

# EUR0420

## Relay Switch Controller



### Summary

Thanks for using the EUR0420 relay switch controller. The product adopts advanced microcomputer control technology, analysis widely used DMX-512 (1990) /RDM, DALI standard protocol, and EU-BUS protocol developed by EUCHIPS, output 4 relay switch signal and their synchronous 0-10V DC control signal. The max current of each channel of relay switch is 20A, the total 4 channel is 80A, the max current of each channel of 0-10V is 20mA. In addition, the device can be connected into the Dynalite system by the Dynalite gateway (Note: the Dynalite trademark holder is PHILIPS, the relevant right is owned by the holder of the trademark, the same below)

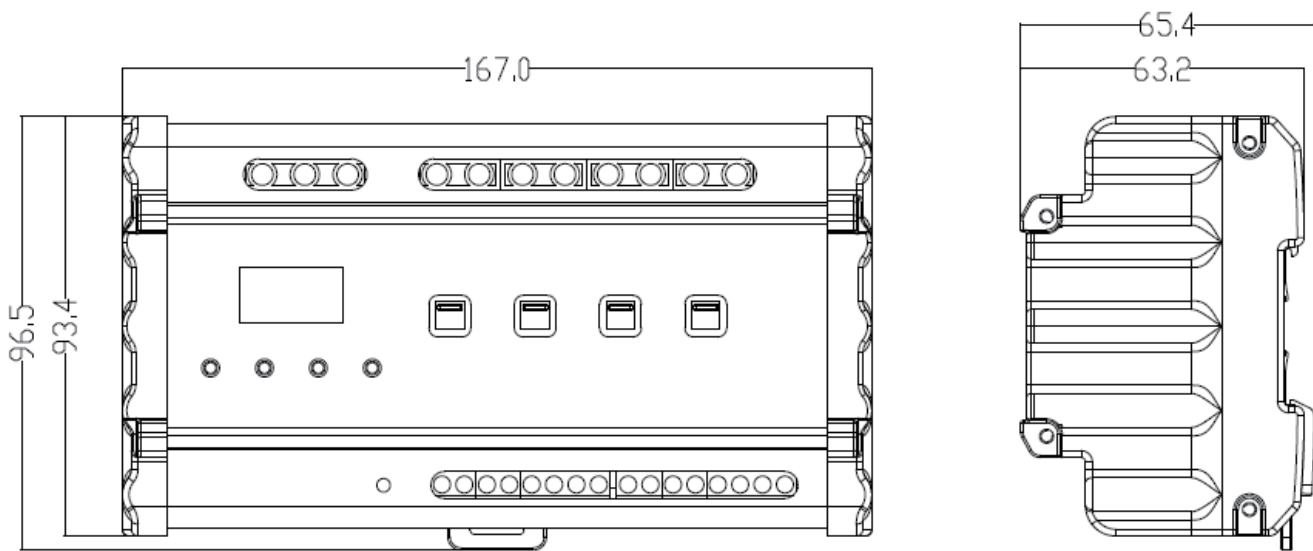
### Product Features

- Meets DMX512(1990)/RDM, DALI IEC62386 protocol and EU-BUS protocol developed by EUCHIPS
- Output 4 channel relay switch signal and their synchronous DC 0-10V control signal
- Built-in LCD, the user can operate more conveniently
- Set fades time of each channel separately, range of 0.1-60.9s
- Standard 35 mm din rail, convenient installation
- Relay switch channel can be turned on and off manually
- Can save up to 8 events
- Suitable for intelligent lighting control - Home Furnishing, office buildings, schools, stadiums, outdoor architecture etc.

## Technical Parameters

| Item                                           | Parameters                                    |
|------------------------------------------------|-----------------------------------------------|
| Input voltage                                  | 100-240VAC 50/60Hz                            |
| Input control signal                           | DMX512(1990)/RDM,DALI,and EU-BUS signal       |
| Maximum output current of relay switch channel | 20A*4ch                                       |
| Maximum output signal current of 0-10V         | 20mA*4ch                                      |
| Dimension                                      | 167*93.4*63.2mm(L*W*H),standard 35mm din rail |
| Pack size                                      | 185*100*68mm(L*W*H)                           |
| G.W.                                           | 580g                                          |
| Operational temperature                        | -20-40℃                                       |

## Dimension(mm)



## Function Show of the product

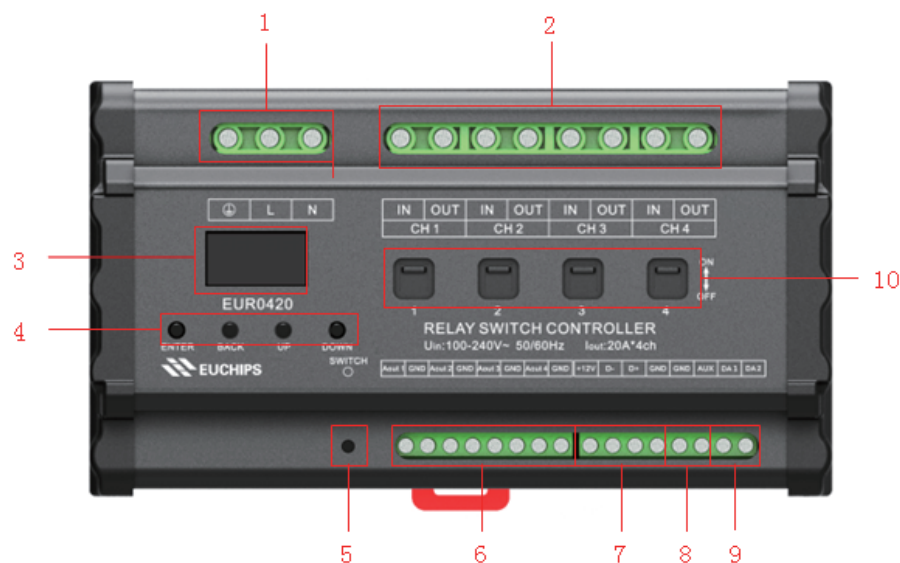


Figure 1

|    |                                                                                                                                                                                                                                 |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | AC input port                                                                                                                                                                                                                   |
| 2  | 4 relay switch output ports, corresponding with 4 DC 0-10 V ports of 6 from left to right in proper order. For each channel, both the addresses of relay switch signal and the corresponding 0-10V are shared.                  |
| 3  | LCD display                                                                                                                                                                                                                     |
| 4  | Function button                                                                                                                                                                                                                 |
| 5  | Button(it is effective under EU-BUS mode), Press 1 time: the device report its own serial number information; Press 3 times continuously: all the channels have output; Press for 4s or more: the device is reset and restarted |
| 6  | 4 DC analog voltage output ports(0-10V)                                                                                                                                                                                         |
| 7  | DMX 512/RDM input port and 12 V output port                                                                                                                                                                                     |
| 8  | Input signal of dry contact(it is effective under EU-BUS mode), used for detecting external signals, and triggering device to response                                                                                          |
| 9  | DALI signal input&output port                                                                                                                                                                                                   |
| 10 | Manual switch                                                                                                                                                                                                                   |

## LCD Function

After a successful connection, the main menu will be seen,including control mode, output mode, time event, system settings and system information,see figure 2 and figure 3. Press the button "Enter" to enter the sub menu press "BACK" to return to the upper menu, press "Up" or "Down" button to move the cursor up or down.

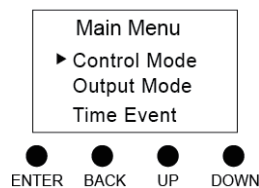


Figure 2

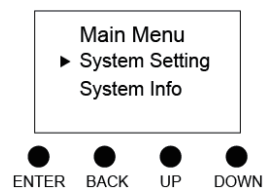


Figure 3

| 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; when setting DMX Address, Threshold, Fade Time, long press "UP", the value will increase rapidly     |
| DOWN   | Move down the cursor; change the status of the option; when setting DMX Address, Threshold, Fade Time, long press "DOWN", the value will decrease rapidly |

## Control Mode

### 1. EU-BUS Mode

In the current mode, the output signal is controlled by EU-BUS command, the upper computer can scan the device, and assign the address, read the parameters, and the device can operate according to the instruction of the upper computer.

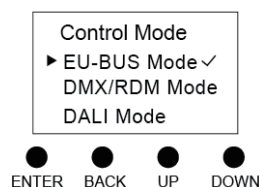


Figure 4

## 2. DMX mode

In the current mode, the output signal is controlled by DMX/RDM.

When using DMX512(1990) protocol, press "Enter", then set DMX address for each channel . The 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 relay switch 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.

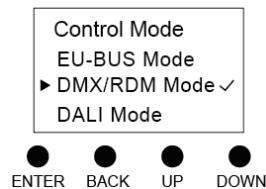


Figure 5

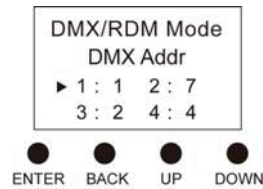


Figure 6

## 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 or modified by the host computer. Press "ENTER" to read the short addresses of 4 channels, The addresses of 4 circuits are independent of each other, but the address of each relay switch is the same as the corresponding 0-10V DC channel.

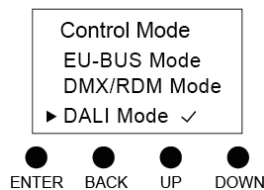


Figure 7



Figure 8

## 3.Manual mode

In the current mode, you can manually turn on or off relay switch signal, and can also set the brightness of the lamp controlled by the 0-10V signal, range of 0-100%.

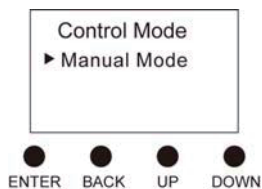


Figure 9



Figure 10

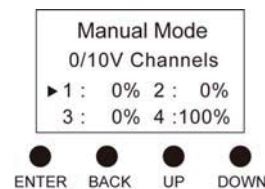


Figure 11

## Output mode

### 1. Fade Time (note1)

In the current mode, set fade time of each channel. The range is 0-60.9s.

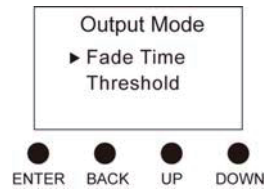


Figure 12

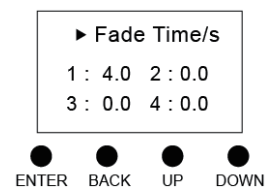


Figure 13

## 2. Threshold (note2)

You can set the switch threshold for each relay switch channel. When the received brightness value is more than or equal to the threshold value, open the output, or else shut down the output. The setting range of brightness threshold value is 0-100%, corresponding to the brightness level of 0-255. Threshold settings is invalid for the 0-10V channels, the 0-10V channel will output according to the received brightness value.



Figure 14

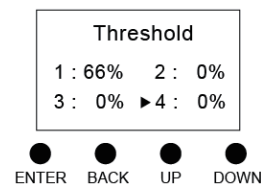


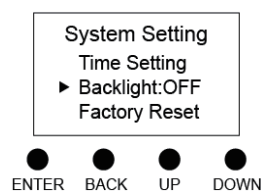
Figure 15

## System Setting

After entering the system settings, you can set the current time of the system, the light of the backlight and restore the factory settings.

## 1. Backlight

When the backlight is set to "ON", the display unattended operation over 30s, LCD will enter the clock mode, showing the current date and time. After 60s, the system 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.



## 2. Factory Reset

Press ENTER to choose whether to reset factory settings.

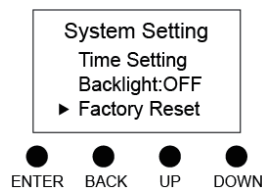


Figure 34

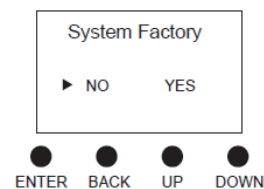


Figure 35

## System Info

In this mode, the current system information can be displayed, as follows:

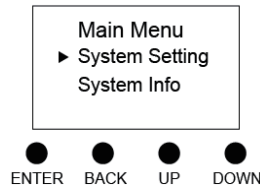


Figure 36

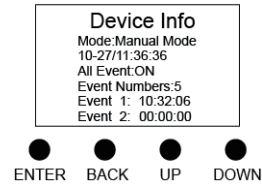


Figure 37

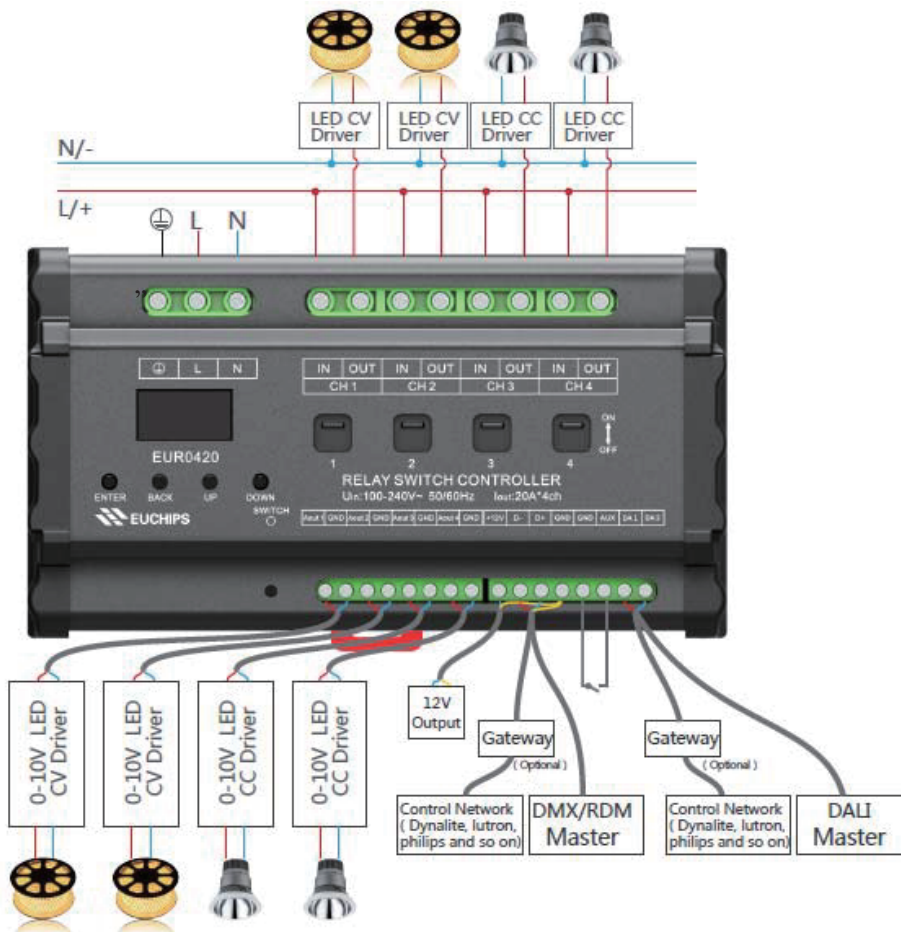
|        |                                  |
|--------|----------------------------------|
| Line 2 | control mode                     |
| Line 3 | current date and time            |
| Line 4 | All Event state                  |
| Line 5 | events number                    |
| Others | event name, event status or time |

## Manual switch

4 channel relay switch signal output, each channel corresponds to a button, you can open or close the relay switch channel output manually.

## Wiring Diagram

The maximum current of each channel of 0-10V is 20mA, the maximum number of 0-10V dimming driver which can be connected to each channel is determined by signal interface current consumption. When the signal current is not enough, you can use EUCHIPS 0-10V signal converter to amplify the power, numerous dimming driver can be connected theoretically.



Note 1: Fade Time settings are valid only in DMX/RDM mode.

Note 2: Threshold settings are valid only in DMX/RDM and DALI mode.

# EUR0420

## 继电开关控制器



### 概述

欢迎使用 EUR0420 继电开关控制器。该系列产品采用先进的微电脑控制技术，解析国际上广泛采用的 DMX-512 (1990) /RDM, DALI 标准协议以及自主研发的 EU-BUS 协议，同时输出 4 个回路继电开关信号及其同步的 DC 0-10V 模拟信号，每路继电开关信号最大可驱动 20A 负载，四回路一共 80A；每路 0-10V 信号最大输出 20mA 电流。另外该设备也可以通过 Dynalite 网关接入 Dynalite 系统(注：Dynalite 商标持有人是飞利浦公司，相关权益由商标持有人拥有，下同)。

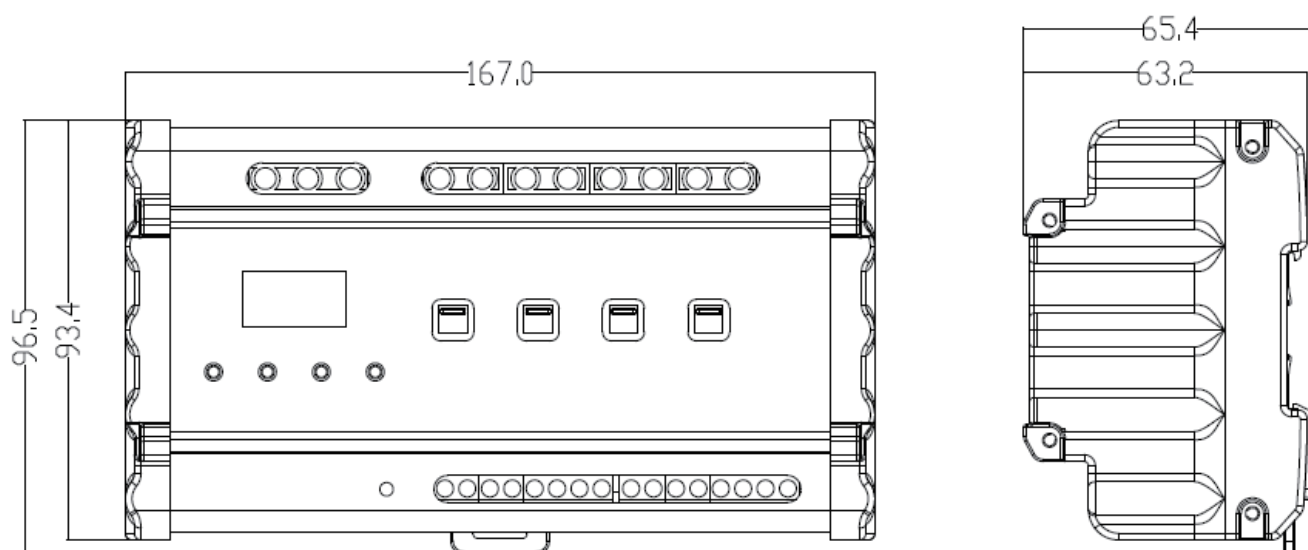
### 产品特点

- 符合 DMX512 (1990) /RDM 和 DALI IEC62386 国际标准协议，以及自主研发的 EU-BUS 协议
- 输出 4 路继电开关信号及其同步的 DC 0-10V 控制信号
- 内置 LCD 液晶显示，用户操作更加便捷
- 可单独给每路设置淡入淡出时间，范围为 0.1-60.9s
- 标准 35mm 导轨外壳，方便安装
- 每个回路设有手动开关，可以开启/关闭继电开关回路的输出
- 系统最多可以保存 8 个事件
- 适用于智能家居、办公楼、学校、体育场馆、建筑外景等场合的照明控制

## 技术参数

| 名称             | 参数                                         |
|----------------|--------------------------------------------|
| 输入电压           | 100-240VAC 50/60Hz                         |
| 输入控制信号         | DMX512(1990)/RDM, DALI IEC62386, EU-BUS 信号 |
| 继电器开关回路最大驱动电流  | 20A*4 路                                    |
| 0-10V 信号最大承载电流 | 20mA*4 路                                   |
| 设备尺寸           | 167*93.4*63.2mm (长*宽*高), 标准 35mm 导轨安装      |
| 包装尺寸           | 185*100*68mm (长*宽*高)                       |
| 毛重量            | 580g                                       |
| 工作温度           | -20℃ - 40℃                                 |

## 产品尺寸 (mm)



## 面板功能简介

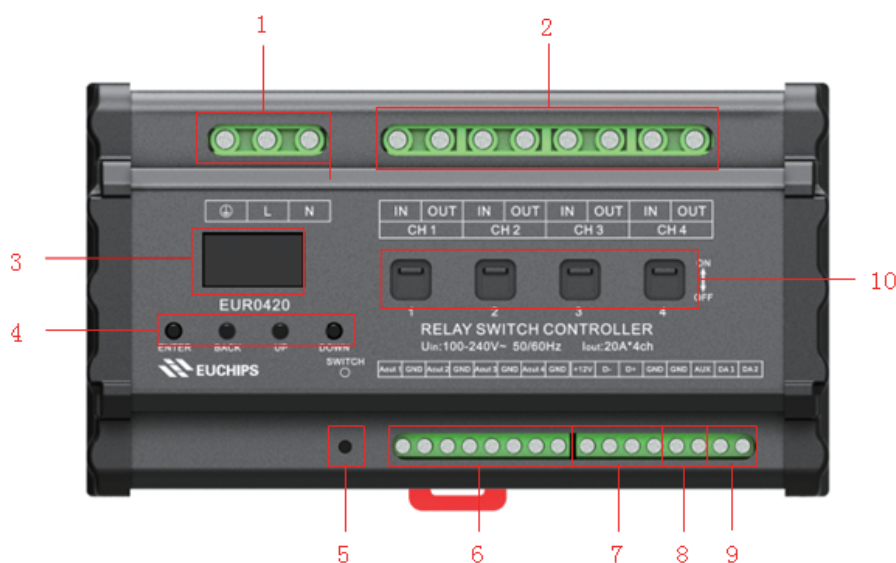


图 1

|    |                                                                         |
|----|-------------------------------------------------------------------------|
| 1  | 交流电源输入端子                                                                |
| 2  | 4 路继电器开关回路输出端子，和 6 中的 4 路 DC 0-10V 通道按从左到右顺序对应，相对的为一路，共用一个地址。           |
| 3  | LED 显示屏                                                                 |
| 4  | 功能按键                                                                    |
| 5  | Switch 按键，短按一下，上报地址信息；连按 3 下，所有通道全部工作；长按 4s 以上，设备复位（该功能只在 EU-BUS 模式下有效） |
| 6  | 4 路 DC 模拟电压输出端子（0-10V），和 2 中的 4 路继电器开关通道按从左到右顺序一一对应，相对的为一路，共用一个地址。      |
| 7  | DMX512/RDM、EU-BUS 信号输入端子及 12V 输出端子                                      |
| 8  | 输入开关信号，用于检测外部信号，并触发设备响应（该功能只在 EU-BUS 模式下有效）                             |
| 9  | DALI 信号输入输出端子                                                           |
| 10 | 手动开关                                                                    |

## LCD 主界面介绍

设备成功连接以后，将会看到菜单主界面，包括控制模式、输出模式、时间事件、系统设置和系统信息，见图 2 和图 3。LCD 下方按钮按“Enter”键可以确定进入子菜单，按“BACK”返回上一级菜单，按“Up”和“Down”键可以上下移动。

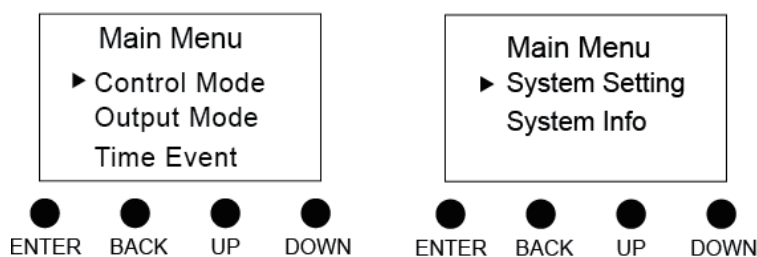


图 2

图 3

| 按键名称  | 功能                                                                      |
|-------|-------------------------------------------------------------------------|
| ENTER | 确定键，选中光标所在选项，进入该选项                                                      |
| BACK  | 返回键，返回上级菜单；退出该选项                                                        |
| UP    | 向上移动光标，改变选项状态；在设置亮度，Threshold，DMX Address，Fade time 时，长按“UP”，设置值将迅速增加   |
| DOWN  | 向下移动光标，改变选项状态；在设置亮度，Threshold，DMX Address，Fade time 时，长按“DOWN”，设置值将迅速减小 |

## Control Mode（控制模式）

### 1. EU-BUS Mode（EU-BUS 模式）

在当前模式下，输出信号受 EU-BUS 命令控制，上位机可以扫描设备，并分配地址，读取参数，设备根据上位机的指令进行操作。

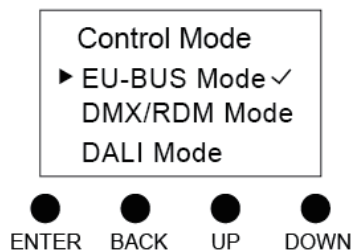


图 4

## 2. DMX/RDM Mode (DMX/RDM 模式)

在当前模式下，输出信号受 DMX/RDM 控制。

使用 DMX512(1990)协议时，按下 ENTER 可以对每个回路设置 DMX 地址，可设置的范围为 1-511。四回路的地址可以连续也可以不连续，如可以是 1、2、3、4，也可以是 1、5、8、9，即 4 个回路的地址是独立的，但每个继电器通道和跟它对应的 DC 0-10V 通道地址是相同的。另外四个回路的地址也可以相同，这样就可以进行成组控制了。

使用 RDM(2009)协议时，上位机可以扫描设备，设置设备的起始地址，并且读取设备的参数。

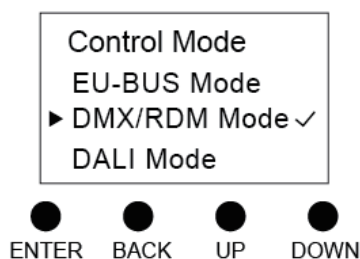


图 5

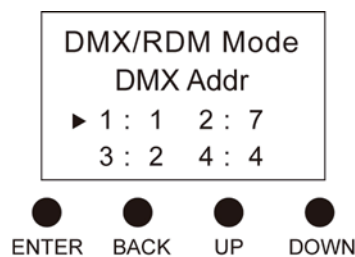


图 6

## 3. DALI Mode (DALI 模式)

在当前模式下，输出信号受 DALI 命令控制。DALI 模式下的地址由系统自行定义或通过上位机进行修改。按下“ENTER”可以读到 4 个回路的短地址，他们是相互独立的，但每个回路的继电器通道和跟它对应的 DC 0-10V 通道地址是相同的。

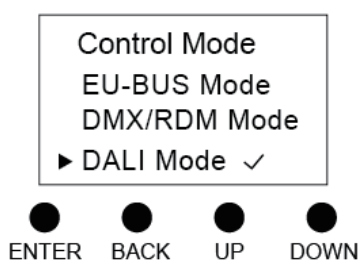


图 7

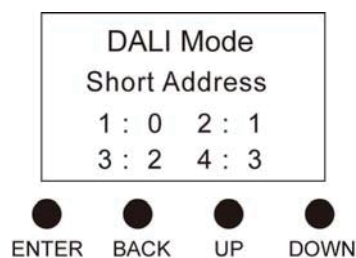


图 8

## 4. Manual Mode (手动模式)

在当前模式下，可以手动设置开通或关断继电器信号，也可以设置 0-10V 信号所控制的灯的亮度等级，对应亮度 0-100%。

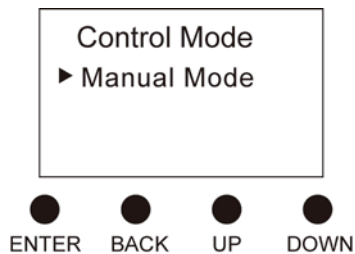


图 9

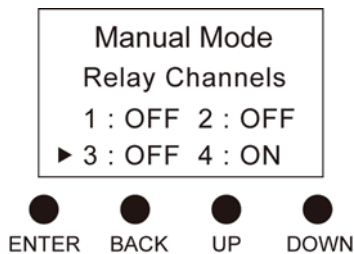


图 10

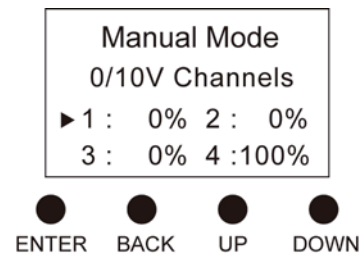


图 11

## Output Mode（输出模式）

### 1. FadeTime（延时设置）（备注1）

在当前模式下，每个通道都可以设置淡入淡出的时间，设置范围为 0-60.9s。

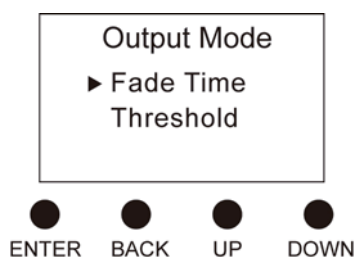


图 12

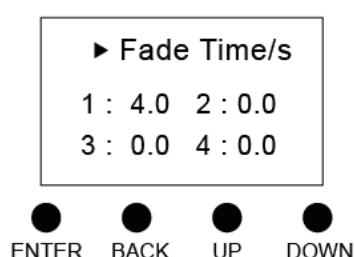


图 13

### 2. Threshold（阈值设置）（备注2）

每个继电器开关通道都可以设置开关门限，当前接收到的亮度值 $\geq$ 开关门限，则打开输出，否则关闭输出。开关门限值的设置范围为 0-100%,对应亮度等级 0-255。阈值设置对 0-10V 通道无效，0-10V 通道会根据当前收到的亮度值输出。

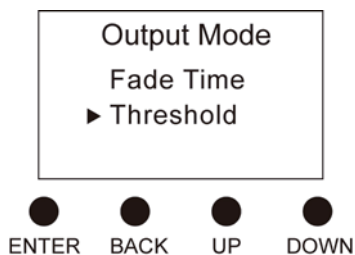


图 14

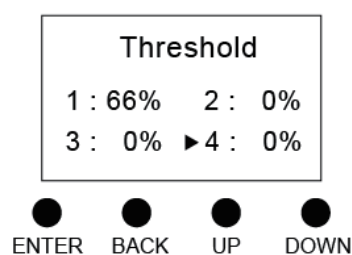


图 15

## System Setting（系统设置）

进入系统设置后，可以设置系统。背光灯的亮灭和恢复出厂设置。

### 1. Backlight（背光灯）

当背光灯设置为“ON”时，30s 内不对显示屏进行操作，LCD 将进入时钟模式，显示当前日期及时间。再过 60s 后，系统将自动进入睡眠模式，按任意键结束睡眠模式，进入设置状态。当背光灯设置为“OFF”时，显示屏将一直保持在当前设置状态。

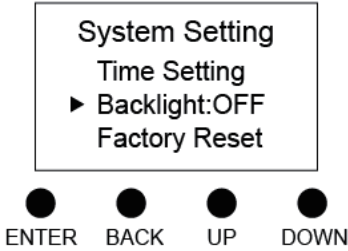


图 33

## 2. Factory Reset（出厂复位）

按“ENTER”进去后，选择是否恢复出厂设置。

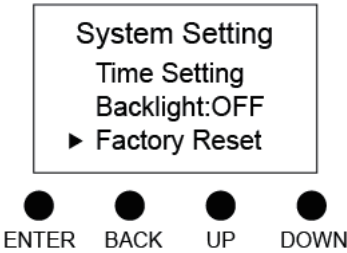


图 34

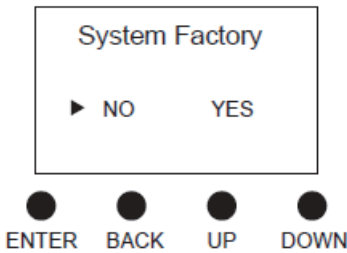


图 35

## System Info（系统信息）

在该模式下可以列表显示当前的系统信息，其中具体显示内容如下：

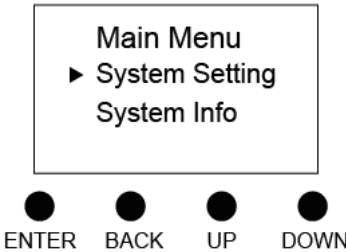


图 36

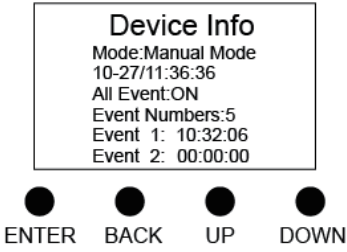


图 37

- 第 2 行      控制模式
- 第 3 行      当前日期和时间
- 第 4 行      All Event 状态
- 第 5 行      事件总数
- 以下所有    事件名，事件状态或时间

## 手动开关功能

4 通道继电器开关信号输出，每通道对应一个按键，可以手动开通或关断继电器开关通道输出。

## 应用连接图

此设备每路 DC 0-10V 输出 20mA 的信号电流，每回路所接 0-10V 调光电源的最大数量由其调光信号接口消耗电流决定。当使用信号电流超过 20mA 时，可以通过欧切斯的 0-10V 信号转换器将功率进行放大。理论上可以连接无数个调光电源。

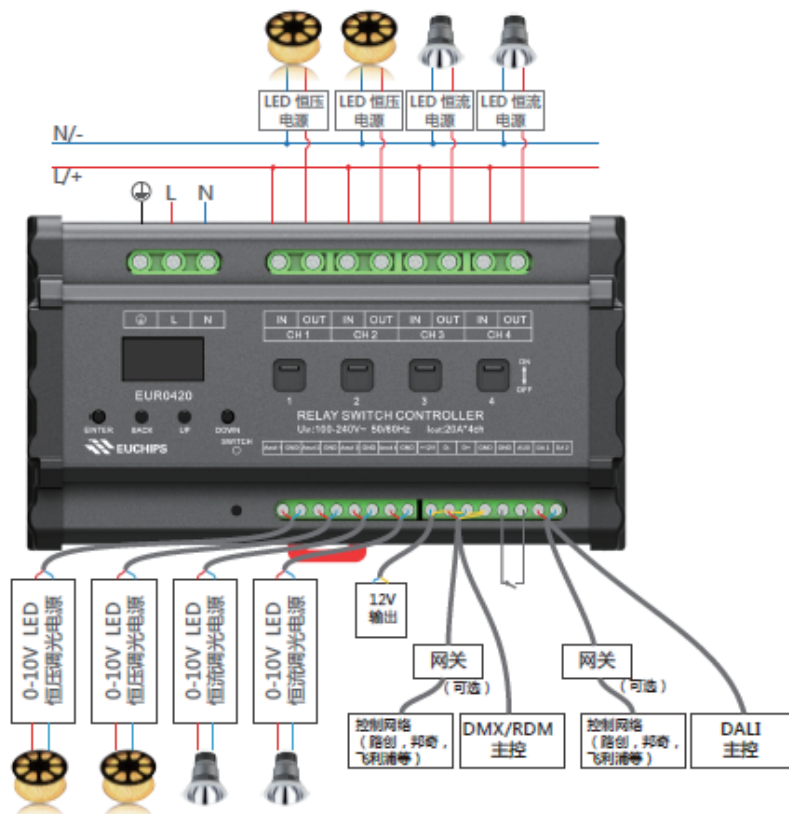


图 38

备注 1: Fade Time 设置只在 DMX/RDM 模式下有效。

备注 2: Threshold 设置只在 D