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Important Safeguards and Warnings

Please read the following safeguards and warnings carefully before using the product in order to avoid damages and losses.

Note:

- Do not expose the device to lampblack, steam or dust. Otherwise it may cause fire or electric shock.
- Do not install the device at position exposed to sunlight or in high temperature. Temperature rise in device may cause fire.
- Do not expose the device to humid environment. Otherwise it may cause fire.
- The device must be installed on solid and flat surface in order to guarantee safety under load and earthquake. Otherwise, it may cause device to fall off or turnover.
- Do not place the device on carpet or quilt.
- Do not block air vent of the device or ventilation around the device. Otherwise, temperature in device will rise and may cause fire.
- Do not place any object on the device.
- Do not disassemble the device without professional instruction.

Warning:

- Please use battery properly to avoid fire, explosion and other dangers.
- Please replace used battery with battery of the same type.
- Do not use power line other than the one specified. Please use it properly. Otherwise, it may cause fire or electric shock.

Special Announcement

- This manual is for reference only.
- All the designs and software here are subject to change without prior written notice.
- All trademarks and registered trademarks are the properties of their respective owners.
- If there is any uncertainty or controversy, please refer to the final explanation of us.
- Please visit our website for more information.
1 Product Overview

1.1 List of Models

<table>
<thead>
<tr>
<th>Model</th>
<th>Chassis Material</th>
<th>Color</th>
<th>Unlock via IC card</th>
<th>Button Type</th>
<th>Lock Control Module</th>
</tr>
</thead>
<tbody>
<tr>
<td>VTO2000A</td>
<td>Metal</td>
<td>Silver</td>
<td>N/A</td>
<td>Mechanical key</td>
<td>Built-in</td>
</tr>
</tbody>
</table>

1.2 Structure

1.2.1 Structure

Before installation, please make you sure know the dimensions of device and select appropriate method of installation. See Figure 1-1.

Figure 1-1
### Front Panel

**Figure 1-2**

<table>
<thead>
<tr>
<th>No.</th>
<th>Port Name</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MIC</td>
<td>Audio input.</td>
</tr>
<tr>
<td>2</td>
<td>Camera</td>
<td>It monitors corresponding door region.</td>
</tr>
<tr>
<td>3</td>
<td>Compensation</td>
<td>Light compensation will automatically turn on during monitoring, calling, or connecting status if there is no enough light in environment.</td>
</tr>
<tr>
<td></td>
<td>Light Light</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Speaker</td>
<td>Audio output.</td>
</tr>
<tr>
<td>5</td>
<td>User Nameplate</td>
<td>Display username and other info.</td>
</tr>
<tr>
<td>6</td>
<td>Call Button</td>
<td>Call center or VTH.</td>
</tr>
</tbody>
</table>
### 1.2.3 Rear Panel

![Diagram of Rear Panel](image.png)

<table>
<thead>
<tr>
<th>No.</th>
<th>Component Name</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Camera Angle Adjustment</td>
<td>Adjust camera angle.</td>
</tr>
<tr>
<td>2</td>
<td>Vandal-proof Switch</td>
<td>When VTO if forced to leave wall, it will alarm and report to MGT center.</td>
</tr>
<tr>
<td>3</td>
<td>Network Port</td>
<td>Via convertor, connect network cable (RJ45 crystal head).</td>
</tr>
<tr>
<td>4</td>
<td>User Port</td>
<td>Connect to lock, door sensor feedback and unlock button.</td>
</tr>
<tr>
<td>5</td>
<td>Project Port</td>
<td>Reserved for project staff use.</td>
</tr>
</tbody>
</table>

### 1.3 Networking Scene

Here introduces VTO’s application scene, please read the following contents and install according to actual condition.

#### 1.3.1 One-to-One Scene

Visitor press Call button to call resident (as VTH). See Figure 1-4.
1.3.2 Group Call Scene

When visitor press Call on VTO, multiple VTH will ring at the same time. The resident can answer, hang up or unlock door from any of the VTHs.

Note:
VTH has main VTH (host) and sub VTH (extension). One host can have up to 3 extensions.
See Figure 1- 5.
2 Install VTO

VTO installation includes direct and embedded wall installation. Direct installation is to install VTO in wall while embedded-wall is to dig a hole on wall and embed VTO into the hole. This chapter separately introduces these two methods.

2.1 Direct Installation

2.1.1 Screw

Before installing VTO, please check screws on accessory bag according to the following specifications and install by following this guide.

<table>
<thead>
<tr>
<th>Component Name</th>
<th>Illustration</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>M3×6 Hex slot pan head tail machine screws --- galvanizing white</td>
<td><img src="image1.png" alt="Illustration" /></td>
<td>4</td>
</tr>
<tr>
<td>M3×8 Cross recessed countersunk head tail machine screws --- galvanizing white</td>
<td><img src="image2.png" alt="Illustration" /></td>
<td>4</td>
</tr>
<tr>
<td>ST3×18 Cross recessed countersunk head tail tapping screws --- galvanizing white</td>
<td><img src="image3.png" alt="Illustration" /></td>
<td>4</td>
</tr>
<tr>
<td>White expansion tube Ø 6×30mm</td>
<td><img src="image4.png" alt="Illustration" /></td>
<td>4</td>
</tr>
</tbody>
</table>

Chart 2-1

Note:
M3x6 or M3x8 either is OK.

2.1.2 Dimension

Before you install the device, please make sure you know the dimension of device and select appropriate installation method. See Figure 2-1.
2.1.3 Installation Step

Step 1. Install metal bracket into the groove on wall. Fasten screw (ST3×18 Cross recessed countersunk head tail tapping screws --- galvanizing white), and fix metal bracket on wall. See Figure 2-2

Step 2. Align the device on metal bracket according to screw hole. Fasten screw (M3×8 Cross recessed countersunk head tail machine screws --- galvanizing white), and fix device on metal bracket. See Figure 2-3.
2.2 Embedded in Wall

2.2.1 Screw

Before installing VTH, please check screws on accessory bag according to the following specifications and install by following this guide.

<table>
<thead>
<tr>
<th>Component</th>
<th>Illustration</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>M3×6 Hex slot pan head tail machine screws --- galvanizing white</td>
<td>![Illustration]</td>
<td>4</td>
</tr>
<tr>
<td>M3×8 Cross recessed countersunk head tail machine screws --- galvanizing white</td>
<td>![Illustration]</td>
<td>4</td>
</tr>
</tbody>
</table>

Note: M3x6 or M3x8 either is OK.
2.2.2 Dimension

Before you install the device, please make sure you know the dimension of device and select appropriate installation method. See Figure 2- 4.

![](image)

Figure 2- 4

2.2.3 Installation Step

Step 1. Dig a hole on wall, its dimension is 117*128*80(mm). See Figure 2- 5.

Step 2. Embed metal bracket into wall until its four peaks lean against the wall. See Figure 2- 6.

Step 3. Align the device on metal bracket according to screw hole. Fasten screws (M3×8 Cross recessed countersunk head tail machine screws --- galvanizing white), and fix device on metal bracket. See Figure 2- 7.
2.3 Wiring

See Figure 2- 8.

<table>
<thead>
<tr>
<th>No.</th>
<th>Component Name</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Network Port</td>
<td>Via convertor, connect to network cable. (RJ45 crystal head).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>-----</td>
<td>-----------------------------------------------------------------</td>
</tr>
<tr>
<td>2</td>
<td>User Port</td>
<td>Power supply, connect to lock, door sensor and unlock button.</td>
</tr>
<tr>
<td>3</td>
<td>Project Port</td>
<td>Reserved for project staff use.</td>
</tr>
</tbody>
</table>

2.4 Electric Control Lock and Electromagnetic Lock

2.4.1 Electric Control Lock

When VTO connects to electric control lock, it means that the positive end of electronic control lock connects to NO of VTO (user port 10) while its negative end connects to COM of VTO (user port 12).

When VTO connects to unlock button, one end of unlock button connects to BUTTON of VTO (user port 7) while the other end connects to CND of VTO (user port 9). See Figure 2-9.

2.4.2 Electromagnetic Lock

When VTO connects to electromagnetic lock, it means that the positive end of electromagnetic lock connects to NC of VTO (user port 11) while its negative end connects to COM of VTO (user port 12).

When VTO connects to door sensor in electromagnetic lock, one end of door sensor connects to FEEDBACK of VTO (user port 8) while the other end connects to GND of VTO (user port 9). See Figure 2-10.
Figure 2-10
3 Installation Debugging

Warning:
- Before debugging, the staff shall be familiar with device's installation, wiring and usage.
- Before debugging, check wiring for short or open circuit.
- When staff find each circuit is normal, plug the device to power.
- After debugging, clear the site.

3.1 Modify IP Address

VTO default IP address is 192.168.1.110. Before using VTO, you shall modify VTO IP address to be designated IP address.

Step 1. Connect VTO to power.
   About 60s after plugging to power, it auto boots up and enters working status. Name plate area indicator turns white.

Step 2. Via direction connection of Ethernet cable to connect device and PC, set PC IP address to be in the same network segment with VTO IP address.

Step 3. On PC, ping VTO IP command to check network.
   If network is normal, then continue to Step 4; if network is abnormal, please check cable connection, IP address setup and device power.

Step 4. Login VTO WEB interface, modify IP address.
   1. In Internet Explorer address field, enter VTO IP address, system shows login interface.
   2. Enter username and password, click "login", see Figure 3-1.

Note:
Default username and password is admin and admin. After first time login, please modify your login password.
3. Select System Config>Network, set VTO IP address, subnet mask and default gateway. Click OK, see Figure 3-2.

3.2 General Config

If you first use VTO, you may need to operate according to the following steps:

Step 1. In Internet Explorer, input IP address of the VTO, enter username and password, click Login to login WEB.
Note: Default IP address of VTO is 192.168.1.110. Default username and password is admin/admin. After first login, please change your password.

Step 2. In WEB interface, select System Config>Video Set, set video format as WVGA as in Figure 3-3.
Step 3. In System Time tab, click on Sync PC to make VTO time the same with PC.
Step 4. Select System Config>Network Config, set VTO IP, Subnet Mask and Default Gateway. See 错误!未找到引用源。.
4 Web Config

This chapter introduces VTO WEB interface and its parameters, and how to configure them.

4.1 System Config

4.1.1 Local Config

4.1.1.1 Local Config

In Local Config interface, you can view VTO model, version info and etc.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor</td>
<td>Set compensation light threshold.</td>
</tr>
<tr>
<td>Device Type</td>
<td>Display device type.</td>
</tr>
<tr>
<td>Reboot Date</td>
<td>On the set date, device will automatically reboot.</td>
</tr>
<tr>
<td>Version Info</td>
<td>Display device version info.</td>
</tr>
<tr>
<td>Default</td>
<td>Only restore current Local Config page to default settings.</td>
</tr>
<tr>
<td>Language</td>
<td>There are eight languages available.</td>
</tr>
</tbody>
</table>

Warning! Please reboot VTH and browser!

4.1.1.2 A&C Manager

A&C Manager mainly controls unlock responding interval time, unlock period and door sensor check time.
### Parameter | Note
---|---
Unlock Responding Interval | The interval between current unlock and next one, unit is second.
Unlock Period | Period door remains unlocked, unit is second.
Door Sensor Check Time | When only use door sensor, check "Check Door Sensor Signal Before Lock", Set "Door Sensor Check Time" to enable it. When door remains unlocked over set door sensor check time, it alarms.
Check Door Sensor Signal Before Lock | Only restore A&C Manager page to default settings.

#### 4.1.1.3 Talk Manager

The device supports talk management and you can enable and disable upload of talk call record, message and auto snapshot.

#### 4.1.1.4 System Time

Here you can set date format, time format (24-hour and 12-hour), and input system date and time. You can also click on Sync PC to synchronize system time with PC time. You also can set DST start time.
4.1.1.5 Config Manager

You can import and export configuration, or restore default setup.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backup</td>
<td>Check “card no.”, “VTH info”, and click <img src="Backup" alt="Backup" />, so you can back up card no. and VTH info.</td>
</tr>
<tr>
<td>Restore Backup</td>
<td>Check “card no.”, “VTH info”, and click ![Restore Backup](Restore Backup) to recover card no. and VTH info.</td>
</tr>
<tr>
<td>Export</td>
<td>Export config file (Config.backup)</td>
</tr>
<tr>
<td>Import</td>
<td>Import config file.</td>
</tr>
<tr>
<td>Default 🟢</td>
<td>Restore all parameters to default status.</td>
</tr>
</tbody>
</table>

**Warning:**
**Please back up parameters before restoring default settings!**
4.1.2 LAN Config

Here you can register VTO to center and set how to call center. Please refer to Ch 5.1.1.

4.1.3 Indoor Manager

In Indoor Manager interface, you can add, delete and modify VTH (digital indoor station).

For example to add digital VTH:
Step 1. In tab, select System Config>Indoor Manager>Digital VTH Manager.
Step 2. Click 添加.
Step 3. Fill in digital VTH basic info. See Figure 4-6.

![Figure 4-6](image)

Note:
Parameters with * are mandatory.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>VTH Short No.</td>
<td>VTH is indoor device, VTH no.</td>
</tr>
<tr>
<td>IP Address</td>
<td>Add VTH IP address.</td>
</tr>
</tbody>
</table>

Step 4. Click OK.

System displays interface when VTH is added. See Figure 4-7.
Click , in pop-up modification page modify VTH info.
1. When you modify digital VTH, you can only modify name and nickname.
2. When you modify analog VTH, you can only modify name, nickname, distributor address and distributor port.

Click , delete digital VTH.

**4.1.4 Network Config**

**4.1.4.1 TCP/IP**

You can set local IP network parameter.
Step 1. Select System Config>Network>TCP/IP.
Step 2. Set local IP address, subnet mask and default gateway.
See Figure 4- 8.

Step 3. Click
After you have modified IP address, WEB page will reboot and go to the new IP address page.

4.1.4.2 FTP

FTP server is used to store record, snapshot picture and etc. User can login FTP server to view and get photo or image.
You can go to System Config>Network>FTP, to set local FTP network parameter. See Figure 4-9.

![Figure 4-9](image)

4.1.4.3 P2P

You can go to System Config>Network>P2P interface, select to enable P2P server, and view info by scanning the two-dimension code at bottom of interface. See Figure 4-10.

![Figure 4-10](image)
4.1.5 Video Set

You can go to System Config>Video Set interface to set video and audio.

Step 1. Select System Config>Video Set.

Step 2. Adjust video parameter. See Figure 4-11.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video Format</td>
<td>By resolution, there are WVGA and D1.</td>
</tr>
<tr>
<td></td>
<td>WVGA: 800*480 pixels</td>
</tr>
<tr>
<td></td>
<td>D1: 704*576 pixels</td>
</tr>
<tr>
<td>Frame Rate</td>
<td>There are 25 and 30.</td>
</tr>
<tr>
<td>Brightness</td>
<td>Adjust video brightness, recommended value is 40<del>60, range is 0</del>100.</td>
</tr>
<tr>
<td>Contrast</td>
<td>Adjust video image contrast, recommended value is 40~60, range is</td>
</tr>
<tr>
<td></td>
<td>0~100.</td>
</tr>
<tr>
<td>Saturation</td>
<td>Adjust color saturation, recommended value is 40<del>60, range is 0</del></td>
</tr>
<tr>
<td></td>
<td>100.</td>
</tr>
<tr>
<td>Gain</td>
<td>Gain limit of video basic parameter.</td>
</tr>
<tr>
<td>Scene Mode</td>
<td>Select mode: automatic, sunny, night and etc.</td>
</tr>
<tr>
<td>Day/Night Mode</td>
<td>Include: color, auto and B/W.</td>
</tr>
<tr>
<td>Back Light Mode</td>
<td>Include: OFF, back light, WDR, HLC.</td>
</tr>
<tr>
<td>Mirror</td>
<td>Make image displayed in mirror.</td>
</tr>
<tr>
<td>Flip</td>
<td>Display image in flip.</td>
</tr>
<tr>
<td>Default</td>
<td>Reset video effect and volume to default.</td>
</tr>
</tbody>
</table>
Step 3. Click audio setup tab, adjust audio parameter.

Figure 4- 12

4.1.6 User Manage

Only when you login as admin, you can add, modify, delete and view user info in User Manage interface.

Current system supports two types of user:
- Admin has higher right who can view, edit, delete configured right.
- User only can view system config.

4.1.6.1 Add User

Step 1. Select System Config>User Manager, system enters User Manager interface.
Step 2. Click Add.
Step 3. Configure user info to add. See Figure 4- 13.

Figure 4- 13
Step 4. Click OK.

4.1.6.2 Modify User

Admin and user support to modify user password, but cannot modify note information or delete it.

Step 1. Select System Config>User Manager, enter User Manager interface. See Figure 4-14.

![Figure 4-14](image)

Step 2. Click to delete user.

Step 3. Click to modify user info, check modify password, modify password and note info. See Figure 4-15.

![Figure 4-15](image)
4.2 IPC

If the VTH has configured with IPC info, you can view IPC video image via corresponding VTH.

You can go to System Config>IPC info interface, view and modify all IPC info.
Step 1. Select System Config>IPC info.

Step 2. Click .

Step 3. Modify IPC info. See Figure 4-16.

![Modify IPC](image)

Figure 4-16

Step 4. Click .

4.3 Info Search

You can search and export VTP unlock, call and alarm record in Info Search interface.

4.3.1 Call History

You can search VTO call history in Call History interface, it stores up to 1024 records. See Figure 4-17.
4.3.2 Alarm Record

You can search VTO alarm in Alarm Record interface, and it stores up to 1024 records.

4.3.3 Unlock Record

You can search VTO unlock records in Unlock Record interface, and it stores up to 1024 records.
4.4 Status Statistics

4.4.1 VTH Status

In VTH status, you can view VTH connection status.
- Status
  - Offline: Connection between VTO and VTH is disconnected; you cannot call, monitor or talk.
  - Online: Connection between VTO and VTH is ready, you can call, monitor and talk.
- Monitor Status
  - Unmom: VTH is not monitoring.
  - Onmom: VTH is monitoring.

![VTH Status Table]

Figure 4- 20

4.5 Logout

In Logout, you can reboot device or logout.
Click on logout to log out the system and it returns to login page.
5 Basic Function Introduction

5.1 Call Function

5.1.1 Call Resident

Press Call button under standby status, and the VTO will call user. User may monitor VTO from VTH.

- On VTH, press Unlock button to unlock door.
- When VTH picks up, you can start talk with the VTH.
- If no one answers the call, then the call will end automatically and device returns to standby status.

5.1.2 Group Call

Group call is mainly used for one VTO. Press Call button on VTO to call multiple VTH at the same time. A resident can answer, hang up and unlock on any one unit of VTH. VTH consists of master VTH and extension VTH. A system can only have a max of 1 master VTH and 3 extension VTHs.

Set VTO
Step 1. Select System Config>Indoor Manager.

Step 2. Click in Indoor Manager interface to delete default VTH9901.

Step 3. Click Add, input VTH short no., input IP address (optional) to add one VTH.

Note:
In Indoor Manager interface, only need to add main VTH.
See Figure 5-1.
Note:
Parameter with * is mandatory, while others are optional.

Step 4. In LAN Config interface, check group call, click OK.

Step 5. After config is complete, enter logout interface, reboot VTO.

See Figure 5-2.

**Configure Main VTH**

Step 1. In VTH screen, press System Config, and press Project settings, input password (default is 002236), and enter Project settings interface.

Step 2. Press Local Info, input room no., local IP, subnet mask, see Figure 5-3 and Figure 5-4.

Note:
Room no. must match VTH short no. in Figure 5-2.
Step 3. Press network, fill in VTO IP address.

Set Extension
Step 1. In VTH screen, press System Config, and press project settings, input password (default is 002236), and enter project settings interface.
Step 2. Press local info. Press master and it changes to extension.
Step 3. Set room no., fill in local IP, subnet mask and gateway.
Step 4. In master IP fill in main VTH IP. After setup is complete, extension will auto synv
5.2 Monitor

Both VTS and VTH are able to monitor this VTO and remotely view camera captured image on VTH.

5.3 Unlock Function

Unlock by Center

When center is called, calling or monitoring, center can remotely unlock door. VTO will return to standby interface after call ends or countdown stops.

Unlock by VTH

When VTH is called, calling or monitoring, VTH can remotely unlock door. VTO will return to standby interface after call ends or countdown stops.

5.4 Compensation of Light

In dark environment or at night, the VTO adopts auto photoreception technology which
achieves light compensation in connecting status.

5.5 Vandal Proof

There is one channel of vandal proof which will generate alarm sound and report to the manager center once VTO is forced to leave the wall.

5.6 Restore Backup

**Restore Card Info**
If you encounter abnormality with card info or accidently restore default settings, you can restore card info with this function.

**Restore VTH Info**
If VTH info is mistakenly changed, you can restore VTH info with this function.

**Note:** Every half hour, VTO automatically saves card and VTH info in the system. If you want to restore card and/or VTH info, you must restore within half hour after your last operation that change these info.
6 FAQ

1. Q: I pressed Call button, and the indicator turned on, but the VTO did not start a call?
   A: Please check your operation process.

2. Q: How to end a call when I am calling?
   A: Please press button on VTO and there will be sound from the device.

3. Q: The device could not boot up and there was no sound or light.
   A: Please check if power supply is well plugged.

4. Q: My call did not go though.
   A: It is network connection error; please check the cables of the device and its extension.

5. Q: Volume is too low.
   A: Adjust the VTO and VTH call volume.

6. Q: The device does not boot up.
   A: Check the power supply between VTH and VTO.

7. Q: VTH does not show video or video quality is poor.
   A: Go to VTO WEB page, switch video format to WVGA and avoid placing VTO under poor light or direct sunlight.

8. Q: The device cannot unlock.
   A: Check A&C module on VTH for loosened wiring, and check electric lock (incorrect wiring, no output voltage or low output voltage).

9. Q: I have other problems not included above.
   A: Please contact technical staffs for assistance.
## Appendix 1 Technical Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>VTO2000A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>System</strong></td>
<td></td>
</tr>
<tr>
<td>Main Process</td>
<td>Embedded micro controller</td>
</tr>
<tr>
<td>OS</td>
<td>Embedded Linux os</td>
</tr>
<tr>
<td><strong>Video</strong></td>
<td></td>
</tr>
<tr>
<td>Video Compression Standard</td>
<td>H.264</td>
</tr>
<tr>
<td>Input/Sensor</td>
<td>Megapixel CMOS HD camera</td>
</tr>
<tr>
<td>Night Vision</td>
<td>Support</td>
</tr>
<tr>
<td><strong>Audio</strong></td>
<td></td>
</tr>
<tr>
<td>Input</td>
<td>Omnidirectional Mic</td>
</tr>
<tr>
<td>Output</td>
<td>Built-in speaker</td>
</tr>
<tr>
<td>Talk</td>
<td>Support bidirectional talk</td>
</tr>
<tr>
<td><strong>Operation Mode</strong></td>
<td></td>
</tr>
<tr>
<td>Input</td>
<td>Single key input</td>
</tr>
<tr>
<td>Door Lock Status Check</td>
<td>Support (optional)</td>
</tr>
<tr>
<td><strong>Network</strong></td>
<td></td>
</tr>
<tr>
<td>Ethernet</td>
<td>10M/100Mbps self-fit</td>
</tr>
<tr>
<td>Network Protocol</td>
<td>TCP/IP</td>
</tr>
<tr>
<td><strong>General</strong></td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td>DC 10V~15V</td>
</tr>
<tr>
<td>Consumption</td>
<td>Standby ≤1W; working ≤10W</td>
</tr>
<tr>
<td>Working Temperature</td>
<td>-30℃ ~ +70℃</td>
</tr>
<tr>
<td>Relative Humidity</td>
<td>10% ~ 90%RH</td>
</tr>
<tr>
<td>Dimension (L×W×H)</td>
<td>129.9mm×32.2mm×140mm</td>
</tr>
<tr>
<td>Wight</td>
<td>0.8kg</td>
</tr>
</tbody>
</table>
Appendix 2 Accessories

Appendix 2.1 Cable Specification

The wiring length between VTO and VTH is $L_N$, so reasonable specification of wiring is:

<table>
<thead>
<tr>
<th>Cable Specification</th>
<th>$0 &lt; L_N \leq 50m$</th>
<th>$50 &lt; L_N \leq 100m$</th>
</tr>
</thead>
<tbody>
<tr>
<td>UTP Cat5e/Cat6: 10 ohm/100m</td>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td>UTP Cat5e/Cat6: 18.8 ohm/100m</td>
<td>Optional</td>
<td>Not optional</td>
</tr>
</tbody>
</table>

Note:
Please do not let $L_N$ be over 100m.

Appendix 2.2 Power Extension Line Specification

The wiring length between VTO and adaptor is $L_C$, so reasonable specification of extension line is:

<table>
<thead>
<tr>
<th>Extension Line Specification</th>
<th>$0 &lt; L_C \leq 30m$</th>
<th>$30 &lt; L_C \leq 100m$</th>
</tr>
</thead>
<tbody>
<tr>
<td>20AWG</td>
<td>Optional</td>
<td>Not optional</td>
</tr>
<tr>
<td>18AWG</td>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td>17AWG</td>
<td>Optional</td>
<td>Optional</td>
</tr>
</tbody>
</table>

Note:
Before plugging extension line to power, make sure its positive and negative end are correctly wired.

Appendix 2.3 Embedded Box

<table>
<thead>
<tr>
<th>VTO Model</th>
<th>Embedded Box</th>
</tr>
</thead>
<tbody>
<tr>
<td>VTO2000A</td>
<td>Case 126*115</td>
</tr>
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</table>
Note:

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- Please visit our website or contact your local service engineer for more information.