INSTALLATION MANUAL FOR
ACS-2800L AUTOMATION CONTROL SYSTEM
WITH DIMMING FUNCTIONALITY

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CONTACTS AND OFFICES

Website: **www.gdc-tech.com**   Email: **info@gdc-tech.com**

24/7 Engineering Support Hotline:

North America	+1 877 743 2872 (Toll Free)	Latin America	+52 55 8851 1198
Europe	+34 928 912 295	China	+86 400 886 0966 (Toll Free)
North Asia	+852 3520 0920	India	+91 022 4044 0500
South East Asia	+65 6100 4328	Australia/ New Zealand	+61 407 040 744

Hong Kong (Headquarters)

Unit 1-7, 20th Floor,
Kodak House II,
39 Healthy Street East,
North Point, Hong Kong

Tel: +852 2507 9555

China (Beijing)

Rm. 609-618, Office
Building,20# Xinde Street,
Xicheng District, Beijing,
P.R. China 100088

Tel: +86 10 6205 7040

China (Shenzhen)

Room A701, 7/F,
Languang Technology Building,
No.7 Xinxi Road, North Zone,
HighTech Park, Nanshan District,
Shenzhen, China
Tel: +86 755 8608 6000

Spain(Barcelona)

Edificio Mercurio
Vía Augusta, 59,
desp. 607
08006 Barcelona, Spain

Tel: +34 93 159 51 75

Peru (Lima)

Calle Manuel Miota 170,
Miraflores Lima 18, Peru

Tel: +51 1 340 5146

USA (Los Angeles)

1016 West Magnolia
Boulevard, Burbank,
CA 91506, USA

Tel: +1 818 972 4370 /
+1 877 743 2872
(Toll Free)

Brazil (São Paulo)

Rua da Penha, 426,
4º andar, conjunto 43,
CEP 18010-001 -
Sorocaba/SP – Brasil
Tel: +55 15 33269301

Singapore

10 Ubi Crescent,
Ubi Tech Park,
Lobby B, #06-25
Singapore 408564
Tel: +65 6222 1082

Indonesia (Jakarta)

Total Building Lantai 4 Suite 0401,
Jl. Letjen S. Parman Kav. 106A,
Kel Tomang, Kec. Grogol
Petamburan,
Jakarta Barat 11440, Indonesia

Tel: +62 21 2920 4691

Japan (Tokyo)

3F, Kyobashi-Chuo Bldg,
1-14-7 Kyobashi Chuo-ku,
Tokyo 104-0031, Japan

Tel: +81 3 5524 2607

India (Mumbai)

Office No. B-207/208,
Everest Chamber,
Andheri Kurla Road,
Marol, Andheri (East),
Mumbai-400 059, India

Tel: +91 22 4044 0500

Mexico (Mexico City)

Ave. Santa Fe 94,
Torre A Piso 8,
Col. Zedec Santa Fe,
Alvaro Obregon,
Mexico, D.F.,
C.P. 01210 Mexico

Tel: +52 55 8851 1198/
+52 55 8851 1165

United Arab Emirates (Dubai)

Business Centre,
Dubai World Central,
PO Box 390667,
Dubai UAE

1. Introduction

The GDC ACS-2800L is an automation control system with dimming functionality specially designed for digital cinemas. It not only provides exhibitors with an efficient means of automatic control over their screening equipment, but also enables smart lighting brightness adjustment.

- With the ACS-2800L, users can control off-line devices such as theatre screen masking and lighting equipment.
- The ACS-2800L eliminates the need for extra dimmers. Its integrated dimming function enables smart lighting brightness adjustment for all kinds of adjustable light sources.
- All basic control and auxiliary buttons required for day-to-day theatre operations can be found on the front panel of the device, allowing manual control at any time and to flexibly respond to situational needs.
- The integrated rack-mount structure and pluggable wiring design make installation, maintenance and replacement easier and faster.

2. Packing List

The ACS-2800L package includes two boxes: the main package and the accessories package. Details are shown below:

| ACS-2800L Packing List			
Item No.	Description	Quantity	Photo
1	ACS-2800L Automation Control System with Dimming Functionality	1	
2	International standard cables (with quick-connecting terminals)	6	
3	International standard power cord	1	

3. Hardware Installation

The ACS-2800L is rack-mountable. It is usually installed at the projector pedestal (shown below).
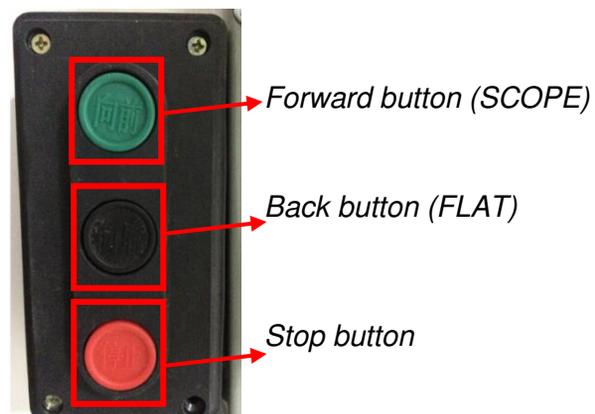The front panel and the connector ports are shown below:
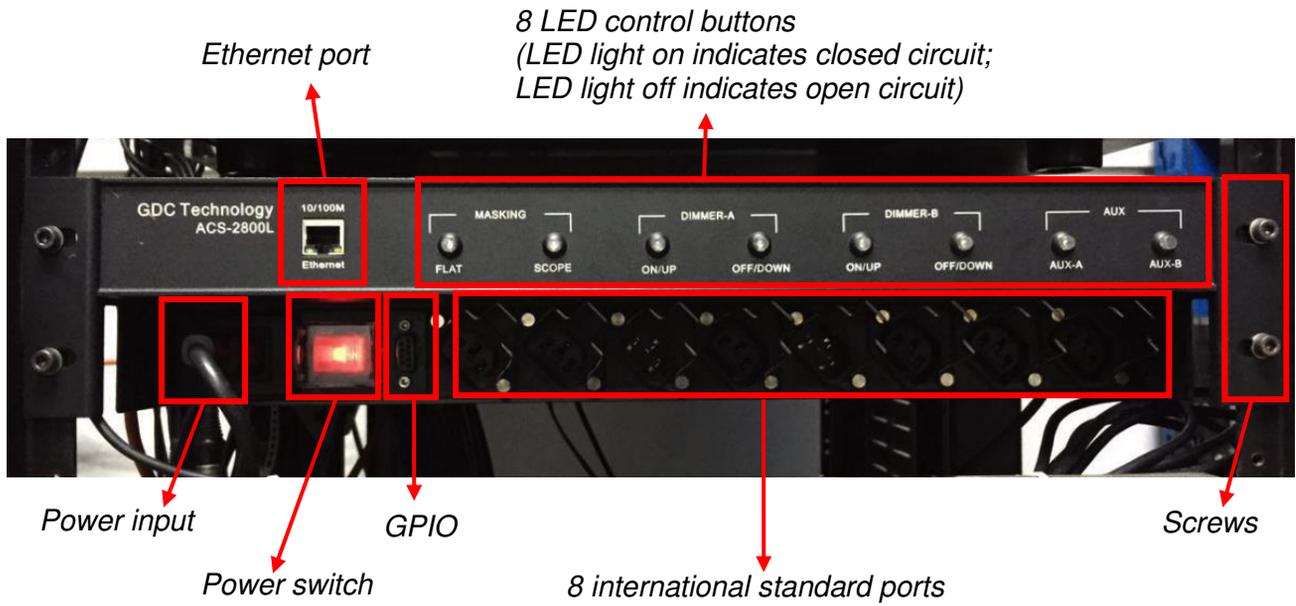
3.1 Screen Masking Control Cabling Introduction

Connect two cables to the corresponding ports underneath FLAT and SCOPE buttons and secure them with cable clips.
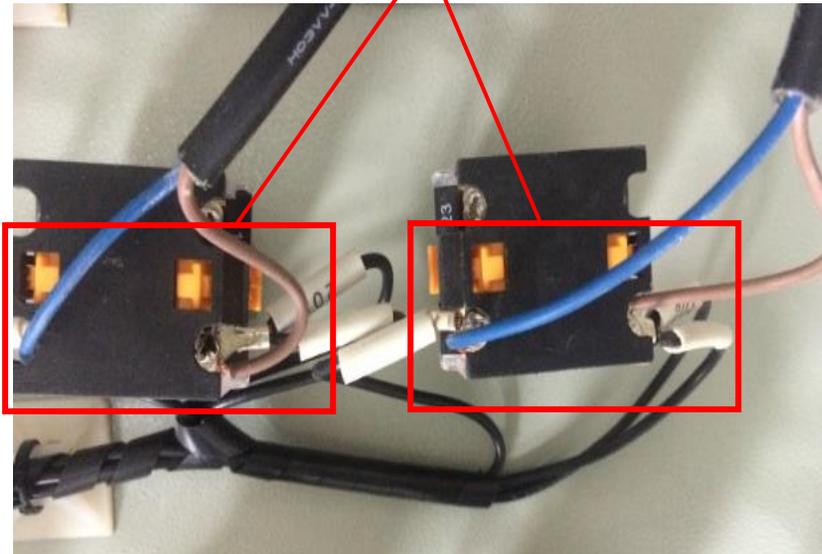
Screen masking manual control buttons
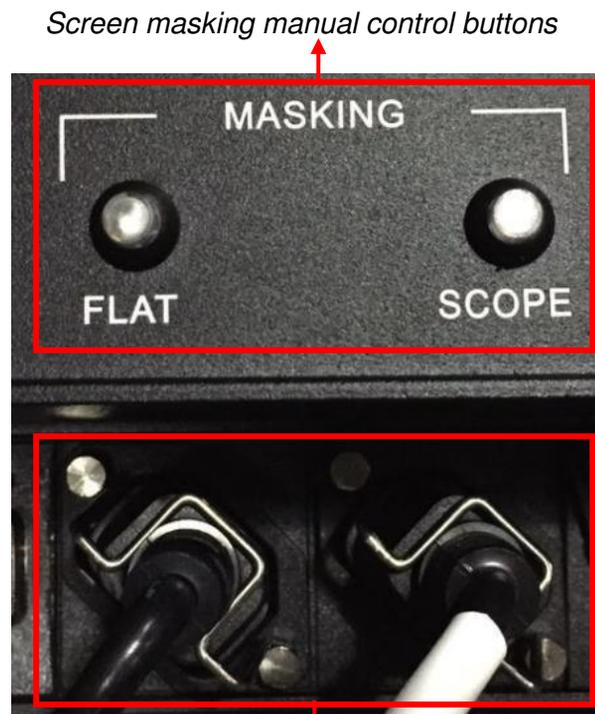
Plug the cables into the ports and secure them with cable clips

The following picture shows the commonly used screen masking manual control buttons. The two cables from the ACS-2800L are connected to the "forward button" and the "back button" of the screen controller. These two buttons are used to control FLAT and SCOPE screens.

Forward button (SCOPE)

Back button (FLAT)

Stop button

Connect the neutral and live wires respectively to the two nodes behind the manual control buttons.
Note: Differentiate between the FALT and SCOPE buttons.

No particular order required for cabling

Screen masking control cabling is now complete.

3.2 Light Dimmer Cabling Introduction

Connect two cables to DIMMER-A (or DIMMER-B) ports underneath ON/UP and OFF/DOWN buttons and secure them with cable clips.

Lighting manual control buttons

*Plug the cables into the ports and secure them with cable clips*
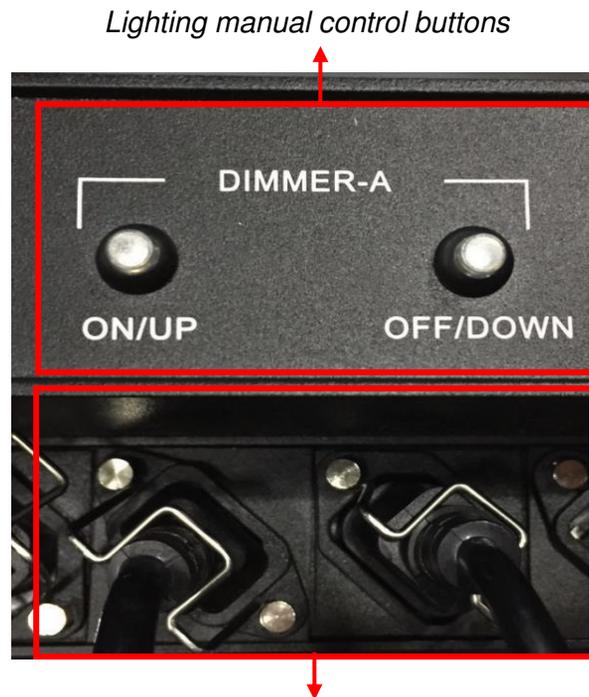
Afterwards, identify the lighting power supply circuit breaker. There are two common types of circuit breakers. One is a single switch that only controls the connection/disconnection of live wire. The other type has a power leakage protection mechanism that controls the connection/disconnection of both the live and neutral wires.

Single switch cabling method: Unplug the wires originally located at the bottom of the circuit breaker. Connect the live wire underneath ON/UP button to the bottom of the circuit breaker. The neutral and earth wires are then connected to the corresponding public ports underneath the power distribution cabinet. Afterwards connect the live wire underneath OFF/DOWN button with the wires originally located underneath the circuit breaker. Similarly, the neutral and earth wires are then connected to the corresponding public ports underneath the power distribution cabinet. The cabling is now complete.

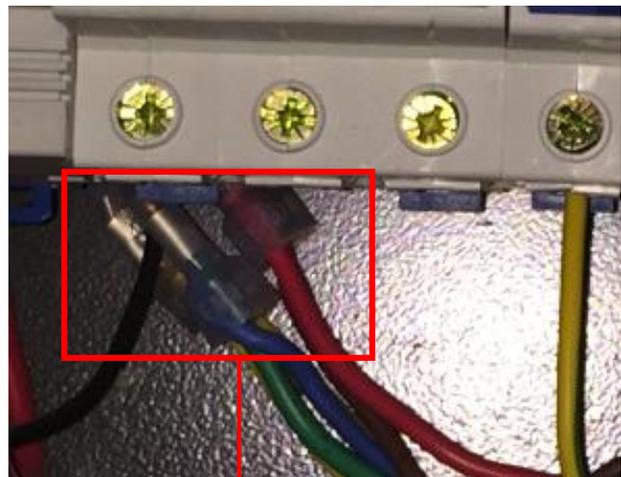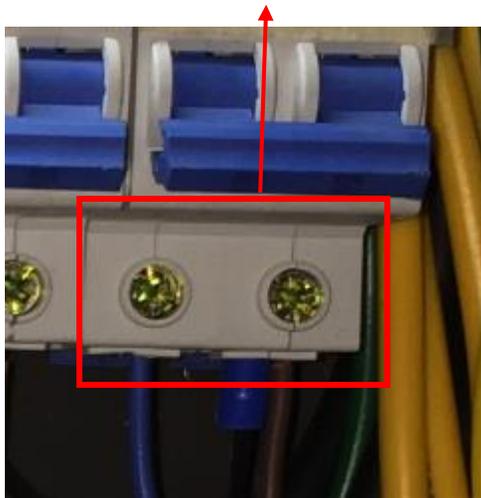*Connect the live wire underneath ON/UP button to the bottom of lighting power supply circuit breaker*
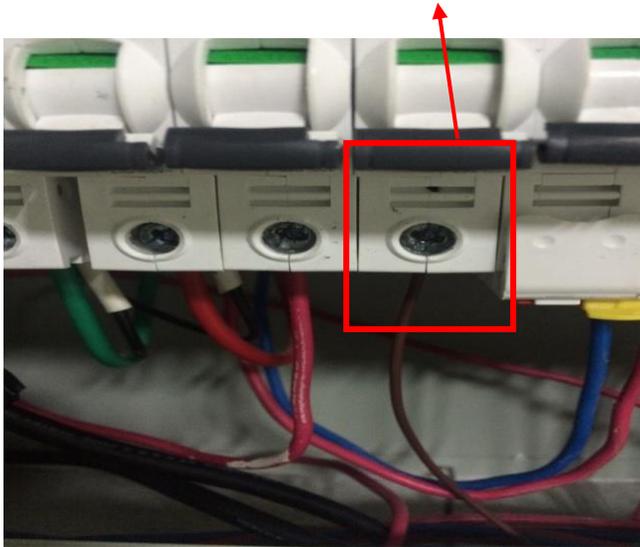
Connect the live wire underneath OFF/DOWN with the original wires at the bottom of the circuit breaker.
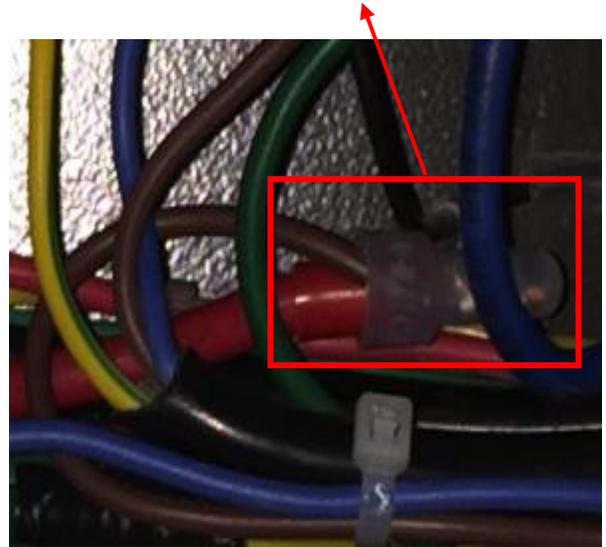
Power leakage protection switch cabling method: Unplug the wires originally located at the bottom of the circuit breaker. Connect the live and neutral wires underneath ON/UP button respectively to the corresponding ports underneath the circuit breaker. The earth wire is then connected to the corresponding public port underneath the power distribution cabinet. Afterwards connect the live and neutral wires underneath OFF/DOWN button to the corresponding ports underneath the circuit breaker. The earth wire is then connected to the corresponding public port underneath the power distribution cabinet. The cabling is now complete.

Connect the live and neutral wires underneath ON/UP button to the corresponding ports underneath the lighting power leakage protector switch


Connect the live and neutral wires underneath OFF/DOWN button to the corresponding ports underneath the circuit breaker

3.3 Other Control Equipment Cabling Introduction

If other equipment requires automation control, it can be implemented by the 2-way backup automation control buttons on the ACS-2800L: AUX-A and AUX-B. The cabling method can be referred to Section 3.1 Screen Masking Control Cabling Introduction.

2-way backup automated control button
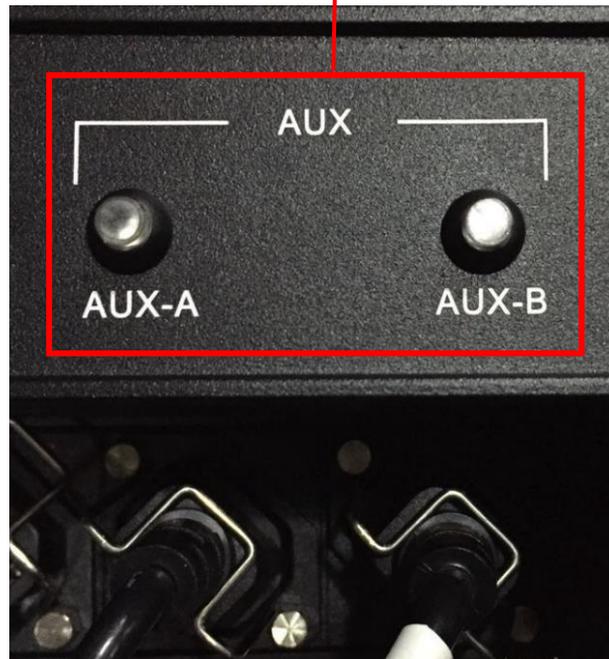
4. Software Configuration

4.1 Setting Up IP Address

The default IP address for ACS-2800L is 192.168.3.201. To change the IP address, the laptop network port must first be modified to that of the ACS-2800L network port, then connect directly to the ACS-2800L with a LAN cable.

Run the IP configuration software on the laptop (IP&MAC Config V2.1.1.exe). Click "advanced" followed by "Search", the current IP address of the ACS-2800L will be shown, as well as the current IP of the laptop. Only when both IPs are on the same network port, the IP of the ACS-2800L will appear in black, otherwise it will appear in grey, which implies the inaccessibility to the IP modification main interface.
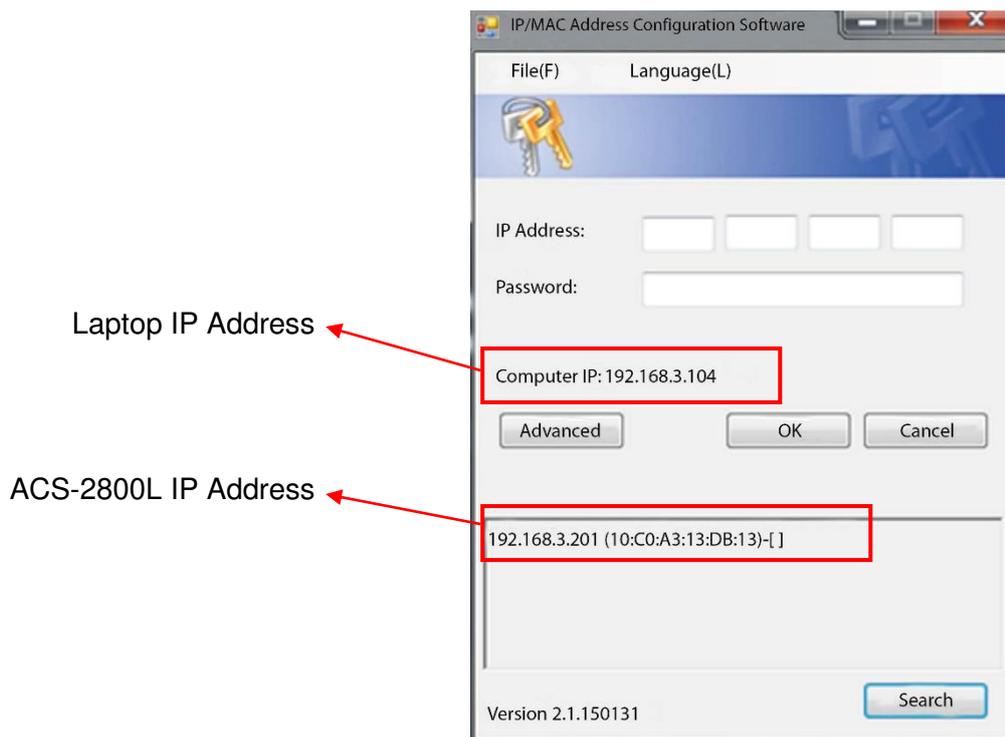
Enter the IP address of the ACS-2800L in the 'IP address' field and leave the 'Password' field blank. Click 'OK' to enter the IP modification page. After accessing to the page, first modify the gateway address, click 'Update' to save. Then modify the IP address, and click 'Update' to save. The program will return back to the login interface. Click 'Advanced', followed by 'Search', users can verify if the IP address has been modified successfully.
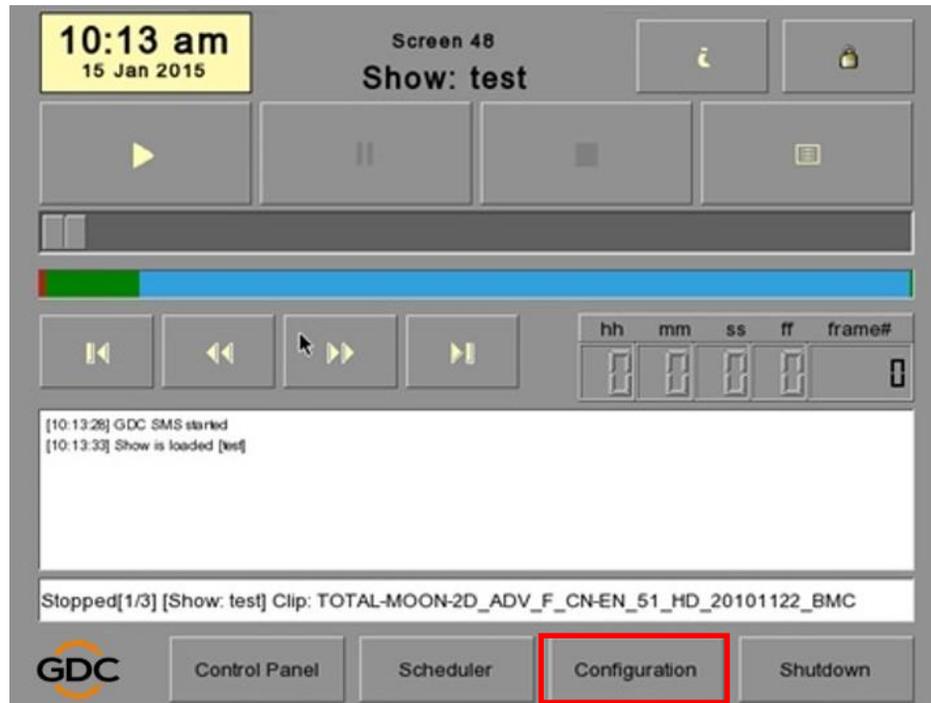
Step 2:
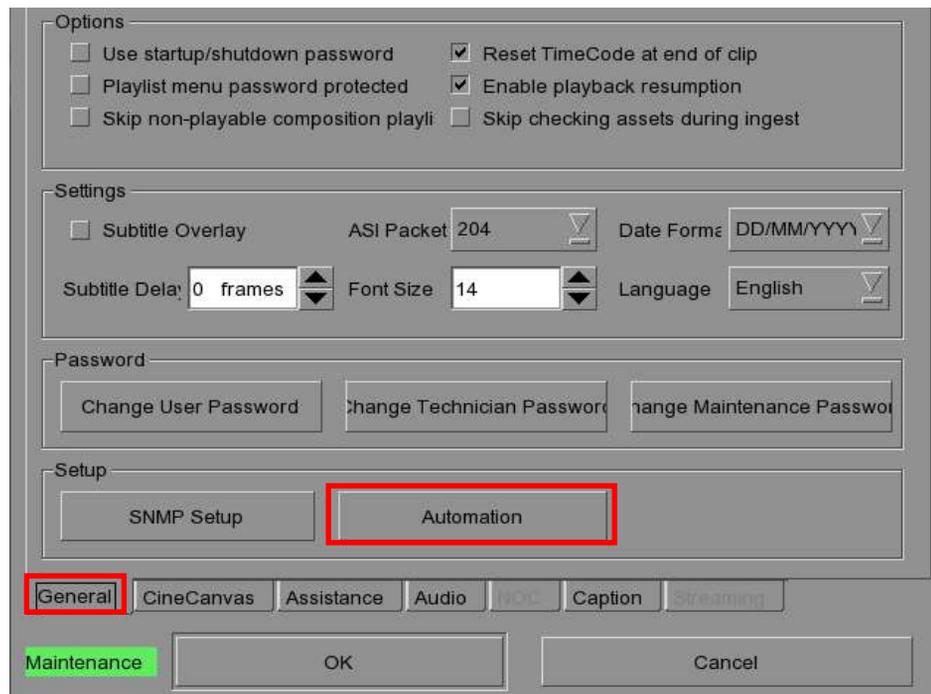Modify the IP address

Step 1:
Modify the gate address
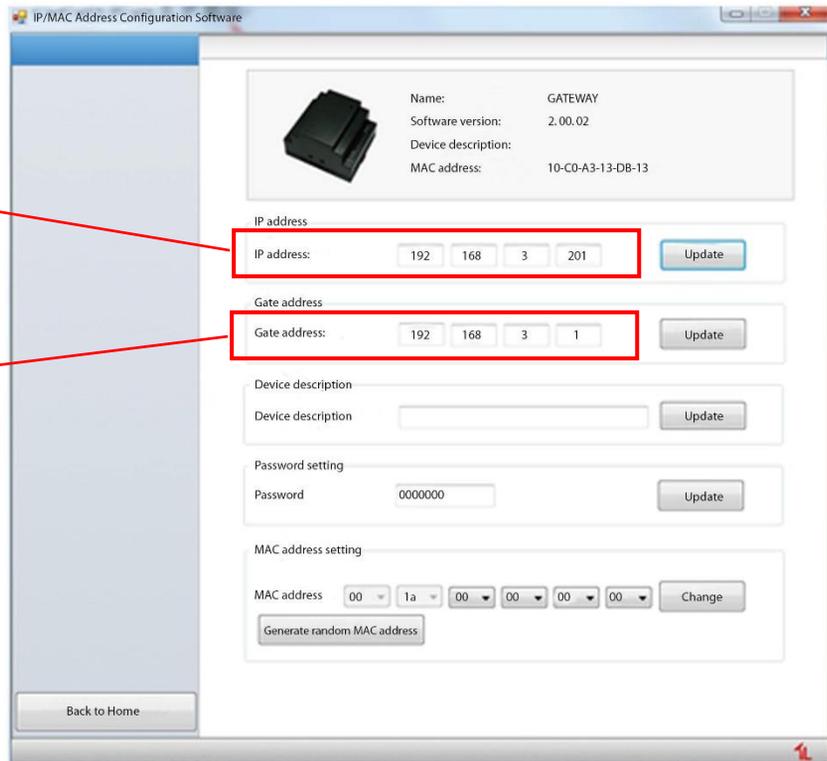
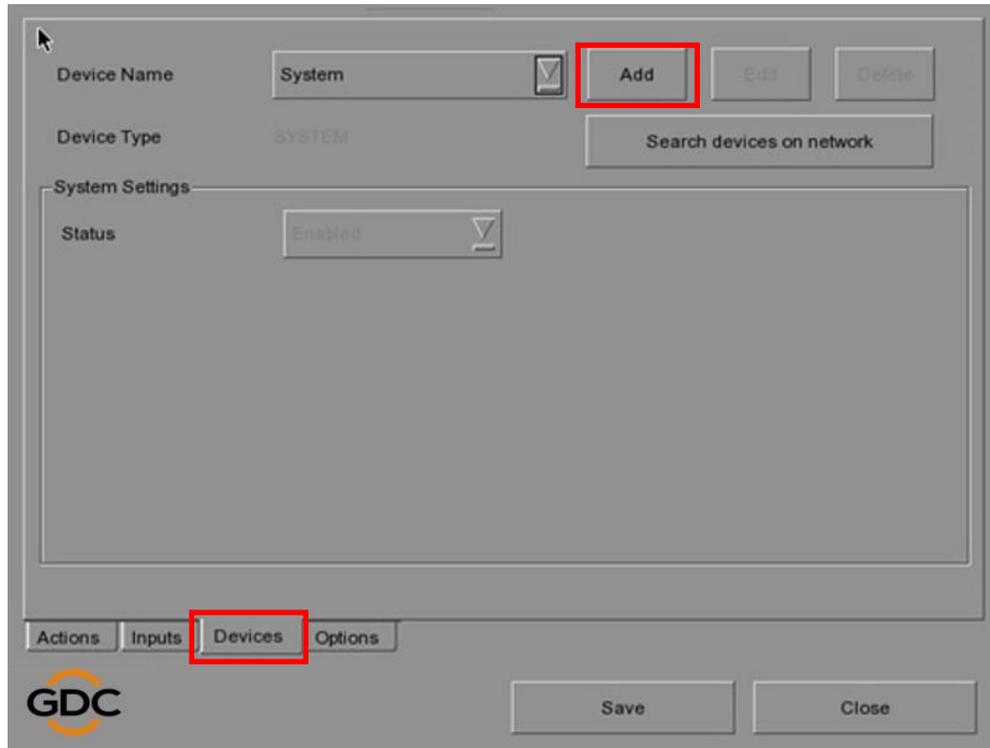## 4.2 Adding the ACS-2800L Control Commands onto the Server

1. At the GDC server interface, click "Configuration" and login using the "Technician" account with the password "257910".
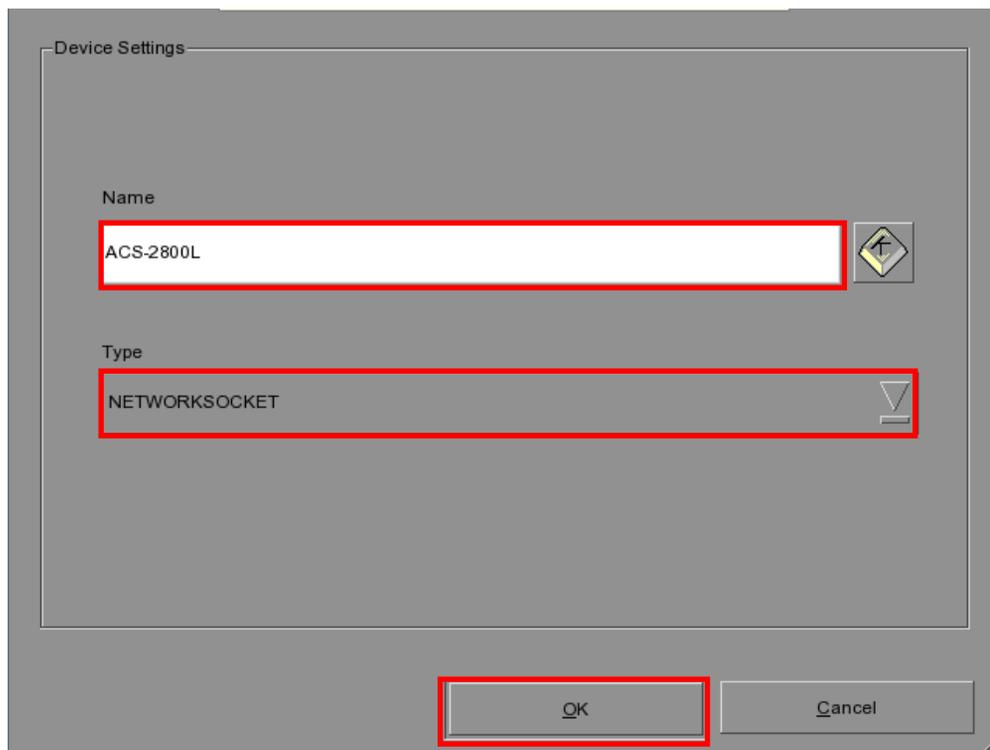

2. Select the "General" tab and click "Automation".

3. Select the "Devices" tab and click the "Add" to add a new device.

4. Enter "ACS-2800L" into the name field and select "NETWORKSOCKET" for the type. Click "OK" to save the setting.

5. Select "ACS-2800L" from the Device Name dropdown list. Enter its IP address and port number (default as 10003). Select "TCP" for the protocol type and click "Save" to save the setting. Afterwards click the "Edit Control Cues" to add control cues.
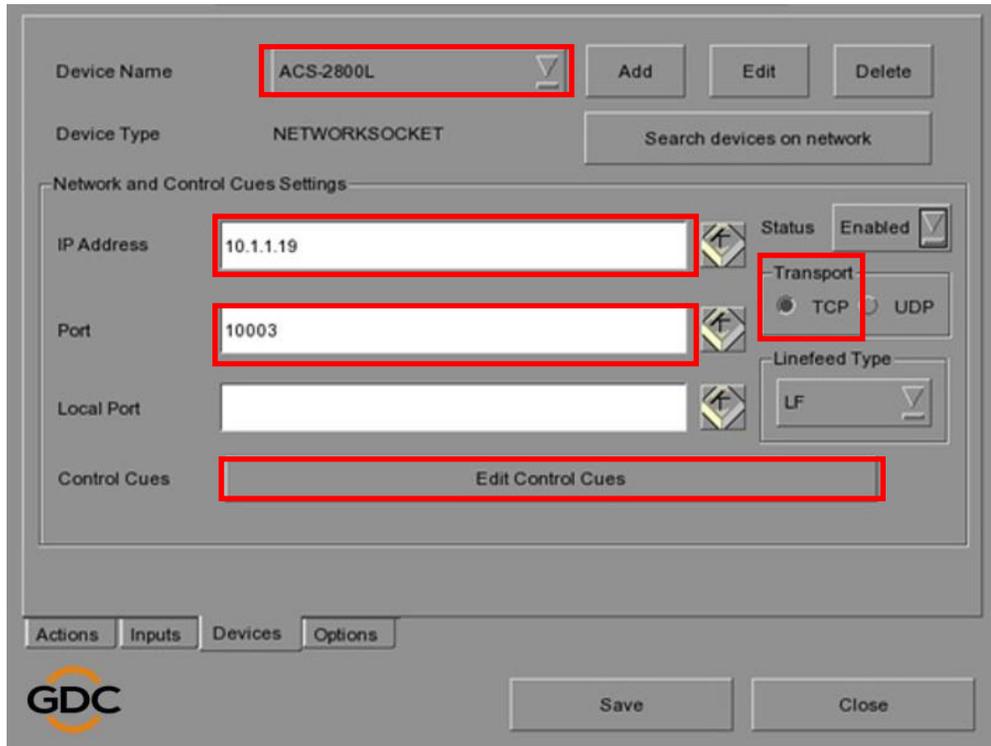

6. At the "Edit Control Cues" interface, click "Add" to add each control cue. Lastly click "OK" to save the setting.
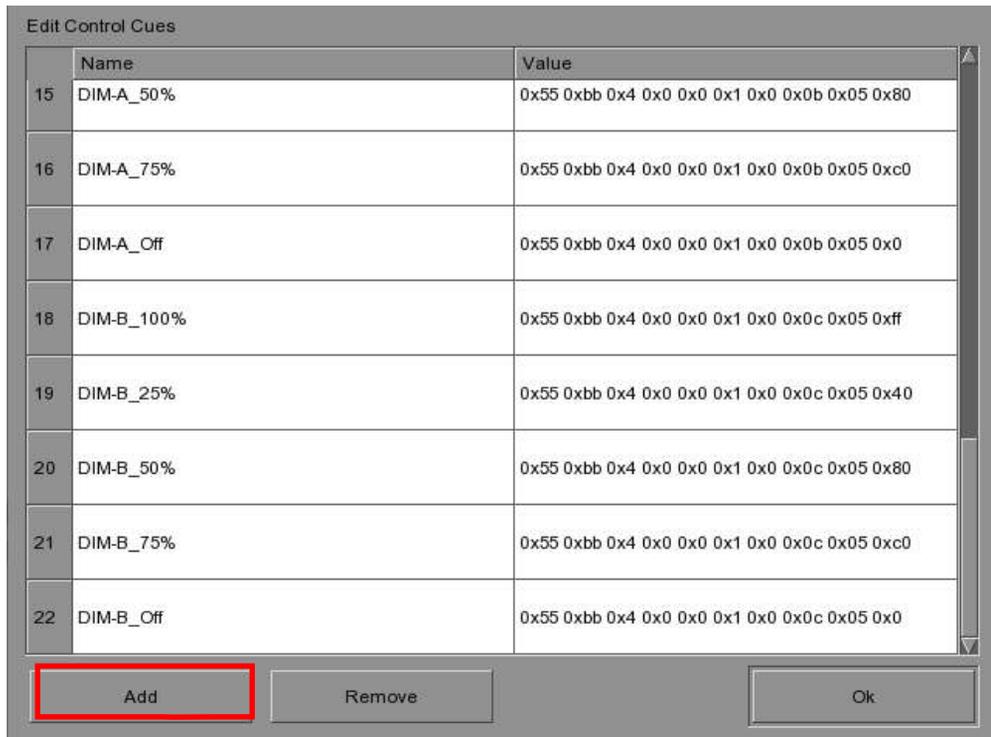
ACS-2800L control cues are as follows：

```
<control-cue name="1_On" value="0x55 0xbb 0x4 0x0 0x0 0x1 0x0 0x01 0x01 0xff" />
<control-cue name="1_Off" value="0x55 0xbb 0x4 0x0 0x0 0x1 0x0 0x01 0x01 0x0" />
<control-cue name="1_Trigger" value="0x55 0xbb 0x4 0x0 0x0 0x4 0x0 0x1 0xff 0x0a 0x0" />
<control-cue name="2_On" value="0x55 0xbb 0x4 0x0 0x0 0x1 0x0 0x02 0x01 0xff" />
<control-cue name="2_Off" value="0x55 0xbb 0x4 0x0 0x0 0x1 0x0 0x02 0x01 0x0" />
<control-cue name="2_Trigger" value="0x55 0xbb 0x4 0x0 0x0 0x4 0x0 0x2 0xff 0x0a 0x0" />
<control-cue name="DIM-A_Off" value="0x55 0xbb 0x4 0x0 0x0 0x1 0x0 0x0b 0x05 0x0" />
<control-cue name="DIM-A_25%" value="0x55 0xbb 0x4 0x0 0x0 0x1 0x0 0x0b 0x05 0x40" />
<control-cue name="DIM-A_50%" value="0x55 0xbb 0x4 0x0 0x0 0x1 0x0 0x0b 0x05 0x80" />
<control-cue name="DIM-A_75%" value="0x55 0xbb 0x4 0x0 0x0 0x1 0x0 0x0b 0x05 0xc0" />
<control-cue name="DIM-A_100%" value="0x55 0xbb 0x4 0x0 0x0 0x1 0x0 0x0b 0x05 0xff" />
<control-cue name="DIM-B_Off" value="0x55 0xbb 0x4 0x0 0x0 0x1 0x0 0x0c 0x05 0x0" />
<control-cue name="DIM-B_25%" value="0x55 0xbb 0x4 0x0 0x0 0x1 0x0 0x0c 0x05 0x40" />
<control-cue name="DIM-B_50%" value="0x55 0xbb 0x4 0x0 0x0 0x1 0x0 0x0c 0x05 0x80" />
<control-cue name="DIM-B_75%" value="0x55 0xbb 0x4 0x0 0x0 0x1 0x0 0x0c 0x05 0xc0" />
<control-cue name="DIM-B_100%" value="0x55 0xbb 0x4 0x0 0x0 0x1 0x0 0x0c 0x05 0xff" />
<control-cue name="7_On" value="0x55 0xbb 0x4 0x0 0x0 0x1 0x0 0x07 0x01 0xff" />
<control-cue name="7_Off" value="0x55 0xbb 0x4 0x0 0x0 0x1 0x0 0x07 0x01 0x0" />
<control-cue name="7_Trigger" value="0x55 0xbb 0x4 0x0 0x0 0x4 0x0 0x7 0xff 0x0a 0x0" />
<control-cue name="8_On" value="0x55 0xbb 0x4 0x0 0x0 0x1 0x0 0x08 0x01 0xff" />
<control-cue name="8_Off" value="0x55 0xbb 0x4 0x0 0x0 0x1 0x0 0x08 0x01 0x0" />
<control-cue name="8_Trigger" value="0x55 0xbb 0x4 0x0 0x0 0x4 0x0 0x8 0xff 0x0a 0x0" />
```

7. Select "Actions" tab to add a new event label, click "Add" to add a new event label. Name the event label for easy identification. Click "Add" underneath the event label to add action cues. At the "Device" dropdown list, select "ACS-2800L" and then select the corresponding action commands from the "Action" list. Lastly click "Save".
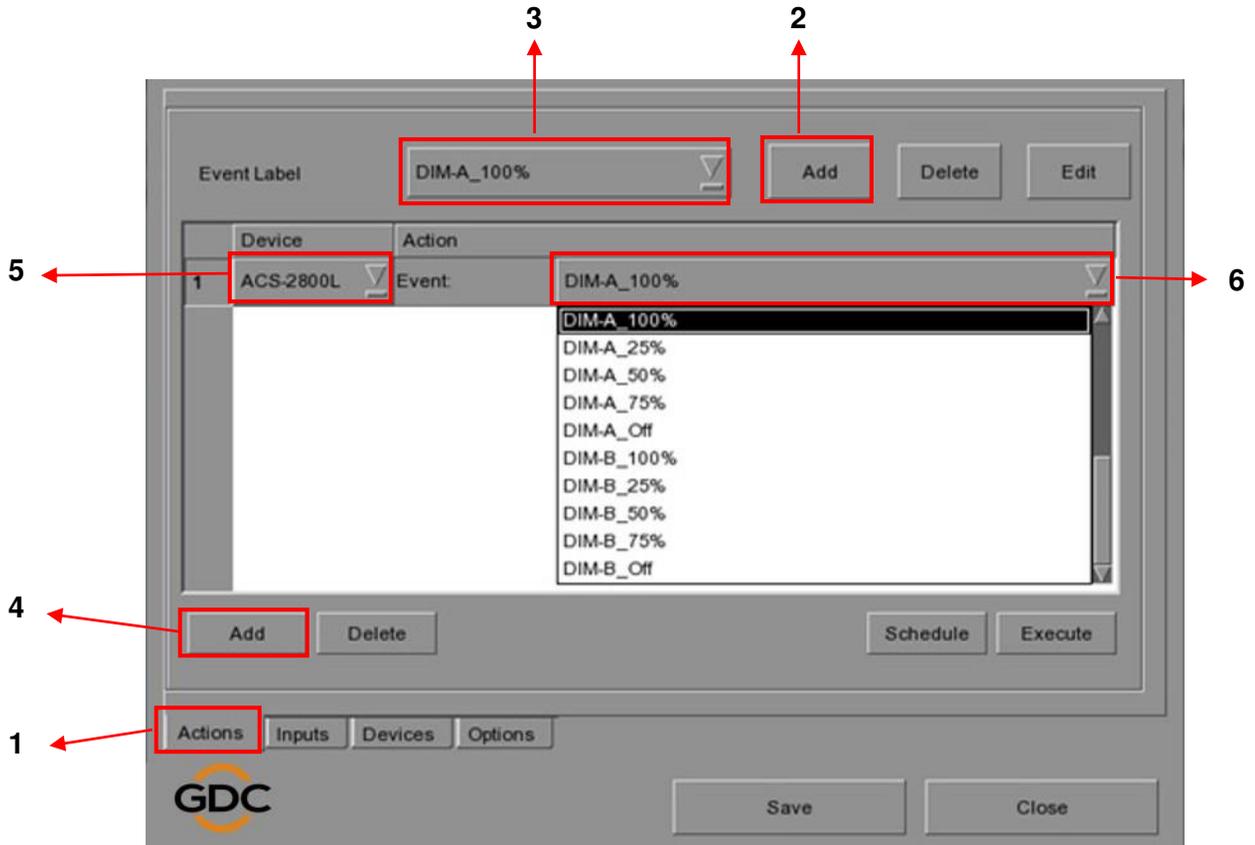
1	Select "Actions" tab
2	Click "Add" to add the event label
3	Enter event label name
4	Click "Add" to add the action command
5	Select "ACS-2800L" under 'Device' dropdown list
6	Select the action commands for the corresponding event label name and then save

5. GPIO Control

If certain servers do not support the network control protocols, GPIO signal can be sent to ACS-2800L to implement automation control.
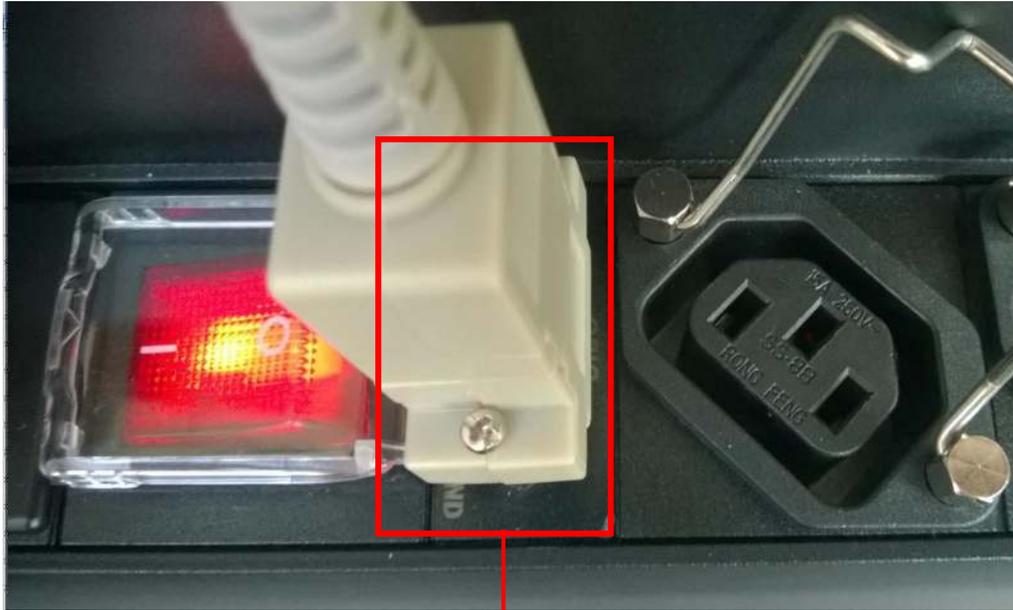
The 9-Pin GPIO port of the ACS-2800L

GDC Technology Offices

Hong Kong (Headquarters)
Unit 1-7, 20th Floor,
Kodak House II,
39 Healthy Street East,
North Point, Hong Kong.
Tel: +852 2507 9555

China (Beijing)
Rm. 609-618, Office Building,
20# Xinde Street,
Xicheng District,
Beijing, P.R. China 100088
Tel: +86 10 6205 7040

China (Shenzhen)
Room A701, 7/F,
Languang Technology Building,
No.7 Xinxi Road, North Zone,
High-Tech Park, Nanshan District,
Shenzhen, P.R. China
Tel: +86 755 8608 6000

Spain (Barcelona)
Edificio Mercurio,
Vía Augusta, 59, desp. 607,
08006 Barcelona, Spain
Tel: +34 93 159 51 75

Peru (Lima)
Calle Manuel Miota 170,
Miraflores Lima 18, Peru
Tel: +51 1 340 5146

USA (Los Angeles)
1016 West Magnolia Boulevard
Burbank, CA 91506, USA
Tel: +1 818 972 4370
      +1 877 743 2872 (Toll Free)

Brazil (São Paulo)
Rua da Penha, 426, 4º andar, conjunto 43,
CEP 18010-001 - Sorocaba/SP - Brasil
Tel: +55 15 33269301

Singapore
10 Ubi Crescent, Ubi Tech Park,
Lobby B, #06-25, Singapore
Tel: +65 6222 1082

Indonesia (Jakarta)
Total Building Lantai 4 Suite 0401,
Jl. Letjen S. Parman Kav. 106A,
Kel. Tomang, Kec. Grogol Petamburan,
Jakarta Barat 11440, Indonesia
Tel: +62 21 2920 4691

Japan (Tokyo)
3F, Kyobashi-Chuo Bldg,
1-14-7 Kyobashi Chuo-ku,
Tokyo 104-0031, Japan
Tel: +81 3 5524 3607

India (Mumbai)
Office No. B-207/208, Everest Chamber,
Andheri Kurla Road, Marol, Andheri (East),
Mumbai-400 059, India
Tel: +91 22 4044 0500

Mexico (Mexico City)
Ave. Santa Fe 94, Torre A Piso 8,
Col. Zedec Santa Fe, Alvaro Obregon,
Mexico, D.F., C.P. 01210 Mexico
Tel: +52 55 8851 1198/
+52 55 8851 1165

United Arab Emirates (Dubai)
Business Centre,
Dubai World Central,
PO Box 390667,
Dubai UAE

Email: info@gdc-tech.com
Website: www.gdc-tech.com

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