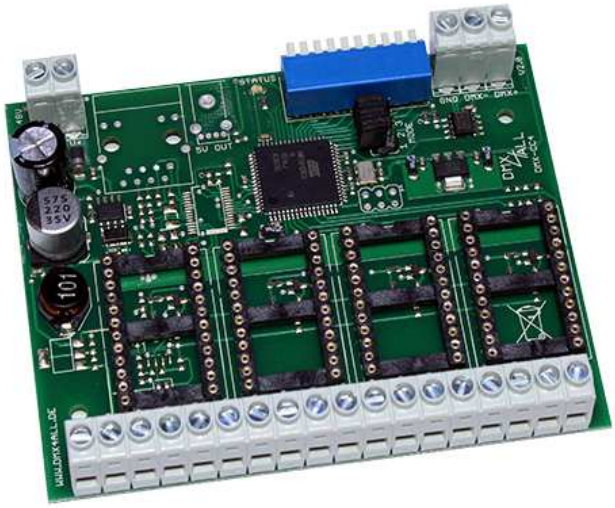
DMX-LED-Dimmer CC4

User Manual



DMX RDM

DMX4ALL®

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

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Description

The **DMX-LED-Dimmer CC4** is designed for controlling LEDs, which are operated with constant current and works with up to 48V DC.

4 outputs with choose able constant current modules
Different constant current modules with different output currents are available for plug-on. The constant current modules are available as accessories and are not included in the scope of delivery.

For voltages from 12V up to 24V
The DMX-LED-Dimmer CC4 works with supply voltages from 12V up to 24V DC.

DMX failure behavior
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.

LED state display
The DMX state is indicated via the LED status.

DMX-Masterdimmer
Optionally an additional DMX channel can be activated as master dimmer.

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

RDM support
The DMX-LED-Dimmer CC4 allows configuration by RDM via 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.

SubDevice-Mode
In SubDevice mode, each output is assigned its own DMX address, operating mode and DMX FAIL behavior via RDM.

Top-hat rail housing available
The top-hat rail housing 1050 is available as accessory for the DMX-LED-Dimmer CC4. Together with the top-hat rail housing 1050, the interface is optimally suited for control cabinet installation.

Data Sheet

Power supply:	9-48V DC 22mA@12V; 12mA@24V; 7mA@48V (Current consumption without LED-Module)
Output voltage:	Depends on the constant current module used
Output current:	Depends on the constant current module used
Protocol:	DMX512 RDM
DMX-Channels:	4 / 5 Channels
DMX-FAIL:	Hold / 0%-100%
Master dimmer:	activatable
PWM-Frequency:	244 Hz
Connections:	Screw terminals
Dimensions:	99mm x 82mm

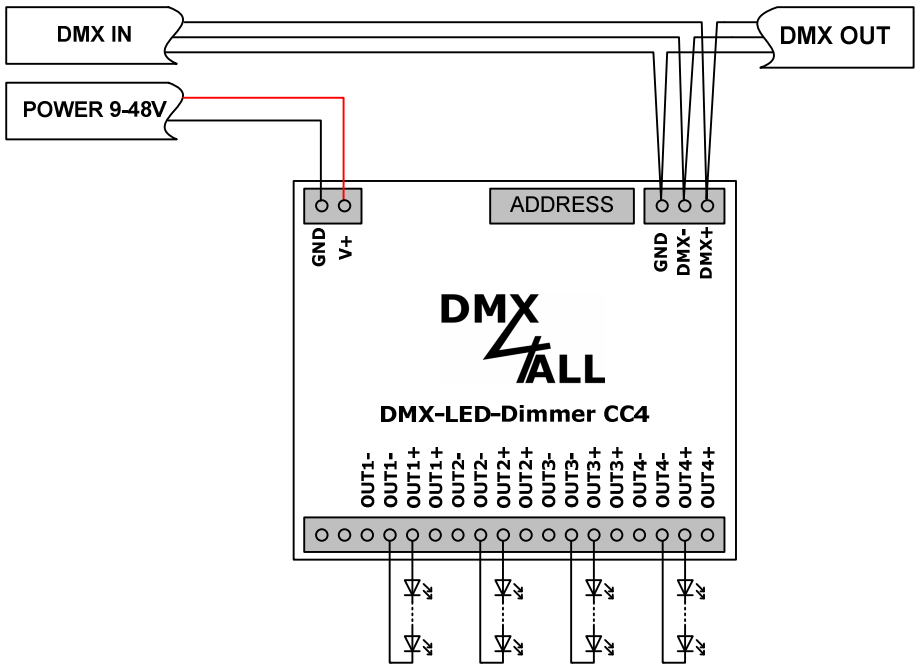
Content

1x DMX-LED-Dimmer CC4

1x Quick manual german and english

Current modules are not included in the delivery!

Connection



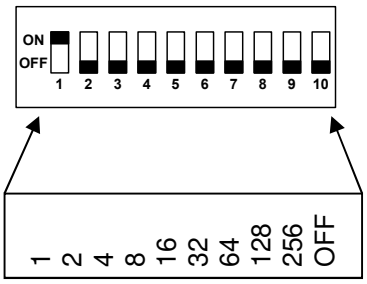
⚠ Never connect the terminals with each other, e.g. GND of the power supply and the terminal LED- of the output or the different LED terminals !!!

Never connect the single negative/positive outputs to the LEDs with each other !!! This may damages the LEDs and the LED drivers.

DMX-Addressing

The starting address is adjustable with the switches 1 to up 9.

Switch 1 has the valency 2^0 (=1), switch 2 the valency 2^1 (=2) etc. until switch 9 has the valency 2^8 (=256). In total the switches showing ON correlate with the starting address.



The DMX start address can also be set via the RDM parameter DMX_STARTADDRESS. All switches must be in the OFF position for RDM operation.

LED-Display

The integrated green LED is a multi function display.

During the normal operation mode 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 are missing for longer time.

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

Error	Error Description	Description
1	No DMX	No DMX-Signal detected at signal input
2	Addressing-Error	Check if a valid DMX starting address is adjusted
4	Factory Reset	A Factory-Reset was executed

Constant current modules

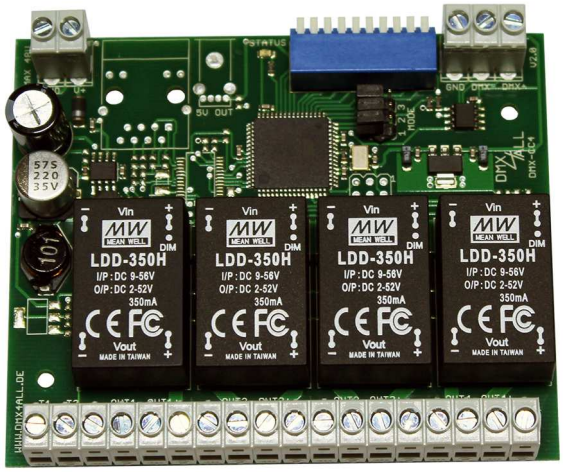
The following constant current modules for the DMX-LED-Dimmer CC4 are available as accessory:

- 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!

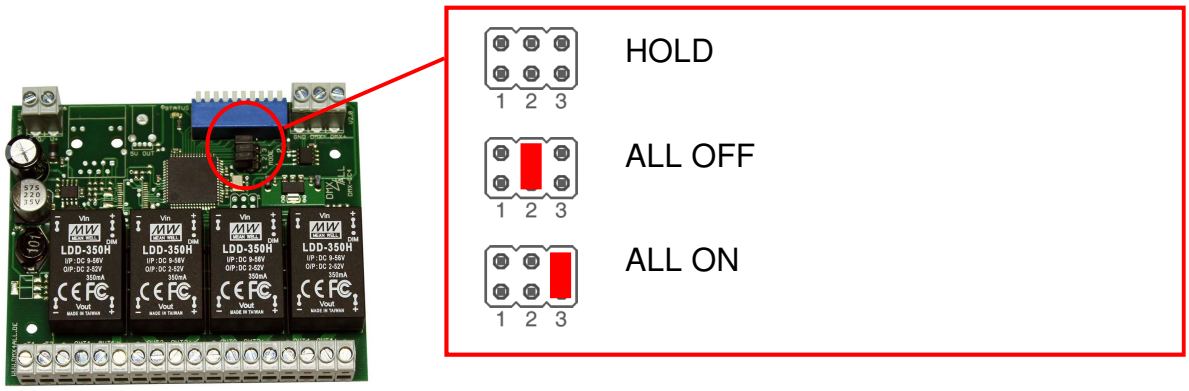
Insert the constant current module that the output of the module (Vout) shows towards output terminal:



DMX failure behavior

The **DMX-LED-Dimmer CC4** can hold the last value, switch on or switch off the LED outputs on DMX fail.

This DMX-Fail option is selectable with Jumper 2 and 3.

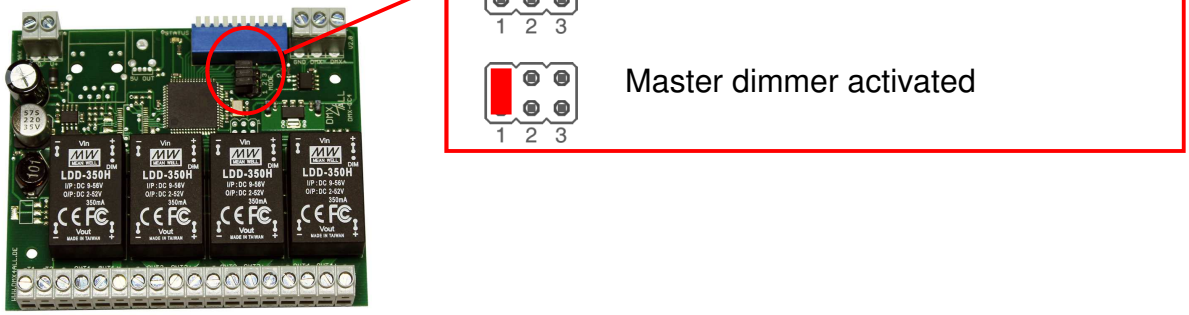


After voltage drop the held values are not restored by the HOLD function. In this case the values are set to 0 (OFF).

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

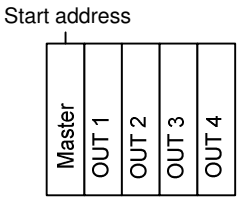
Master-Dimmer

The **DMX-LED-Dimmer CC4** has one Master-Dimmer which can be activated.



Master dimmer

The DMX channel which is set as start-address is used as Master-Dimmer for all 4 outputs. The DMX-Addresses assignment is as follows:



Via the RDM parameter PERSONALITY also the Masterdimmer can also be adjusted. No jumper must be set for RDM operation.

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 occur 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 CC4 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
DMX_FAIL_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
IDENTIFY_MODE[1)]		✓	✓	PID: 0xD402
SUBDEVICE_ENABLE1)		✓	✓	PID: 0xFF0F

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)

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	Funktion
0	FULL Identify All outputs switch ON / OFF simultaneously and the status LED flashes
1	LOUD Identify The outputs switch ON / OFF one after the other and the status LED flashes
2	QUIET Identify The outputs do not switch, only the status LED flashes

SUBDEVICE_ENABLE
PID: 0xFF0F

Enable or disable the sub devices of the device.

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

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

SUBDEVICE_ENABLE_STATE	Funktion
0	SUB DEVICES DISABLED
1	SUB DEVICES ENABLED

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.

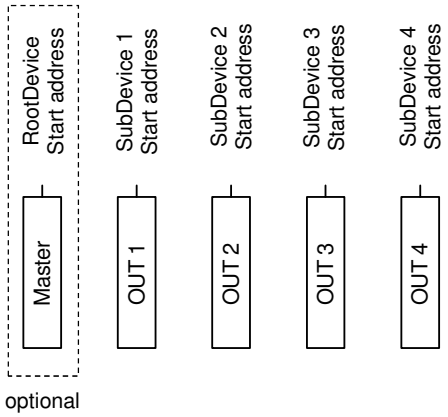
SubDevice-Mode

In standard mode, the DMX-LED-Dimmer CC4 has a DMX start address from which the DMX channels are used one after the other.

In SubDevice mode, each output is assigned its own DMX address, operation mode and DMX FAIL behavior.

To activate and deactivate the sub-device mode, the parameter SUBDEVICE_ENABLE must be activated via RDM.

Then the setting of the DMX address and the DMX FAIL behavior for each output is made possible via RDM.



The assignment of the DMX addresses in SubDevice mode is as follows:

The assignment of the DMX addresses to the outputs is freely possible in SubDevice mode. Several outputs can also use the same DMX address.

Factory Reset

Before running the Factory Reset, read all steps carefully.

To reset the **DMX-LED-Dimmer CC4** to delivery state, proceed as follows:

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

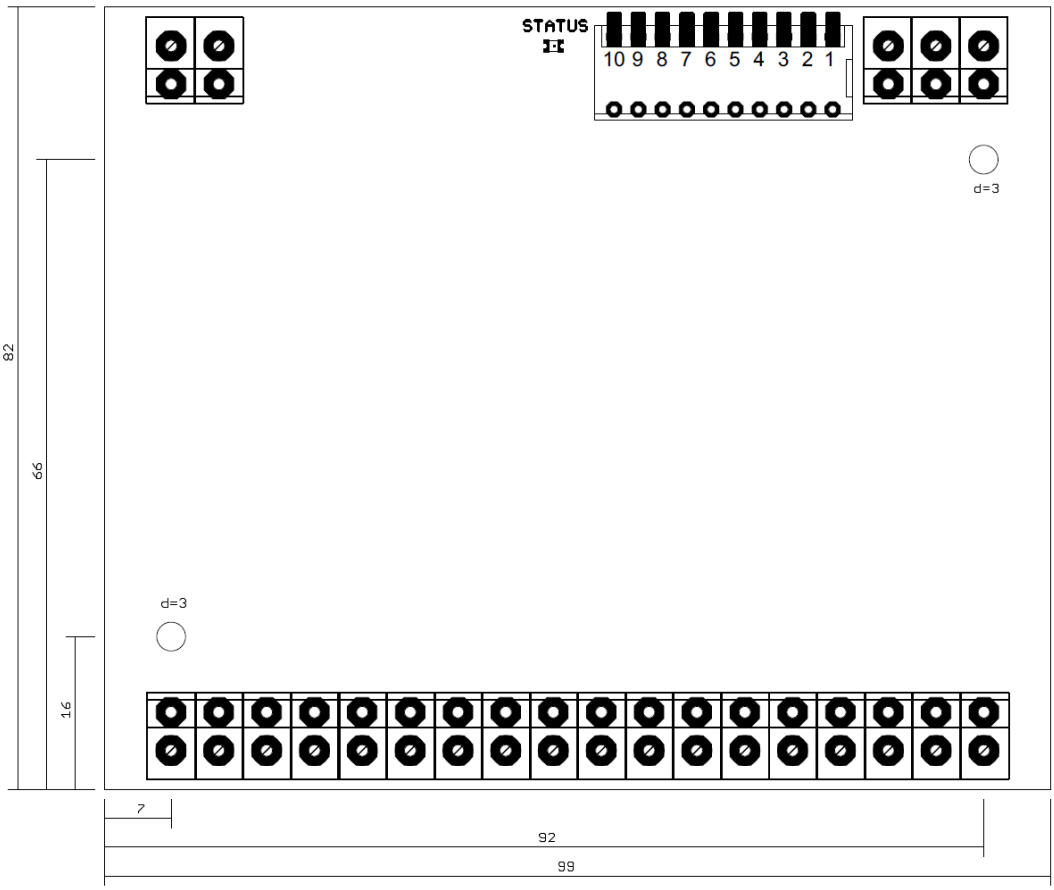
  ➔ While the LED lights up set DIP switch 10 to OFF
- Now, the Factory Reset is executed

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

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

The RDM parameter FACTORY_RESET can also be used to reset the DMX LED dimmer CC4 to the delivery state.

Dimensions



(All details in mm)

Accessory

Top-hat rail mounting 1050

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.

WWW.DMX4ALL.DE

DMX4ALL GmbH
Reiterweg 2A
D-44869 Bochum
Germany

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