

# Micro Control System # 15363



**Operation Manual**

## Introduction

By entering into a new era of smart world, the trend of controlling everything with one finger is nowadays foreseen. Control System allows your dream come true by providing not only direct but also indirect control interfaces for all your devices. Direct control like IR, Relay and DC controls allow users to maintain the traditional connection control over the device whereas, indirect control like IR Learning, RS-232, Telnet/WebGUI controls allow users with computing system or APP to control over the devices. Overall, the management of all the controls can be operated easily through IR remote control, RS-232, Telnet or Ethernet protocols.

## Features

- Supports IR Learning function allows IR signal to be accepted by computing system
- Supports eight inputs with voltage of 0~15V
- Supports 1 IR Learning, 8 IR outputs, 8 trigger inputs, 8 Relay outputs, 2 COM ports, and 4 Ethernet ports
- Supports Baud rate from 4800bps to 115200bps
- Supports 10/100 Ethernet network connection

## Applications

- Smart Home Installation
- Even hall/Showroom control

## System Requirements

Input source equipment such as light, TV, power switch and ....etc. and PC/Laptop.

# Operation Controls and Functions

## Front Panel



### 1. POWER LED:

This LED will illuminate when the device is switched on.

### 2. IR WINDOW:

Receives IR signal frequency from the remote control and can trigger macro even 1~8.

### 3. RELAY LED:

These LEDs represent the relay output connections status.

### 4. INPUT LED:

These LEDs will illuminate when trigger the input connection obtain active high DC of 5~15V which is also when signals has been triggered.

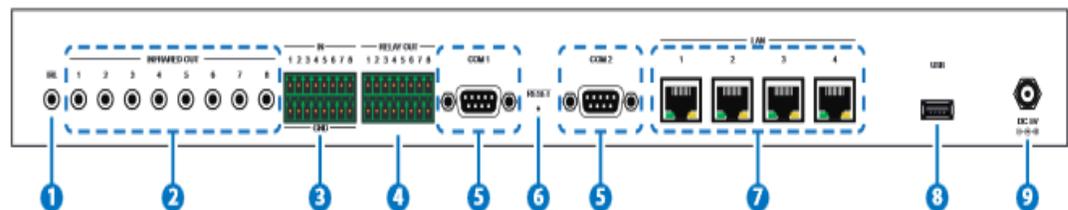
### 5. IR LED:

This LED will illuminate when the device is receiving or sending IR signal, under IR Learning process the LED will illuminate also.

### 6. COMMS LED:

This LED will illuminate when the COM port is sending or receiving data, under Macro run command executing the LED will be flashing according to the numbers of command send.

## Back Panel



### 1. IRL:

Connect with IR Receiver included in the package for IR signal learning. Send the IR signal that is to be learned by press on the remote control in direct line-of-sight towards the Receiver and record the IR data into digital format from WebGUI. For software details please refers to **section on command settings**

### 2. INFRARED OUT 1~8:

Connect with IR Blaster for IR signal transmitting. Place the IR Blaster in direct line-of-sight of the equipment to be controlled.

**3. IN 1~8:**

Connect with sensor device's signal lines such as window security alarm, door switch, and etc... for trigger signal sending back to Control System.

**4. RELAY OUT 1~8:**

Connect with control device's power line cable such as DC power supply to activate the control devices.

**5. COM 1~2:**

Connect with RS-232 devices for command sending and controlling the devices.

**6. RESET:**

To reset IP back to factory default, press and hold the button with pin for 10 seconds and both IR and comm LED will illuminate.

**7. LAN 1~4:**

Connect with PC/Laptop or intra-net hub and also the LAN connection of the control devices for Telnet/WebGUI control over the devices.

**8. USB:**

This slot is reserved for factory firmware update only.

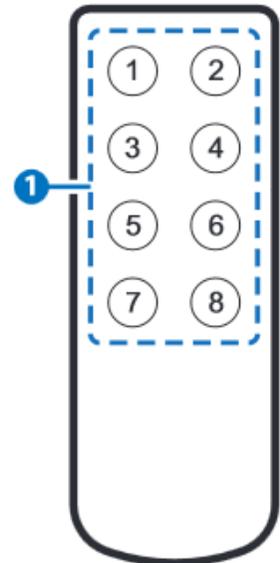
**9. DC 5V:**

Plug the 5V DC power supply into the unit and connect the adaptor to an AC outlet

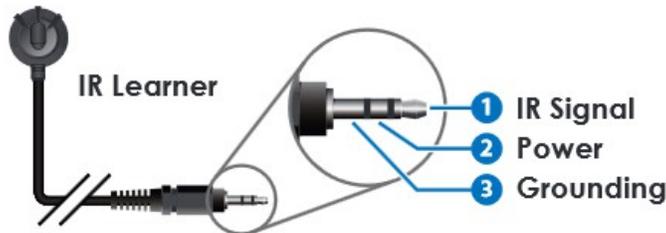
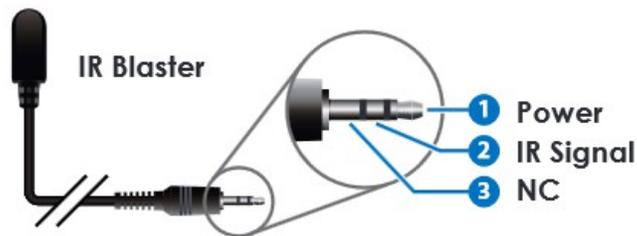
**Remote Control**

**1. 1~8:**

Press these buttons to trigger input signal of input 1~8 for control system to activate the corresponding command or setting.



**IR Cable Pin Assignmet**



## RS-232 Pin Assignments

Data Terminal Equipment	
PIN	ASSIGNMENT
1	N/C
2	Rx
D3	TxD
4	N/C
5	GND
6	N/C
7	N/C
8	N/C
9	N/C

**Baud Rate:** 4800~115200 bps  
**Data Bit:** 7~8-bit  
**Flow Control:** None

**Parity:** None, odd, even  
**Stop Bit:** 1~2-bits

## RS-232 and Telnet Commands

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

HELP (?)	Show command list	NONE
HELP N	Show description of command	N=COMMAND NAME
RELAY N N1	Relay control	N[PORT]=1~2 N1[MODE]=CLOSE/OPEN
IREMIT N N1 N2	Send IR content	N[PORT]=1~8, N1[MODE]=(0)CYP, N2=IR EMIT DATA (STRING)
COMSEND COM N N1	Send command to COM port	N[PORT]=1~2 N1=COMMAND DATA (1~512 CHARS)
COMCONF N N1 N2 N3 N4	Driver RS-232 config show COM port settings	N[PORT]=1~2 N1[BAUDRATE]=4800, 9600, 19200, 38400, 57600, 115200 N2[DATA LEN]= 7, 8 N3[PARITY]=(0)NONE (1), ODD (2)EVEN N4[STOP BIT]=1,2
MACRO STOP N	Stop Macro control	N[PORT]=1~15
MACRO RUN N	Run Macro control	N[PORT]=1~15

**Note:**

1. Any commands will not be executed unless followed by a carriage return. Commands are case-sensitive.
2. Please ensure that all commands and settings have been saved before performing this command with Asterisk (\*) as the procedure may restore all settings back to default

## Software Application

Please download the software from [www.converters.tv](http://www.converters.tv) with file name CDPS V2.000 and save it in a directory where you may use it later.

Connect the Control System with an active network system and open the CDPS V2.000 application from the directory in a PC/Laptop. Click on Find Devices on Network and a list of the devices connected within the network system will show up.

Find Devices on Network				
	Product Name	Description	IP Address	MAC Address
1	CDPS-UC4H4CVES	4x4 matrix with 4xValens	192.168.5.223	F8:22:85:01:02:03
2	CDPS-CS4	Control System 1	192.168.1.50	F8:22:85:00:04:89

Double click on the product name and an 'Info From' will appear to show the products' detail.

Product ID	2236
Product Name	CDPS-CS4
MAC Address	F8:22:85:00:04:89
IP Address	<input type="text" value="192.168.1.50"/>
Subnet Mask	<input type="text" value="255.255.255.0"/>
Gateway IP	<input type="text" value="192.168.1.254"/>
DNS	<input type="text" value="0.0.0.0"/>
IP Mode	<input type="text" value="Static"/>
Web GUI Port	<input type="text" value="80"/>
Telnet Port	<input type="text" value="23"/>
S / N	SN:2236
Firmware Version	v2.00
Hardware Version	v1.00
Description	Control System 1
Web GUI	<a href="#">Web GUI</a>
<input type="button" value="Save"/> <input type="button" value="Reboot"/>	

Then user may use the IP Address to find the control device through Telnet, WebGUI or even RS-232/Hyper Terminal tools.

## Telnet Control

To access the Telnet control in Windows 7, click on the 'Start' menu and type "cmd" in the Search field then press enter.

Under Windows XP go to the 'Start' menu and click on "Run", type "cmd" with then press enter.

Under Mac OS X, go to Go→Applications→Utilities→Terminal.  
See below for reference.



Once in the command line interface (CLI) type "telnet", then the IP address of the unit and "23", then hit enter.

```
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\Administrator>telnet 192.168.5.80 23
```

This will bring us into the unit which we wish to control. Type "help" to list the available commands.

```
Welcome to TELNET.
>?
HELP      : SHOW DESCRIPT OF COMMAND
           USE <HELP N, N=COMMAND NAME> TO SHOW DESCRIPT OF COMMAND
?        : SHOW DESCRIPT OF COMMAND
           USE <? N, N=COMMAND NAME> TO SHOW DESCRIPT OF COMMAND
IPCONFIG  : DISPLAY THE CURRENT IPCONFIG
SIPADDR   : SET ETHERNET IP ADDRESS
SNETMASK  : SET ETHERNET NETMASK
SGATEWAY  : SET ETHERNET GATEWAY
SIPMODE   : SET ETHERNET IP MODE
VER       : SHOW UNIT FIRMWARE VERSION
FADEFAULT : ALL CONFIGURE SET TO FACTORY DEFAULT
ETH_FADEFAULT : ALL ETHERNET CONFIGURE SET TO FACTORY DEFAULT
REBOOT    : SYSTEM REBOOT
IREMIT    : SEND IR CONTENET
IRLEARN   : LEARNING IR CODE
TRIGGER   : TRIGGER SETTING
RELAY     : RELAY CONTROL
COMCONF   : DRIVER RS232 CONFIG
COMSEND   : SEND DATA VIA COM PORT
MACRO     : MACRO CONTROL
```

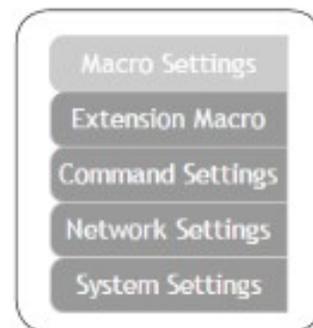
**Note:**

Commands will not be executed unless followed by a carriage return.  
Commands are case-sensitive. If the IP is changed then the IP Address required for Telnet access will also change accordingly

**WebGUI  
Control**

On a PC/Laptop that is connected to an active network system, open a web browser and type device's IP address (default setting IP: 192.168.1.50 ) on the web address entry bar.

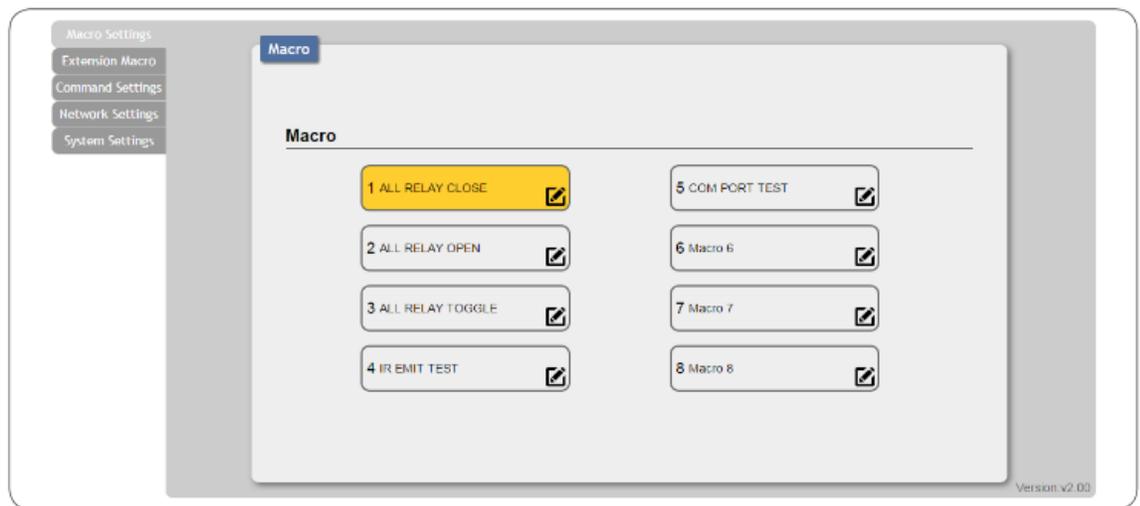
A security page will appear to ask for User and Password, please key in "admin" for both and click Submit to enter. The browser will display device's Macro Setting, Extension Macro, Command, Network & System Settings control pages for users to control.



## MACRO SETTINGS

Click on 'Macro Settings' to execute or rename macro. There are 5 Macros inserted as default setting for testing the control system's functionality. Click on Macro 1~5 to demonstrate the functions:

- Macro 1: Close relay from 1~8 sequentially every 100ms
- Macro 2: Open relay from 1~8 sequentially every 100ms
- Macro 3: Toggles relay from 1~8 sequentially every 100ms
- Macro 4: Send IR signal from 1~8 sequentially every 100ms with LED illuminant on front panel.
- Macro 5: Send out command "Hello World" from COM port 1~2 sequentially every 100ms.



Click on the  mark to edit the command settings.

 Up/down arrows are to move the command up or down and  button is to delete the command.

Click on  Insert button/Add to insert commands. Command can be set to control the Control System/SysCMD, other devices connected within the same Telnet system/Internet area, RS-232 COM ports, IR and Relay devices connected through the Relay outputs of Control System with delay time. It is suggested the delay time is >100ms once the setting is confirmed, double click on Save Change.

Command set to control the devices within the same telnet system or internet area require to set its IP and Port number and it is strongly recommend to set the delay time >500ms in order to secure a successful command sending. Command set to control the Relay devices require to set the Port number. Click on Save Change to confirm the setting.

Macro Settings

- Extension Macro
- Command Settings
- Network Settings
- System Settings

**Macro**

Macro 1: ALL RELAY CLOSE

1 ALL RELAY CLOSE

2 ALL RELAY OPEN

3 ALL RELAY TOGGLE

4 IR EMIT TEST

Macro 1 Edit

Macro 1: ALL RELAY CLOSE

ALL RELAY CLOSE

Macro Command

Command Name	Interface	Param 1	Param 2	Delay(ms)				
Relay close	Relay	1	-	100				
Relay close	Relay	2	-	100				
Relay close	Relay	3	-	100				
Relay close	Relay	4	-	100				
Relay close	Relay	5	-	100				
Relay close	Relay	6	-	100				
Relay close	Relay	7	-	100				
Relay close	Relay	8	-	100				
Add								

Set Destination

Delay(ms): 0

Interface: SysCMD

Save Change Cancel

Version v2.00

Set Destination

Delay(ms): 0

Interface: SysCMD

Set Destination

Delay(ms): 0

Interface: TELNET

Telnet IP: 192.168.1.51

Port: 23

Set Destination

Delay(ms): 0

Interface: COM

Port: 1

Set Destination

Delay(ms): 0

Interface: IR

Port: 1

Set Destination

Delay(ms): 0

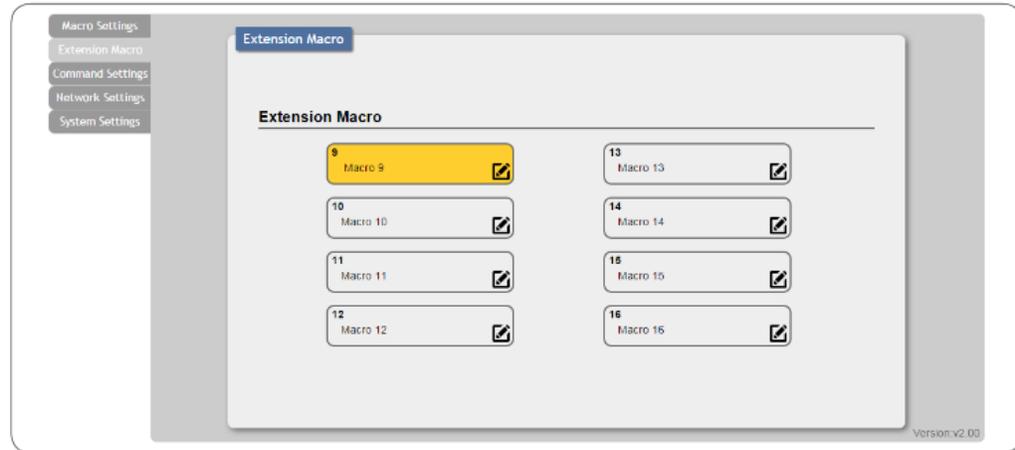
Interface: Relay

Port: 1

Save Change Cancel

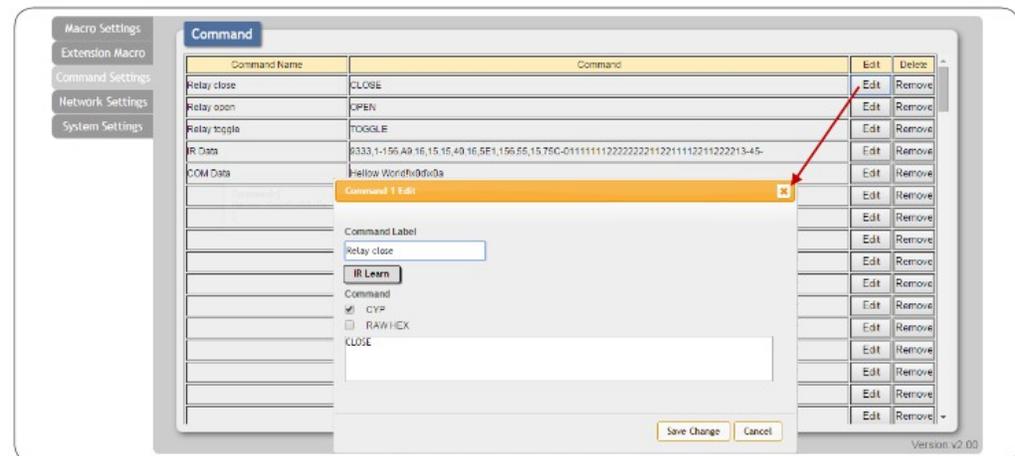
## EXTENSION MACRO

Click on 'Extension Macro' to execute/edit more Macro action up to 8 more.



## COMMAND SETTINGS

Click on 'Command Settings' to edit or delete commands up to 128 sets. Insert the command directly in the bottom column of Command Edit and name the command on the top column then click on Save Changes to store the command.



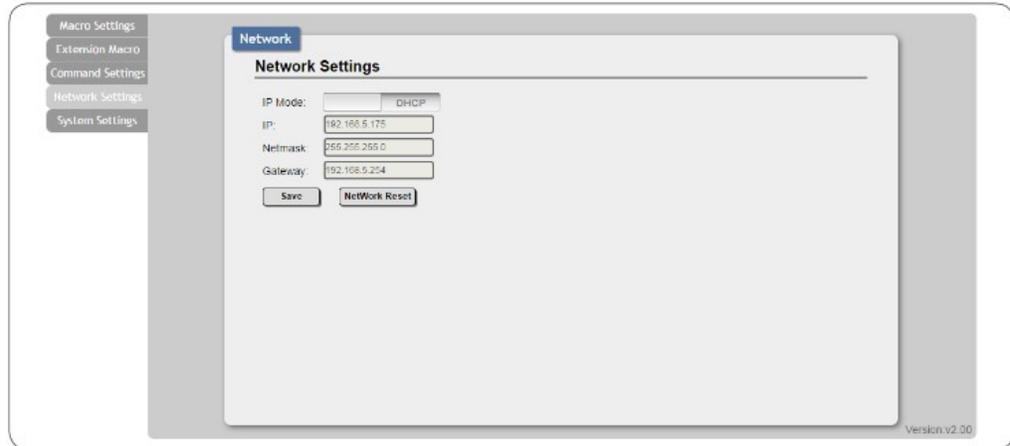
For IR command Learning, press IR Learn first then press the remote control in direct line-of-sight to the IR Receiver connected from the IRL port within 5 seconds. A command string will show in the bottom column. Click on Save Changes to store the command.

For IR command saving, insert the command on the bottom column and click on CYP/RAW HEX which indicate the IR command type and click on Save changes to store the command. Under uncertainty of the IR command type click on RAW HEX to ensure a successful command saving.

Command under 128 characters including space can be build up to 128 commands, command over 128 characters and under 512 characters including space can be build up to 32 command in addition with 96 commands of 128 characters under. Click on Save Change to save the command inserted.

## NETWORK SETTINGS

Click on 'Network Settings' to set the device's IP configuration. Once the changes are saved the system will reset the IP address on device automatically and user will need to re-enter the IP address to continue the WebGUI control.

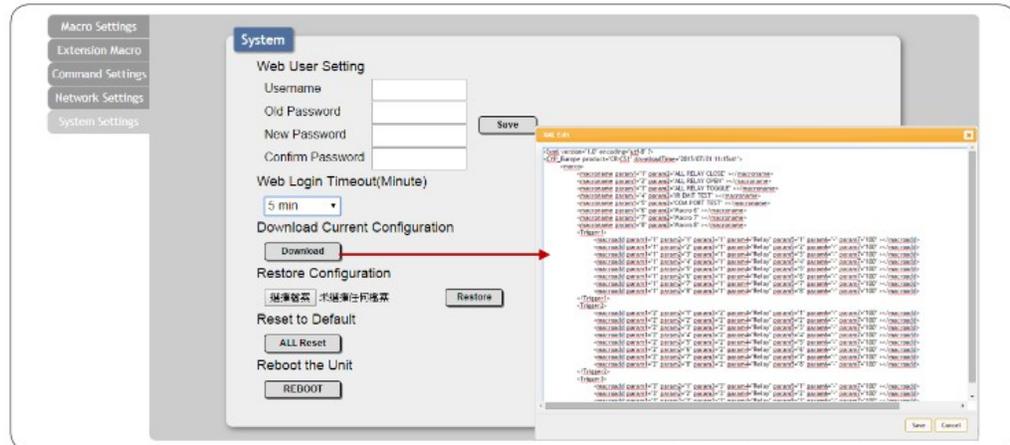


## SYSTEM SETTINGS

Click on 'System Settings' to reset the WebGUI login password and save or download the Macro settings. Reset to Default allows IP and login ID & password to be reset back to factory default.

### Note:

*Please ensure that all commands and settings have been saved before performing Reset as this procedure may restore all settings back to factory default.*



## Specifications

Input Ports	8×Triggers (Terminal Block), 4×LAN (RJ-45), 1×IR Learner
Output Ports	8×Replays (Terminal Block), 8×IR Blasters, 2×COM (9-pin D-sub)
IR Out Frequency	30~50kHz
IR Learner Frequency	30~55 kHz
Baud Rate	4800~115200bps
Power Supply	5V/2.6A DC (US/EU standards, CE/FCC/UL certified)
ESD Protection	Human body model: ±8kV (air-gap discharge) ±4kV (contact discharge)
Dimensions	432mm(W)×181mm(D)×49mm(H)
Weight	2186g
Chassis Material	Metal
Color	Black
Operating Temperature	0 °C~40 °C/32 °F~104 °F
Storage Temperature	-20 °C~60 °C/-4 °F~140 °F
Relative Humidity	20~90% RH (non-condensing)
Power Consumption	7.7W

# Connection Diagram

