






**OP075 Operation Desk**  
**User manual**  
**IM19H16-E**














Notices
<ul style="list-style-type: none"> <li>● The reproduction, transmission or use of this document or its contents is not permitted without express written authority.</li> <li>● Information and specifications in this document are subject to change without notice.</li> <li>● While information in this document is well edited and checked, mistake or omission may exist. Please don't hesitate to contact SUPCON if you have any question about this document.</li> <li>● Please contact SUPCON via email "SMS@supcon.com" if you have any question.</li> </ul>

Trademarks
<p>Trademarks or marks SUPCON, SPlant, Webfield, ESP-iSYS, MultiF, InScan, SupField are all registered, registering or using by Zhejiang SUPCON Technology Co., Ltd., which owns the properties of all trademarks or marks above. Without the written authority from Zhejiang SUPCON Technology Co., Ltd, no individual or company shall use any trademarks or marks above. We reserve the right to take legal action for any individual or company using trademarks or marks above illegally.</p>

Symbol Definition	
	<b>WARNING:</b> Indicates information that a potentially hazardous situation which, if not avoided, could result in serious injury or death.
	<b>RISK OF ELECTRICAL SHOCK:</b> Indicates information that Potential shock hazard where HAZARDOUS LIVE voltages greater than 30V RMS, 42.4V peak, or 60V DC may be accessible.
	<b>ESD HAZARD:</b> Indicates information that Danger of an electro-static discharge to which equipment may be sensitive. Observe precautions for handling electrostatic sensitive devices
	<b>ATTENTION:</b> Identifies information that requires special consideration.
	<b>TIP:</b> Identifies advice or hints for the user.

## Security& Caution Symbols

The following table lists Security& Caution symbols used on equipments.

No.	Symbol	Description
1		Direct current (DC)
2		Alternating current (AC)
3		Ground (Earth) terminal
4		Protective earth (ground) terminal
5		Reference ground (Earth) terminal
6		Frame or chassis
7		Equipotentiality
8		On (power)
9		Off (power)
10		Caution, risk of electric shock
11		Caution, hot surface
12		Caution, risk of danger
13		Electrostatic sensitive devices (ESD)

# Table of Contents

<b>OP075 Operation Desk .....</b>	<b>1</b>
<b>Section 1 Overview .....</b>	<b>1</b>
1.1 Operation Desk Structure .....	1
1.2 Operation Desk Model .....	2
1.3 Operation Desk Dimensions .....	3
<b>Section 2 Specification .....</b>	<b>4</b>
<b>Section 3 Installation Preparation .....</b>	<b>5</b>
<b>Section 4 Notice .....</b>	<b>6</b>
<b>Section 5 Installation in Filed .....</b>	<b>7</b>
<b>Section 6 Maintenance .....</b>	<b>14</b>
<b>Section 7 Disassembly Procedures of Operation Desk .....</b>	<b>16</b>
<b>Section 8 Revision .....</b>	<b>17</b>

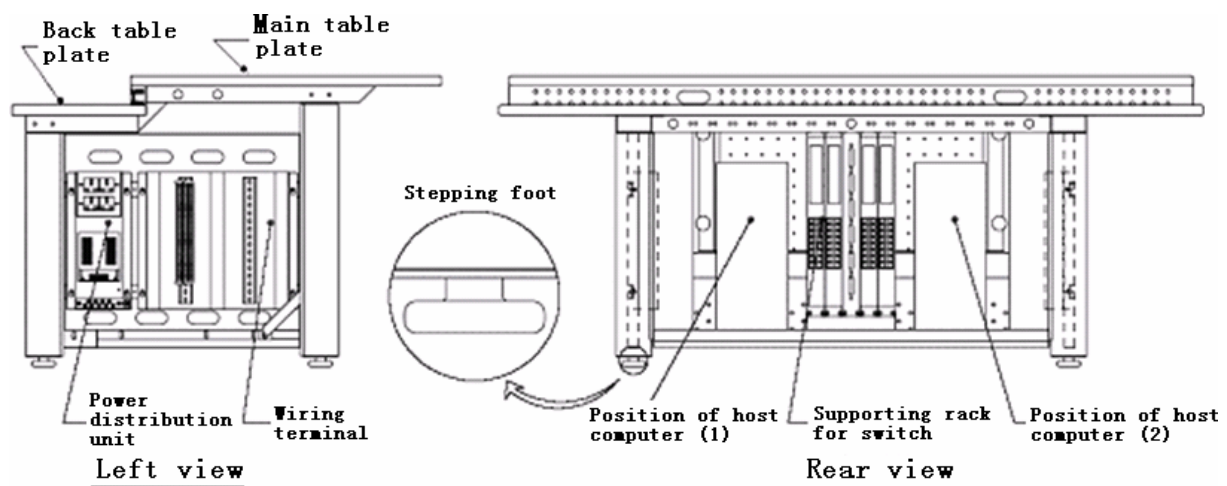
# OP075 Operation Desk

## Section 1 Overview

OP075 operation desk is a combined operation desk assembled with several independent operation desks, and according to the actual situations, the hardware equipments and accessory devices for several operator stations can be installed in concentration.

### 1.1 Operation Desk Structure

Structure of single operation desk is shown as Figure 1-1:



**Figure 1-1 Structure of operation desk**

**Main Table Plate:** Used to place the keyboard, mouse or install industrial keyboard (Like operator keyboards OP036, OP733 and OP032, etc) as well as the control button, etc, and is the main operation platform on the operation desk.

**Back Table Plate:** Used to place the LCD.

**Main Body:** Comprised of standing column, isolation board and front and back doors, etc, and there are structures like power distribution unit, wiring terminal unit, grounding copper bar, and the rack for Ethernet switch, etc designed inside. In the main body, host computer of two operation stations (standing type) can be placed.

**Power Distribution Unit:** Comprised of switcher (or relay terminal), power socket and the rack board for power distribution, etc, with one group fixed on the block boards on the left and the right respectively inside the operation desk. When two groups of independent power supply are provided from the outside, enter the power socket through the switcher, and when the single group of power supply is provided from the outside, enter the power supply socket through the relay terminal.

**Wiring Unit:** Comprised of wiring terminal and the rack board for the terminal, with one group fixed on the block boards on the right and the left respectively in the operation table, used to connect the operation buttons and the field control equipments.

**Grounding Copper Bar:** There is one grounding copper bar on the left and the right respectively in the operation desk, used to connect the protective earth in the control system.

**Rack of Ethernet Switch:** Used to install the 19" Ethernet switch. 4 Ethernet switches can be installed at maximum (4U).

**Stepping Foot of the Standing Column of the Operation Desk:** Can adjust the height of the operation desk in small range so as to stably place it and the insulating rubber at the bottom of the step safely insulating the operation table with the earth.

**Braking Board:** Used to fix the relative position of two adjacent operation tables.

**Block Boards in the Front and on the Back:** Used to close down the space between two adjacent operation tables.

## 1.2 Operation Desk Model

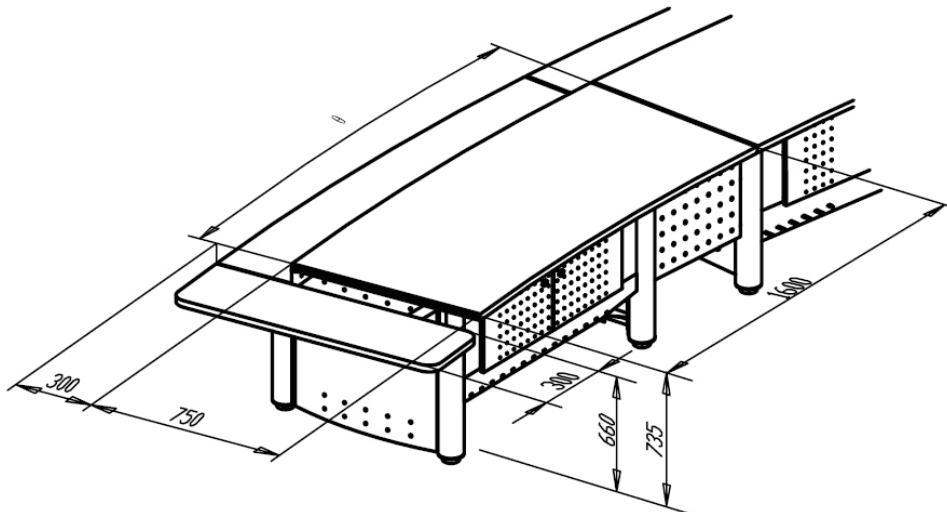
The lists of radians often used and the corresponding models of the operation desks are as below. This operation desk is an assembled structure, with the quantity usually more than 4 pieces, and after assembled, the total radian recommends 60°.

**Table 1-1 Model list of OP075 operation desk**

Model	Radian (θ)		Hole situation		Remarks
	Code		Code		
OP075-A00	5°	A	No Keyboard Hole	1	Hole for control button is separately designed
OP075-A20	5°	A	Open keyboard hole, support OP036, OP733, OP032 and OP035 keyboard installation	2	Hole for control button is separately designed
OP075-A40	5°	A	Open keyboard hole, support OP034 keyboard installation	3	Hole for control button is separately designed
OP075-B00	10°	B	No Keyboard Hole	1	Hole for control button is separately designed
OP075-B20	10°	B	Open keyboard hole, support OP036, OP733, OP032 and OP035 keyboard installation	2	Hole for control button is separately designed
OP075-B40	10°	B	Open keyboard hole, support OP034 keyboard installation	3	Hole for control button is separately designed
OP075-C00	15°	C	No Keyboard Hole	1	Hole for control button is separately designed

Model	Radian (θ)		Hole situation		Remarks
		Code		Code	
OP075-C20	15°	C	Open keyboard hole, support OP036, OP733, OP032 and OP035 keyboard installation	2	Hole for control button is separately designed
OP075-C40	15°	C	Open keyboard hole, support OP034 keyboard installation	3	Hole for control button is separately designed
OP075-Z00	0°	Z	No Keyboard Hole	1	Hole for control button is separately designed
OP075-Z20	0°	Z	Open keyboard hole, support OP032, OP036 keyboard installation	2	Hole for control button is separately designed

### 1.3 Operation Desk Dimensions



**Figure 1-2 Structure dimensions of operation desk**

Length×Width×Height: (1600×1050×735) mm.

As the operation desk has radian. the actual dimensions of operation desk are different from the structure dimensions, as shown in Table 1-2.

**Table 1-2 Actual dimension of operation desk (mm)**

Radian (θ)	Height		Width	Depth
0° Single Operation Desk	765 (Screen)	735 (No Screen)	1600	1050
5°Single Operation Desk	765 (Screen)	735 (No Screen)	1695	1070
10°Single Operation Desk	765 (Screen)	735 (No Screen)	1785	1085
15°Single Operation Desk	765 (Screen)	735 (No Screen)	1875	1105

## Section 2 Specification

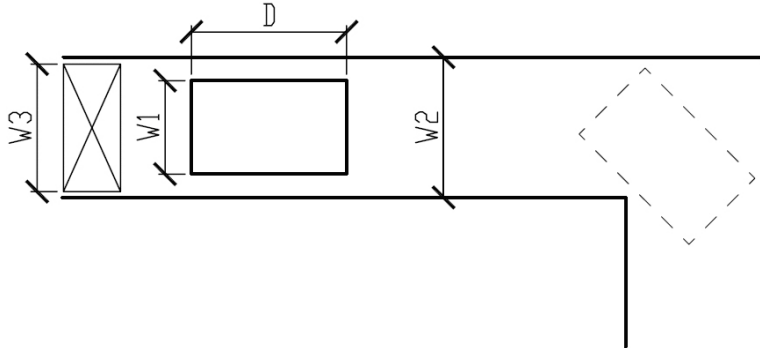
---

- Net Weight: 175kg.
- Fabrication Material: Material for table board is the imported fireproof board, and that of the base is the rolling steel plate.
- Standard Color: Table board is in light gray color, and base is in deep gray color, and other color configuration can be provided as requested by client.
- Storage and Transportation Environment:
  - Climate Request  
Temperature: (-40~85)°C; Humidity: (5~85)%RH; Temperature Gradient: ±0.5°C/min
  - Water Proof Request  
The equipment should not be stored in the place where may be water-seeping such as places with auto-fire protection and heating system.  
Ensure the storage box is OK.  
There should be some rain-proof measure.  
There should not be any water on the ground or in the box.  
The box should avoid direct sunshine.
- Operating Environment:
  - Climate Request  
Temperature: (5~40)°C; Humidity: (5~85)%RH; Temperature Gradient: ±0.5°C/min
- Biological Environment Request:
  - Avoid the breeding of microorganism such as epiphyte and mildew.
  - Avoid the existence of rodent such as mouse.
- Mechanical Specification:
  - Vibration: the displacement extent< 3.5mm (0.1Hz~9Hz); acceleration <1g (9Hz~150Hz)
  - Impulsion: 15g (peak value), the duration time =11ms
- Design Standard:
  - GB/T 7269 Arrangement, types and basic dimensions for electronic equipment consoles.
  - GB/T 8582 Terminology for mechanical structures of electrotechnics and electronic equipment.
  - GB/T 10217 design principle Terminology for structures of electrotechnics and controlling equipment.
  - GB/T 15139 General technical standard for electrical equipment structure.
  - GB/T 17214 working condition of industry measure and controlling equipment.



## Section 3 Installation Preparation

### Planning of Transportation Route



**Figure 3-1 Transportation route**

- Package Dimensions of Product:  $W1=1200$ ,  $D=2000$ ,  $H=1000$  and the channel dimension  $W2 \geq 1800$
- Entrance Space:  $W3 \geq 1300$ ,  $H1 \geq 1000 + \text{transportation elevation height}$
- Entrance keeps clear

### Planning of Placement Area

$1200 \times 2000/\text{set}$ , and two layers are allowed to pile up.

### Tools

- Transportation Tools: Forklift or manual plane board trailer.
- Tools for Opening Box: Steel prier, and hammer with prier.
- Installation Tools:  $(6 \times 150)$  cross screwdriver,  $(6 \times 150)$  straight screwdriver, and 10" spanner.

### Requirements for Ground

Ground should be plane and clean, without requirement for reinforcement.

## Section 4 Notice

---

### Electric Safety

- It is forbidden to execute the installation operation with the power.
- Avoid from directly contacting the component with the electricity.
- When system is operating, it is strictly forbidden to touch the wiring terminal for naked power distribution unit.
- It is strictly forbidden to directly use the lead to distribute power from the socket in the power distribution unit.

### When Transporting

- Gradient<10°
- Handle with care, avoid rolling and upside down
- Avoid intensive collision or vibration
- Avoid from using the rolling wheel to transport
- When the forklift lifts, pay special attention, and at this time, it is strictly forbidden to move the articles.

### Protection

- It is strictly forbidden to firstly disassemble the package and then transport the article, i.e. the article should be moved to the installation field and then disassemble the package.
- Please wear the labor protection article, such as the glove, etc, to avoid from being injured.

## Section 5 Installation in Filed



### Warning:

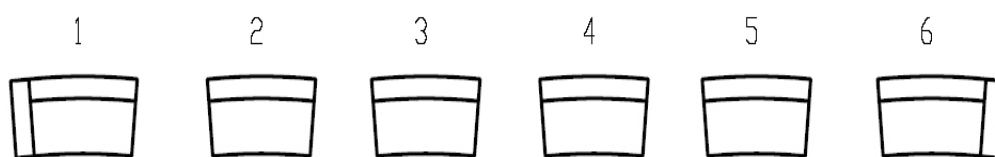
In the process of disassembling the box, the operation personnel not for disassembling the box should keep the safe distance with the box.

### Open the Box

1. Make sure personnel from two parties of supply and demand and the package box all have arrived at the installation field.
2. Disassemble the metal packages on four corners on the package box.
3. Pry up the cover of the package box.
4. Disassemble the side boards of the package box.
5. Take out the encasement list, and check the goods quantity and quality by the list.
6. Both parties for supply and demand sign and confirm the result for opening the case.
7. Clean up the package material, and clean the installation field.

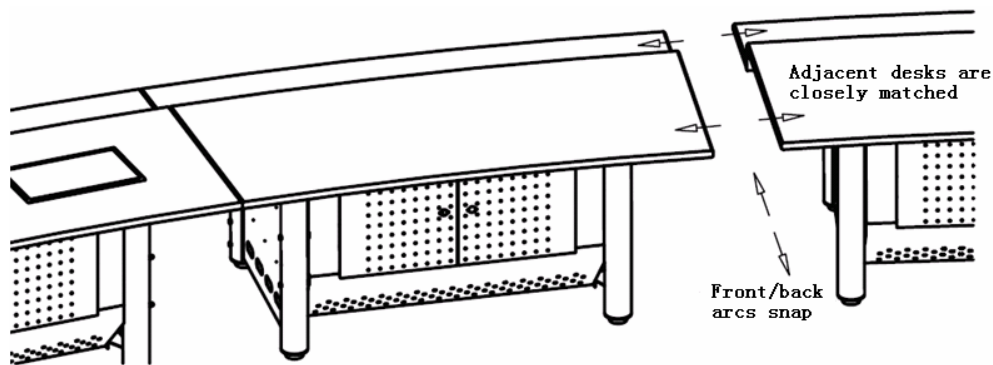
### Assembly of Operation Desk

1. Carefully check the serial number of operation desk under the main desk plate, and make records.
2. According to the serial number of operation desk, place as the sort ascending from the left to the right (As shown in Figure 5-1).



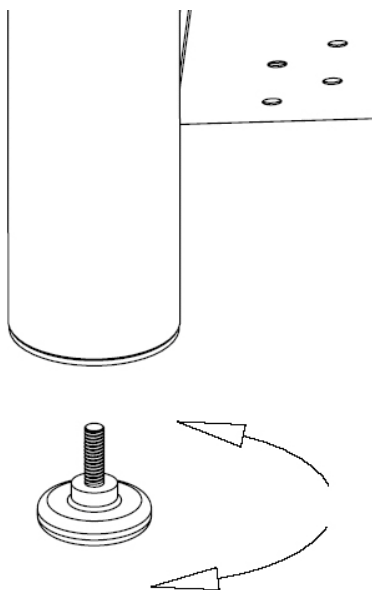
**Figure 5-1 Serial number of operation desk**

3. Adjust the positions of operation desks, to make the left and right sides of the main desk plate and the back desk plate on the adjacent operation desks be closely matched, and snap the arc lines in front of the main desk plate, and the arc lines on the back of the back desk plate (as shown in Figure 5-2).



**Figure 5-2 Horizontal alignment of operation desk**

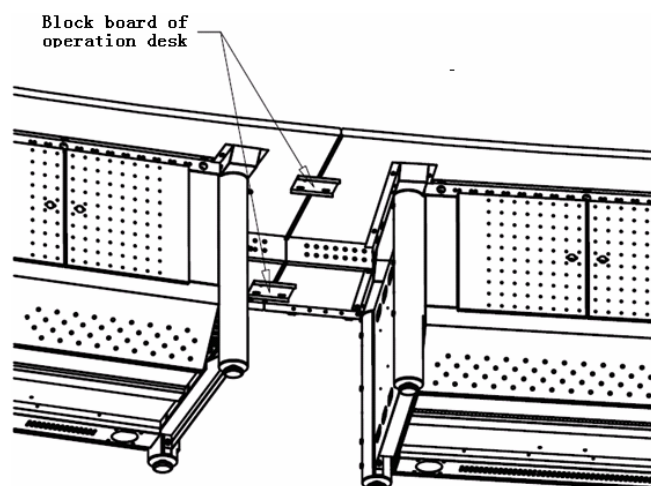
4. Rotate to adjust the stepping foot of various operation desks (as shown in Figure 5-3), to make all the surfaces of operation desks be on the same level surface.



**Figure 5-3 Snapping adjustment of height of operation desk**

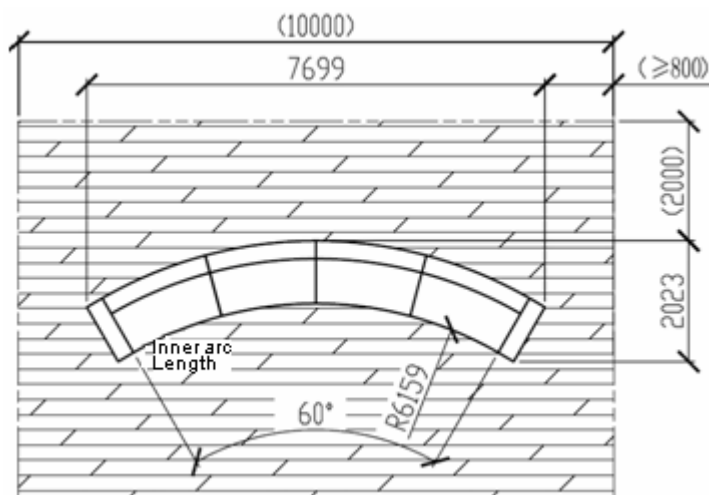
### **Assembly and Fixing**

1. Use M6 screw to fix one block board on the back of the main table plates on two adjacent operation desks, and the block board connects the main table plates of the adjacent operation desks, as shown in Figure 5-4
2. Use M6 screw to fix one block board on the back of the back table plates on two adjacent operation desks, and the block board connects the back table plates of the adjacent operation desks, as shown in Figure 5-4.

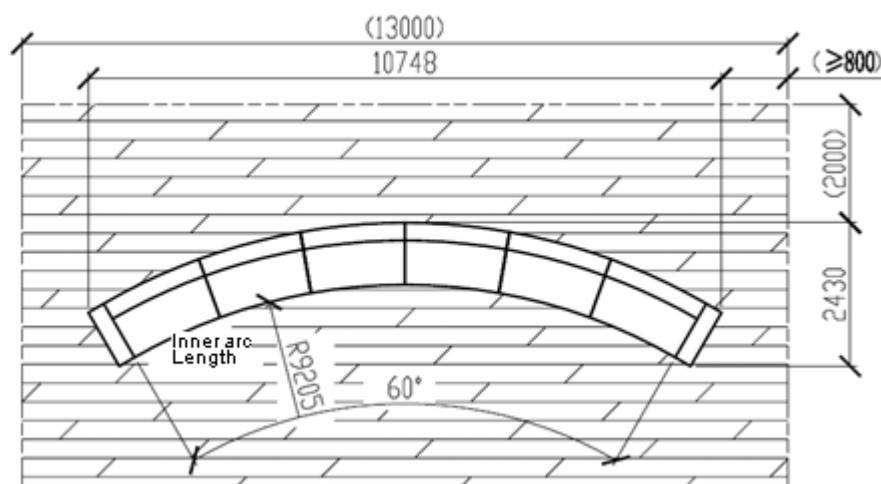


**Figure 5-4 Installation of block board**

3. Assembly result meets the requirements shown in Figure 5-5, Figure 5-6 and Figure 5-7.



**Figure 5-5 Sketch map of assembly of 4 operation desks**



**Figure 5-6 Sketch map of assembly of 6 operation desks**

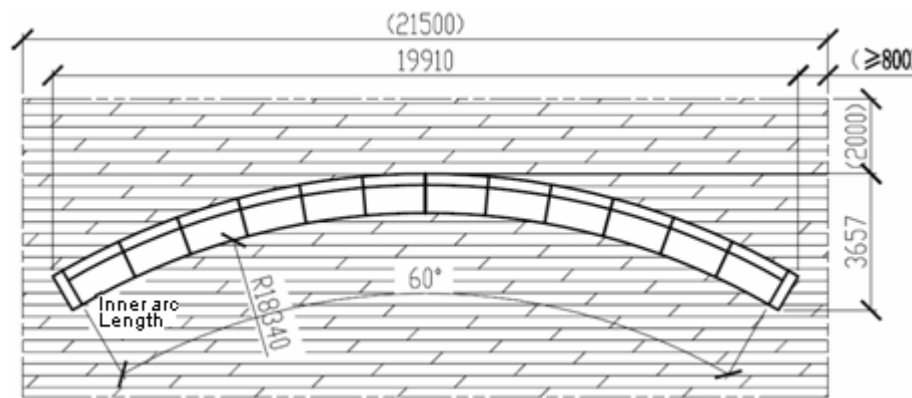


Figure 5-7 Sketch map of assembly of 12 operation desks

### Wiring Connection on Various Operation Desks



**Warning:**

Before connecting the power wire, the corresponding power switcher should be cut off, to avoid from electric shock.

1. Input the power wire, earth wire, manual operation control wire and communication network wire, etc., from the wire-in hole on the bottom board of the operation desk into the operation desk, as shown in Figure 5-8.

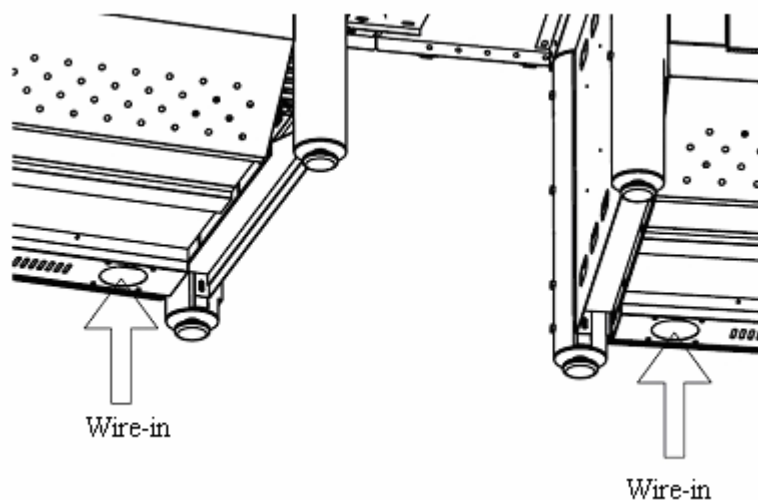
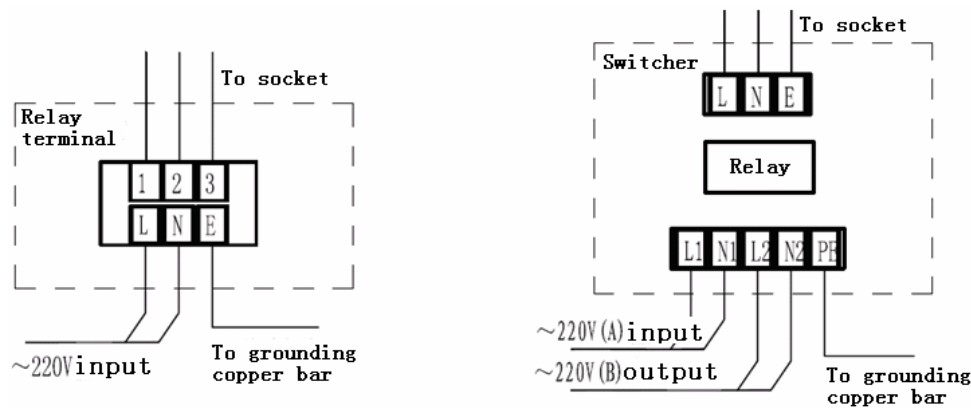


Figure 5-8 Sketch map of wire-in

2. When the wire-in power supply is a separate group of power supply, connect the wire-in power on the input terminal on the relay terminal, and when the wire-in power is two groups of independent power supply, connect the two groups of power supply (L-wire and N-wire) on two groups of input terminals on the switcher respectively, as shown in Figure 5-9.



**Figure 5-9 Sketch map for wiring of power supply**

3. Connect the grounding point in the input terminal on the relay terminal or switcher on the grounding copper bar (this operation has been completed before the equipment left the factory).
4. Connect the output sides (L-wire, N-wire and the E-wire) on the relay terminal or switcher with the power socket (this operation has been completed before the equipment left the factory).
5. As required in the engineering design, connect the control wire on the wiring terminal plate, and the wiring method is shown as Figure 5-10.



**Figure 5-10 Sketch map of wiring method of wiring terminal**

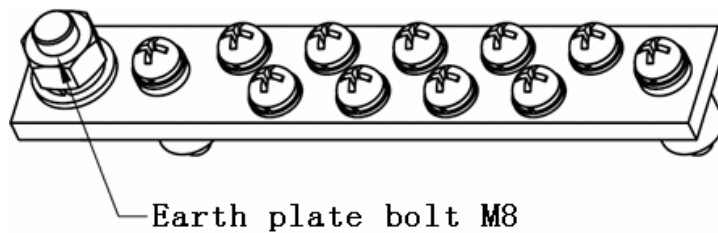
6. As required in engineering design, connect the operation button with the wiring terminal plate (this operation has been completed before the equipment left the factory).



**Warning:**

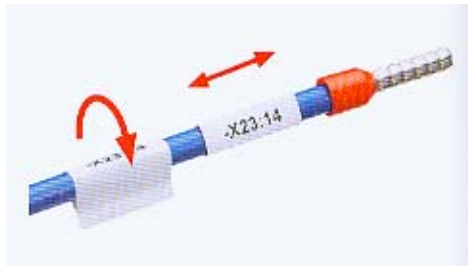
To ensure the safety of person and equipment, all the grounding points must be reliably grounded.

7. Connect the grounding points on the front and back doors with the grounding copper bar (this operation has been completed before the equipment left the factory).
8. Fix the earth wire input from the earth plate onto the M8 bolt on the earth copper bar, as shown as Figure 5-11.



**Figure 5-11 Earth plate**

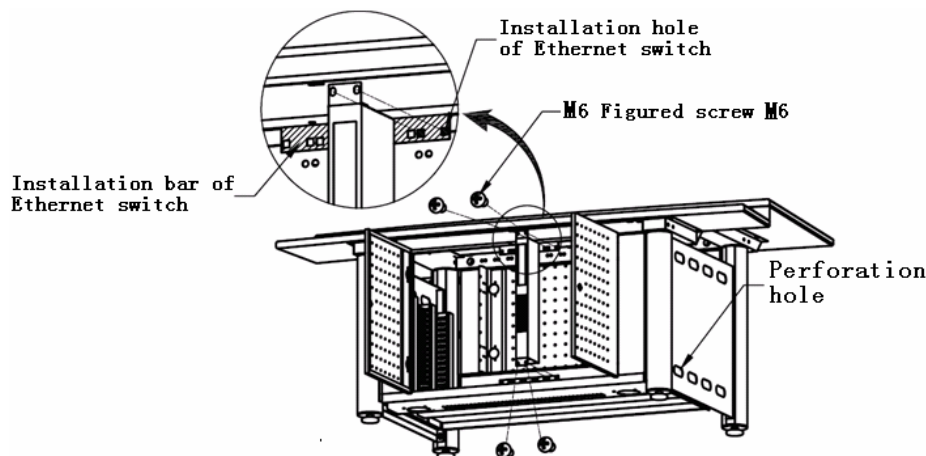
9. All the wirings should be added with the marks for line number, as shown in Figure 5-12.



**Figure 5-12 Added with the mark for line number**

### Installation of Ethernet Switch

1. Take out M6 figured screws from accessories (4 screws/1 set of switch) to be placed near the Ethernet switch connection bar on the back door of the operation desk.
2. Open the back door of the operation desk, place the Ethernet switch in the corresponding position, and use M6 figured screw to fix the Ethernet switch, as shown as Figure 5-13.



**Figure 5-13 Installation of Ethernet switch**

3. Adjust the Ethernet switch to make it flat, and fasten the screws with the screwdriver.

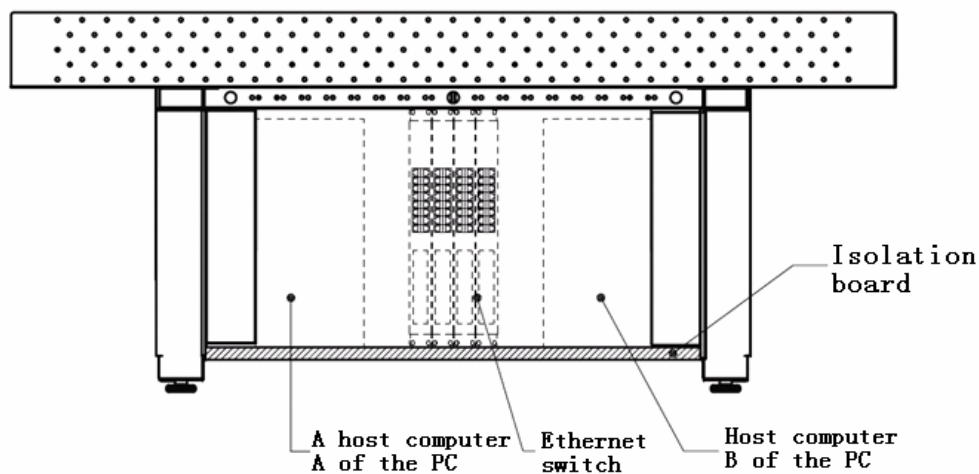
### Network Wiring

1. According to the quantity of operation stations installed on the composite operation desk, determine the quantity of the network wires and the lengths of various network wires.
2. With the perforation holes (as shown in Figure 5-13) on the block board in the internal side of the operation desk, and extend network wires in various operation stations onto the operation desk where the Ethernet switch is located.

### Install Operator Station



1. Put the host computer of operator station into the operation desk (each operation desk can be placed with two sets of host computers, and put them into the operation desk from the back door), as shown in Figure 5-14.

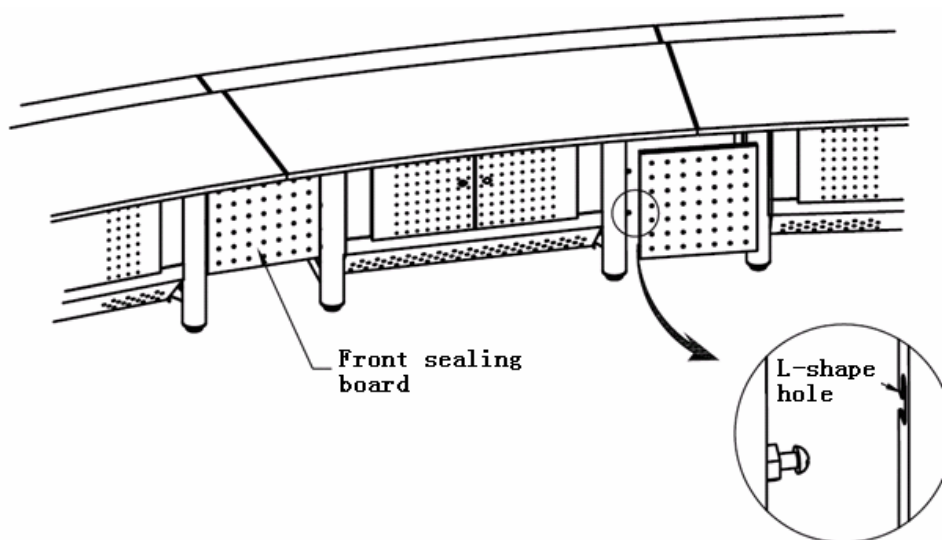


**Figure 5-14 Installation position of host computer**

2. Place the LED monitor on the back table plate of the operation desk, and put the mouse and the keyboard on the main tabletop.
3. Complete connection of the operator station

#### **Install Front and Back Sealing Board**

1. With the L-shape hole on the front sealing board, fix the front sealing board on the front standing column of the operation desk, as shown in Figure 5-15.



**Figure 5-15 Fixing the front sealing board**

2. With the L-shape hole on the back sealing board, fix the back sealing board on the back standing column of the operation desk, and the method is the same as fixing the front sealing board.

## Section 6 Maintenance



### Warning:

Before maintaining the power distribution unit, the power switch should be cut down.

### Maintenance of Power Distribution Unit

1. Disassemble the power distribution unit

Before leaving the factory, AC 220V power distribution unit has been installed (as shown in Figure 6-1), and when it needs to disassemble, firstly unfasten four M5 screws fixing the rack of power distribution unit anticlockwise, and carefully lift the rack of power distribution unit, to lift the cucurbit hole to the position shown in the figure, and then move it out.

2. Replace the switcher

Before leaving the factory, the switcher has been installed on the rack of power distribution unit, and if to replace the switcher, firstly disassemble the switcher and the external wiring, and then disassemble the fixing screws on the switcher, to replace the switcher.

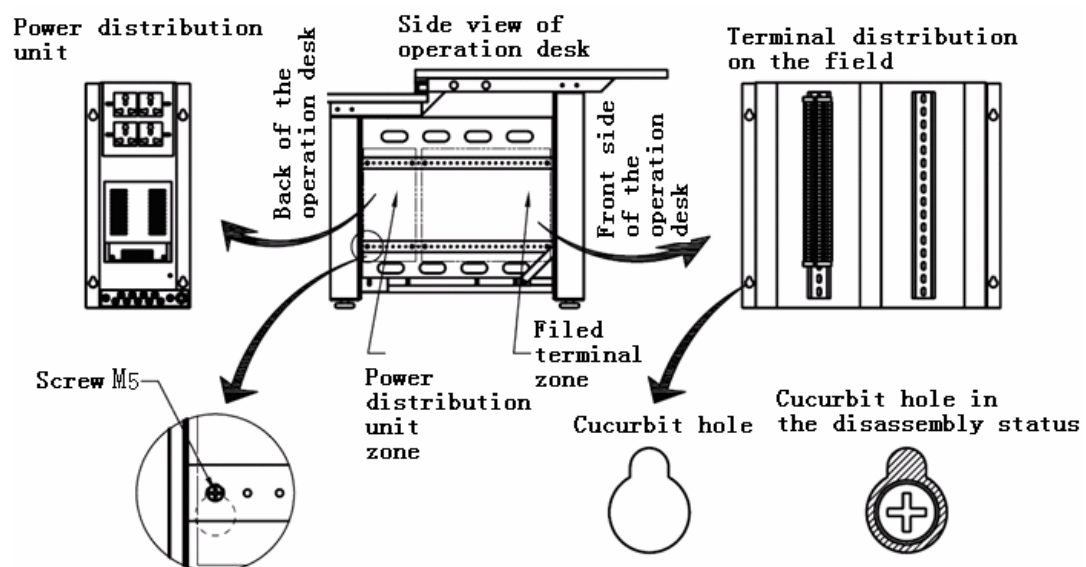


Figure 6-1 Maintenance of power distribution and wiring units

### Maintenance of Wiring Terminal

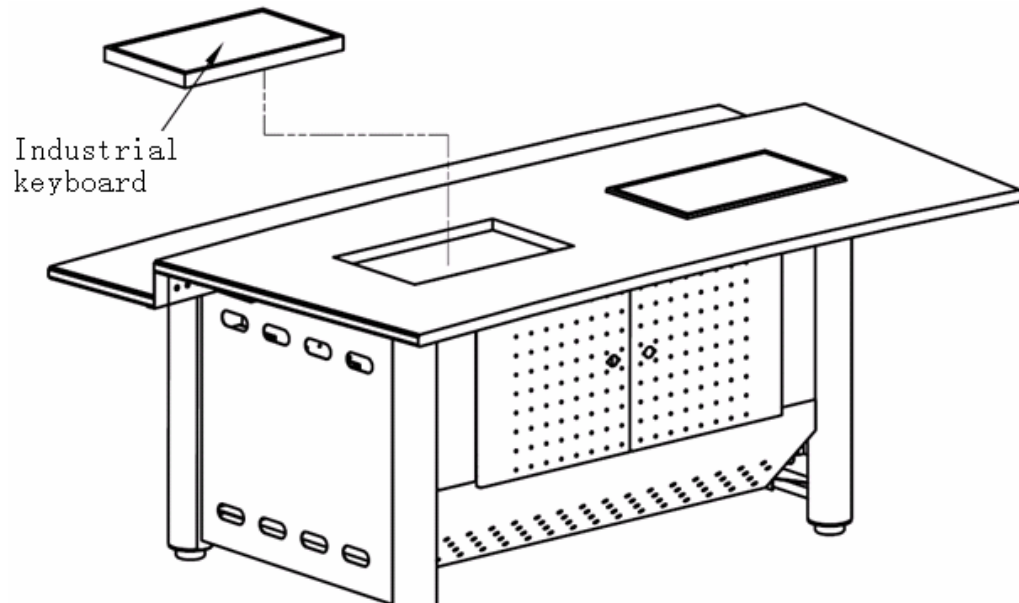
Wiring terminal unit can be disassembled in whole, and the method is described as above.

### Installation and Maintenance of Industrial Keyboard

1. Installation: Directly place the keyboard in the keyboard hole, as Figure 6-2, and open the

back door to connect the keyboard wire on the corresponding interface on the PC.

2. Disassembly: Contrary with Process A.



**Figure 6-2 Installation and disassembly of industrial keyboard**

## Section 7 Disassembly Procedures of Operation Desk

---



---

**Warning:**

**Before disassembling the operation desk, the power switch should be cut off.**

---

1. Remove the equipment wires in the operation station.
2. Remove the equipments in the operation station (host master, monitor, keyboard, mouse and Ethernet switch, etc).
3. Disassemble the wire-in cables on the operation desk.
4. Remove the front and back sealing boards between two operation desks.
5. Disassemble the block board between two operation desks.
6. Remove the operation desk.

## Section 8 Revision

---

*Table 8-1 Retrofit list of the version*

Document Version	Applicable Product Version	Remarks
V1.0		The first version.
V2.0(20140220)		Modify the format and some contents. Delete the atmosphere pressure.
V2.1(20161018)	OP075	Add code.