



cambium xl



USER MANUAL



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USER MANUAL

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Safety Instructions



Devices must be installed by qualified personnel in compliance with all pertaining regulations.

- Always refer to the technical parameters in the data sheet. All items are subject to technical modification.
- Refer to the attached User Manual as a basis for correct use.
- Consult circuit diagram for correct wiring.
- Note! Before attempting any work, make sure device is separated from main power.
- Make sure protection against line voltage shock is provided during installation.
- We recommend securing the installation by RCD circuit breakers.
- Note that adjacent parts or devices must be temperature proof up to 90°C.
- Do not operate the device with inductive consumers (fluorescent lamps, gas discharge lamps, ventilators etc.) in the same electric circuit. Activation of inductive consumers can cause damage to the operating device.
- Mind the operating temperatures of the device according to the technical data sheet.
- Before drilling the mounting holes, take precautions not to harm or damage any power lines.
- Do not solder cable strands. Use cable strand sleeves instead.
- Note and mind voltage label on the device.
- Make sure flawless electrical connectivity is provided.;
- Connecting the device to the powered-up mains can cause damage to the device! (voids product warranty!)
- No modification allowed. No liability will be assumed in case of damage incurred by alteration, improper use or faulty installation.



Scope of delivery

- Check completeness of supplied device immediately after receipt.

In delivery included:

- cambium xl - device
- Power Supply
- CD with Software
- User Manual

If you detect any transportation damage or differences between specified packing contents and your unpacked delivery, please contact your dealer immediately.

Technical Data

Dimensions 106 mm x 146 mm x 11 mm
4.17 in x 5.75 in x 0.43 in

Control DMX
Output: 2 x DMX 512 (1024 DMX Channels)
Input: 8 potential-free inputs binary configurable (255 Trigger)

Input Voltage Power supply: external
5 - 6 VDC

Operating Temperature 0 °C / +50 °C | 32 °F - 122°F

Housing Glass-Touch Panel with color display,
for standard two gang back box

Housing Color(s) Glass: White
Frame: Plastic, black

Weight 0,25 kg (0.55 lbs)

Ingress Protection IP20

Certification 

Additional Information Remote Control Apps for iOS | Android

- Direct Color Control (also for White Channel)
- Life Control for Color Palette, Speed and Dimming
- Up to 500 scenes can be stored
- Up to 10 different zones can be controlled simultaneously
- Clock and Calendar Controller with up to 100 records integrated
- Network- / USB-Interface
- RS232 and http Trigger

Memory card: MicroSD Card

Mounting

1. Mount an electrical box inside the wall

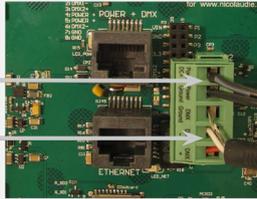
The controller can be installed in any standard electrical backbox. If you use a double size box, you can insert the power supply inside.



2. Connect the wires

POWER: Connect a 5.5V or 6V DC 0.6A ACDC supply. Be sure to not invert the + and the ground.

DMX: Connect the DMX cable to the lighting receivers (Leds, Dimmers, Fixtures..) (for XLR: 1=ground 2=dmx- 3=dmx+)



3. Mount the interface on the wall

First, mount the back side of the interface on the wall with 2 or more screws

Secondly, plug the connectors :

- DMX and power (connector block or RJ45)
- Ethernet cable

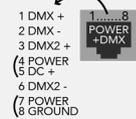
The front panel is mounted by pressing it against the back plate and then sliding down. 2 screws should then be attached underneath to hold the controller in place.



POWER+DMX WITH THE CONNECTOR BLOCK



POWER+DMX WITH THE RJ45 CABLE



****CHECK PIN CONFIGURATIONS. APPLYING POWER TO THE DMX INPUT WILL DAMAGE THE CONTROLLER****
****MAKE SURE THE CONTROLLER IS MOUNTED WITHOUT TOO MUCH FORCE BEHIND AS THIS CAN PUSH APART THE GLASS****

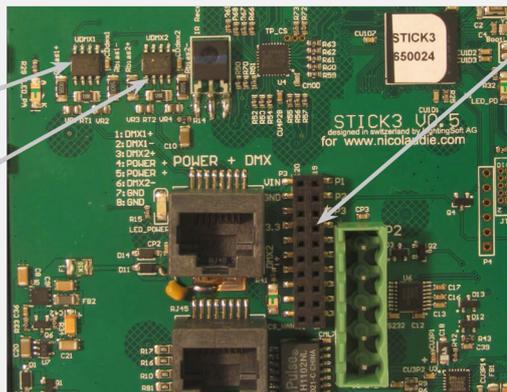
2x10 pins EXTENSION socket

DMX CHIP replacement

DMX universe #1

DMX universe #2

Ref: SP485ECN-L
MAX485 CSA



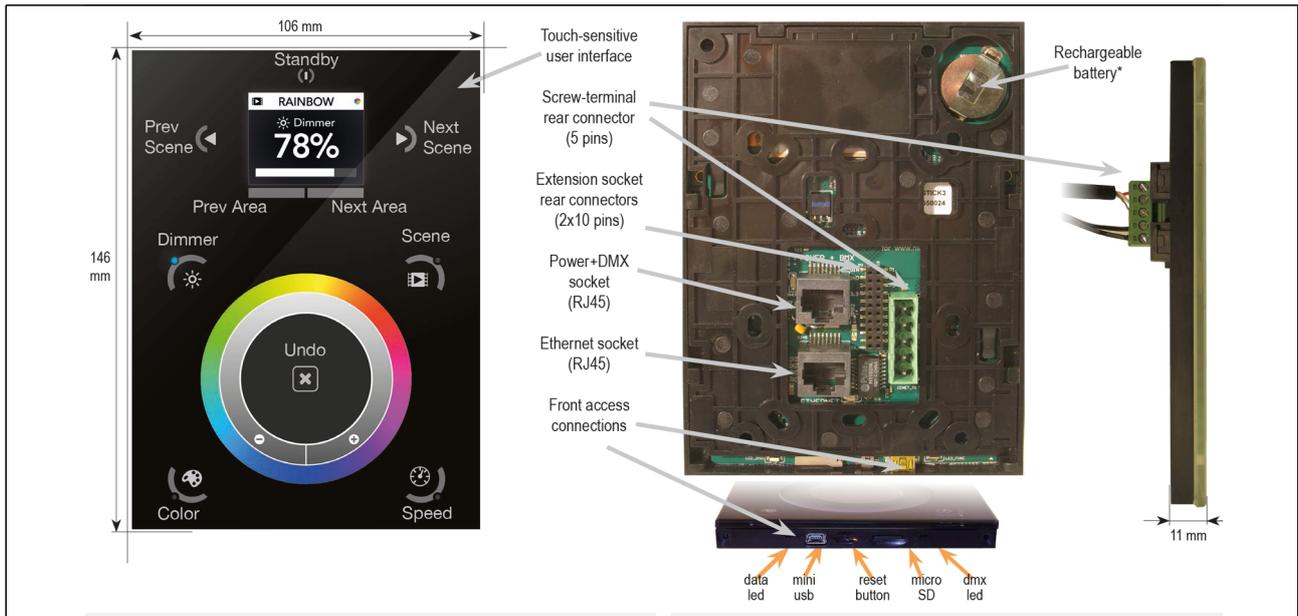
EXTENSION socket

VIN	20	19	PORT1
GND	18	17	PORT2
IR_RX	16	15	PORT3
3.3V	14	13	PORT4
Relay	12	11	PORT5
DMX2+	10	9	PORT6
DMX2-	8	7	PORT7
DMX1+	6	5	PORT8
DMX1-	4	3	RS232 RX
GND_DMXX	2	1	RS232 TX

Compatible header connectors:

WURTH ELEKTRONIK ref: 61301021121
 MOLEX ref: 10-89-7202
 TE Connectivity ref: 1-87227-0
 FCI ref: 77313-101-20LF
 HARWIN ref: M20-9981046
 SAMTEC ref: TSW-110-xx-T-D
 FARNELL ref: 1841232
 RS ref: 763-6754 673-7534 251-8165
 MOUSER ref: 538-10-89-7202
 DIGIKEY ref: WM26820-ND

Commissioning



RS232 Triggering

Make a cable using the 3 pins : TX, RX and G (GND) Set the RS232 parameters to : 9600bds 8 bits, no Parity, 2 Stop bits

- To play a scene, send 3 bytes : 1 x y 255
- To stop a scene, send 3 bytes : 2 x y 255
- To pause a scene, send 3 bytes : 3 x y 255
- To release a pause, send 3 bytes : 4 x y 255
- To reset a scene, send 3 bytes : 5 x y 255

When (y)=0, (x) can be set between 0 and 255 -to stop scene 145, send the command: 2 145 0 255 When (y)=1, (x) can be set between 0 and 243 to trigger scenes 256-499 -to play scene 300, send the command: 1 255 45 255

TCP Triggering

The controller can be connected to an existing automation system over a network and triggered via TCP package on port 2431 or UDP packets on 2430. Refer to the remote protocol document for more information.

Network Control

The controller can be connected to a local network, allowing it to be controlled from a smartphone or tablet over WiFi.

- Connect the controller to a router or switch with an RJ45 cable
- The controller is set by default to get an IP address from the router via DHCP. If the network is not working with DHCP, a manual IP address and subnet mask can be set using the Hardware Manager
- If the network has a firewall enabled, allow ports 2430 and 2431

Operation

1. Setting up the Controller

iPhone/iPad/Android Control

The controller can be used with one of 3 different apps. Each available at Google Play and the App store.

DMX Lightpad 3

Designed to work seamlessly with the controller, DMX Lightpad 3 provides an easy way to control your lights over a local WiFi network. Use the wheel to change the dimmer, color or speed, and the arrows to select scenes and effects just like the wall panel. Swipe down to reveal quick access scene selection buttons.

Easy Remote

Create an entirely customized remote controller for your tablet or smartphone. Easy Remote is a powerful and intuitive app allowing you to easily add buttons, faders, color wheels and more. Connect to a WiFi network and the app will find all compatible devices.

Arcolis

The Arcolis application is a comprehensive tool allowing you to directly control and re-program the controller from your smartphone or tablet. This is a simple application which can be used by just about everyone in any situation. Mobile, easy to use and powerful, Arcolis is the ideal controller for dimming or switching traditional, LED and RGB color mixing DMX lighting fixtures. Program static and dynamic lighting scenes and effects.

Programming the Controller

The controller be programmed from a PC, Mac, Tablet or Smartphone using the software available on our website. Refer to the corresponding software manual for more information. The firmware can be updated using the Hardware Manager which is included with the programming software.

ESA Pro Software (Windows) - Timeline + Multi-Zone <http://www.nicolaudie.com/en/esapro.htm>

ESA2 Software (Windows/Mac) - Single Zone <http://www.nicolaudie.com/esa2.htm>

Hardware Manager (Windows/Mac) - Firmware, clock..

<http://www.dmxsoft.com/global/ftp/hardwaremanager.zip>

<http://www.dmxsoft.com/global/ftp/HardwareManager.dmg>

Color Temperature Mixing

In addition to mixing RGB using the color pallet, it's also possible to mix up to 3 custom colors. This is useful for mixing color temperature. To set this up, choose the correct profile for your lighting fixture when programming the controller. Profiles for common channel configurations can be found in the 'Generic' folder:

- RGBW for Red, Green, Blue, White
- RGBA for Red, Green, Blue, Amber
- RGBY for Red, Green, Blue, Yellow
- WWCW for Warm White, Cold White

Once your show has been written to the controller, tap the color mode button and use the circular palette to change the color. If your lighting fixture has more than 3 color channels, tap the color mode button a second time to mix the additional colors.

Settings Menu

Setting up the Controller To access the settings menu, hold the standby button for 3 seconds.

- Use the arrow buttons or palette to scroll through the menus
- Use the area buttons to navigate forwards and backwards
- The 'undo' button can also be used to navigate forwards

Mode (M): Manages the on/off button and the 4 modes (dimmer, speed, color, scene)

Arrows (A): Allows you to adjust which modes can be controlled by the arrows

Pallet (P): Allows you to adjust which modes can be controlled by the palette wheel

Scene (S): Scene management First

Start (F): Default settings when the unit is first powered up

Trigger (T): Manages the controllers external triggering properties

Ethernet (E): Enables the Ethernet socket on the controller

Date/Time (D): Manages the date and time stored inside the controller

Graphics (G): Screen management DMX

Output (X): Manage the timings of the DMX output messages and the page priorities (advanced function!)

Sensitive (S): Manage the touch sensitivity settings

Language (L): change the language of the text which appears on the screen

About: check the firmware release date and version number and assign a name for the controller

2. Service

Servicable parts include:

- Memory card - used to store the scenes
- Battery - used to store the clock/calendar
- DMX Chips - used to drive the DMX

To replace the Li-Ion rechargeable battery on the cambium xl:

1. You need a rechargeable 3.6v LIR 2032 replacement battery
2. Remove the back panel by pulling down and sliding it out.
3. Using a paper clip push the battery from the bottom so it slides out of its cage.
4. Slide the replacement battery in from the top, making sure the positive side is facing up.
5. Replace the back panel by pushing it up into place.

3. Internal Menu

MODE (M) : Manages the on/off button and the 4 modes (dimmer, speed, color, scene)

- M OFF enable : enables/disables the use of the on/off button so that the controller is permanently on
- M Dimm. enable : when enabled, scenes can be made brighter or darker
- M Color. enable : when enabled, the color of a scene can be changed
- M Speed. enable : when enabled, dynamic scenes can be made faster and slower
- M Scene. enable : when enabled, the scene can be changed
- M Auto mode : when enabled, the controller will revert to the default mode after it has been left for a specified period of time
- M Auto time : the amount of time the controller will wait before reverting to the default mode
- M Default : the default mode which the controller will revert to after a certain amount of time
- M Dimmer 100% : when enabled, the dimmer mode will adjust between 0% and 100% without saturating to white between 100% and 200%
- M Lock Control : Once this is enabled, you can hold the dimmer button for 5 seconds to enable/disable lock mode. It's automatically activated
- after 120 seconds. When lock is activated, you'll see a red border around the screen

Arrows (A) : Allows you to adjust which modes can be controlled by the arrows

- A Dimmer enable : allows for the Dimmer mode to be controlled by the arrows
- A Color enable : allows for the Color mode to be controlled by the arrows
- A Speed enable : allows for the Speed mode to be controlled by the arrows
- A Scene enable : allows for the Scene mode to be controlled by the arrows
- A Default : the mode to jump to when the arrows are pressed, if the arrows are not enabled on the selected mode

Palet (P) : Allows you to adjust which modes can be controlled by the palette wheel

- P Dimmer enable : allows for the Dimmer mode to be controlled by the palette wheel
- P Color enable : allows for the Color mode to be controlled by the palette wheel
- P Speed enable : allows for the Speed mode to be controlled by the palette wheel
- P Scene enable : allows for the Scene mode to be controlled by the palette wheel
- P Default : the mode to jump to when the palette is pressed, if the palette is not enabled on the selected mode

Scene (S) : Scene management

- S 0(off) enable : displays an empty off scene before scene 0 in each area
- S Pause enable : allows a scene to be paused if the scene mode button is held for 1 second
- S Stop enable : allows a scene to be stopped if the scene mode button is held for 4 seconds
- S Fade config : manages the fading between scenes
 - From Show : the fade time set inside the show file will be used
 - Force : the automatic fade time set in the menu will override all fadetimes in the show file
 - Force Max : the controller will look at the show file fade time and the menu fade time and use the greatest
 - Force Min : the controller will look at the show file fade time and the menu fade time and use the smallest
 - Never : the controller will never fade between scenes
- S Fade time : the time of the automatic fade between scenes

- S Auto reset : when enabled, any color, dimmer or speed overrides will be reset each time the scene is changed
- S Trigger : sets the scene triggering mode. Time Delay and Scene Butt allow for scenes to be scrolled through without playing
 - Auto : the scene will be triggered as soon as it's selected
 - Time Delay : a short delay is added before a scene is triggered
 - Scene Butt. : the selected scene will not play until the scene button is pressed

First Start (F) : Default settings when the unit is first powered up

- F Scene Nr. : specify a default scene number
- F Scene Scene Recover : activates the previously playing scene
- F Display Time : when enabled, the time will be displayed on the screen at startup
- F Scene Nr. : enables the triggering of a scene at startup. If disabled, no scene will be triggered

Trigger (T) : Manages the controllers external triggering properties

- T Time enable : enables the clock triggering
- T Ports enable : enables the 8 dry contact ports
- T RS232 enable : enables scene triggering by RS232
- T IR enable : enables the infra red port (disabled by default to prevent interference)
- T UDP enable : allows the controller to send and receive UDP messages required for network control
- T Blackout port : enables the blackout relay output which is triggered when the standby button is touched

Ethernet (E) : Manages the controllers network settings

- Ethernet : Enables the Ethernet socket on the controller
- Dynamic IP Addr : enables dynamic IP addressing (DHCP) which allows the controller to obtain an IP address from a router
- Sync Blackout: when this option is enabled, all other controllers on the network will go into standby when the standby button is pressed
- Enable NTP : enables Network Time Protocol. The controller will synchronise the clock with the internet if a connection is available
- NTP Server : the IP address of the server to synchronize the clock. The default is 005.135.141.108
- Device's IP Add : the controller's static IP address it will use if it does not receive an IP address via DHCP
- Mask: the subnet mask of the controller if not set to DHCP. Generally this is 255.255.255.0
- Default Gateway : the IP address of the router if not set to DHCP
- MAC Address : a unique ID used to identify the controller on the network

Date/Time (D) : Manages the date and time stored inside the controller

- Date : the controller's date
- Time : the controller's clock time
- G Bright normal : the % brightness when the controller is not sleeping G Bright sleep: the % brightness when the controller is sleeping
- G Bright LED : the % brightness of the mode and reset LEDs

Graphics (G) : Screen management

- G Image enable : allows for images to be shown for each scene if they have been assigned in the programming software
- G Image full : when enabled, the image will be displayed in full screen and the scene and area will not be visible
- G Image time : the time it takes before the image is displayed in full screen
- G Sleep enable : when enabled, the screen brightness will dim after a certain amount of time
- G Sleep time : the amount of time to wait before sleeping
- G Bright normal : the brightness of the screen's backlight
- G Bright sleep : the brightness of the screen's backlight whilst the controller is sleeping
- G Bright LED : the brightness of the scene, undo and standby LED's

DMX Output (X) : Manage the timings of the DMX output messages and the page priorities (advanced function!)

- X MBB : Mark Before Break- the time to wait between sending each 512 channel DMX message (or 'packet')
- X Break : Break- the time to wait just before sending a new packet, resetting the DMX line
- X MAB : Mark After Break- the message which tells your receiver to begin reading data
- X MBS : Mark Between Slots- the delay time between sending each DMX channels data within the DMX packet
- Univ-1/Univ-2 : each timing can be set differently depending on the universe number
- X Alphab Mode : if the same scene is triggered in the global area and a second area, the area with the highest letter will take priority
- X LTP Mode : If the same scene is triggered in the global area and a second area, the latest scene triggered takes priority

Sensitive (S) : Manage the touch sensitivity settings

- S USB Init : reset the touch sensitivity when the USB is connected and disconnected
- S Auto Time : the time to wait before automatically resetting the touch sensitivity
- S High Sense : when enabled, the sensitivity will be increased
- S See Values : see each touch sensitive button number and palette value

Language (L) : change the language of the text which appears on the screen

About : check the firmware release date and version number and assign a name for the controller

Reset : Reset all settings to the factory default

Maintenance

Clean device from dirt and residue regularly. Use solvent-free cleaning agents only and do not employ aggressive chemicals or high pressure cleaner. Operate device only after complete drying.

Conformity



Manufacturer



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