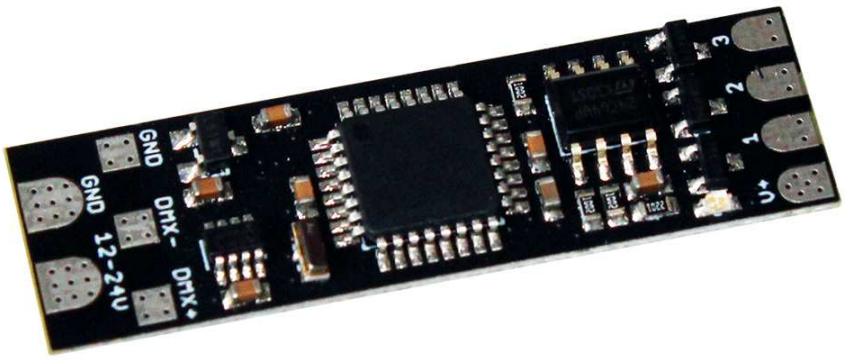
DMX-LED-Dimmer XS3

User Manual



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

Soldering work may only be carried out by a certified specialist in order to prevent damage to the product and injury to people.
If acidic or leaded solder, soldering grease or acidic flux etc. has been used for soldering and/or if the board has been improperly soldered, all warranty claims will be voided and no repair will be carried out.

Content

Description

The **DMX-LED-Dimmer XS3** is designed to control RGB or single-colour LED-Stripes with 12V or 24V.

3 Outputs
The DMX-LED-Dimmer XS3 has three outputs to connect LEDs. All outputs are designed at the same, so single-colour or RGB LEDs can be connected.

High Power Outputs
The outputs can drive a current up to 2A.
So it is possible to connect a maximum load of 72W (12V) / 144W (24V).

0% up to 100% dimmable
The connected LEDs are dimmed via PWM from 0% up to 100%.

For voltages from 12V up to 24V
The DMX-LED-Dimmer XS3 runs with a power supply from 12V up to 24V.

DMX-FAIL Function
An adjustable DMX-FAIL Function offers the option to get, in case of lost DMX signal, the current state (HOLD) or assuming a preset value.

DMX-Master dimmer
Optionally, another DMX channel can be activated as master dimmer (all outputs).

RDM support
The DMX-LED-Dimmer XS3 allows configuration by RDM via DMX.
All parameters can be set with the RDM Configurator.

Stand-Alone-Function
The DMX-LED-Dimmer XS3 has a user-programmable Stand-Alone-Function, to replay an internal program.

LED-Status-Display
The DMX receiving is indicated via the LED status display.

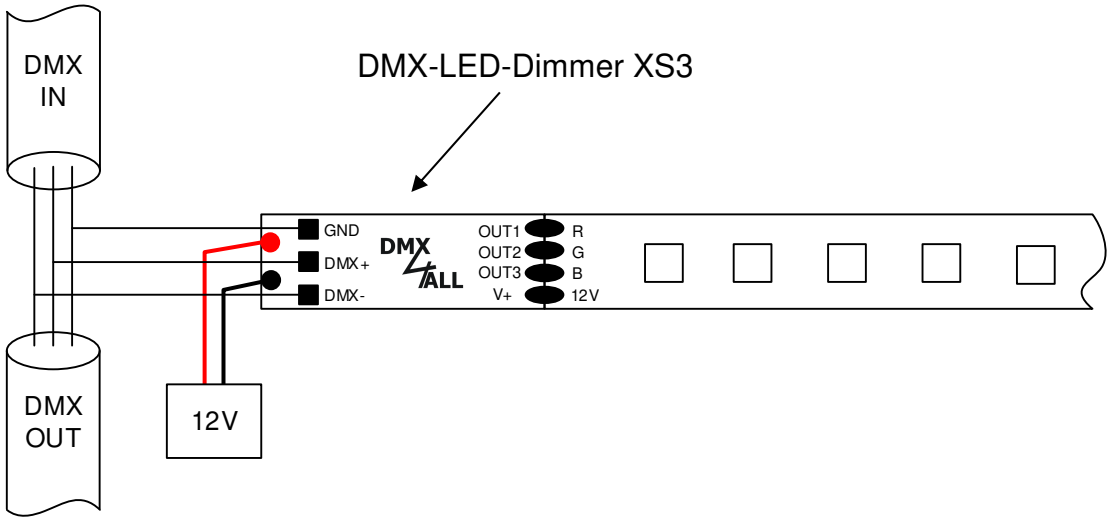
Data Sheet

Power Supply:	12-24V DC 50mA without load
LED Voltage:	12-24V DC corresponds to power supply (no AC voltage !)
Protocol:	DMX512 RDM
DMX Channels:	3 / 4 / 5 channels depend on Personality
DMX-FAIL:	Hold / 0%-100% / StandAlone
Output:	3 PWM-Signals with 8 Bit resolution Common power supply
Output Current:	max. 2A per output max. 6A in sum for all outputs
Output Power:	3x 24W (12V) / 3x 48W (24V)
PWM-Frequency:	244 Hz
StandAlone-Function:	User-defined light program
Dimension:	12mm x 40mm

Content

1x DMX-LED-Dimmer XS3
1x Quick guide german and english

Connection


DMX
IN
DMX-LED-Dimmer XS3
GND
DMX+
DMX-
OUT1
OUT2
OUT3
V+
R
G
B
12V
DMX
OUT
12V

Cable Length

The DMX-LED-Dimmer XS3 should be run with shortest possible cable lengths.

Because of the low operation voltage in LED installation the cable cross section is to choose as large as possible to keep the voltage drop as low as possible on the cable.

The wire cross section should be all the larger as the distance increases and the load increases.

The following cable lengths should not be exceeded:

From power supply to DMX-LED-Dimmer XS3 ➔ 10m

DMX-Addressing

The DMX start address defines from which DMX channel the **DMX-LED-Dimmer XS3** starts processing the DMX data.

The DMX start address is to set via the RDM-Parameter DMX_START_ADDRESS.

Color Sequence

The colour assignment to the outputs can be set on the DMX LED Dimmer XS3. Thus, the DMX LED dimmer XS3 can be mounted directly in front of the LED stripe and the outputs can be configured to correspond with the used LED stripe.

The colour sequence is to set via the RDM-Parameter COLOR_SEQUENCE.

LED-Display

The integrated blue LED is a single-color multi-functional-display.

During the DMX operation the LED lights up nonstop. In this case the device is working.

Also the LED signalled the error status. In this case the LED lights up in short pitches and then and then turns into off modus. The Number of flashing signals is equal to the Number of the error status:

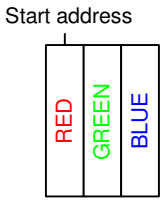
Error-Number	Name	Description
1	No DMX	No DMX signal at the dimmer
3	Data error	The saved data are incorrect.

Operation Modes

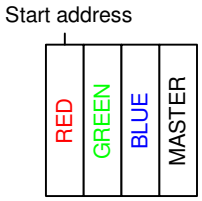
The **DMX-LED-Dimmer XS3** has several operation modes (Personality).

- Personality 1: 3Ch. Dimmer
- Personality 2: 3Ch. Dimmer + Master
- Personality 3: 3Ch. Dimmer + Master + Strobe

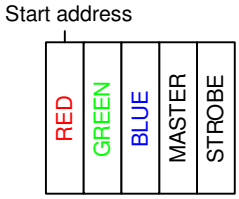
Personality 1: 3Ch. Dimmer



Personality 2: 3Ch. Dimmer + Master



Personality 3: 3Ch. Dimmer + Master + Strobe



DMX FAIL Action

In case of DMX lost (DMX-Fail) the DMX-LED-Dimmer XS3 is able to hold the LED outputs on the last value, to use a predefined DMX value or to execute a user-defined program.

The DMX Fail action is to set via the RDM-Parameter DMX_FAIL_MODE.

After voltage drop the held values are not restored by the HOLD function. In this case, the values are set to 0 (OFF) or a user-defined program is executed.

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 occur remotely via RDM command due to the uniquely assigned UID. A direct access to the device is not necessary.

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
DISPLAY_AUTO_OFF[1)]		✓	✓	PID: 0xD401
IDENTIFY_MODE[1)]		✓	✓	PID: 0xD402
DMX_FAIL_MODE[1)]		✓	✓	PID: 0xD403
UPLOAD_PROGRAM[1)]		✓	✓	PID: 0xD409
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=21 (21 Byte ASCII-Text)

DISPLAY_AUTO_OFF
PID: 0xD401

Sets the time after which the display is switched off (DISPLAY_LEVEL = 0).
Valid values are: 0 - NO AUTO OFF
600 - 1 minute
1200 - 2 minutes
1800 - 3 minutes
2400 - 4 minutes
3000 - 5 minutes
3600 - 6 minutes
4200 - 7 minutes
4800 - 8 minutes
5400 - 9 minutes

GET Send: PDL=0
Receive: PDL=2 (1 Word)

SET Send: PDL=2 (1 Word)
Receive: PDL=0

IDENTIFY_MODE
PID: 0xD402

Sets the mode that is executed with IDENTIFY_DEVICE.

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

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

IDENTIFY_MODE_ID	Function
0	FULL Identify All outputs switch simultaneously ON/OFF and the Status-LED flashes
1	LOUD Identify The outputs switch ON/OFF in sequence and the status LED flashes
2	QUIET Identify The outputs don't switch, only the status LED flashes

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	Start user defined program 1

UPLOAD_PROGRAM
PID: 0xD409

Saves the user-defined program.

COLOR_SEQUENCE
PID: 0xD413

Sets the used color sequence.

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

Create / Use user-defined light programs

The **DMX-LED-Dimmer XS3** has a user-programmable Stand-Alone-Function, to replay an internal program.

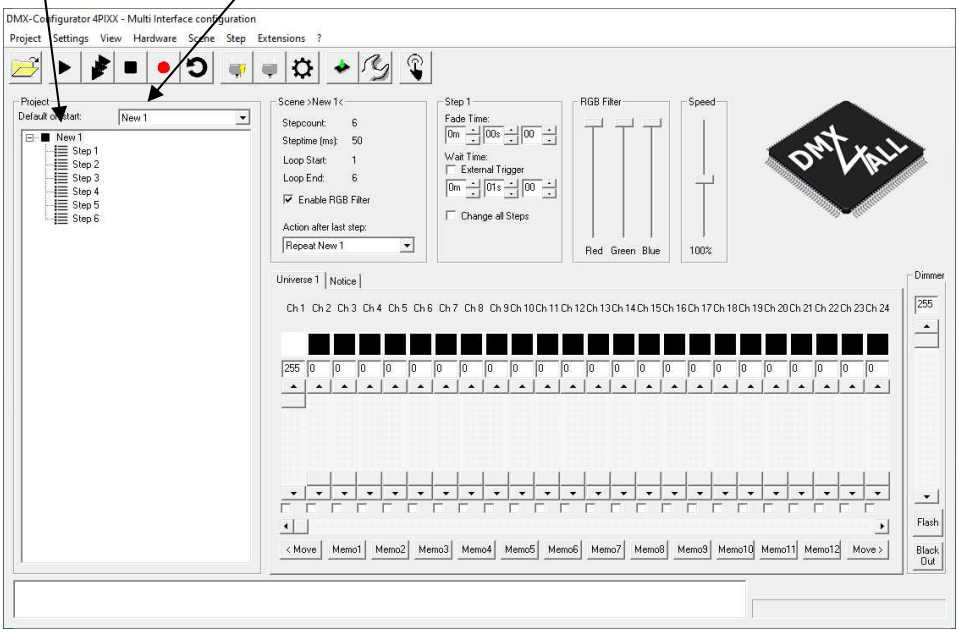
The user-defined program can be executed after power-on of the device and in case of DMX signal lost (DMX Fail).

The program can be created with the free DMX Configurator software and then transferred with the free software RDM-Configurator.
Both are available for free on our homepage.

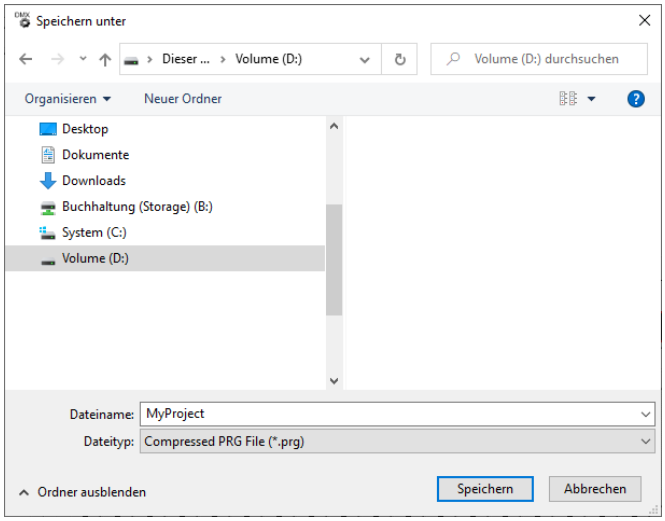
⚠ Use only the latest version of the software DMX-Configurator software (at least V2.3.17) and RDM-Configurator software (at least V1.5) !

Program 1 (New 1) executed in case of DMX-Fail

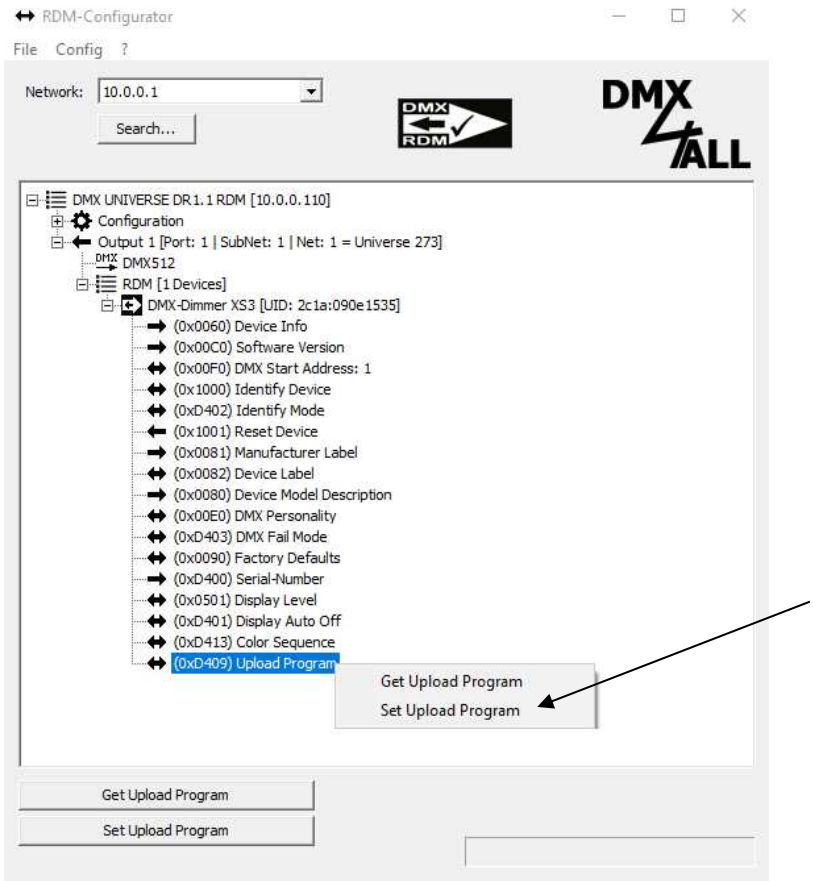
Execute after power on



The program created in the DMX Configurator software must be saved in prg format (*Project→Save as*):



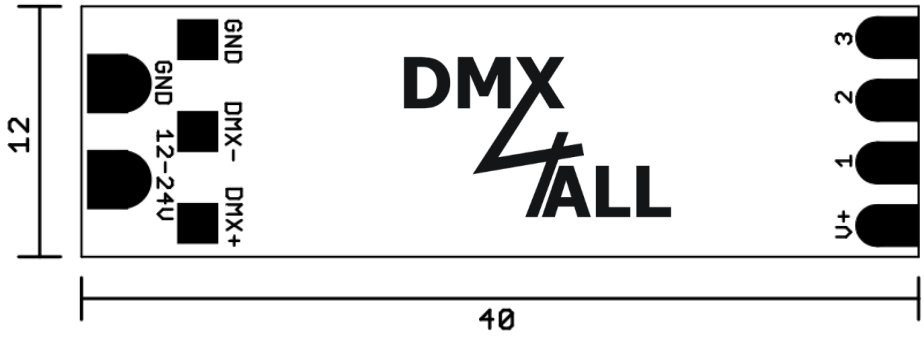
Then the created program is ready to trans to the DMX LED Dimmer XS3 with the RDM Configurator via the UPLOAD_PROGRAM parameter.



Factory Reset

To reset the **DMX-LED-Dimmer XS3** to the factory settings, use the RDM parameter FACTORY_DEFAULTS.

Dimension



all details in mm

Accessories

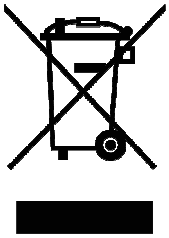
RGB-LED-Stripe 5m

Power supply

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 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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Last change: 24.06.2022