DMX2CC Dimmer 4CH Instructions

Highlights

- 4 channel DMX / RDM constant current dimmer (common anode)
- Wide power input range from 12 ... 48 V DC
- Constant current output, 100 ... 700 mA (with 10 mA increment) selectable via buttons on the device or RDM
- DMX addressing via buttons on the device, RDM or auto-addressing mode
- DMX channel number adjustable from 1CH ... 4CH (DMX footprint)
- Output dimming curve gamma level adjustable from 0.1 ... 9.9
- DMX signal input and output are isolated and surge protected
- Predefined programs & standalone mode

Delivery Content

	Identcode
• e:cue DMX2CC Dimmer 4CH	CL23100280155
• Welcome note	
• Instructions (English)	

For further product information and downloads see www.ecue.com.

Safety & Warnings

- Do not install with power applied to device.
- Do not expose the device to moisture.
- Read the instructions prior to installation.

Product Specifications

Dimensions (W x H x D)	170 x 53.4 x 28 mm / 6.69 x 2.09 x 1.1 in
Weight	170 g
Power input	12 ... 48 V DC (4-pin terminal)
Max. input current at "power input"	3.2 A
Operating temperature	-20 ... 50 °C / -4 ... 122 °F
Storage temperature	-40 ... 85 °C / -40 ... 185 °F
Operation / storage humidity	5 ... 95% RH, non-condensing
Mounting	with key hole on any stable vertical surface
Protection class	IP20
Housing	PC
Certificates	CE, UKCA, RoHS, UL Listing pending

Interfaces

Input	1 x DMX512 / RDM (3-pin terminal), isolated, surge protected
Outputs	1 x DMX512 / RDM (3-pin terminal) for chaining multiple devices (max. 256), isolated, surge protection 4 x constant current channel (5-pin terminal) + connector: identical to input voltage - connector: low side switch
Output current	100 ... 700 mA per channel, selectable with 10mA increment
Output voltage	3 ... 12V @ 12V input, 3 ... 24V @ 24V input, 3 ... 48V @ 48V input
Output power	1.2 ... 25.2 W @ 700 mA per channel
Output dimming curve gamma	0.1 ... 9.9

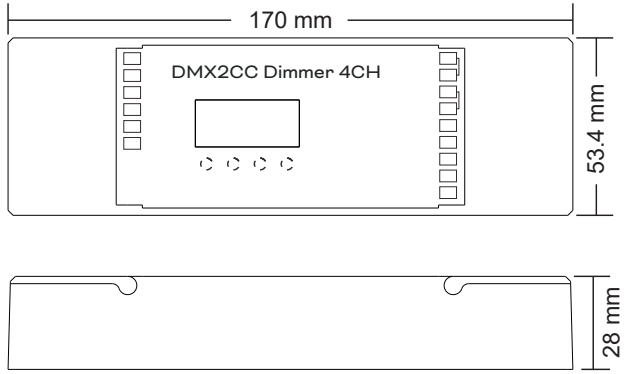
Always select the power supply output voltage accordingly to your LED fixture input voltage!	
	12 V PSU for 12 V LED 24 V PSU for 24 V LED 48 V PSU for 48 V LED
User interfaces	4 x button, display

Terminals

Connection type	Spring terminal connectors
Wire size solid core, stranded wire with end ferrule	0.5 ... 2.5 mm² (AWG20 ... AWG13)
Stripping length	6 ...7 mm / 0.24 ... 0.28 in
Tightening / release of wire	Push mechanism

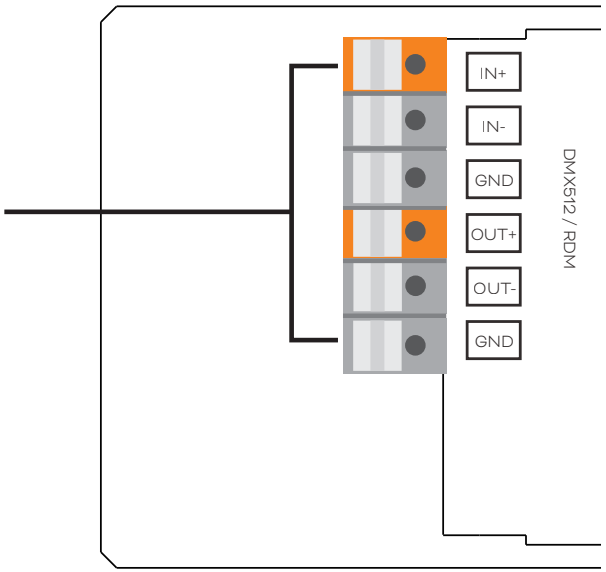
CE UKCA

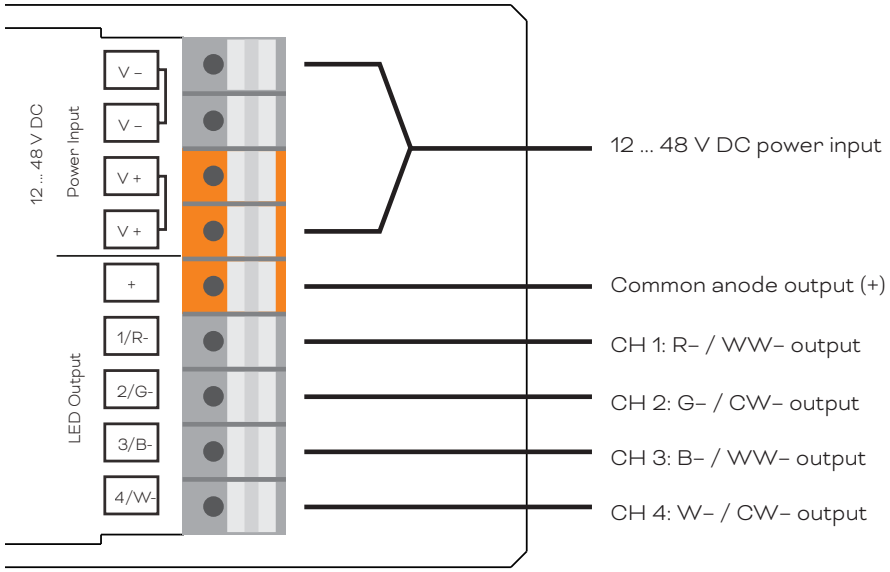
Dimensions



Installation

DMX512
signal input & output

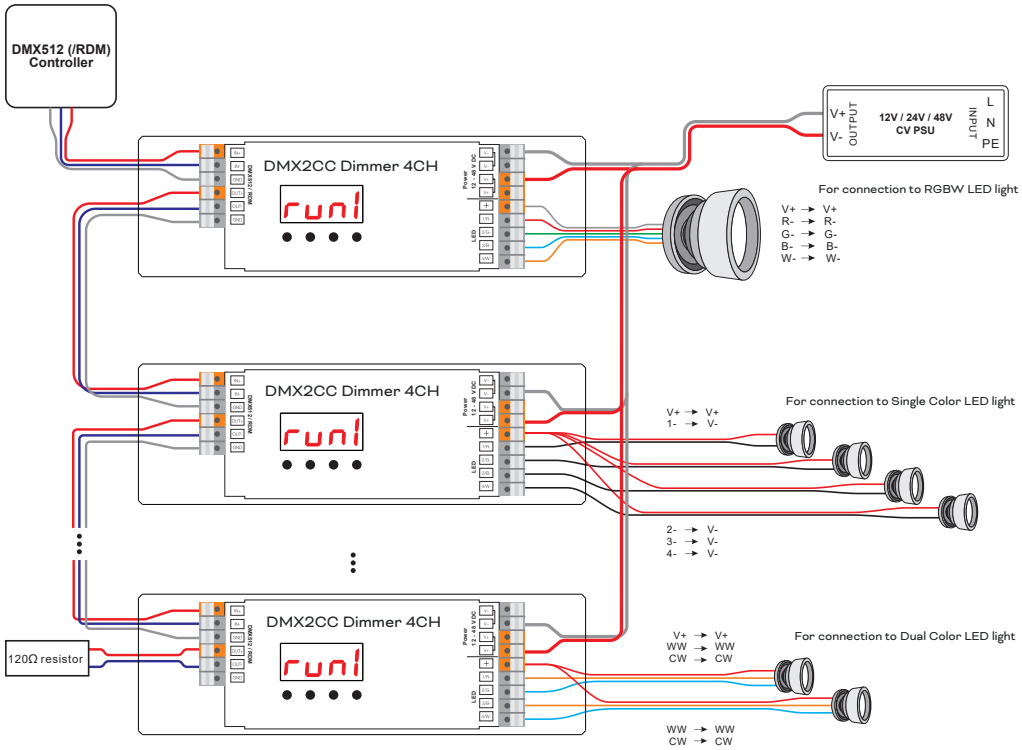




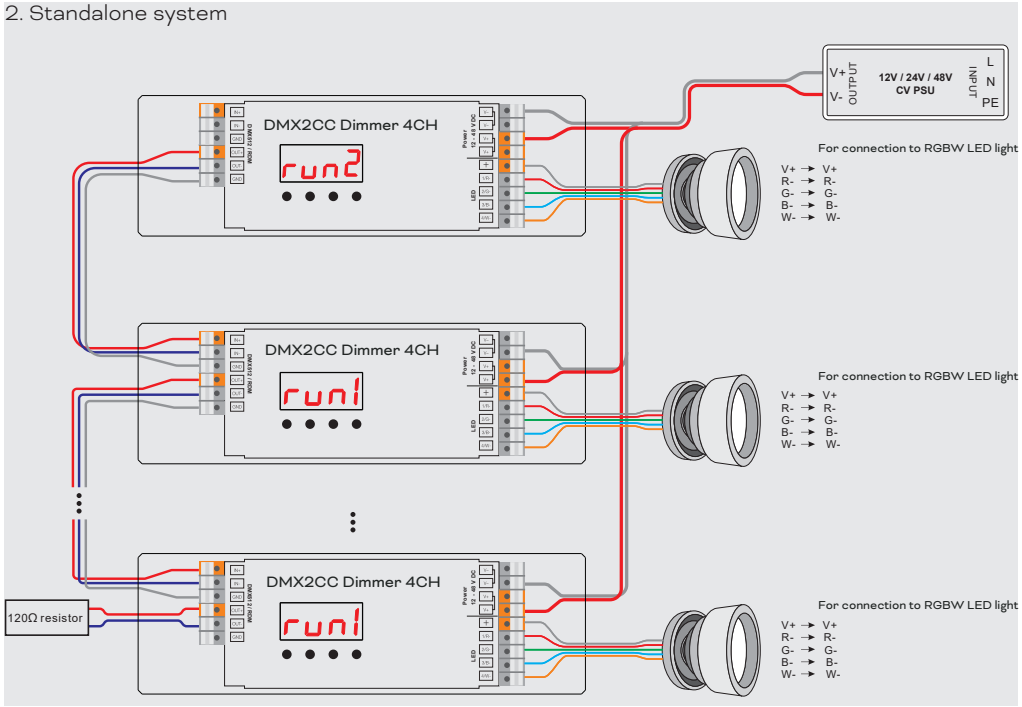
Wiring Diagram

⚠ Install a 120 Ω, 0.5 W resistor between Out + and Out – ports on the last device of the DMX run.

1. System with an external DMX controller



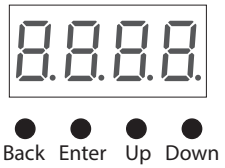
2. Standalone system



Device Setup

To configure the settings, press the buttons in the following sequence accordingly:

1. Up / Down --- select a menu entry
2. Enter --- access the menu entry, the display flashes
3. Up / Down --- set the value
4. Back --- confirm the value and exit the menu entry.



Operating mode setting:

Set the device to receiver or standalone mode first, before you configure other settings. Default setting is receiver mode (run1).

run1 = Receiver mode

In a system with an external DMX controller, set all DMX2CC Dimmer 4CH devices to run1 mode.

In a standalone system (no external DMX controller), set all receiving DMX2CC Dimmer 4CH devices to run1 mode.

run2 = Standalone mode

In a standalone system, set the controlling DMX2CC Dimmer 4CH device to run2 mode.

⚠ After setting the mode, a restart of the device is required.

a) run1 - receiver mode :

DMX signal indicator ● : When a DMX signal input is detected, the indicator on the display following the A turns red: A.XXX. If there is no DMX signal input, the indicator does not turn on and the character A flashes.

1. DMX address setting:

Menu A XXX. Default setting is 001 (A001).

2 . Output current setting

Menu C1XX, C2XX, C3XX and C4XX. Default setting is 100 mA (Cx.10).
Set the outout current for each channel. Select between 10 = 100 mA ... 70 = 700 mA.

3. DMX personality setting:

Menu 1A.01, ... , 8d.02. Default setting is 4d.01.
Set the DMX channel quantity used to control the corresponding output channel quantity:

DMX personality / DMX channel	1A.01	2A.02	2b.01	3b.03	3c.01	4b.02
1	all outputs dimming	all outputs dimming	outputs 1 & 3 dimming	outputs 1 & 3 dimming	output 1 dimming	outputs 1 & 3 dimming
2		all outputs fine dimming	outputs 2 & 4 dimming	outputs 2 & 4 dimming	output 2 dimming	outputs 1 & 3 fine dimming
3				all outputs master dimming	outputs 3 & 4 dimming	outputs 2 & 4 dimming
4						outputs 2 & 4 fine dimming
5						
6						
7						
8						

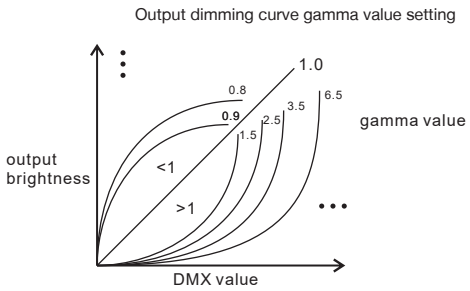
DMX personality / DMX channel	4c.03	4d.01	5c.04	5d.03	6c.02	6d.04	8d.02
1	output 1 dimming	output 1 dimming	output 1 dimming	output 1 dimming	output 2 dimming	output 1 dimming	output 1 dimming
2	output 2 dimming	output 2 dimming	output 2 dimming	output 2 dimming	output 1 fine dimming	output 2 dimming	output 1 fine dimming
3	outputs 3 & 4 dimming	output 3 dimming	outputs 3 & 4 dimming	output 3 dimming	output 2 dimming	output 3 dimming	output 2 dimming
4	all outputs master dimming	output 4 dimming	all outputs master dimming	output 4 dimming	output 2 fine dimming	output 4 dimming 4	output 2 fine dimming
5			strobe effects	all outputs master dimming	outputs 3 & 4 dimming	all outputs master dimming	output 3 dimming
6					outputs 3 & 4 fine dimming	strobe effects	output 3 fine dimming
7							output 4 dimming
8							output 4 fine dimming

Data definitions for strobe effects:

{0, 7},//undefined	{134, 189},//slow close fast push
{8, 65},//slow strobe-->fast strobe	{190, 195},//undefined
{66, 71},//undefined	{196, 250},//random strobe
{72, 127},//slow push fast close	{251, 255},//undefined
{128, 133},//undefined	

4. Output dimming curve gamma value setting:

Menu 9A XX. Default setting is 1.5 (9A1.5).
Select between 0.1 ... 9.9.



5. Output resolution bit setting:

Menu bt XX. Default setting is 16 bit (bt16).
Select between 08 = 8 bit and 16 = 16 bit.

6. Startup behavior setting:

Menu Sb - X. Default setting is "hold last frame" (Sb-0).
Set the startup behavior of the device. The startup behavior is the state of the device after a restart or when it is offline:

0 (via RDM: 0) - Hold last frame
1 (via RDM: 1) - RGBW = 0%
2 (via RDM: 2) - RGBW = 100%
3 (via RDM: 3) - Channel 4 = 100%, channels 1 and 2 and 3 = 0%
4 (via RDM: 4) - Channel 1 = 100%, channels 2 and 3 and 4 = 0%
5 (via RDM: 5) - Channel 2 = 100%, channels 1 and 3 and 4 = 0%
6 (via RDM: 6) - Channel 3 = 100%, channels 1 and 2 and 4 = 0%
7 (via RDM: 7) - Channels 1 and 2 = 100%, channels 3 and 4 = 0%
8 (via RDM: 8) - Channels 2 and 3 = 100%, channels 1 and 4 = 0%
9 (via RDM: 9) - Channels 1 and 3 = 100%, channels 2 and 4 = 0%
A (via RDM: 10) - Channel 1 = 100%, channel 2 = 45%, channels 3 and 4 = 0%.

b) run2 - standalone mode:

1. Brightness setting:

Menu 1-01. Set the brightness for each output channel.
First 1 means output channel 1. Select between 1 ... 4.
Second 01 means brightness level. Select between 00 = 0% ... 99 = 99% ... FL = 100% brightness.

2. RGB effect brightness setting:

Menu b - XX. Set the RGB running effect's brightness, in total 1 ... 8 levels of brightness.

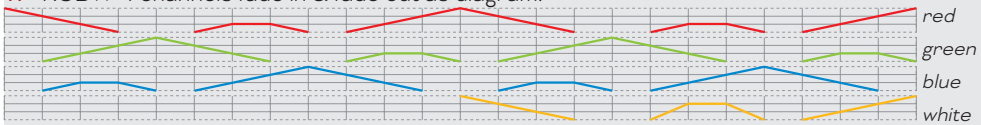
3. Effect speed setting:

Menu SP - X. Set the effect play speed, in total 1 ... 9 levels of speed.

4. Pre-defined program setting:

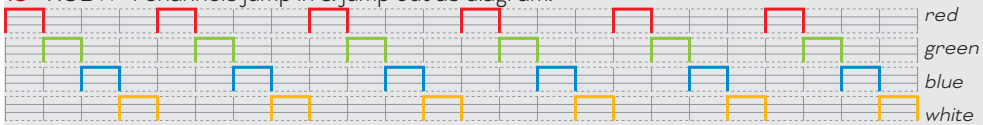
Menu P - XX. Select a pre-defined RGB color changing program, in total 32 programs (P-XX).
00 - RGBW off
01 - Static red (output channel 1)
02 - Static green (output channel 2)
03 - Static blue (output channel 3)
04 - Static white (output channel 4)
05 - Static yellow (50% red + 50% green)
06 - Static orange (75% red + 25% green)
07 - Static cyan (50% green + 50% blue)
08 - Static purple (50% blue + 50% red)
09 - Static white (100% red + 100% green + 100% blue)
10 - RGBW 4 channels fade in & fade out as diagram:

11 - RGBW 4 channels fade in & fade out as diagram:



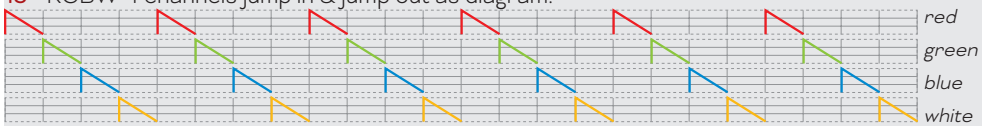
12 - RGBW 4 channels fade in & fade out as diagram:

13 - RGBW 4 channels jump in & jump out as diagram:



14 - RGBW 4 channels fade in & jump out as diagram:

15 - RGBW 4 channels jump in & jump out as diagram:



16 - RGBW 4 colors strobe

17 - RGB mix white (100% red + 100% green + 100% blue) + 4th channel W (100% white) strobe
18 - 8 colors fade in & fade out (red, orange, yellow, green, cyan, blue, purple, white (4th channel))
19 - 8 colors jump changing (red, orange, yellow, green, cyan, blue, purple, white (4th channel))
20 - 8 colors strobe (red, orange, yellow, green, cyan, blue, purple, white (4th channel))
21 - Red-white (100% red + 100% green + 100% blue) -W (4th channel) circle gradual changing
22 - Green-white (100% red + 100% green + 100% blue) -W (4th channel) circle gradual changing
23 - Blue-white (100% red + 100% green + 100% blue) -W (4th channel) circle gradual changing
24 - Red-orange-W (4th channel) circle gradual changing
25 - Red-purple-W (4th channel) circle gradual changing
26 - Green-yellow-W (4th channel) circle gradual changing
27 - Green-cyan-W (4th channel) circle gradual changing
28 - Blue-purple-W (4th channel) circle gradual changing
29 - Blue-cyan-W (4th channel) circle gradual changing
30 - Red-yellow-green-W (4th channel) circle gradual changing
31 - Red-purple-blue-W (4th channel) circle gradual changing
32 - Green-cyan-blue-W (4th channel) circle gradual changing

Restore Factory Defaults

To restore the default settings of the device, press and hold down Back + Enter together at the same time until the display turns off. The digital display turns on again. Release the buttons, the system resets. All settings are restored to the default settings.

Setting	Default Value	Description
Operation mode	run1	receiver mode
DMX address	A001	address 001
Output current setting	Cx.35	350 mA @ channel X
DMX personality	4d.01	4CH dimming
Output dimming curve gamma value	9A1.5	1.5
Output resolution bit	bt16	16 bit
Startup behavior	Sb-0	Hold last frame
Auto-addressing	1	on

Set Current of Each Channel via RDM Command

CURRENT_CH1 sets the current of channel 1.
CURRENT_CH2 sets the current of channel 2.
CURRENT_CH3 sets the current of channel 3.
CURRENT_CH4 sets the current of channel 4.
SET command: Sets the output current. Value range is 10 ... 70 (100 ... 700 mA). Default setting is 350 mA (Cx.35).
GET command: Returns the current values of all 4 channels. Text display: ch1=xx ch2=xx ch3=xx ch4=xx.

Step 1: Discover the fixtures and select a fixture, then go to "RDM Interface" menu of the fixture.
Step 2: Go to "Manufacturer-Specific Parameters" menu of the fixture.
Step 3: Select the channel parameter, e.g. "CURRENT_CH1" which is to set output current of channel 1, then write the parameter value, for instance "10". The output current of channel 1 is now set to 100 mA.

Auto-Addressing Operation via RDM Command

AUTO_PATCH_SWITCH: To turn on or turn off the device auto-addressing function.
SET command: Value "0" - auto-addressing off. Value "1" - auto-addressing on. Default setting is 1.
GET command: not supported.

AUTO_PATCH_ADDR: To set the start address of the 1st device. The devices after the 1st device will auto-address with the start address minus the used amount of channels of the prior device(s).
SET command: Sets the DMX start address of the 1st device. Value range is 1 ... 512.
GET command: not supported.

Step 1: Discover the fixtures and select a fixture, then go to "RDM Interface" menu of the fixture.
Step 2: Go to "Manufacturer-Specific Parameters" menu of the fixture.
Step 3: Select parameter "AUTO_PATCH_SWITCH", then make sure the parameter value is set to "1" to turn on auto-addressing mode.
Step 4: Select parameter "AUTO_PATCH_ADDR", then write the parameter value start address for instance "1" to start auto-addressing. The auto-addressing is now turned on and the 1st device starts with the address "1".

RDM Discovery Indication

When using RDM to discover the device, the digital display will flash and the connected lights will also flash at the same frequency to indicate. Once the display stops flashing, the connected light also stops flashing.

Supported RDM PIDs:

DISC_UNIQUE_BRANCH	MANUFACTURER_LABEL
DISC_MUTE	MODULATION_FREQUENCY
DISC_UN_MUTE	MODULATION_FREQUENCY_DESCRIPTION
DEVICE_INFO	RESOLUTION
DMX_START_ADDRESS	CURVE
DMX_FOOTPRINT	CURVE_DESCRIPTION
IDENTIFY_DEVICE	SUPPORTED_PARAMETERS
SOFTWARE_VERSION_LABEL	STARTUP_BEHAVIOR
DMX_PERSONALITY	CURRENT_CH1
DMX_PERSONALITY_DESCRIPTION	CURRENT_CH2
SLOT_INFO	CURRENT_CH3
SLOT_DESCRIPTION	CURRENT_CH4
OUT_RESPONSE_TIME	AUTO_PATCH_SWITCH
OUT_RESPONSE_TIME_DESCRIPTION	AUTO_PATCH_ADDR
HOLD_LAST_FRAME	