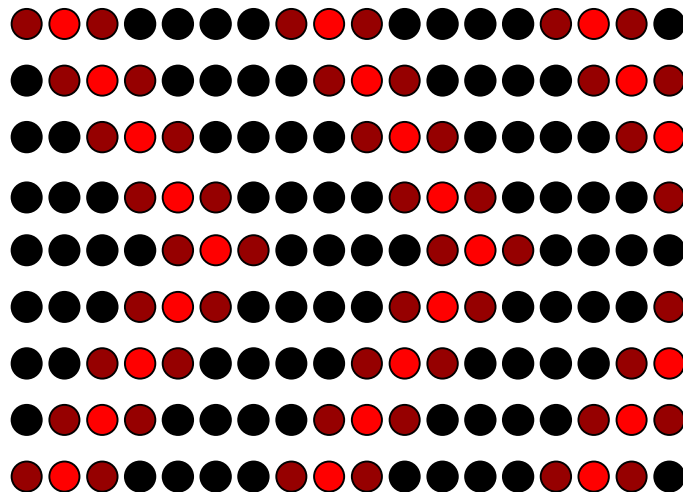
Example: Length = 4 / Colors = 2 (black / red)



Shake-Effect

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

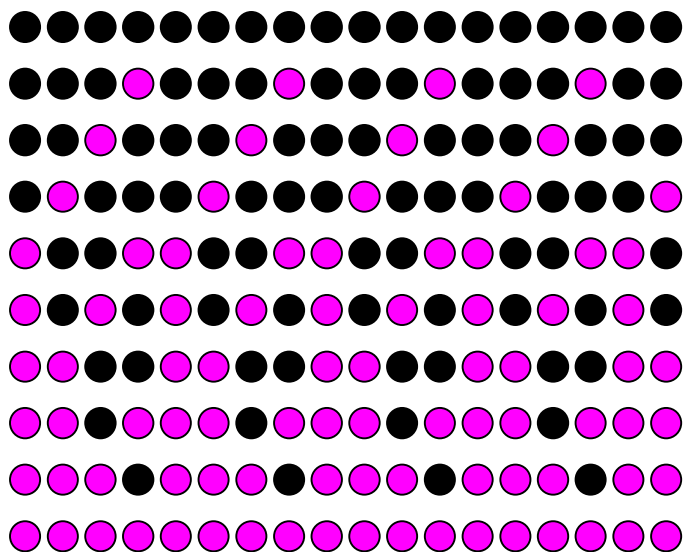
Example: Length = 4 / Colors = 2 (black / red)



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)



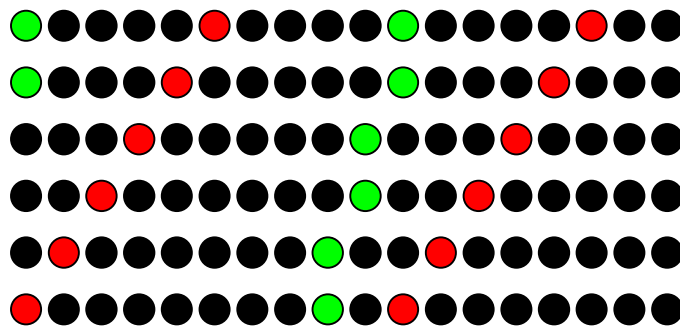
Running Points-Effect

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	Point 1 left / Point 2 left
		64-127	Point 1 left / Point 2 right
		128-191	Point 1 right / Point 2 left
		192-255	Point 1 right / Point 2 right

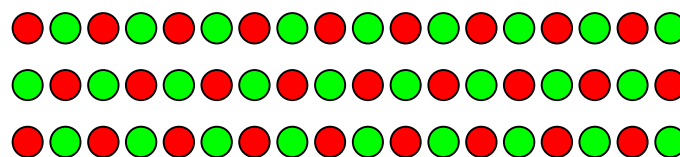
Example: Length = 1 / Colors = 3 (black / green / red)



Blink-Effect

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

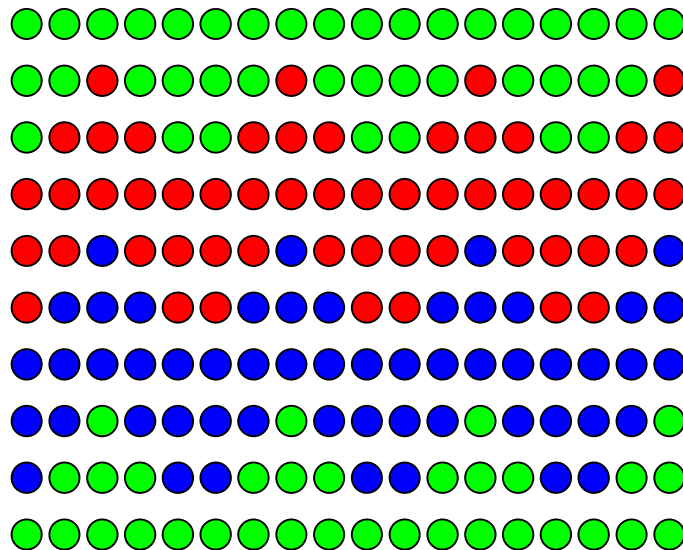
Example: Length = 1 / Colors = 2 (red / green)



Blow-Effect

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

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



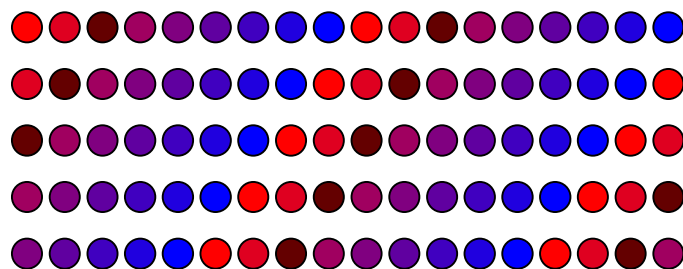
Ramp-Effect

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

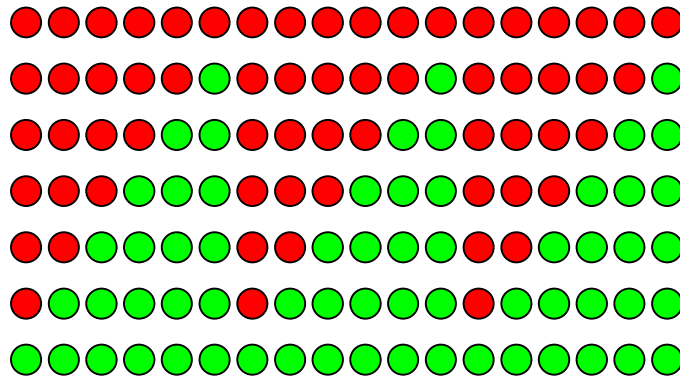
Example: Length = 8 / Colors = 2 (red / blue)



Shift Color-Effect

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

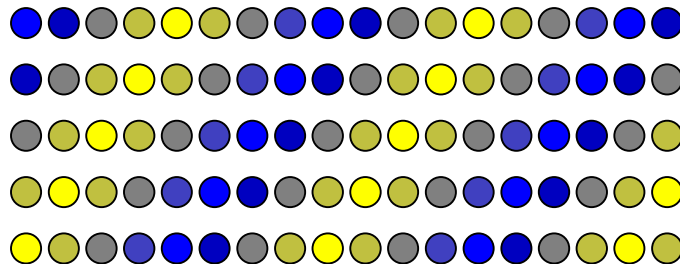
Example: Length = 6 / Colors = 2 (red / green)



Fade Moving Colors-Effect

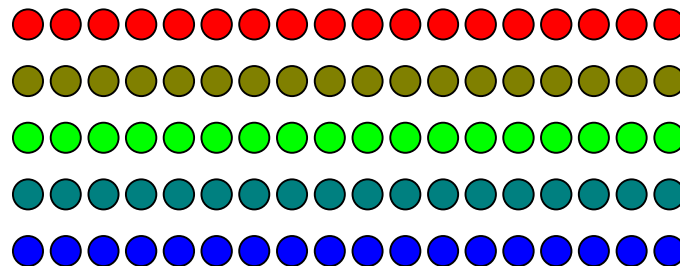
The Fade Moving Colors-Effect generates a color gradient with the defined colors and the specified length and moves this color gradient.

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



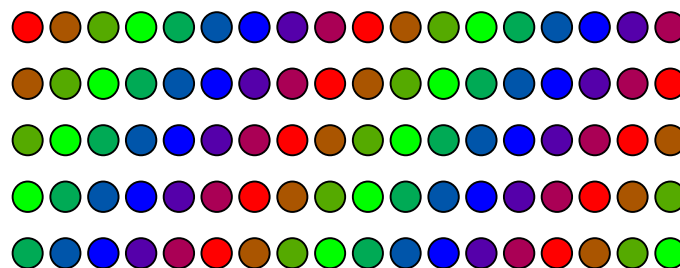
The Fade Moving Colors effect with a length equal to 0 controls all LED pixels equally. The colors are faded softly one after the other.

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



Rainbow-Effect

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



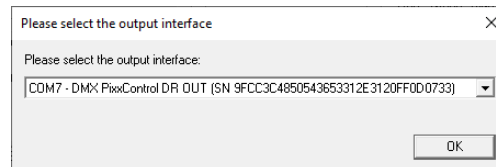
Settings via USB



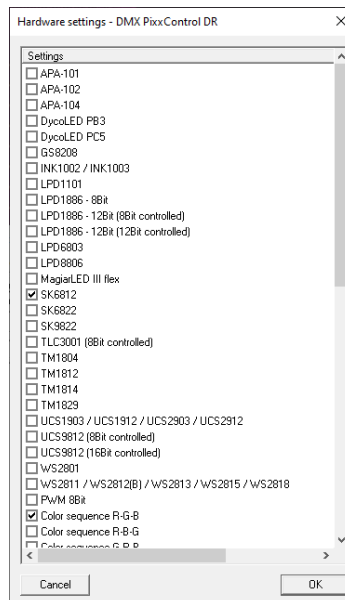
For the settings via USB a USB connection to a PC with the DMX-Configurator, version 2.3.20.0 or higher is needed.

The settings via USB can be made in the DMX Configurator as follows:

- Connect the DMX PixxControl DR via USB at PC
 - ⇒ A USB cable with MiniB male connector is needed (not included in delivery)
 - ⇒ The USB driver must be installed, if it is not existing
- Start the software DMX-Configurator
 - ⇒ Available as download on www.dmx4all.de
- Create connection with DMX PixxControl DR in DMX-Configurator



- Call menu item *Settings* → *Hardware Settings*
- Make settings



- Click OK to transfer and store the settings in the DMX PixxControl DR

Settings via DMX

The **DMX PixxControl DR** 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 value difference causes that the values are not accepted!

To set the DMX PixxControl DR please follow the following steps:

- Connect the LED-Stripe, the power supply and the DMX PixxControl DR (without voltage on)
- Connect the DMX signal with the DMX PixxControl DR
- 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 voltage

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)
	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	Personality 1: Color-Channels
	222	Personality 2: Color-Channels + Demo-Programs
	111	Personality 3: Color-Channels + Pixel-Sequencer
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 strips, DMX channels 10 to 21 must be optionally specified for the RGBW offset values according to the following table:

Bei Verwendung von RGBW LED-Stripes sind die DMX-Kanäle 10 bis 21 optional für die RGBW-Offset-Werte entsprechend der nachfolgenden Tabelle anzugeben:

DMX-Kanal	Wert	Beschreibung	Werte für Art.: 52-0669	Werte für Art.: 52-0670	SK6812 RGBW
10	0-11	Offset für Pixel 1 RED	0	0	keine Einstellungen notwendig
11	0-11	Offset für Pixel 1 GREEN	1	1	
12	0-11	Offset für Pixel 1 BLUE	2	2	
13	0-11	Offset für Pixel 1 WHITE	9	3	
14	0-11	Offset für Pixel 2 RED	3	4	
15	0-11	Offset für Pixel 2 GREEN	4	5	
16	0-11	Offset für Pixel 2 BLUE	5	6	
17	0-11	Offset für Pixel 2 WHITE	10	7	
18	0-11	Offset für Pixel 3 RED	6	8	
19	0-11	Offset für Pixel 3 GREEN	7	9	
20	0-11	Offset für Pixel 3 BLUE	8	10	
21	0-11	Offset für Pixel 3 WHITE	11	11	

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

RDM

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 PixxControl DR 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-Type.

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
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

TPM2-Protocol

With the DMX PixxControl DR 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 PixxControl DR 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 PixxControl DR 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)
 - Net: (empty)
 - Subnet: (empty)
 - Universe: (empty)
 - Send Artnet Sequence Numbers
- Data:**

Channels	Chan/Block	Blocks
48	48	1
- Serial Port / USB Device:** COM10
- Baud:** 115200
- Output Redirection:**
 - Redirect Output to File
 - (empty text box)
- Buttons:** Cancel, OK

Firmware Update

The **DMX PixxControl DR** has an Update-Function which allows transferring future Firmware-Versions.

Please proceed as follows:

- Turn off the device (Disconnect the power supply and USB !)
- Address switch 1 up to 10 on ON
- Turn on the device
- Generate USB-Connection to PC
- Start update-Software **DMX4ALL USB-Updater**
- Select DMX PixxControl DR 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 PixxControl DR. Do not start the USB-Updater if the DMX PixxControl DR is in 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 PixxControl DR** into the delivery status:

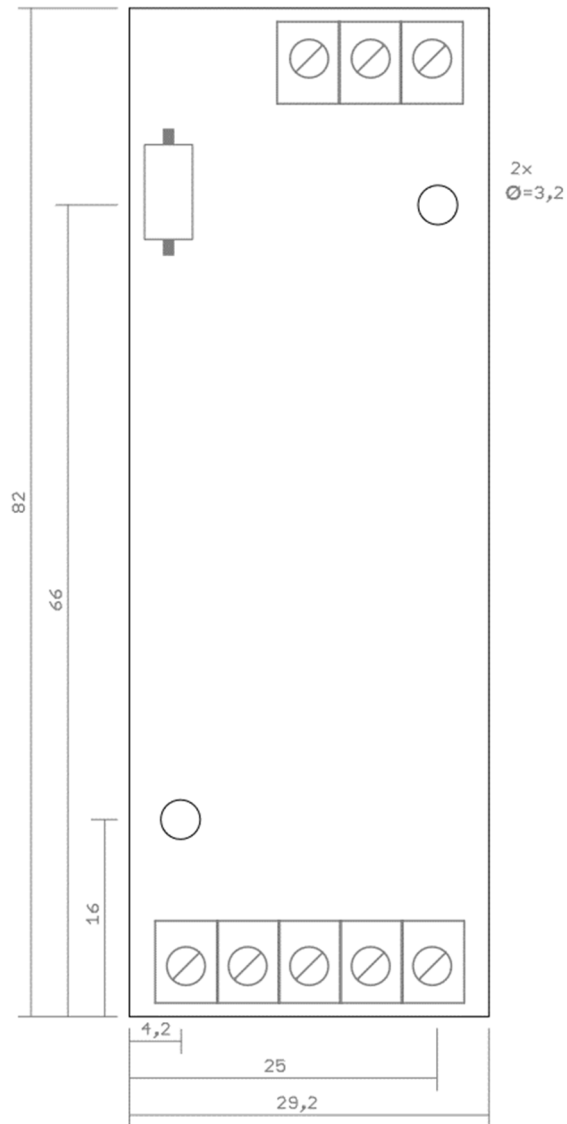
- Turn off the device (disconnect power supply and USB !)
- Set address switches 1 up to 10 to ON
- Turn on the device (power supply or USB)
- The LED flashes quickly
- Now the Factory Reset will be proceeded
 - ➔ The LED flashes with error status 4
- Turn off the device (Power supply and USB !)
- Now, the device can be used

Via the RDM parameter `FACTORY_DEFAULTS` a factory reset is also possible.



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

Dimension



All details in mm

Accessory

Top hat rail housing 350



Top hat rail housing 350flat



Wall mount for Top hat rail housing



Power supply 12V



USB cable A-male connector / MiniB male connector



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. Conformance 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.



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