e:cue

TRAXON | e:cue
MEMBER OF PROSPERITY GROUP

AA5700601IL, AA5700501IL

# e:cue
# DMX2CC 6CH / 12CH

## Information for Use

Read the Information for Use and the Safety Instructions carefully. Subject to modification without prior notice. Typographical and other errors do not justify any claim for damages. Modification of the product is prohibited.
This manual is designed for electricians, system administrators, and product users.
All product names and trademarks mentioned in this manual are trademarks of their respective owners.
Except for internal use, relinquishment of the instructions to a third party, duplication in any type or form - also extracts - as well as exploitation and / or communication of the contents is not permitted.

Downloads and more information at:
www.ecue.com

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# Table of Contents



  

# 1 Safety instructions

Please read the safety instructions, provided in a separate manual, carefully. Make sure that the environmental, mounting, and installation prerequisites are met. This manual should be kept at a safe place and in reach of the device.

## 1.1 Symbols

The exclamation mark warns about possible damage of the device itself, to connected devices, and to the user.

The information symbol gives general hints and informs about handling and procedures for use of the device.

## 1.2 General instructions

- Housing can get hot during operation.

- Any usage other than described in this manual is not permitted, can damage the device and lead to associated risks such as short-circuit, fire or electric shock. If not otherwise noted, no part of the product may be modified or rebuilt.
- DMX2CC 6CH / 12CH ports must not be hot plugged. Especially in larger LED matrix systems voltage potential differences in different parts of the system may damage ports when hot plugging. Therefore always turn off fixture supplies before connecting or disconnecting.
- Disconnect power before installing, wiring or servicing. Do not use the unit, if power cables are damaged. Do not install or use the unit, until you have read and understood the installation instructions and safety labels.
- Only use the device in compliance with the environmental conditions specified in the data sheet.
- Actions described in this manual and device repairs may only be performed with special care by skilled personnel.

# 2 General device description

DMX2CC dimmers can control high-power LED fixtures by a DMX signal using linear current dimming. They are designed for use with both high-power 1W and 3W LED fixtures. The two versions 6CH and 12CH provide control over 6 or 12 individual channels, which allows control of 2 or 4 high-power RGB triplets, respectively.

A DMX repeater, which amplifies the DMX signal, allows convenient daisy chaining. DMX2CC dimmers can be interconnected to control larger installations with one DMX signal. Within a DMX network, connected high-power LED fixtures can be controlled by a central DMX controller (such as e:cue Engines or the e:cue Light-Drive Elite).

Due to DMX2CC's unique dimming technology, these dimmers (LED drivers) provide very smooth flicker-free dimming great electromagnetic compatibility (EMC), which is perfect for TV studio or healthcare lighting applications.

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**Main features**

- Standard DMX512 control of 1 W or 3 W LEDs with DMX auto and manual addressing
- Flicker-free smooth fade control with continuous current output
- Up to 12 LEDs per channel
- LDC menu for manual control
- Self-diagnostic feature prevents damage to the unit and to the LEDs
- Line, thermal and circuit protection
- Max. current output adjustable from 50-700 mA
- Setup via front panel LCD interface
- Smooth LED light dimming
- DMX512 - compliant with auto-addressing
- Continuous current output eliminates flickering
- Very high efficiency (up to 95%)
- Auto Load Detection - Allows connection of 1 to 12 serial LEDs per channel
- Wrong wiring, open/short protection for each output with indication on LCD checked on startup
- TP - Thermal Protection of LEDs on each output (on supported LED luminaries)
- DRTP - Thermal Protection algorithm prevents the driver from overheating
- Can be powered by a wide range of DC power supplies
- Industrial DIN rail profile, easy mounting and installation
- Adjustable reaction in case of DMX signal drop

↑ content

**Applications**

- Architectural illuminations
- LED lighting effects
- Studios and recording rooms
- Theatrical LED lighting
- Commercial lighting

## 2.1 Delivery content

Delivery content for the e:cue DMX2CC 6CH / 12CH (AA5700601IL, AA5700501IL):

1. DMX2CC 6ch (AA5700601IL) or 12ch (AA5700501IL)
2. 2 x pluggable terminal block connectors (for DMX2CC 6ch)
3. 4 x pluggable terminal block connectors (for DMX2CC 12ch)
4. This setup manual

## 2.2 Firmware level

This setup manual refers to firmware version 1.7. See Firmware update on page 25 how to upgrade the firmware.

  

## 2.3 Product specifications

- DMX2CC 6ch

| | |
|---|---|
| Dimensions (W x H x D) | 142 x 75.4 x 58.5 mm/<br>5.59 x 2.97 x 2.3 inch |
| Weight | 412 g / 0.9 lb |
| Power supply | 24 ... 48 V DC, max. 4.5 A |
| Quiescent current<br>(no load) | 24 V: 80 mA<br>48 V: 50 mA |
| Operating temperature | -10 ... 40 °C / 14 ... 104 °F |
| Storage temperature | -20 ... 70 °C / -4 ... 158 °F |
| Operating humidity | 20 ... 90%, non-condensing |
| Housing | Anodised aluminium and plastic |
| Certificates | CE, FCC, TUV, UKCA |

**System**

| | |
|---|---|
| Input | DMX512 (RJ45) |
| Output | DMX512 (RJ45) for chaining multiple devices<br>6 output channels (screw terminals) |

- DMX2CC 12ch

| | |
|---|---|
| Dimensions (W x H x D) | 272 x 75.4 x 58.5 mm/<br>10.71 x 2.97 x 2.3 inch |
| Weight | 0.75 kg / 1.65 lbs |
| Power supply | 24 ... 48 V DC, max. 9 A |
| Quiescent current<br>(no load) | 24 V: 140 mA<br>48 V: 80 mA |
| Operating temperature | -10 ... 40 °C / 14 ... 104 °F |
| Storage temperature | -20 ... 70 °C / -4 ... 158 °F |
| Operating humidity | 20 ... 90%, RH, non-condensing |
| Protection class | IP-40 |
| Housing | Anodised aluminium and plastic |
| Certificates | CE, FCC, TUV, UKCA |

**System**

| | |
|---|---|
| Input | DMX512 (RJ45) |
| Output | DMX512 (RJ45) for chaining multiple devices<br>12 output channels (screw terminals) |

content

  

# 3 General remarks

## 3.1 Transport

Only transport the device in its original packaging. This protects the device from damage.

## 3.2 Unpacking

Only unpack the e:cue DMX2CC 6CH / 12CH at its installation location. To protect the device against condensation water, unpack it and wait until all moisture remaining in the device has evaporated. Condensation can occur when the device is moved from a cold to a warm location. Keep the packaging for use in case of further transport. Inspect all parts for completeness regarding chapter „2.1 Delivery content“ on page 04. If there is apparent damage to the device or parts are missing from the delivery scope, please contact the Traxon e:cue support service.

## 3.3 Warranty regulations

Depending on the product, warranty regulations are of different duration. The warranty time is usually noted in the quote and in the order confirmation. See www.traxon-ecue.com/terms-and-conditions for details. Legal warranty regulations apply in any case.

## 3.4 Maintenance and Repair

This device requires no maintenance.

- Before dismounting, appropriate measures must be taken to protect the respective components against damage caused by electrostatic discharge (ESD protection).
- Do not try to repair the device. Return it to your Traxon e:cue distributor for replacement or repair.

To update the firmware see „8 Firmware update“ on page 15.

## 3.5 Disposal

Batteries and technical appliances must not be disposed of with domestic waste, but should be handed in at the appropriate collection and disposal points.

The proper disposal of packing materials and of the device is the responsibility of the respective user and for his account; in all other matters, the retrieval obligation for packing materials and the device is subject to the statutory regulations.

## 3.6 Support

In case of technical problems or questions regarding installation and repair please contact:

Traxon Technologies Europe GmbH
Customer Service
Karl-Schurz-Str. 38
33100 Paderborn, Germany
+49 (5251) 54648-0
support@ecue.com

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# 4 Installation

The DMX2CC driver is designed to snap onto a standard DIN rail for installation in a wall mount enclosure. LED-wiring connections are made using pluggable screw terminals, the DC Power In connections are made using the captive screws and the RJ-45 DMX512 input/output positioned along the top, clearly accessible from the front for easy installation and servicing.

When installed in an enclosure utilizing 45 mm cutouts, the front panel LCD of the DMX2CC driver stays visible while the connections are concealed.

For proper installation and subsequent operation of each unit, pay special attention to the following recommendations:

1. Upon unpacking the product, inspect the contents of the carton for shipping damages. Do not install damaged units.

2. Ensure proper ventilation of each unit and avoid areas where corrosion, deteriorating or explosive vapors, fumes or gases may be present. Each unit must be oriented with the power-in terminal block and DMX data connectors towards the top to permit proper heat dissipation.

3. Allow for proper distance of unit enclosure and wiring terminals for easy access, hardware configuration and maintenance.

4. Ensure that the unit is securely attached, properly mounted, and free of excessive vibration.

5. Avoid touching the surface of the housing during operation; power down the unit and allow it to cool down before touching the housing.

6. The unit must be mounted on a DIN Rail profile: Make sure that the DIN Rail is properly mounted on the wall. Simply clip the unit onto the DIN Rail.

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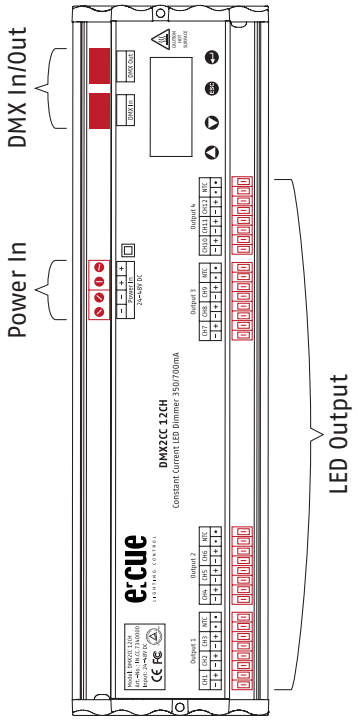
# 5 Connectors and wiring



### 5.1 LED Wirings Test

The DMX2CC has a unique algorithm for detecting load type and wrong LED connections. It can detect if the LED's (+) and (-) lines are having a short circuit between them or mixed connection with a neighbour channel inside the terminal plug. If the device detects an incorrect wiring on one of the outputs, that group of channels will not be operational until the problem is fixed.

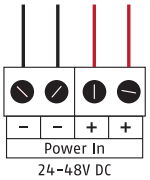
### 5.2 Auto Load Detection

Each channel of the DMX2CC is capable of auto-detecting the LED load type connected to it and selecting the appropriate operating mode to control that load.

### 5.3 DRTP – Driver Thermal Protection

The DMX2CC has internal temperature sensor which allows it to monitor the temperature of the internal power circuitry. If for any reason external ambient temperature rises above the permitted limit, the device will not let the internal circuitry to overheat by reducing the output power. By doing so, it's avoiding Driver malfunction caused by overheating, still driving the LEDs even at worst conditions and preserving the DMX2CC's lifetime.

### 5.4 PSU Selection Guidelines




! Please follow the PSU selection guidelines below in order to select the correct power supply.

! Use at least 15 AWG (1.5mm2) for DC power-in connection.

! It is highly recommended to connect all four terminals of the power-in captive screw terminal.

! Maintain correct polarity when connecting the power supply. Failure to do so may cause damage to the unit.

The PSU must be selected keeping in mind the maximum number of serial LEDs per channel in the application, output cable type/length, and the power rating needed to drive the LEDs at the desired current. The table below illustrates the relationship between these variables.

| No.of LEDs in a series | Total Vf of LEDs (typ.) | Recom.PSU voltage | Minimal PSU Power Rating for DMX2CC 6Ch Dimmer | | Minimal PSU Power Rating for DMX2CC 12Ch Dimmer | |
|---|---|---|---|---|---|---|
| | | | @350mA | @700mA | @350mA | @700mA |
| 1 | 3.5V | 24V | 10W | 20W | 20W | 40W |
| 2 | 7V | 24V | 18.8W | 37.6W | 37.6W | 75.2W |
| 3 | 10.5V | 24V | 26.5W | 53W | 53W | 106W |
| 6 | 21V | 24V | 50.3W | 100.6W | 100.6W | 201.2W |
| 9 | 31.5V | 36V | 72.8W | 145.6W | 145.6W | 291.2W |
| 12 | 42V | 48V | 92.6W | 185.2W | 185.2W | 370.4W |

### 5.5 Cable type and length limitations

At driving current 350 mA

| AWG COPPER | Diameter mm | Ohms per km | Max amps for power transmission | Voltage drop (100m, 350mA) | max. LEDs 50m | max. LEDs 100m |
|---|---|---|---|---|---|---|
| 26 | 0.40386 | 134 | 0.36(2.2) | 4.69 | 12 | 10 |
| 24 | 0.51054 | 85 | 0.57(3.5) | 2.975 | 12 | 12 |
| 22(0.34mm2) | 0.64516 | 53 | 0.92(7) | 1.855 | 12 | 12 |
| 18(0.75mm2) | 1.02362 | 21 | 2.3(16) | 0.735 | 12 | 12 |
| 15(1.5mm2) | 1.45034 | 11 | 4.7(28) | 0.385 | 12 | 12 |

content

| AWG COPPER | max. LEDs 150m | max. LEDs 200m | max. LEDs 250m | max. LEDs 300m | max. LEDs 400m | max. LEDs 500m |
|---|---|---|---|---|---|---|
| 26 | 9 | 8 | 7 | 5 | 3 | X |
| 24 | 11 | 10 | 9 | 8 | 6 | 5 |
| 22(0.34mm2) | 12 | 11 | 11 | 10 | 9 | 8 |
| 18(0.75mm2) | 12 | 12 | 12 | 12 | 11 | 11 |
| 15(1.5mm2) | 12 | 12 | 12 | 12 | 12 | 12 |

At driving current 700 mA

| AWG COPPER | Diameter mm | Ohms per km | Max amps for power transmission | Voltage drop (100m, 350mA) | max. LEDs 25m | max. LEDs 50m |
|---|---|---|---|---|---|---|
| 26 | 0.40386 | 134 | 0.36(2.2) | 9.38 | 12 | 10 |
| 24 | 0.51054 | 85 | 0.57(3.5) | 5.95 | 12 | 11 |
| 22(0.34mm2) | 0.64516 | 53 | 0.92(7) | 3.71 | 12 | 12 |
| 18(0.75mm2) | 1.02362 | 21 | 2.3(16) | 1.47 | 12 | 12 |
| 15(1.5mm2) | 1.45034 | 11 | 4.7(28) | 0.77 | 12 | 12 |

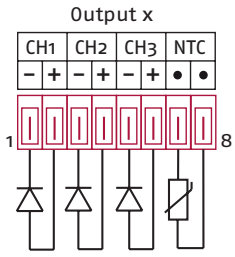
| AWG COPPER | max. LEDs 100m | max. LEDs 150m | max. LEDs 200m | max. LEDs 300m | max. LEDs 400m | max. LEDs 500m |
|---|---|---|---|---|---|---|
| 26 | 8 | 5 | 3 | X | X | X |
| 24 | 10 | 8 | 7 | 3 | X | X |
| 22(0.34mm2) | 11 | 10 | 9 | 7 | 5 | 3 |
| 18(0.75mm2) | 12 | 11 | 11 | 11 | 10 | 10 |
| 15(1.5mm2) | 12 | 12 | 11 | 11 | 10 | 9 |

X means that the specified cable type/length cannot be used.

Light grey color means that only a limited amount of load may be used with the specified cable type/length as stated in the relevant row/column.

### 5.6 LED output wiring

Please refer to the previous cable type/length limitations tables for the selection of the correct cable type. The DMX2CC driver features the TP - Fixture Thermal Protection which protects the LED fixture from overheating while maintaining light output. For more information about thermal protection please see the TP-Fixture Thermal Protection section.




| Pin | Polarity | Description |
|---|---|---|
| 1 | - | CH1 (R) |
| 2 | + | |
| 3 | - | CH2 (G) |
| 4 | + | |
| 5 | - | CH3 (B) |
| 6 | + | |
| 7 | Thermal feedback | NTC (10 kOhm, B25/85 = 3800) |
| 8 | | |

⚠ If the NTC sensor is not connected, TP protection will be disabled for that output.

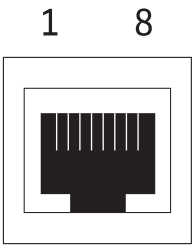
content

### 5.7 DMX wiring

Pin assignment

| Pin | DMX IN Signal | DMX Out Signal |
|---|---|---|
| 1 | Data - | |
| 2 | Data + | |
| 3 | GND | |
| 4 | N.C. | |
| 5 | +16 VDC/0.3 A | N.C. |
| 6 | N.C. | N.C. |
| 7 | N.C. | N.C. |
| 8 | N.C. | N.C. |


The onboard 16 VDC can be used to supply power to a DMX controller from the DMX IN RJ-45 connector. The DMX2CC has an active DMX signal repeater which eliminates the need of DMX splitter/repeaters when daisy chaining DMX2CCs.

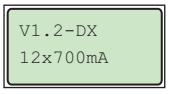
⚠
- Before connecting any DMX controller, refer to the installation guide of the controller manufacturer.
- If onboard 16 VDC power output is not used, make sure that this line is isolated from any other pins.

## 6 Power-up sequence

After applying power to the Unit, it will perform a quick self test for correct Output LED wiring and a proper voltage from the DC Power Supply. Each of these tests is followed by corresponding messages on the LCD screen.

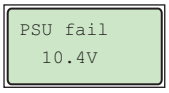
### 6.1 Power supply test

After power-up the following message is displayed on the LCD screen:



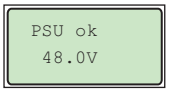

Firmware version
Number of channels and rated current

If voltage from the PSU (Power Supply Unit) is not in the allowed range, the unit will not operate and the following message will be displayed:




PSU voltage is too low

If the Power Supply Unit voltage that connected to the unit is in normal range, the following message will be displayed:




PSU voltage is in range

Please refer to the Technical Data Specifications to select the correct Power Supply.

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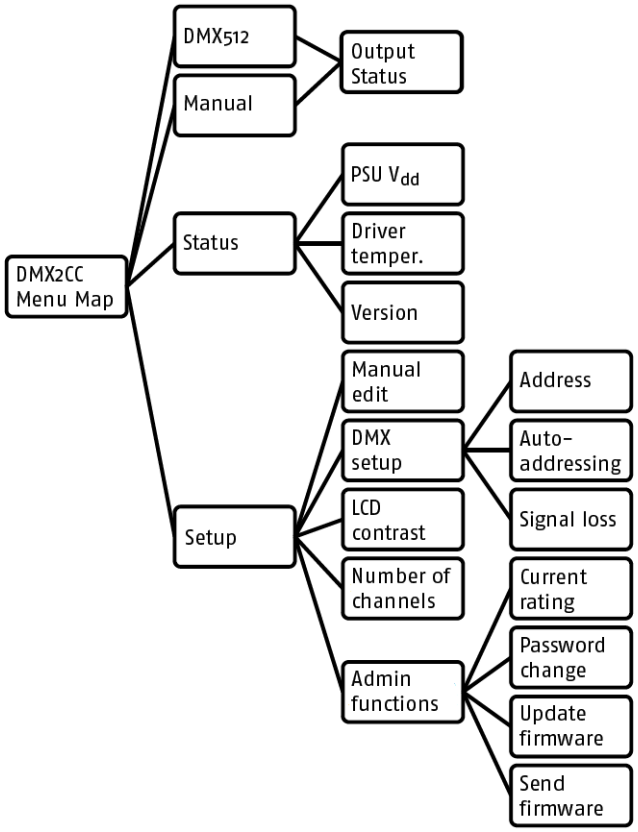
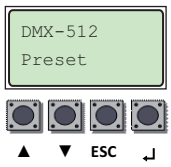
# 7 Device setup

To change from standard mode to setup mode keep the ESC key pressed for some seconds.




## 7.1 Menu navigation




Press ▲ and ▼ to navigate through the options/change setting

Press ☒ to enter sub menu/confirm changes

Press ESC to go back to the previous menu/discard changes

## 7.2 DMX mode

This is the mode for standard DMX control.


This mode is for standard DMX512 signal control. Bottom LCD line shows graphic-bar representation of DMX input signal values. ADMX: means autoaddressing enabled. Keeping the ESC key pressed for some seconds shows the Output Status Menu.

## 7.3 Manual mode

This mode is for a static scene output.


You can set the channel values for this mode within the setup menu.

Keeping the ESC key pressed for some seconds shows the Output Status Menu.

## 7.4 Status menu

From this menu you can check the system status of the DMX2CC 6/12 driver.

- PSU voltage – Power Supply Unit voltage
- Driver Temperature – Shows the temperature of the internal PCB of the driver (approx. value and only accurate for temperatures > 40 °C)

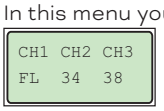
- Version – Shows firmware version and Current Rating of the driver.

### 7.5 Setup menu

Here you can edit various settings such as DMX start address, LCD contrast, manual mode channels edit and current rating.

### 7.6 Manual edit

In this menu you can edit the values of each channel of the Manual Mode.



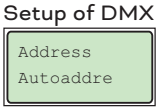

The highlighted option will flash. First line are channel numbers, second line are values.

Press ☒ to highlight the channel number or channel value.

- When the channel number is highlighted, press ▲ and ▼ to scroll between the channels.
- When the channel value is highlighted, press ▲ and ▼ to change the channel value (hold ▲ and ▼ for quick value change).
- Press ESC to return to the previous menu; when prompted press ☒ to save changes.

### 7.7 DMX setup

**Setup of DMX addressing.**




In this menu, you can change the DMX address of the unit and enable / disable the auto-addressing function.

**Address:**

- Press ▲ and ▼ to change the DMX address of the unit (hold ▲ or ▼ for quick number change).
- Press ☒ to save & exit. Press ESC to exit without saving.

**Auto-addressing:**

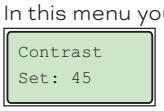
- Press ▲ to enable auto-addressing, press ▼ to disable auto-addressing.
- Press ☒ to save & exit. Press ESC to exit without saving.

**Signal loss:**

- Hold - the unit retains the last received values before the DMX signal was lost
- All 100% - all channel values will be set to 100% (FL)
- Manual - channel values will be set to the values for Manual Mode
- Press ▲ and ▼ to scroll between the settings
- Press ☒ to save & exit. Press ESC to exit without saving.

### 7.8 LCD contrast

In this menu you can change the contrast level of the LCD




The value can be set to 0 ... 100.

To adjust the contrast:

- Press ▲ and ▼ to change the contrast level.
- Press ☒ to save & exit.
- Press ESC to exit without saving.

content

### 7.9 Number of channels

You can limit the maximum number of control channels from 1 to 12 (DMX2CC6: 1 - 6, DMX2CC12: 1 - 12). For example, if the number of working channels is set to 6 channel mode, the channels 7-12 will be a copy of channels 1-6.


If the number of working channels is set to 3 channel mode, the channels 4-6, 7-9, 10-12 will be a copy of channels 1-3. This function is designed to allow synchronous operation of several/all channels.

To set the number of channels:

- Press ▲ and ▼ to change the number of channels.
- Press ☒ to save & exit.
- Press ESC to exit without saving.

### 7.10 Admin Maintenance

This menu is protected by a password in order to prevent accidental change of the Current Rating Setting. Current Rating is a maximal current in [mA] that the Unit shall output at full (FL) channel value. The default factory preset password is: 512. The password can be changed in the Password Change menu. The current rating can be changed from 50 to 700 mA in the Current Rating menu.


Entering the password the highlighted digit will flash.

- Press ▲ and ▼ to change the highlighted digit.
- Press ☒ to save & exit.
- Press ESC to exit without saving.

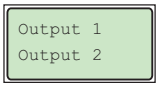
Available options are:

- Current rating: Press ▲ and ▼ to change the current rating of the unit (hold ▲ or ▼ for quick number change). Press ☒ to save & exit. Press ESC to exit without saving.
- Password change: Press ▲ and ▼ to change the password (hold ▲ or ▼ for quick number change). Press ☒ to save & exit. Press ESC to exit without saving.
- Update firmware: Press ☒ to select this option if you want to update the firmware.
- Send firmware: Press ☒ to select this option if you want to send the firmware from your unit to another unit.

⚠ The admin password must be entered only once and then is stored. Before returning to normal operation the DMX2CC should be switched off and on again.

### 7.11 Output Status Menu

The Output Status Menu shows information about the status of connected fixtures, such as: voltage, current, temperature and thermal protection dimmer value.




This menu can be accessed from DMX or Manual Mode by pressing and holding ☒.

- Press ▲ and ▼ to select the outputs.
- Press ☒ to view the status of this output.
- Press ESC to exit the Output Status Menu.

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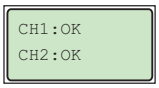
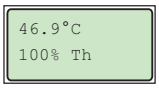
If no LEDs are connected to this output Unplugged is displayed.




CHxx:OK indicates that LEDs are connected to this channel.
CHxx: Unplugged indicates that no LEDs are connected to that channel.

Press ▲ and ▼ to scroll between the tree channels of the selected the outputs. Two bottom statistics are thermal feedbacks (only available on supporting fixtures with thermal sensors on-board) from the fixture connected to the output.

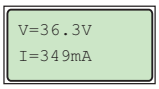



First line is fixture temperature.
Second line is thermal dimmer value.

Fixture Temperature – displays the temperature of the fixture in [°C].
Thermal Dimmer value – displays the percentage of output current (in reference to the nominal current rating value), which is affected by the thermal protection.

### 7.12 Channel statistics

The unit constantly measures drop voltage and driving current of every channel. To view channel statistics, select the desired channel and press ☒. The following screen will be briefly shown for a few seconds:




First line is channel drop voltage.
Second line if channel driving current.

### 7.13 TP - Fixture Thermal Protection

This feature allows the unit to receive feedback about the temperature of the connected fixture. If the environment temperature causes the fixture to overheat (max. allowed LED fixture temperature is 75C), the unit will lower the level of the current passing through the fixture until the temperature of the fixture is stabilized within the allowed limitations. If the environment temperature declines, the unit will raise the level of the current passing through the fixture. The changes of current will not affect the color of the light; but only its intensity.

It should be noted that the light intensity depends very much on the temperature of the LED. For example, if an LED driven at 700mA current reaches a high temperature, its light output may decline by half. So, if you lower the current passing through this LED, you will in fact get the same light intensity while the temperature of the LED will be able to stabilize.

In other words, the system adapts itself to the environment temperature around the fixture. DMX2CC has been calibrated using the following NTC sensor: Thinking Electronics Industrial - TSM2A103F3802RZ

The status of Thermal Protection can be viewed in the Output Status menu.

Thermal Dimmer value represents the percentage of the output current rating (in reference to the nominal current rating value).

For example, if the current rating is set to 700mA, then the nominal current rating value is 700mA. If the thermal dimmer value is at 80% (as a result of operating thermal protection), then the maximal output current (at FL) will be 80% of 700mA.

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# 8 Firmware update

## 8.1 Update with a PC

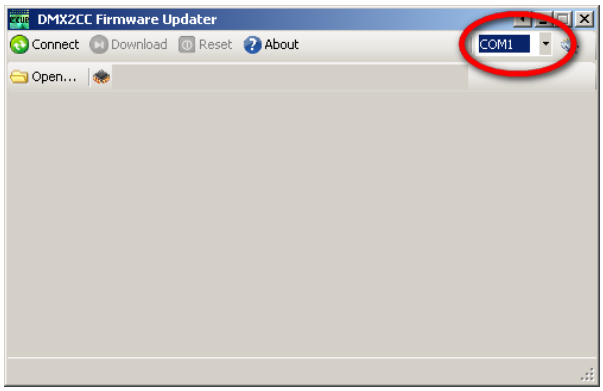
A firmware update can be made with a PC and a RS-232 to RS-485 or a USB to RS-485 standard adapter plus a firmware update application.

Connect the RS-485 cable to the RJ45 DMX IN of the DMX2CC (see previous chapter for DMX pin-out schema).

Start the firmware update application on the PC and select the COM port:

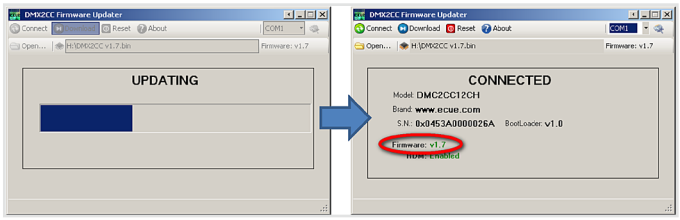
**RS-485 to RJ-45 DMX IN adapter pin-out**

| Pin | RJ-45 DMX IN | RS 485 |
|---|---|---|
| 1 | Data - | TX + |
| 2 | Data + | TX - |
| 3 | GND | GND |
| 4 | N.C. | |
| 5 | ⚠ Make sure that pin 5 of the DMX input is isolated! | |
| 6 | | |
| 7 | | |
| 8 | | |




- Load the firmware update .bin file by pressing Open button.
- Press the Connect button to get the application into slave search mode.
- Power up the Slave Unit.
- Select the Update Firmware option in the Admin Maintenance menu on the DMX2CC.
- Alternatively, press simultaneously and hold buttons ☒ and ESC, power up the DMX2CC unit and release the ☒ and ESC buttons
- The unit should display PC CONNECT on the LCD Display and the application should show information regarding connected unit.
- Press the Download button and wait until updating process completes, the update application screen will refresh with the updated data;

⚠ Do not disconnect the data cable and do not power down the Unit during firmware update!



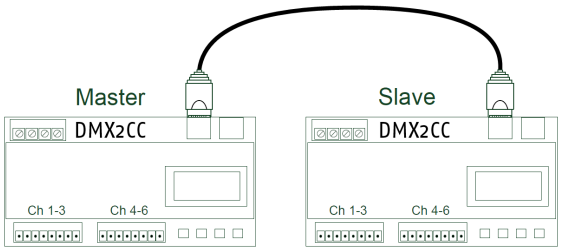

- Now press the Reset button or switch the DMX2CC off and on again
- In order to upgrade more units or in case of failure during update procedure, repeat from connecting the DMX2CC to the update application

## 8.2 Updating DMX2CC master to slave

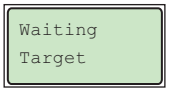
The firmware version of the Unit can be updated from another Unit. This feature is available on Units with firmware v1.5 or higher.

- Connect the DMX IN of the Master Unit to the DMX IN of the Slave Unit. Use a standard pin-to-pin CAT5 cable (refer to the DMX512 Data wiring section):




- Power up the master DMX2CC.
- Select the Send Firmware option On the master unit in the Admin Maintenance menu. You should see the following message on the LCD screen:




- Power up the slave DMX2CC.
- On the slave unit: select the Update Firmware option in the Admin Maintenance menu Alternatively, simultaneously press and hold buttons ☒ and ESC, power up the unit and release the ☒ and ESC buttons.
- Wait for the firmware update process to complete. The slave unit will reboot automatically.
- To exit the Update Mode on the master unit press and hold ESC for 5 seconds.

⚠ Do not disconnect the DMX cable and do not power down the units during firmware update!

## 8.3 Master/slave update FAQ

| Question | Answer |
|---|---|
| I disconnected the DMX cable during the update by mistake! Now the master unit displays Update FAIL!, and the slave unit is stuck at the following screen: Updating | On the master unit press the ☒ button. Verify that Waiting Target is displayed:<br>Reconnect the DMX IN of the master unit to the DMX IN of the slave unit.<br>Power up the slave unit.<br>Wait for the firmware update process to complete. The slave unit shall reboot automatically. |
| Something happened during firmware update! Now the slave unit displays: FIRMWARE ERROR! | This can happen due to various reasons, such as power loss/reset on master or slave unit or faulty/ damaged DMX cable.<br>Verify that the DMX cable is intact and the wiring is correct (refer to DMX512 Data wiring section).<br>Set the master unit to Send Firmware in the Admin Maintenance Menu. Verify that the following message is displayed: Waiting Target<br>Reconnect the DMX IN of the master unit to the DMX IN of the slave unit.<br>Power up the slave unit.<br>Wait for the firmware update process to complete. The slave unit shall automatically reboot. |

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# 9 Technical data

| Specification | DMX2CC6 | DMX2CC12 |
|---|---|---|
| Ident Code | AA5700601IL | AA5700501IL |
| Power supply | external | |
| Power input | 24 - 48 VDC | |
| Current consumption | max. 4.5 A | max. 9 A |
| Power consumption | max. 180 W | max. 360 W |
| Efficiency | up to 95% | |
| Heat dissipation | < 20 W | |
| Max. driving current | adjustable (50 - 700 mA per channel) | |
| Output current tolerance | < 5% | |
| Load regulation | 1% | |
| Output voltrage | max. 48 VDC | |
| Output channels | 6 channels | 12 channels |
| Fixture output | 2 output 1 - 12 LEDs per channel, up to 72 LEDs in total | 4 outputs 1 - 12 LEDs per channel, up to 144 LEDs in total |
| Environment | IP40, dry location | |
| Working temperature | -10 to +40 °C | |
| Storage temperature | -20 to +70 °C | |
| Working humidity | 20 - 90% RH, non-condensing | |
| Storage humidity | 10 - 90% RH, non-condensing | |
| Communication protocol support | DMX-512, auto-addressing, RDM (upon request) | |
| DMX working mode | 1 - 6 channels | 1 - 12 channels |
| Color grades | 256 level (each color), in total 16,770,000 colors | |
| Fixture protection | Open line, short line and wrong interconnection protection | |
| Output protection | PTC auto-recovery after fault condition is removed | |
| Thermal protection (unit) | Reduces output current to eliminate unit overheating | |
| DMX connection type | RJ45 | |
| Power IN connection type | Screw terminal block, 4 pin, pitch 5 mm | |
| Output connection type | Pluggable terminal block, 8 pin, pitch 3.5 mm | |
| Mounting | DIN rail EN 60715 TH35 | |
| Certification | CE, UKCA, TUV,<br>FCC: FCC Part 15, Subpart B, class A Radiated Emission Only | |

# 10 Dismounting

⚠ Before dismounting, appropriate measures must be taken to protect the respective components against damage caused by electrostatic discharge (ESD protection).

Disconnect all attached cables and dismount the e:cue DMX2CC 6CH / 12CH. The dismounting is completed.

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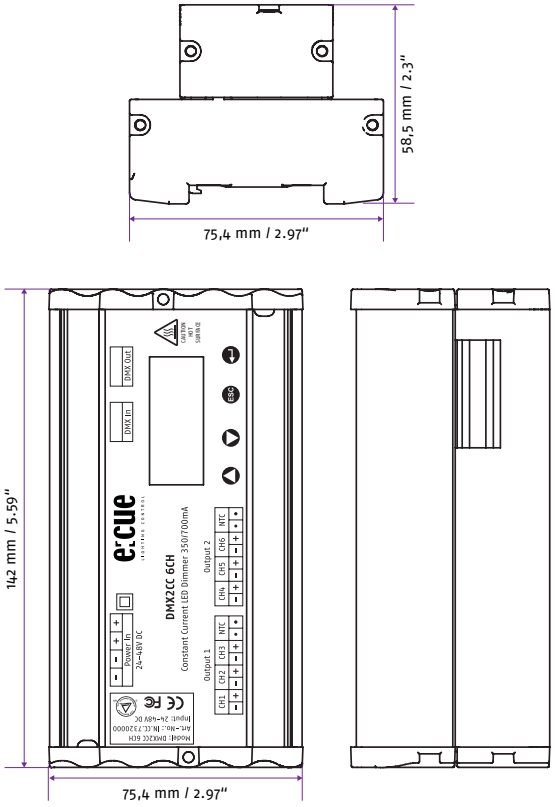
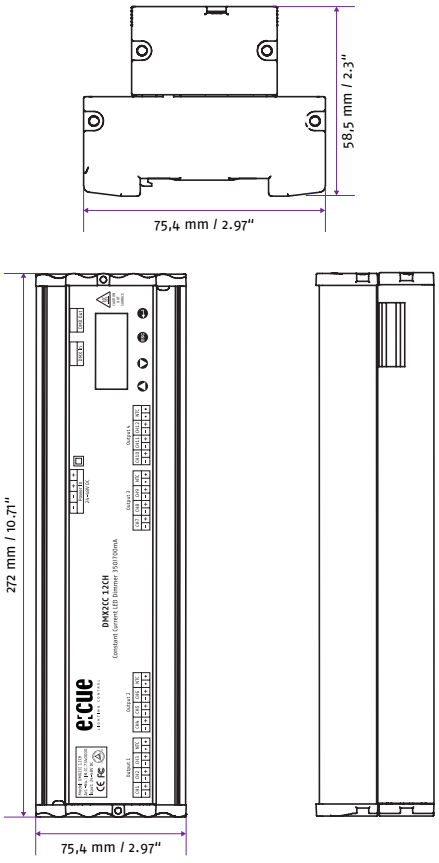
# 11 Dimensions

All dimensions in mm

- DMX2CC 6ch




- DMX2CC 12ch

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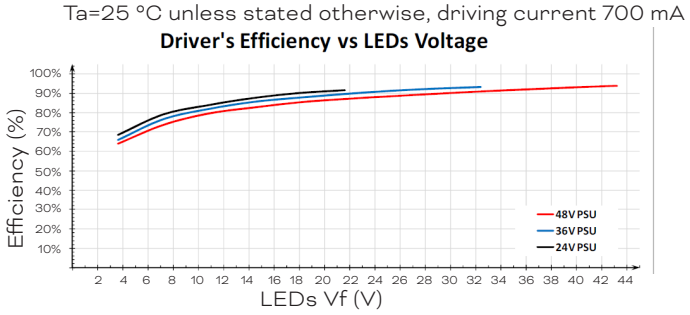
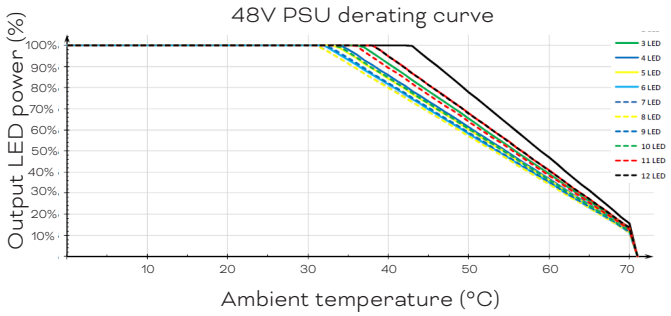
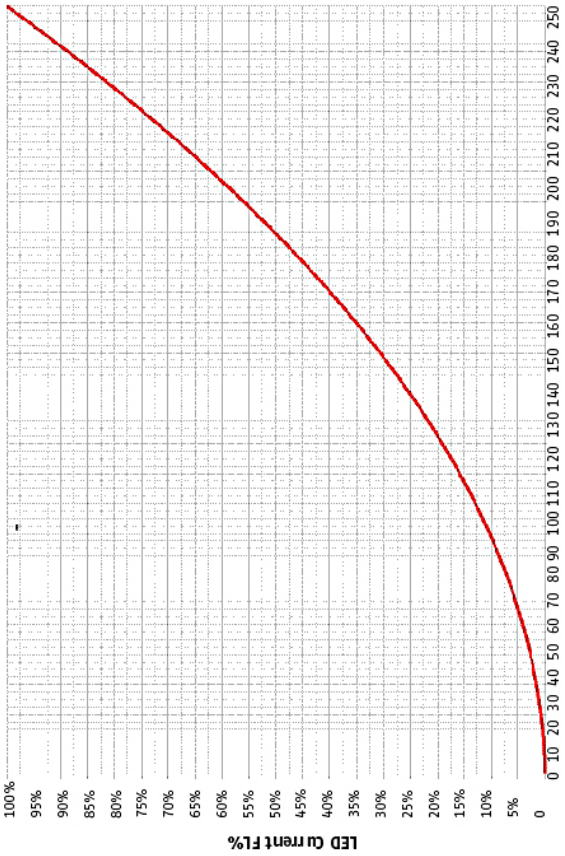
# 12 Derating curves

Ta=25 °C unless stated otherwise, driving current 700 mA

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# 13 Trouble shooting

The following table provides corrective actions for possible trouble situations.

| Trouble | | Possible causes | Corrections |
|---|---|---|---|
| Device does not function | | DMX2CC 6/12 is not receiving power from the external DC power supply | Verify POWER IN connections. Ensure that the AC circuit breaker of the PSU is not tripped. |
| Device not responding to DMX-512 input signal | | DMX2CC 6/12 is not in DMX-512 Run Mode | Set DMX2CC 6/12 to DMX-512 Run Mode. |
| | | Bad DMX-512 wiring or DMX-512 signal is missing | Check DMX-512 wiring. When unit is receiving a correct DMX-512 signal, the  icon will blink at the top right of the LCD display. |
| Output x FAULT!!! is shown on the LCD display | | Possible wiring problem with the x output. | Enter Output Status menu, select the x output and review the status messages. |
| Error messages (in the Output Status menu) | CHX: Short circuit!!! | Short circuit on channel X. | Check the output wiring. |
| | CHX: Wiring fault!!! | Incorrect connection wiring on channel X | Check the output wiring. |
| | Hardware fault!!! | Internal circuitry malfunction. | Contact a e:cue customer service representative. |

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