



# CDPS-RLY

Auxiliary Relay Control System



Operation Manual



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## SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply.

Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to building surfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.

## REVISION HISTORY

VERSION NO.	DATE (DD/MM/YY)	SUMMARY OF CHANGE
RDV1	25/09/14	Preliminary release
RDV2	25/02/16	Adaptor Spec.



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## 1. INTRODUCTION

The Auxiliary Relay Control System is design for multi-purpose and multi-task trigger system usage. With 8 relays to trigger, 8 PWM (Pulse-Width Modulation) to set duty cycle, 8 voltage to set trigger voltage and 1 definition to control through command setting which supports RS-232/422/485 and DM512 that allows up to 25 devices connection for control. Device's control interfaces like RS-232 and Telnet and PoE (PD) inside design leads user with completely friendly usage.

## 2. APPLICATIONS

- Control system
- Lighting performance control
- System trigger control

## 3. PACKAGE CONTENTS

- 1×Auxiliary Relay Control System
- 1×5V/2.6A Power Adaptor
- 1×Rack Ear Set
- 1×Operation Manual

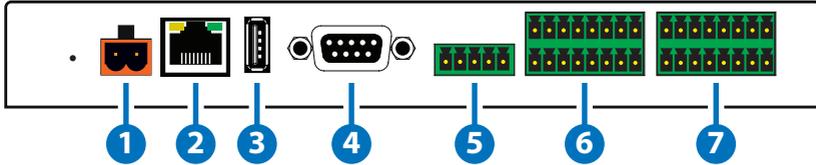
## 4. SYSTEM REQUIREMENTS

## 5. FEATURES

- Supports 8 Relays, 8 PWM, 8 Voltage and 1 Definition outputs
- Reply supports close, open and toggle controls with LED illuminators and power up to 30V/DC, 10A
- PWM support 10 volt with 0~100% duty cycle adjustable
- Voltage outputs supports from 0~10 volt with adjustment from 0~100% (0, 0.1, 0.2 ~10 volt)
- Definition output supports RS-232/422/485 with adjustable baud rate
- DMX-512 data transmission up to 250 Kbaud/s with unidirectional, serial transmission and daisy-chain configuration up to 512 nodes of max time 22ms (roughly 44Hz)
- RS-232/Console supports up to 256 bytes per command
- Supports 5V/2.6A ~ 24V/1.2A DC power supply
- Supports USB and WebGUI firmware update
- Supports RS-232 and Telnet controls
- Control port supports PoE function

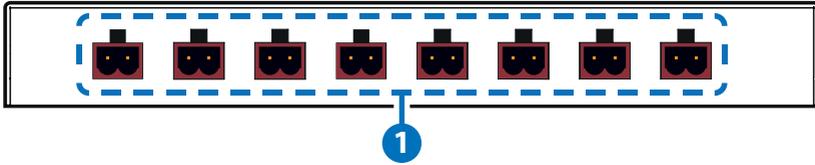
## 6. OPERATION CONTROLS AND FUNCTIONS

### 6.1 Front Panel



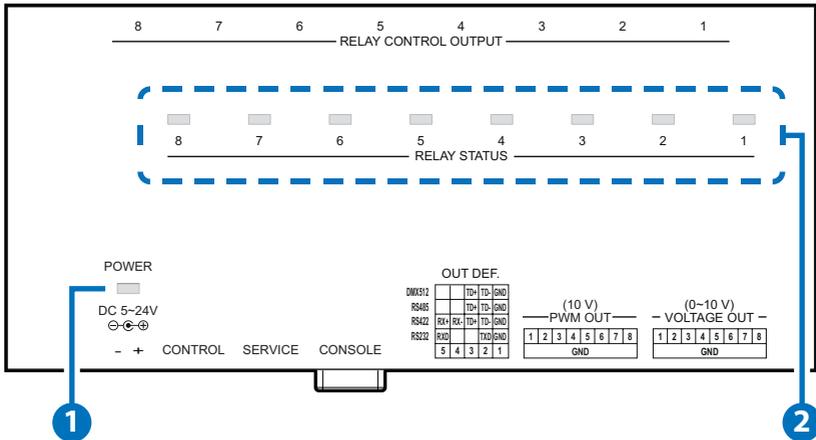
- 1 POWER DC 5~24V:** The device support power supply from 5~24V/2.6~1.25A, plug the 24V DC power supply from the included package into the unit and connect the adaptor to an AC outlet.
- 2 CONTROL:** This slot is to connect with active LAN system for IP control.
- 3 SERVICE:** This slot is reserved for firmware update only.
- 4 CONSOLE:** Connect to a PC or Laptop via RS-232 terminal to D-Sub 9-pin cable for the transmission of RS-232 commands and Ethernet rest.
- 5 OUT DEF.:** These slots are to connect with comport control devices such as RS-232/422/485 or DMX512 with RS baud rate up to 115200 and DMX baud rate fix at 250 Kbit/s unidirectional, serial transmission and daisy-chain configuration up to 512 nodes of max time 22ms (roughly 44Hz).
- 6 PWM OUT (10V):** These slots are to connect up to 8 devices of voltage set at 10 for control over PWM which can be adjust through command from 0 ~100% duty cycle at 30 ~1200Hz frequency.
- 7 VOLTAGE OUT (0~10V):** These slots are to connect up to 8 devices of voltage anywhere from 0 ~10 volt. For control over DAC with adjustable voltage at 0.1 per scale through command setting.

## 6.2 Rear Panel



- 1 RELAY CONTROL OUTPUT 1~8:** These slots are to connect with control device's power  $\pm$  line cable such as A/C sensor, IR sensor or curtain sensor for control signal sending to activate the control devices. Trigger events can be set with 3 control type of Close, Open and Toggle through command settings.

## 6.3 Top Panel



- 1 POWER LED:** This LED will illuminate once the power is connected.
- 2 RELAY STATUS LEDs:** These LEDs will illuminate according to relay's activation status.

## 6.4 RS-232 Protocol

DATA TERMINAL EQUIPMENT	
Pin	Assignment
1	NC
2	RxD
3	TxD
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC

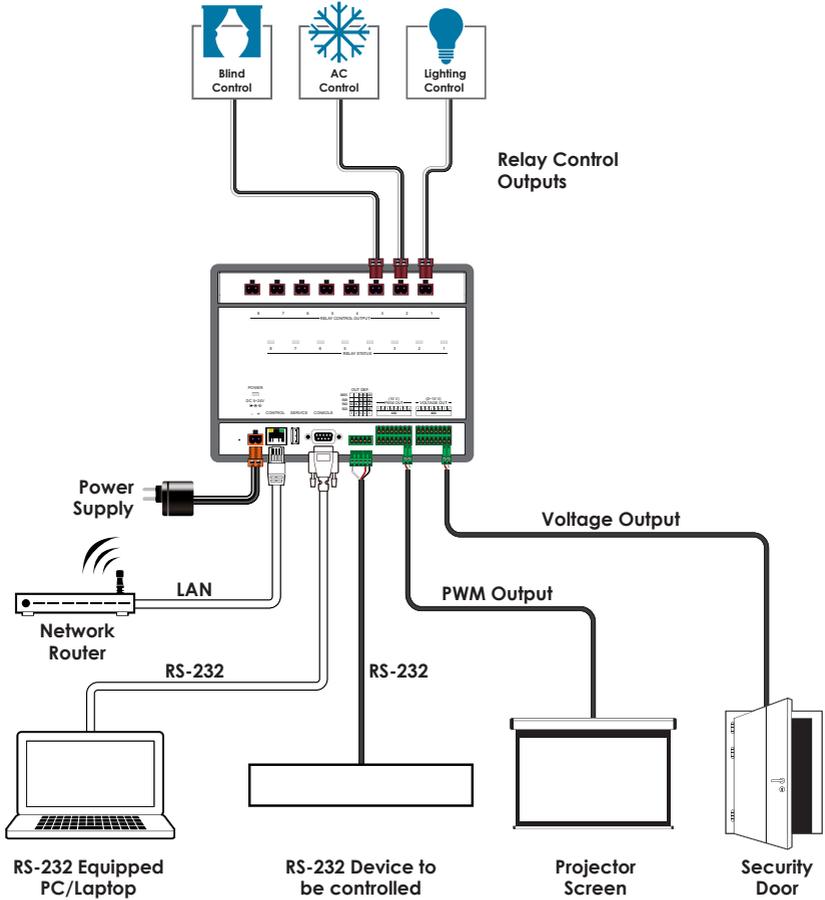
## 6.5 RS-232 and Telnet Commands

COMMAND	DESCRIPTION	PARAMETER
<b>IPCONFIG</b>	<i>Display the current IP configure</i>	NONE
<b>SIPADDR XXX.XXX.XXX.XXX</b>	<i>Set Ethernet IP address</i>	XXX=0~255
<b>SNETMASK XXX.XXX.XXX.XXX</b>	<i>Set Ethernet net mask</i>	XXX=0~255
<b>SGATEWAY XXX.XXX.XXX.XXX</b>	<i>Set Ethernet gateway</i>	XXX=0~255
<b>SIPMODE N</b>	<i>Set Ethernet IP mode</i>	N=STATIC/DHCP
<b>VER</b>	<i>Show unit firmware version</i>	NONE
<b>FADEFAULT</b>	<i>All configure set to factory default</i>	NONE
<b>ETH_FADEFAULT</b>	<i>All Ethernet configure set to factory</i>	NONE
<b>REBOOT</b>	<i>System reboot</i>	NONE

COMMAND	DESCRIPTION	PARAMETER
<b>CYP</b>	Write MAC address to eeprom	CYP WRITE MAC ADDRESS TO EEPROM, XX-XX-XX-XX-XX-XX
<b>RELAY N1 N2</b>	Relay control	N1=1~8 (Port Number), N2=OPEN/CLOSE/TOGGLE
<b>PWM N1 N2</b>	PWM duty cycle control	N1=1~8 (Port Number), N2=0~100 (Duty Cycle)
<b>DAC N1 N2</b>	DAC voltage control	N1=1~8 (Port Number), N2=0~100 (Percent of Voltage)
<b>COMCONF N1 N2</b>	COM port setting	N1=DMX512/RS485/RS422/RS232, N2=Bitrate or Not Support (DMX512)
<b>COMSEND N1</b>	COM data send	N1=Character Data For Comport (Max 256 Bytes)
<b>READ N1 N2</b>	Show all port configure	N1=RELAY/PWM/DAC/COM/ALL, N2=Port Number (1~8)
<b>DMX_S_CH S N CHs~CHs+n</b>	DMX512 channel setting	S=Start Channel, N=Counter of Channel, CHs~CHs+n=Channel Data ex: DMX_S_CH 9 6 200 0 255 0 0 255, CH9~CH14=200,0,255,0,0,255
<b>PWM_FREQ N</b>	Setting PWM (DAC) frequency	N=50~1200 Hz
<b>UPDATE</b>	Update firmware from USB	NONE
<b>HELP (?)</b>	Show command list	NONE
<b>HELP N</b>	Show descript of command	N=COMMAND NAME

**Note:** Any commands will not be executed unless followed by a carriage return. Commands are case-sensitive.

## 7. CONNECTION DIAGRAM



## 8. SPECIFICATIONS

<b>Input Ports</b>	1×IP Control (RJ45), 1×RS-232 (9-pin D-sub)
<b>Output Ports</b>	8×Relay (Terminal Block), 8×VpIstage (Terminal Block), 8×PWM (Terminal Block), 1×RS-232/RS-422/RS-485/DMX512 (Terminal Block)
<b>Baud Rate</b>	Up to 115200bps
<b>Power Supply</b>	5V/2.6A DC (US/EU standards, CE/FCC/UL certified)
<b>ESD Protection</b>	Human body model: ±8 kV (air-gap discharge) ±4 kV (contact discharge)
<b>Dimensions</b>	200 mm (W)×90mm (D)×26mm (H)/ Jack Excluded 200 mm (W)×95mm (D)×31 mm (H)/ Jack Included
<b>Weight</b>	548 g
<b>Chassis Material</b>	Metal
<b>Color</b>	Black
<b>Operating Temperature</b>	0°C~40°C/32°F~104°F
<b>Storage Temperature</b>	-20°C~60°C/-4°F~140°F
<b>Relative Humidity</b>	20~90% RH (non-condensing)
<b>Power Consumption</b>	? W



## 9. ACRONYMS

ACRONYM	COMPLETE TERM
<b>IP</b>	Internet Protocol
<b>PD</b>	Powered Device
<b>PoE</b>	Power over Ethernet
<b>PWM</b>	Pulse-Width Modulation
<b>USB</b>	Universal Serial Bus





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