DMX-LED-Dimmer CC1

User Manual

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

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Description

The **DMX-LED-Dimmer CC1** is designed for controlling LEDs, which are operated with constant current and works with up to 48V DC.

Output with selectable constant current modules
Different constant current modules with different output currents are available for connection. The constant current modules are available as accessories and are not included in the scope of delivery.

Power supply from 12V up to 48V
The DMX-LED Dimmer CC1 works with supply voltages from 12V to 48V.

0% to 100%
The connected LEDs can be dimmed via PWM of 0% up to 100%.

DMX FAIL-Function
An adjustable DMX FAIL-Function offers the option to hold the current state (HOLD) or to adopt a predefined value if the DMX signal fails.

RDM support
The DMX-LED-Dimmer CC1 the configuration via RDM or DMX.

Free RDM software
For setting the parameters via RDM, our free RDM Configurator software is available for download on our website www.dmx4all.de.

Lockable device settings
The RDM parameters Lock Pin and Lock State allow or prohibit changing saved RDM parameters to prevent unauthorized changes.

Top hat rail mounting available
Suitable for the DMX-LED-Dimmer CC1 the DIN rail housing 350 is available as accessory.

Data sheet

Power supply:	9-48V DC 20mA@12V; 11mA@24V; 6mA@48V (current consumption without LED-Driver)
Protocol:	DMX512 RDM
DMX channels:	1 Channel
DMX-FAIL:	HOLD / 0-100%
Output:	1 current limited dimmable LED-Output Output current according to used constant current-module
PWM-Frequency:	244 Hz
Dimensions:	29,2mm x 82mm

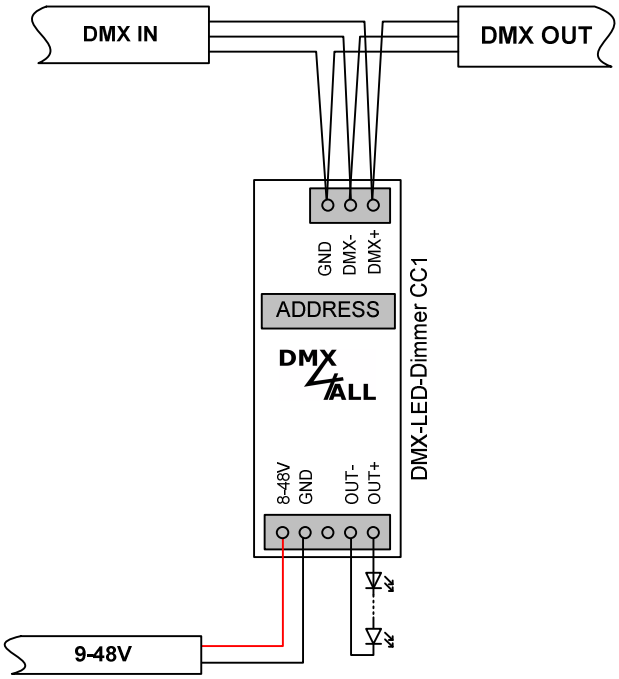
Content

1x DMX-LED-Dimmer CC1

1x Quick manual german and english

Current modules are not included in the delivery!

Connection


DMX IN
DMX OUT
GND
DMX-
DMX+
ADDRESS
DMX4ALL
8-48V
GND
OUT-
OUT+
DMX-LED-Dimmer CC1
9-48V

LED-Display

The integrated green LED is a multi-function display.

During the normal operation the LED lights permanently. In this case the device is working.

Furthermore, the LED shows the current status. In this case the LED lights up in short pitches and then is missing for longer time.

The number of the flashing lights is equal to the event number.

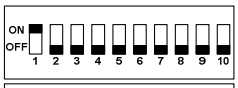
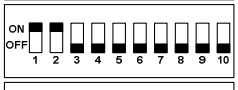
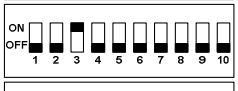
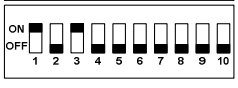
Status-Number	Error	Description
1	No DMX	No DMX-Signal is recognized
2	Addressing error	Please check the adjusted DMX address

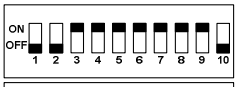
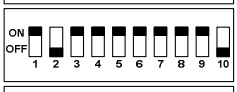
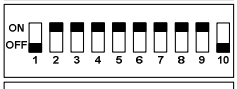
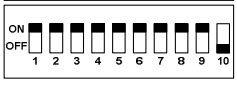
DMX-Addressing

The start address is adjustable via the DIP-switches.

Thereby switch 1 has the valency 2^0 (=1), switch 2 the valency 2^1 (=2) and so on until switch 9 has the valency 2^8 (=256). The switches showing ON represent in sum the starting address.

In total all switches showing ON represent the starting-address.

Address	Switch
1	
2	
3	
4	
5	

Address	Switch
...	...
508	
509	
510	
511	

Constant current-modules

The following constant current-modules are available as accessory for the DMX-LED-Dimmer CC1:

- Constant current LED-Driver NLDD-350H (350mA)
- Constant current LED-Driver NLDD-500H (500mA)
- Constant current LED-Driver NLDD-700H (700mA)
- Constant current LED-Driver NLDD-1050H (1050mA)
- Constant current LED-Driver NLDD-1200H (1200mA)
- Constant current LED-Driver NLDD-1400H (1400mA)

- Constant current LED-Driver LDD-300H (300mA) EOL / End of Life
- Constant current LED-Driver LDD-350H (350mA) EOL / End of Life
- Constant current LED-Driver LDD-500H (500mA) EOL / End of Life
- Constant current LED-Driver LDD-600H (600mA) EOL / End of Life
- Constant current LED-Driver LDD-700H (700mA) EOL / End of Life
- Constant current LED-Driver LDD-1000H (1000mA) EOL / End of Life
- Constant current LED-Driver LDD-1200H (1200mA) EOL / End of Life
- Constant current LED-Driver LDD-1500H (1500mA) EOL / End of Life

⚠ The minimum output voltage of the NLDD series is 6V!
The LED forward voltage must therefore be greater than/equal to 6V!

Plug the constant current module in such way, that the output of the module (Vout) points to the screw terminals:

DMX-Failure behavior

The **DMX-LED-Dimmer CC1** has a DMX- Failure behavior (DMX-FAIL), which stores the last value after a DMX-Signal failure. This function leaves the output unchanged (HOLD), set to 0% (ALL OFF) or activated with 100% (ALL ON).

A power failure occurs that the last value will be rejected !

The DMX-HOLD Function can be activated via switch 7 and 8 during the operating mode adjustment:

- Turn off the device
- Set switch 9 on OFF and switch 10 on ON
  Switch 1 to 6 is reserved and should be OFF
- Adjust the failure behavior via switch 7 and 8
- Turn on the device
- Set switch 9 on ON
- Set switch 10 on OFF
- The LEDs lights up 4x to confirm for takeover
- Set about switch 1-9 the DMX-address

Switch 7	**Switch 8**	**Failure behavior**
OFF	OFF	ALL OFF (0%)
ON	OFF	ALL ON (100%)
OFF	ON	HOLD
ON	ON	Reserved

Via the RDM parameter DMX_FAIL_MODE the level can be adjusted also.

RDM

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

As soon as the device is in 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-LED-Dimmer CC1 must be set to OFF ! A DMX start address set via the address switches always has priority !

This device supports the follwoing 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
DMX_FAIL_MODE		✓	✓	E1.37
IDENTIFY_MODE		✓	✓	E1.37
LOCK_STATE		✓	✓	E1.37
LOCK_STATE_DESCRIPTION			✓	E1.37
LOCK_PIN		✓		E1.37

Parameter ID	Discovery Command	SET Command	GET Command	ANSI/ PID
SERIAL_NUMBER[1)]			✓	PID: 0xD400

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)

Lock device settings

The RDM parameters *Lock Pin* and *Lock State* allow or prohibit changing saved RDM parameters.

Lock Pin

The four-digit pin code number for the lock function can be set using the Lock Pin parameter.

After entering the correct currently used PIN (Old PIN) in the RDM software (e.g. RDM Configurator), the new, desired PIN can be entered in the New PIN field and saved by setting the parameter.

When delivered, the lock pin is always 0000.

Lock State

The device settings can be locked or unlocked using the Lock State parameter.

The following lock states can be selected:

Wert	Name	Beschreibung
0	Unlocked	Parameters are editable
1	RDM Locked	Parameters cannot be edited via RDM

When delivered, the device is always *Unlocked*.

The Lock Pin (PIN Code) is required to change the Lock State parameter.

The RDM parameters Identify Device, Reset Device and Display Level can always be executed, regardless of the lock state.

Factory Reset

Before running the factory reset, read all steps carefully.

To reset the **DMX-LED-Dimmer CC1** to delivery state, proceed as follows:

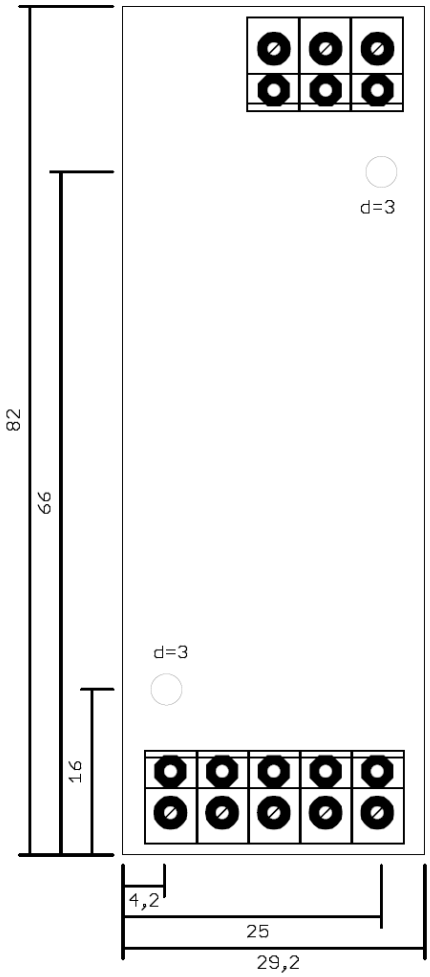
- Turn off device (power supply)
- Set DIP switch 1 up to 10 to ON
- Turn on the device (power supply)
- The LED lights up 20x during ca. 3 seconds

  ➔ While the LED lights up set DIP switch 10 to OFF
- Now, the Factory Reset is executed

  ➔ The LED lights up with error code 4
- Turn off the device (power supply)
- Now, the device can be used

If a Factory Reset is needed again, this procedure can be repeated at any time.

Dimensions



(All details in mm)

Accessories

Top-hat rail mounting 350

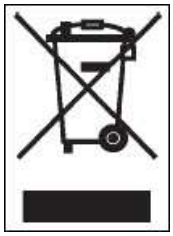
Constant current LED-Module

- Constant current LED-Driver LDD-300H
- Constant current LED-Driver LDD-350H
- Constant current LED-Driver LDD-500H
- Constant current LED-Driver LDD-600H
- Constant current LED-Driver LDD-700H
- Constant current LED-Driver LDD-1000H
- Constant current LED-Driver LDD-1200H
- Constant current LED-Driver LDD-1500H
- Constant current LED-Driver NLDD-350H
- Constant current LED-Driver NLDD-500H
- Constant current LED-Driver NLDD-700H
- Constant current LED-Driver NLDD-1050H
- Constant current LED-Driver NLDD-1200H
- Constant current LED-Driver NLDD-1400H

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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