EUMA0405

Phase Cut & 0-10V Dimming Controller

User Manual

March, 2016

- Please read this manual carefully before using products
- Please keep the product instructions for inspection

Catalog

1 Summary

Thanks for using the EUMA0405 phase cut controller. The product adopts advanced MOS-FET control technology, can accurately realize the phase cut function, and has no requirement for the type or capacity of load. The compatibility is far superior to leading edge controller.

Control mode of EUMA0405 is flexible, which complies with 4 control protocols:

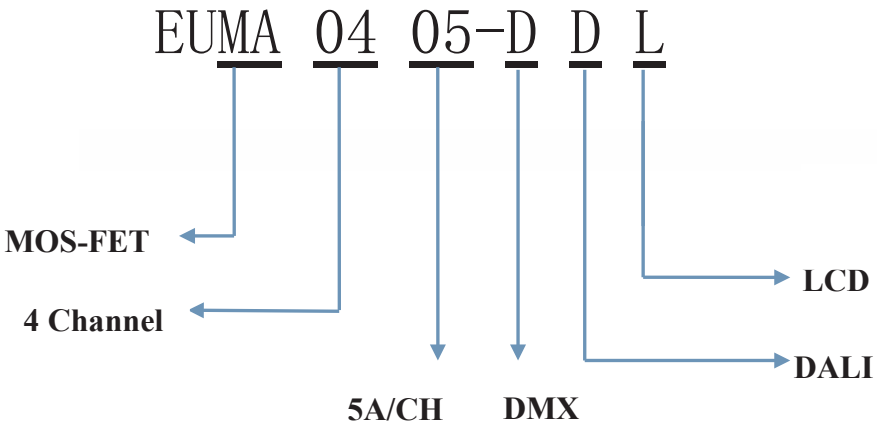
1, support the international widely adopted DMX-512 (1990) /RDM and DALI standard protocol, and can access KNX, Dynalite, Lutron, Crestron, LDS and other intelligent dimming network via gateway.

2, support EU-BUS lighting control protocol developed by EUCHIP. It can be used with relay switch controller, clock module, panel module, sensor module to achieve the group and scene control through the Euchips9 PC software. This solution is widely used in the family, conference rooms, hotels, schools, and other occasions.

3, support Touchdim, manual control, timing control function (optional).The user can manually turn ON/OFF or dim the brightness.

1.1 Ordering Information

Model	DALI	DMX/RDM	EU-BUS	Manual control	Timer function
EUMA0405-DDL	Y	Y	Y	Y	N



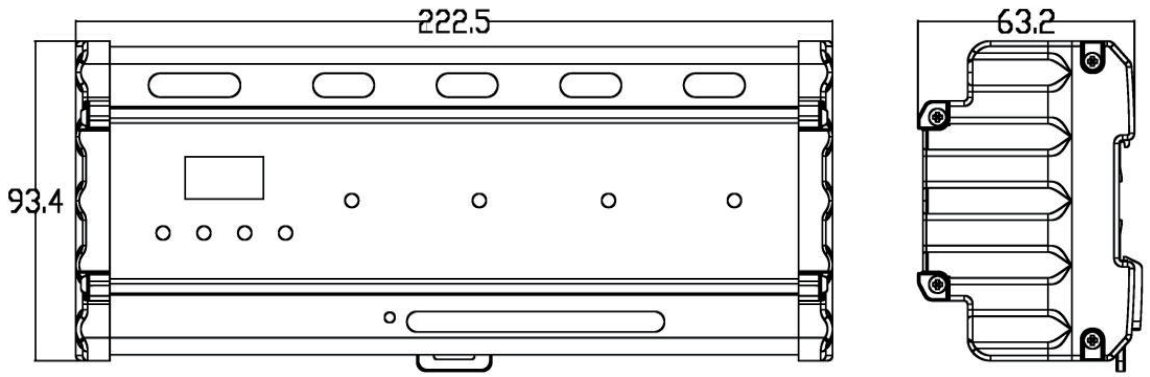
2 Product Features

- Meets DMX512(1990)/RDM, DALI IEC62386 protocol and EU-BUS protocol developed by EUCHIPS
- Output 4 channels AC MOSFET phase cut signal and their synchronous DC 0-10V control signal
- 4 AC MOSFET can work as leading edge (LPC) mode, trailing edge(TPC) mode or switch mode
- Maximum output current of AC MOSFET is 5A/ch
- Built-in LCD, the user can operate more conveniently
- Set fades time of each channel separately, range of 0.1-10s
- Each circuit is equipped with emergency switch that control full brightness (100%) output function
- Can save up to 8 events
- Standard 35 mm din rail, convenient installation

3 Technical Parameters

Item	Parameters
Input voltage	100-240VAC
Input control signal	DMX512(1990)/RDM，DALI IEC62386,EU-BUS
Maximum output current of phase cut	5A*4(AC MOSFET, please take 5A*PF as output current limit for each circuit)
Maximum output signal current	20mA*4(for DC0-10V)
Maximum inrush current limit per channel	100A
Equipment size	222.5*93.4*63.2mm(L*W*H),standard 35mm din rail
Packing size	226*100*68mm(L*W*H)
G.W.	975g
Operational temperature	-20-50℃

3.1 Equipment size (mm)



4 Function Show of the product

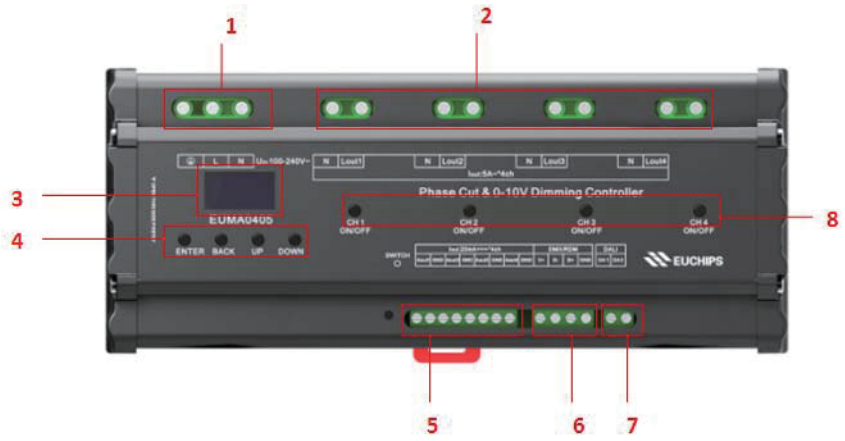


Figure 1

1	AC input port
2	4 AC MOSFET output ports, corresponding with 4 DC 0-10 V ports of 5 from left to right in proper order. For each channel, and the addresses of both AC MOSFET and the corresponding 0-10V are shared.
3	LCD display
4	Function button
5	4 DC analog voltage output ports(0-10V)
6	DMX 512/RDM,EU-BUS signal port(Don't use DMX 512/RDM and EU-BUS protocol simultaneously, they share the same terminals)
7	DALI signal port
8	Emergency switch

5 LCD function

After a successful connection, the menu will be seen in Figure 2. Press the button "ENTER" to enter the sub menu as shown in Figure 3, press "BACK" to return to the upper menu, press "UP" or "DOWN" button to move the cursor up or down.

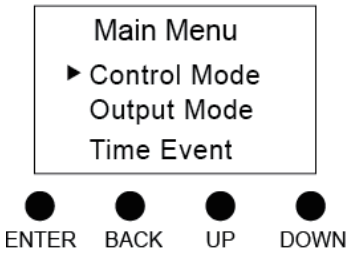


Figure 2

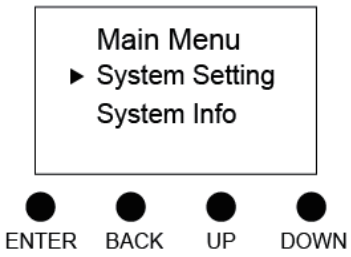
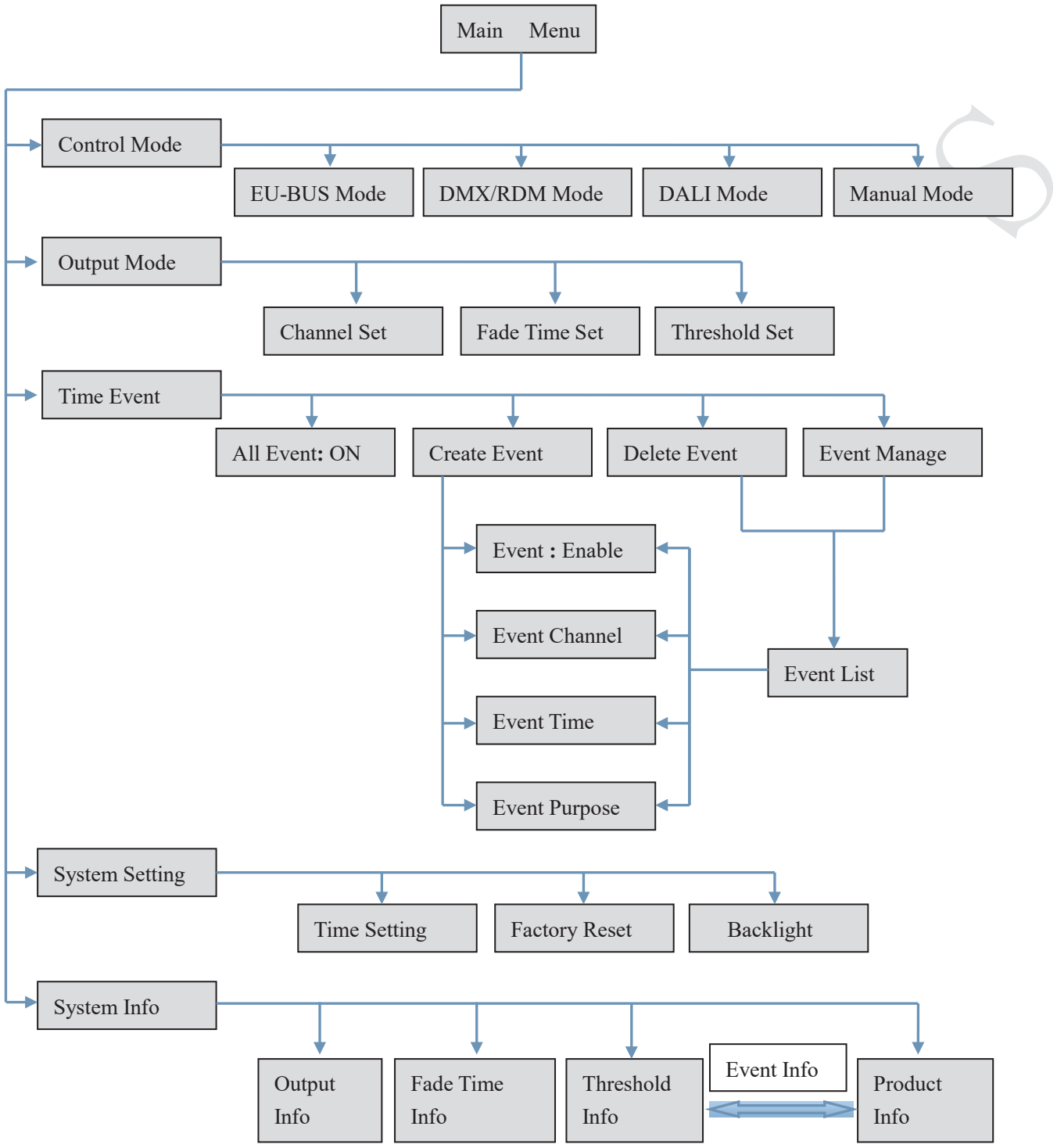


Figure 3

Button	Function
ENTER	Confirm key, confirm the selected state, enter the option to set the state
BACK	Return key, return to the upper menu, exit the option to set the state
UP	Move up the cursor; change the status of the option
DOWN	Move down the cursor; change the status of the option


Main Menu
Control Mode
EU-BUS Mode
DMX/RDM Mode
DALI Mode
Manual Mode
Output Mode
Channel Set
Fade Time Set
Threshold Set
Time Event
All Event: ON
Create Event
Delete Event
Event Manage
Event : Enable
Event Channel
Event Time
Event Purpose
Event List
System Setting
Time Setting
Factory Reset
Backlight
System Info
Output Info
Fade Time Info
Threshold Info
Event Info
Product Info

5.1 Control Mode

5.1.1 EU-BUS mode

In the current mode, the output signal is controlled by EU-BUS command, the host computer can scan equipment, assign the box number, read parameters, update the firmware of equipment, achieve group and scene control . The device can operate according to the instruction of the upper computer.

Select the EU-BUS mode, press the “ENTER” can view the device model, the box number, serial number (GUID), press “BACK” to return to the upper menu.

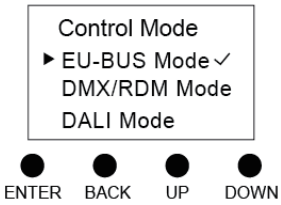


Figure 4

5.1.2 DMX /RDMmode

In the current mode, the output signal is controlled by DMX. Press” ENTER”， then set DMX address for each channel . The X value can be set from 1 to 511. The addresses of 4 channels can be continuous or discontinuous, such as 1, 2, 3, 4, or 1, 5, 8, 9. That is to say, the addresses of the 4 channels are independent, but for any channel，the addresses of AC MOSFET phase cut channel and the corresponding 0-10V DC channel are the same. In addition, the addresses of 4 channels can be the same, so that they can be controlled simultaneously.

When using RDM(2009), the upper computer can scan the device, and assign the address, read the parameters.

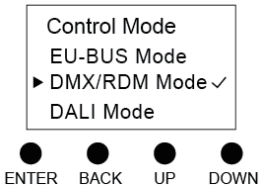


Figure 5

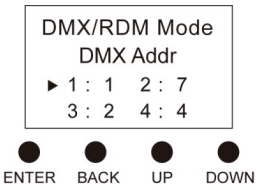


Figure 6

5.1.3 DALI mode

The output signal is controlled by the DALI command in this mode. The address of the DALI mode is defined by the system itself and can be modified by the host computer. The addresses of 4 circuits are independent of each other, but the address of AC MOSFET for each circuit is the same as the corresponding 0-10V DC channel.

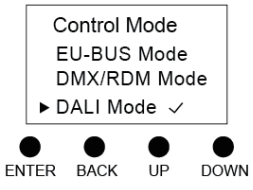


Figure 7

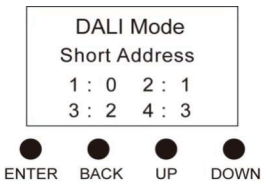


Figure 8

5.1.4 Manual mode

In the current mode, the output brightness level of 4 channels can be manually set via the button and LCD. The X is brightness of each channel, range of 0-100%.

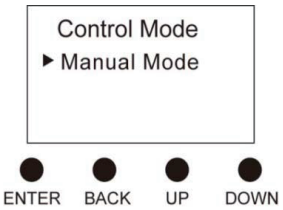


Figure 9

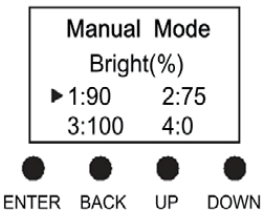


Figure 10

5.2Output mode

5.2.1Channel Set

In the current mode, each channel supports three functions:

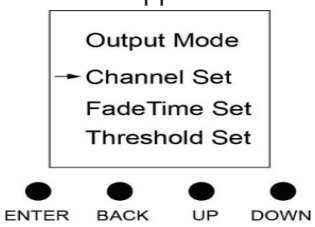


Figure 11

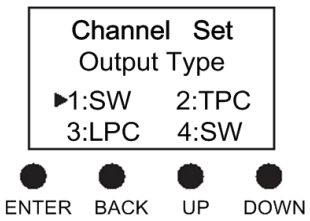


Figure 12

a） Switch : Switch mode, as the power switch, but is invalid for 0-10V signal

b） LPC: To dim leading edge drivers or devices

C） TPC: To dim trailing edge drivers or devices

5.2.2 FadeTime Set

In the current mode, you set fade time for each channel. The range is 0-100 (unit:0.1s).

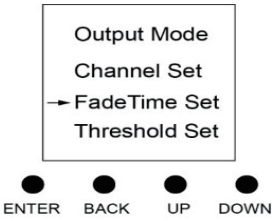


Figure 13

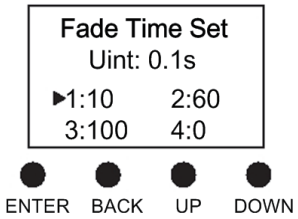


Figure 14

5.2.3Threshold Set

In the current mode, you can set the switch threshold for each AC MOSFET channel. The corresponding channel of phase cut will switch on output, if received the brightness value ≥ threshold set value. The X value range is 0-100%.

Note For 0-10V channel，this function is invalid.

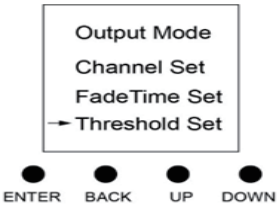


Figure 15

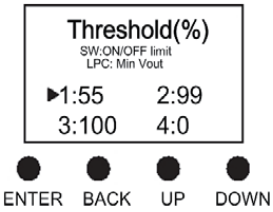


Figure 16

5.3 System Setting

After entering the system settings, you can set the current time, turn on or off the backlight and restore the factory settings.

5.3.1Factory Reset

Press ENTER to choose whether to reset factory settings.

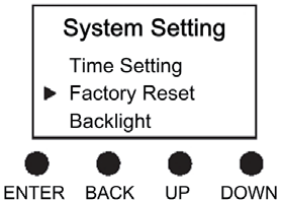


Figure 34

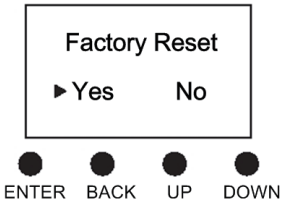


Figure 35

When the backlight is set to "ON",the display unattended operation over 60s, LCD will show “EUMA0405”. After 60s, LCD will automatically enter the sleep mode, press any key to end the sleep mode, enter the setting state.

5.3.2 Backlight EUMA0405-DDL:

When the backlight is set to "ON", the display unattended operation over 60s, LCD will enter clock mode， show the current time and date. After 60s, LCD will automatically enter the sleep mode, press any key to end the sleep mode, enter the setting state.

When the backlight is set to "OFF", the display will remain the current setting state.

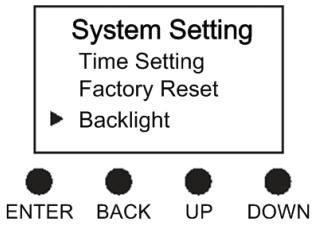


Figure 36

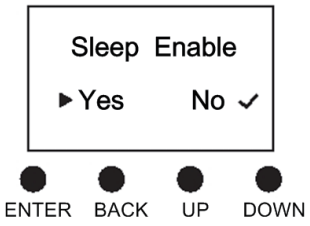


Figure37

5.4System Info

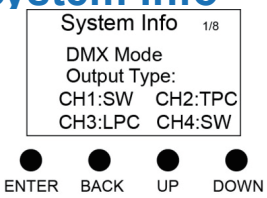


Figure 38

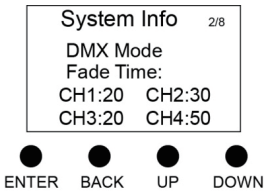


Figure 39

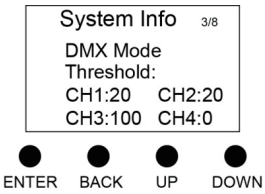


Figure 40

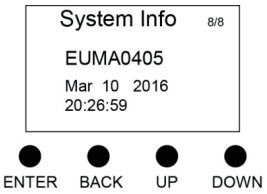


Figure 41

In this menu, the current system information can be displayed, which is shown as follows:

Page 1: control mode and output type
Page 2: control mode and fade time
Page 3: control mode and threshold
Others except the last page: event status and event content
Last page: product model and the current time

6 Emergency Switch Function

4 channel output, each channel corresponds to a button. If the channel has output, press the button to switch off the 0-10V channel and the corresponding phase cut channel output. If the channel doesn’t have output, press the button to switch on the 0-10V and the phase cut channel output.

7 Wiring Diagram

EUMA0405 dimming module signal port can be connected to EU-BUS network, DMX512/RDM or DALI master, and also can be access to Dynalite system via the Dynalite gateway. This device outputs 4 DC0-10V signal and 4 AC phase cut signal. EUMA0405 device can drive 4 channel DC0-10V dimming power supply and 4 channel phase cut dimming power supply at most.

The maximum current of each channel of 0-10V is 20mA, the maximum number of 0-10V dimming power which can be connected to each channel is determined by signal interface current consumption.

The maximum number of the phase cut dimming power supplies which can be connected to each channel is determined by watts and PF, such as, the power factor of the filament lamp is 1, the max load of each channel is 5*220V*1=1100 watts, but at present, the LED lamp is widely used, the PF of led dimmable lamps and dimmable drivers is low, it is recommended that the power of each channel is not more than 800 watts. When the impact

current of phase cut dimmable lamps or drivers is more than 100A,the device may protect themselves and can not start (Impact protection function is provided to avoid broken),the fault information will be shown at LCD. In this situation, please set longer fade time to restart the device slowly.