USER MANUAL

U1 VOICE Digital System

Version: V1.0
Code: SRD -UME-0612-V1.0

Preamble

Thank you for purchasing Urmet products. This document is the user manual of the U1 Voice system. The user should read this manual thoroughly before operating the products of U1 Voice system.

Disclaimer

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Contents

Requirements for Installation Environment

- The communication signals shall be far away from the interference source as far as possible. The noise or electromagnetic device, if interfering the working system, may influence the audio and video signal.
- The signal line shall go through the weak current well, and shall not be parallel with the strong current (e.g. 220V residential power) or radio-frequency signal (e.g. CATV, large signal audio) lines. The distance between them shall be more than 30cm if they have to be parallel, and the shielding layer shall be grounded when Category 5 line or Super Category 5 line with the metal wire shielding layer is adopted.

The product shall not be installed on the places influenced by the following environmental factors:

- Moisture or rainwater;
- Direct sunlight;
- Mechanical vibration or collision;
- Too much dust;
- Heat source, e.g. heating radiator or air conduit;
- Noise

Storage & Transportation

- Please store the product under the specified temperature and humidity;
- Strong collision or vibration shall be prohibited during the product handling.

Cabling Requirements of System

- Category 5 line or Super Category 5 line shall meet the international standard TIA/EIA-568-B.2-2001 Commercial Building Telecommunications Cabling Standard Part 2: Balanced Twisted-Pair Cabling Components.
- The national standard *Code for Engineering Design of Generic Cabling System*(GB 50311-2007)shall be referred to in addition to the cabling regulations of the handbook during cabling.

Introduction of System

Adopting TCP/IP pure digital networking, digital intercom system for building has digitally visual intercom, multi-channel calling, household-to-household intercom, information release, alarm linkage and other functions. With overall TPC/IP networking, the system can directly connect to all products with standard 2-layered network switch, fully meeting the needs of creating digital intercom community of clients.

Digital intercom system for building (monitor, call module) supports POE power supply, simplifies cabling and decreases the work quantity of engineering construction, binging great convenience to the project.

This system applies to the office building, high-rise residence, multi-story residence, apartment, villa and other buildings, and supports the networking of large-scale community.

Features

1) High stability;

The product has excellent anti-thunder and anti-static functions.

Its standard network connection brings convenient construction and maintenance;

2) High security

The monitor supports 8 alarm and defense zones and expands to 24 defense zones.

It supports video surveillance, making the community closer to you;

3) Innovative technology

Adopting full duplex voice communication, it increases the communication quality with the echo cancellation and noise reduction technologies.

4) Beautiful appearance &practicability

With personalized design and 14.9mm thickness, the monitor can be wall-mounted.

Rich GUI interface and humanized design(touch key and capacitive touch screen) bring simple operation to user.

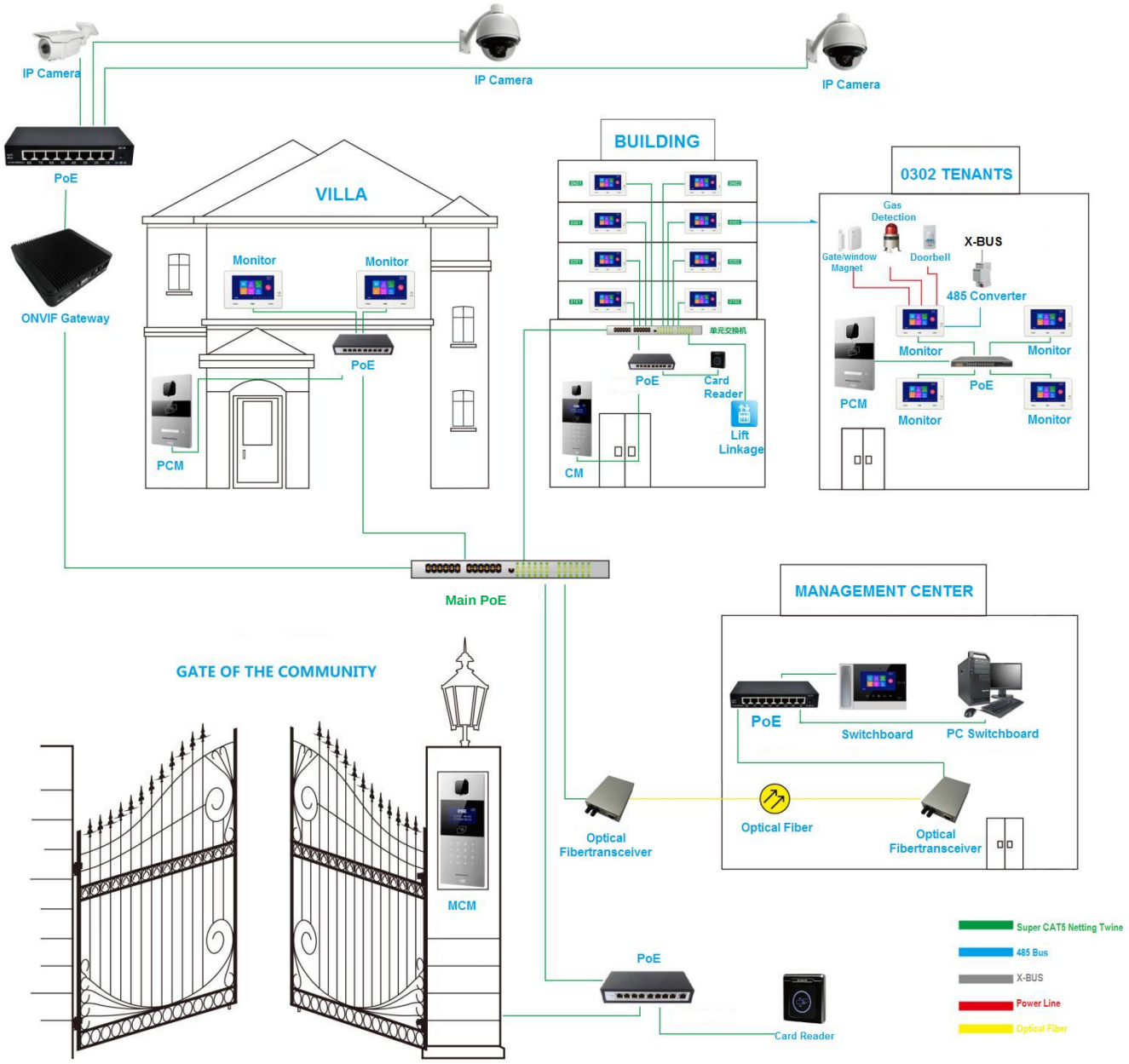
Functions

- **Visual intercom function:** This function brings visual intercom between community access and tenant, staircase and tenant, management center and tenant, with clear voice image.
- **Unlocking function:** Monitor and switch board can unlock the calling call module or MCM during communication, and tenant can also unlock with card or password.
- **Monitoring function:** Monitor can monitor PCM or the IP camera in community in real time, and switch

board can monitor call module and MCM. The call modules can be switched during monitoring.

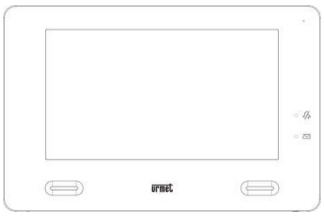
- **Multichannel function:** The system adopts TCP/IP networking, realizing the video and audio intercom of device of 100 ways under the bandwidth in100M LAN of the same trunk, and avoiding the engaging of different calls at the same time.
- **Household-to-household communication:** Any two tenants can call and communicate with different monitors in the community.
- **SOS:** There is SOS soft button on the monitor. The switch board will receive the alarm information of monitor and display the room number after the user presses this button.
- **Defense zone alarm:** The system supports 8-way alarm function of defense zone and expands to 24-way defense zone; the warning condition will be automatically reported to the management center after the defense is set up.
- **Releasing and receiving function of graphics and text information:** The upper computer (the matched management software of system shall be installed) of management center can send text information to monitor and call module, and send graphics and text information to monitor.
- **On-line access control function:** This function can be used with intercom system device.
- **Image storage function:** The monitor can snapshot the visitor and store the photo of call module and MCM.
- **Anti-dismantle alarm function:** Monitor, call module and private call module are equipped with anti-dismantle devices. Alarm will be given out when they are dismantled and submitted to the management center.

Topological graph



Instruction for Use of Device

Monitor



As a TCP/IP transport protocol-based device and the constituent device of digital intercom system for building, this product supports visual intercom, defense zone settings and stand-by picture pushing.

Function features

7-inchcapacitive touch screen;

24V non-standard POE power supply;

Doorbell and PCM connection;

Extensible calling landing function that allows tenant/visitor calling landing;

Real-time monitoring that monitors call module and IP camera;

Information receiving and sending that exchanges information with management center;

One household with multiple device switch defense cancellation/setting up and mute synchronization function;

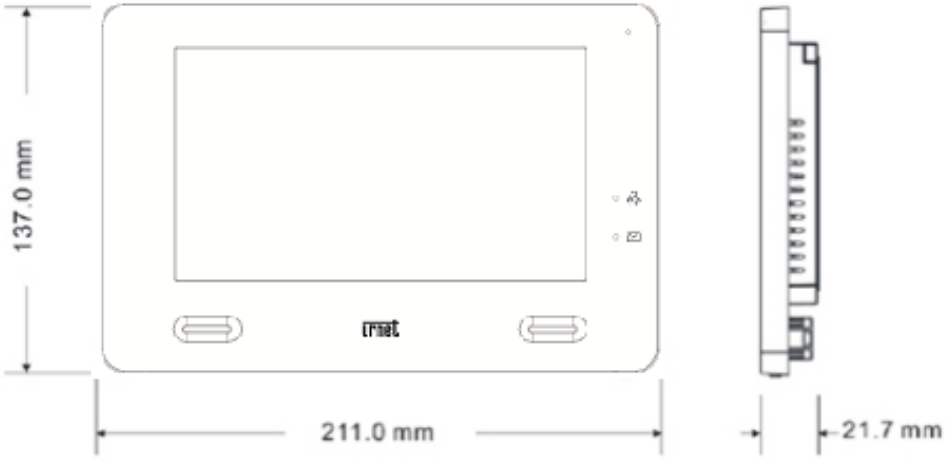
Visual intercom between visitor and tenant, tenant and management center;

Intra-household and inter-household intercom function that allows the intercom between tenants of community;

Security alarm function of 8 standard (extensible) defense zones.

Working voltage: DC 24V	Display screen:
Working current≤ 150mA	Type: LCD
Quiescent current≤ 80mA	Size: 7”
Vibration and ringing duration: 30s	Resolution: 800 * 480
Call duration: 120s	
Monitoring duration: 30s	
Environment temperature: -10℃ ~+55℃	
Product dimensions (W/H/D): 200 * 130* 14.9mm	

Appearance



Front View of Monitor

Operation instruction

Visitor call

1. The visitor calls the monitor through call module, then the call module will vibrate and ring.
2. The tenant talks with the visitor after pressing  .
3. The tenant unlocks for the visitor by pressing  during the call. The system will be automatically hung up within 5S after the unlocking.
4. The tenant hang up by pressing  .

Initiative call

Click  in main interface to enter into intercom interface.

1. Call

Dial the other monitors of the tenant, click  to pop up the list of monitor, and select the extension to call;

Call other tenants, enter building number, unit number and room number, click  to confirm; both the default building number and unit number are 0 in system if only the room number is entered.

2. The device rings.

3. The called tenant answers the call and talks with the visitor.

4. The tenant hang up by pressing  .

Monitoring

Click  in the main interface, select the device type to be monitored and turn on monitoring function.

Unlocking during monitoring: The administrator can unlock for the visitor by pressing  during monitoring.

Snapshotting during monitoring: Click  on the screen to manually snapshot the picture during monitoring.

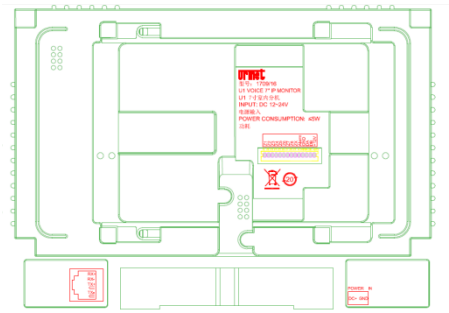
Monitoring call: The tenant talks with the visitor by pressing  during monitoring PCM, call module and MCM.

Community monitoring: Click  to select IP camera for monitoring.

Settings

System settings			Engineering settings
1. Time settings	2. Camera settings	3. Call transfer settings	1. Room number settings
4. Password settings	5. Alarm settings	6. PCM settings	2. Restore factory settings
7. Ring settings	8. Access control settings	9. Display settings	3. PCM 1 settings
10. Language settings	11. About	12. Engineering settings	4. PCM 2 settings

External interface

Interface description	Interface drawing
	

①: 

+12V + GND: Voltage output.

DA/RX + DB/TX: 485 expansion interface.

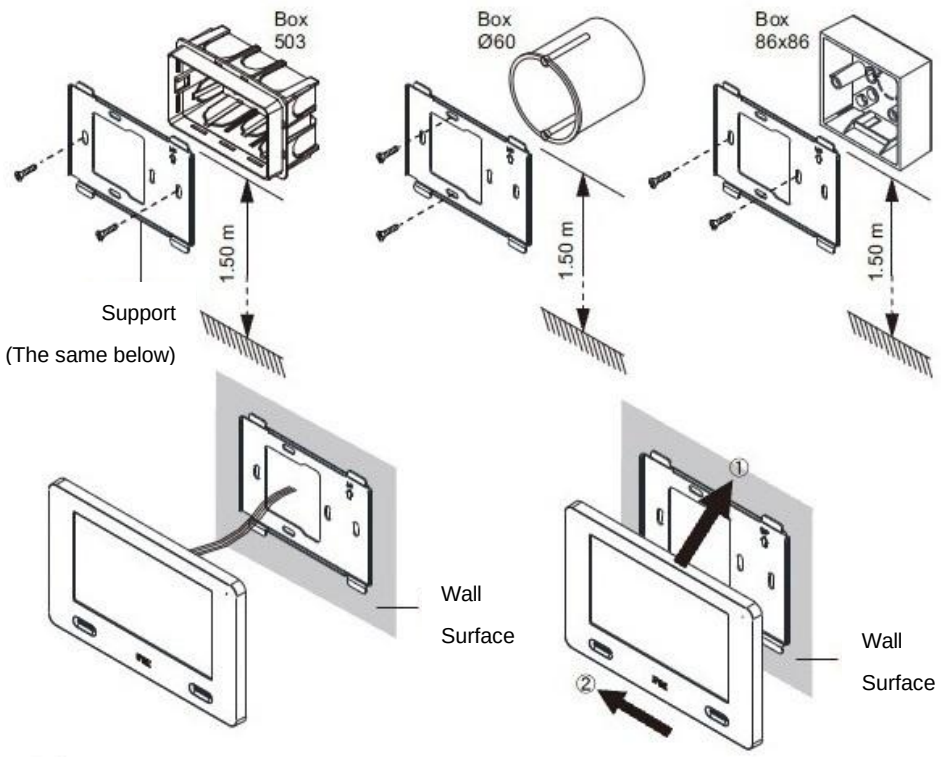
Z8/ZX: Defense zone interface (only for normally opened security module interface).

Z7 ~ Z1: Standard defense zone interface (supports normally opened/closed security module).

②: Network interface (supports non-standard PoE power supply).

③: Power input interface DC 12V ~ 24V.

Installation



Steps:

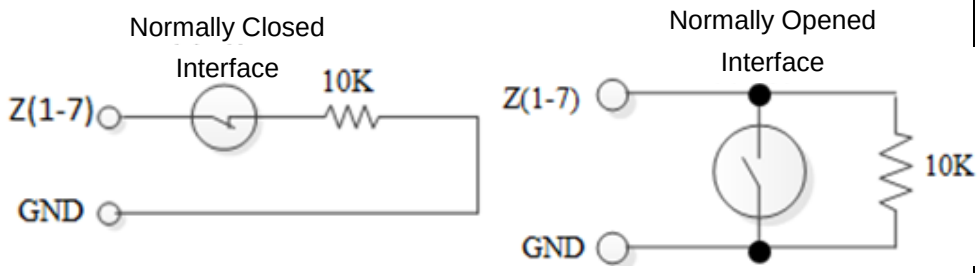
1) Fix the support: Fix the support on the wall surface with 503 concealed box, mounting box (diameter: 60) or mounting box (86 x 86) and the screws provided with the device;

2) Wire: Connect the lines on the back of the extension successively based on the instruction;

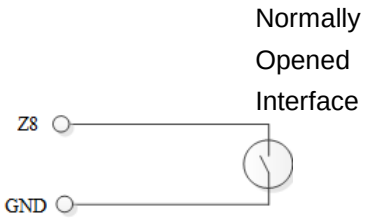
3) Lock: Insert the monitor on support and slide it to the left to lock.

Wiring Diagram of Defense Zone

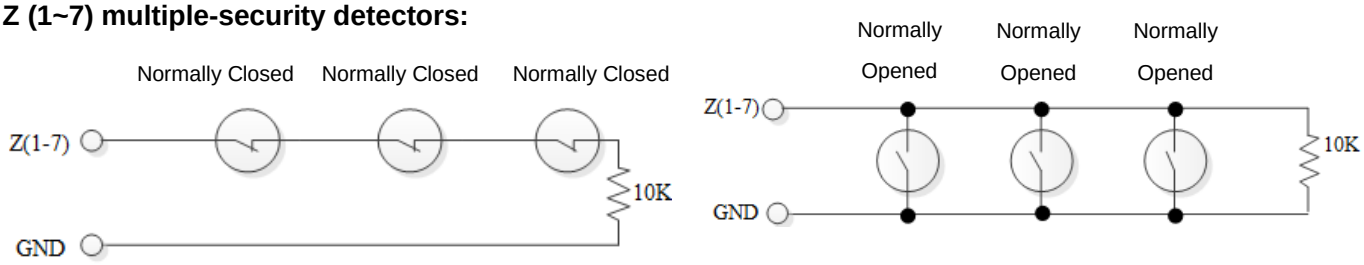
Z(1~7) single security detector:



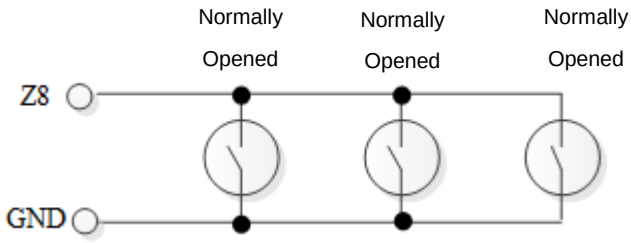
Z8 single defense zone:



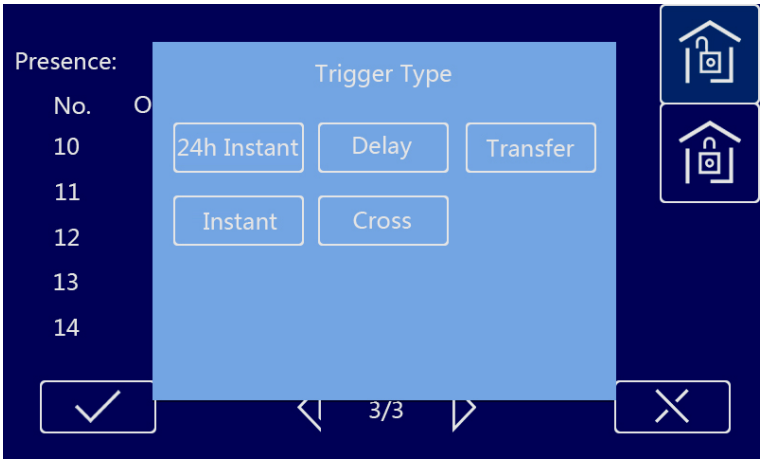
Z (1~7) multiple-security detectors:



Z8 multiple-security detectors:



Defense zone property



Triggering Type

Immediate alarm: The alarm will be given out once being triggered after the defense is set up in the zone;

Delay alarm: Delay countdown will starts after the defense is triggered. The user can cancel the defense before the deadline; otherwise, the alarm will be given out when the time is up.

Transmission delay: The defense zone shall link to delay defense zone in operation. The alarm will be given

out once the zone is triggered before the delay defense zone after the defense is set up; otherwise the trigger countdown will start. The user shall cancel the defense before the deadline; otherwise the alarm will be given out.

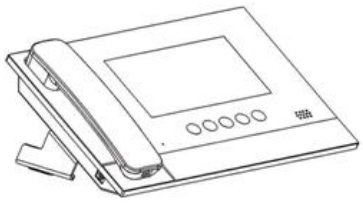
24-h alarm: The defense zone will be detected once the system is powered up, which will not be influenced by the defense setting up/cancellation. The alarm will be given out once the defense zone is triggered.

Cross alarm: The defense zone shall be triggered with the other 2 defense zones. The alarm will be given out when the triggering interval between two cross defense zones is less than 5s after the defense is set up, otherwise, the alarm will not be given out.

Doorbell functions

Click **Alarm Settings** ⟹ **Defense Zone Settings** ⟹ **Detector Type** to set the doorbell function. The doorbell will be given out after the defense zone interface detects the doorbell input.

Switch board



This product is a TCP/IP transport protocol-based device and the central device of managing community tenant and access host.

Function features

7-inch capacitive touch screen design;

Monitor and call module call receivable;

Synchronous alarm information of monitor;

Alarm information storage function;

Remote unlocking for call module/MCM;

Monitor/call module number displayed;

Call module, MCM and IP camera monitoring;

Emergency unlocking (unlocking time = 1h).

Working voltage: DC 24V

Working current ≤ 200mA

Quiescent current≤ 80Ma

Vibration and ringing duration: 30s

Call duration: 120s

Monitoring duration: 30s

Environment temperature: -10℃ ~ +55 ℃

Overall dimensions (L*W*D, excluding base and handle): 305 * 210 * 31.8mm

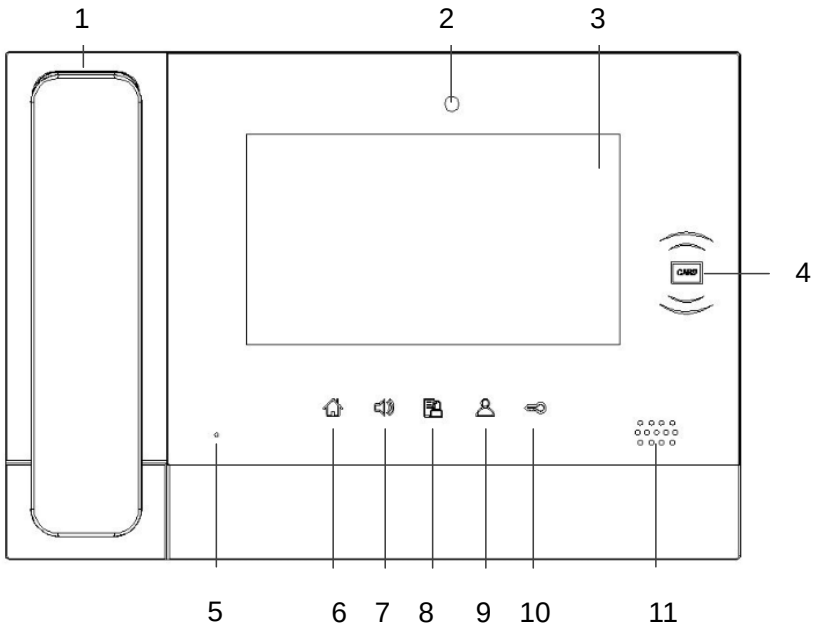
Display screen:

Type: LCD

Size: 7”

Resolution: 800 * 480

Appearance



Front view of switchboard

1. Handle

2. Camera

3. Touch screen

4. Induction zone

5. Microphone

6. Main interface

7. Hands free

8. Alarm information handling

9. Video surveillance

10. Unlocking

11. Loudspeaker

Operation Instruction

Call intercom:

Click Call Intercom button in main interface and select device type to call.

Call monitor:

Select Monitor in the device type, enter building number + unit number + room number, and click  to call.

Call switch board:

Select Switch Board in the device type, enter switch board number, and click  to call.

Call history:

Click Call History icon to enter in call history interface.

Check the call history between management center and tenant/visitor. The administrator can call back the tenant and visitor or check and delete the call history.

Monitoring:

1. Enter in Video surveillance menu, select device type and input device number.

2. Click  to turn on monitoring function.

3. Click  to turn off the monitoring.

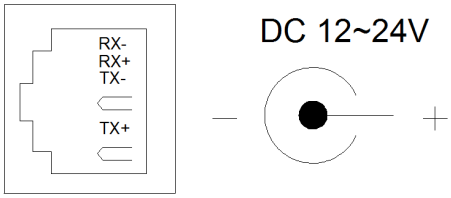
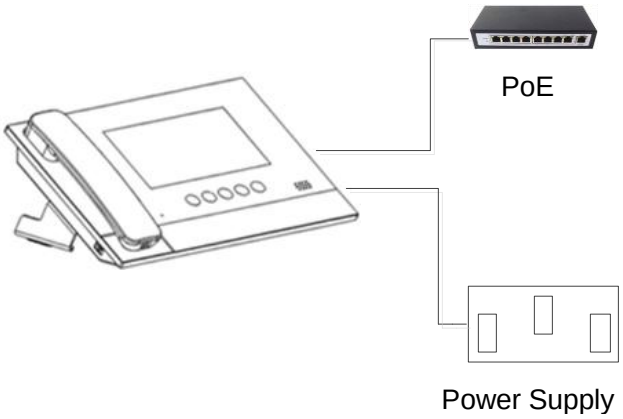
Unlocking during monitoring: The administrator can unlock for the visitor by pressing  during monitoring.

Snapshotting during monitoring: Click on the screen to manually snapshot the picture during monitoring. The photo is saved in the call history.

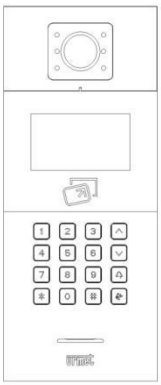
Call visitor: The visitor can call the visitor by pressing  during monitoring.

Settings			
System settings			**Engineering settings**
1. Time settings	2. Language settings	3. Password settings	1. Number settings
4. Display settings	5. Ring settings	6. Engineering settings	2. Restore factory settings
7. About	8. Incoming call management		

External interface

Interface description	Interface drawing
	

Call module



As the main constituent device of digital intercom system for building, this product is connected with standard Category 5 cable, hence realizing the call with monitor or switch board and supporting IC access control.

Function features

4.3-inch TFT display screen;

IC card allowed;

Automatic highlight LED-based fill-in light at night;

Gate status detection and timeout alarm for open gate;

Normally opened/closed unlocking available.

Working voltage: DC 24V

Working current ≤ 210mA

Quiescent current ≤ 100mA

Environment temperature: -25℃~+70℃

Dimensions: 365 *141 * 41.7 mm

Display screen:

Type: LCD

Dimensions: 4.3 ”

Resolution: 480 x 272

Camera:

Type: CMOS

Pixel: 30W

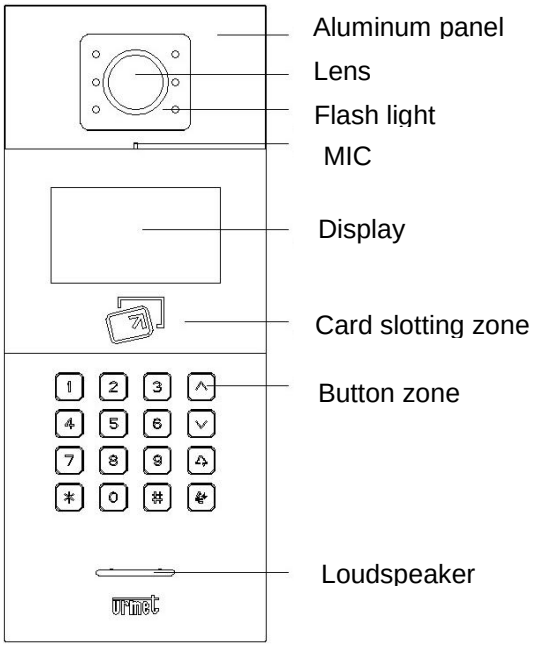
Visual angle: Opposite angle 110°

Focal length: 2.5mm

Fill-in light mode: White light

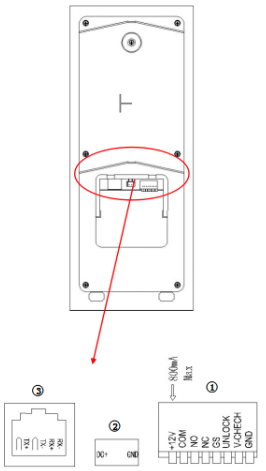
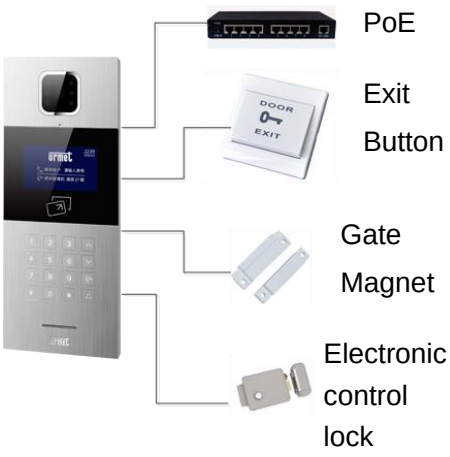
Min. illuminance: 0 lux

Appearance



Front View of Call Module

External interface

Interface description	Interface drawing
	

①: Network interface (supports non-standard POE power supply, which shall be custom-made).

②: Power input interface DC 24V

③: +12V will only be supplied when call module input voltage is more than 18V. The actual voltage will be lower than +10V when the input voltage is +12V.

COM NO NC: The common terminal, normally opened terminal and normally closed terminal of unlocking relay.

GS: Input terminal of gate status detection.

UNLOCK GND: Indoor unlocking switch input.

Operation instruction

Call tenant	Call management center
The visitor enters room number (e.g. 0101) to call. The device rings, and the visitor can cancel the call by pressing *. The call will automatically end if no tenant response within 30s. **Note: The room number of MCM is building number (1~99) + unit number (1~9) + room number, e.g. 011+0101.**	The visitor can call the management center of community by pressing  on the call module under the standby mode.

Unlocking

1. Card slotting

Put the registered card close to the card induction zone of call module to unlock.

2. Exit button

Connect the exit button line provided with the device, and press the button to unlock.

3. Password

Public password unlocking: # + public password + #

User password unlocking: * + # + room number + user password + #

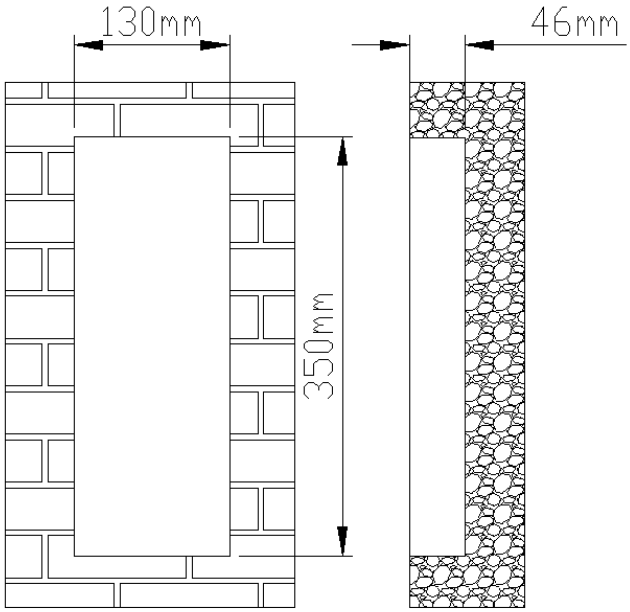
Note: This function is turned off in default settings. Please see system settings before turning on the password unlocking function.

Settings

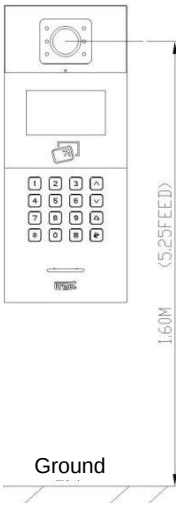
System settings		Engineering settings	
1. Time settings	2. Sound settings	1. Device property	2. Alarm settings
3. Language settings	4. Password settings	3. Alarm settings	4. Factory settings
5. Unlocking settings	6. Access control settings	5. Engineering password	6. Company information
7. Lift linkage		7. Device information	

Installation

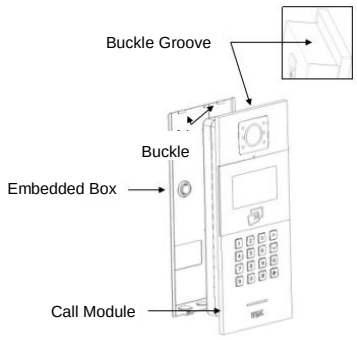
Dimensions of embedded box



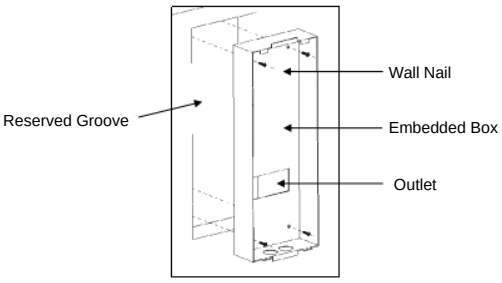
Installation method



Recommended installation height: 1.60m



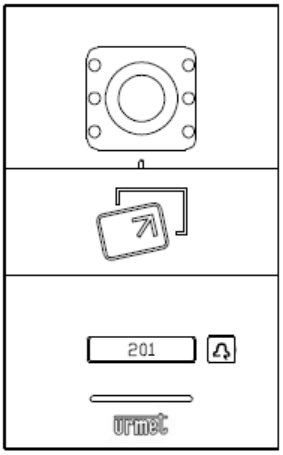
Install the embedded box on the reserved groove on the wall, penetrate the terminal through the outlet, and fix it with wall nail or seal it with cement around the embedded box.



Connect the terminal to host, align and press the buckle of embedded box to the reserved buckle position on the top of the host.

Tighten the fixed screw provided with the product to the bottom of the host and finish the installation.

PCM



As a PCM of digital intercom system of U1 series for building, this product is connected with standard Category 5 cable, hence realizing the visible intercom call with monitor or switch board and supporting IC access control.

Function features

IC card allowed;

Monitor and switch board calling;

Adjustable unlocking time;

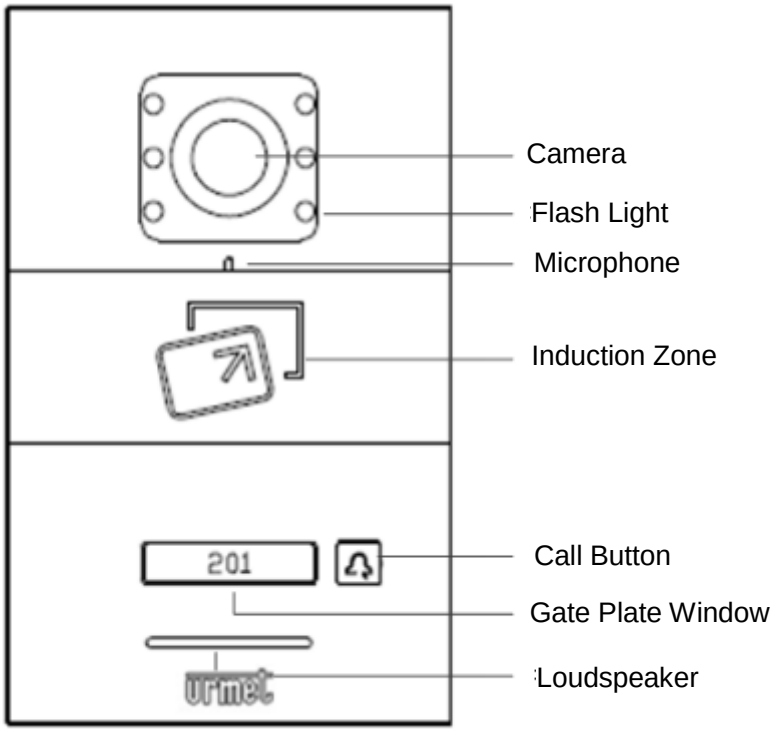
Gate status detection and timeout alarm for open gate;

Normally opened/closed unlocking output available;

On-line update.

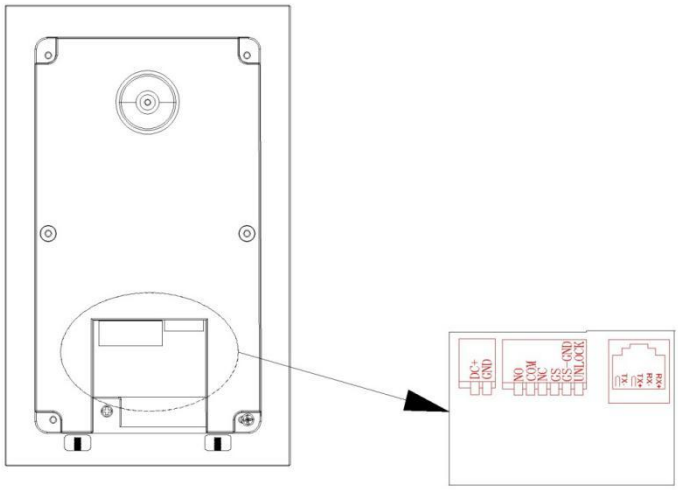
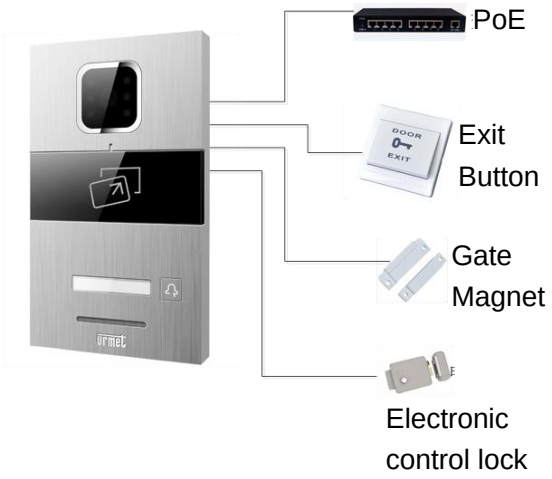
Working parameters	**Camera**
Working voltage: DC 24V	Type: CMOS
Quiescent current≤ 60mA	Pixel: 30W
Working current ≤ 130mA	Visual angle: Opposite angle 95°
Working temperature: -25℃ ~ 70℃	Min. illuminance: 0 lux
Storage temperature: -40℃ ~ 70℃	Focal length: 2.2mm
Product dimensions (W/H/D): 96 * 174.5 *44mm	Fill-in light mode: White light

Appearance



Front View of PCM

External interface

Interface description	Interface drawing
	

RJ45 network interface: Connecting line interface (allows 24V non-standard POE interchanger;

NO COM NC: Normally opened/closed interface;

GS GS-GND: Gate status detection interface;

UNLOKC: Indoor unlocking interface;

GND DC+: Individual power interface.

Configuration

PCM matches with monitor

Keep pressing the button of call module until hearing “toot, toot, toot” and press it until hearing long “toot” within 3 minutes after powering up, then the PCM can be configured.

Click  ⟹ Engineering Settings in main interface of monitor, enter engineering password **000000** to go to settings interface, select PCM 1 or PCM 2 and the device on the right of the interface, click Monitor, and select call module to match PCM.

Card management

Click  ⟹ PCM Settings in main interface of monitor, enter user password 999999 to go to PCM Settings interface, select card management icon and go to card management interface. The functions of icons are shown as follows:

 : Delete all registered cards;

: Delete single registered card;

 : Register single household access control card;

 : Return to previous menu.

Key synchronization

Click key synchronization icon in PCM management interface and allocate the synchronous key to the extensions of one household. Then the PCM can be managed by the extensions in other rooms in one household.

Unlocking time settings

Set the unlocking time of PCM.

Gate status alarm

Alarm of switch board will be given out after the PCM detects the gate opens for more than 120s.

Gate status alarm sound

Alarm will be given out after the PCM detects the gate opens for more than 120s.

Defense cancellation linkage

Check Defense Cancellation Linkage. The monitor, after setting up the defense, will automatically cancel the defense once someone slots card on the PCM to open the gate.

Operation

Call tenant	Call management center
The visitor press Call button and the device rings, during which press the button to reset 30s count down and keep pressing it to call management. The device will automatically end when there is no response from management center after 30s.	Keep pressing Call button for 2s. The device rings, while automatically ends when there is no response from management center after 30s. Keep pressing Call button during the vibration and ringing to reset 30s count down and press it to switch to the tenant.

Unlocking

1. Card slotting

Put the registered card close to the card induction zone of PCM to unlock.

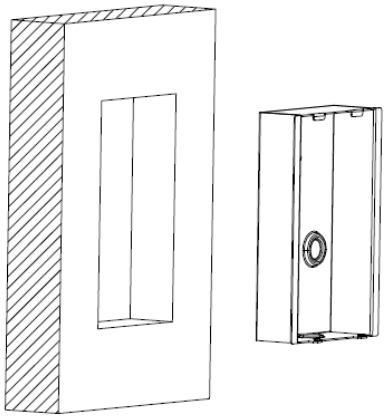
2. Monitor

The monitor can unlock the PCM when the tenant is called or the tenant is monitoring the PCM.

3. Exit button

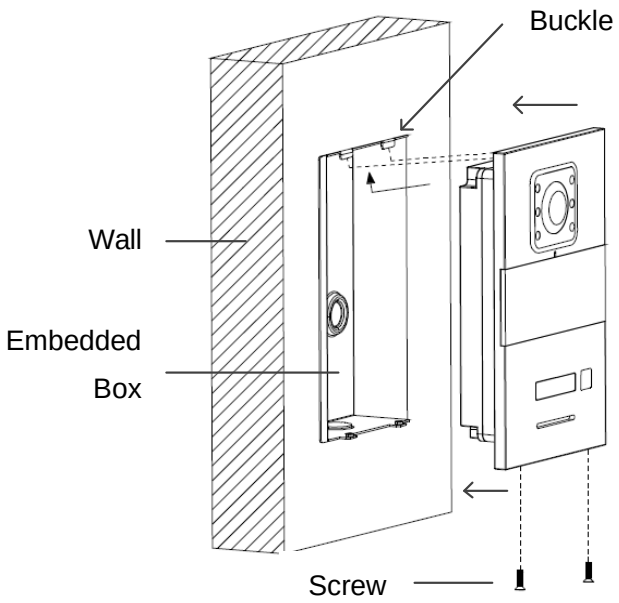
Connect the exit button line provided with the device, and press the button to unlock.

Installation

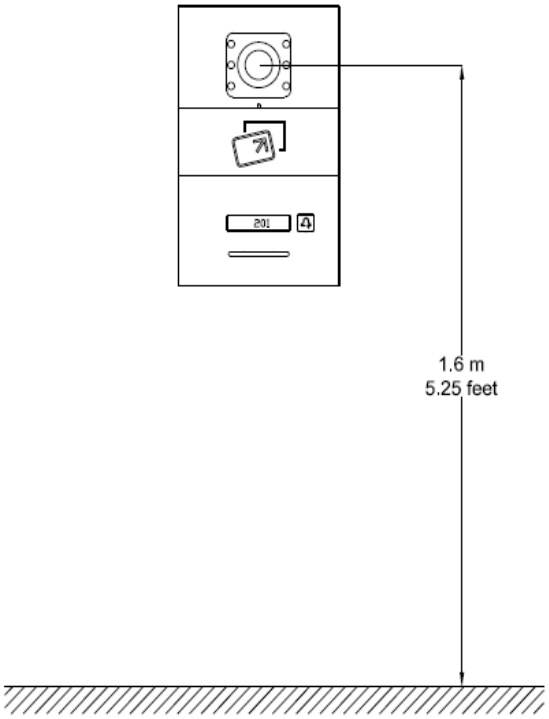


Step 1: Install embedded box (dimensions(W/H/D): 100 * 178 * 42mm

Step 2: Insert PCM into embedded box, and tighten it with screw.



Recommended installation height



Engineering Debugging

Connect all devices based on the wiring instruction of product, power up and debug the system after the inspection.

Debug the system from the corridor to networking system, i.e. debug the device of corridor one by one and then debug the networking system.

Unit device settings

1 Call module configurations

Enter “#*801801#” in standby interface to enter into settings interface.

[Note]801801 is initialized engineering set password.

1.1 Device type selection and number settings: Settings -> Engineering Settings -> Device Property.

Device type selection: Call module.

[Note] Call module is installed on the unit gate for the communication between visitor and tenant and between administrators.

MCMis installed on the enclosing wall entrance for the communication between visitor and tenant and between administrators.

Set the building number, unit number and device number of the device (only set device number for MCM).

1.2 Monitor dialing digit settings: Settings -> Engineering Settings -> System Property ->Monitor Dialing Digit Settings

If the dialing digit is 3 digits, then the visitor shall enter 302 to call Tenant 0302.

2 Monitor configuration

Room number settings: Settings ->Engineering Settings -> Room Number Settings

Set the corresponding building number, unit number, room number and number.

[Note] Only the extension with number is for the household. The engineering configuration password of monitor is 000000.

3 PCM configuration

3.1 PCM settings: Keep pressing the button until hearing “toot, toot, toot” and press it within 3 minutes after powering up, then the PCM can be configured.

3.2 Matched settings of monitor: Click Settings -> Engineering Settings -> PCM 1 Settings to enter in the matched interface of PCM. Select the device on the right to view the camera, click OK to match to the call module.

Unit debugging

1 Call module calls monitor

Enter room number 0101 in call module to call monitor. The monitor will be unlocked after replying.

2 Indoor monitoring

Press Monitor button to monitor call module.

3 PCM calls monitor

Press PCM button to call monitor. The monitor will be unlocked after replying.

[Note] Please read Troubleshooting of this handbook in the case of any faults during debugging.

Networking device settings

1 MCM settings

Enter "#*801801#" in standby interface to enter into settings interface.

[Note]801801 is initialized engineering set password.

1.1 Device type selection and number settings: Settings -> Engineering Settings -> Device Property.

Device type selection: MCM (call module in default settings).

[Note] Set MCM number, the effective address is 01~32.

1.2 Unit dialing digit and monitor dialing digit settings: Settings -> Engineering Settings -> System Property -> Unit/Indoor Dialing Digit Settings

Unit digit settings:

Unit digit	1 digit	2 digits	3 digits
	Unit number of 1 digit (automatically add 0 for building number)	Building number of 1 digit + unit number of 1 digit	Building number of 2 digits + unit number of 1 digit

Indoor digit settings:

Indoor digit	3 digits	4 digits
	Floor number of 1 digit + room number of 2 digits	Floor number of 2 digits + room number of 2 digits

If the unit dialing digit is 2 digits and monitor dialing digit 3 digits, then the visitor shall enter 12302 to call Tenant 0320 in Unit 0012.

2 Switch board settings

2.1 Number settings: Settings -> Engineering Settings -> Number Settings

[Note] Enter engineering number 000000.

Set switch board number in Number Settings (effective address: 01~32).

2.2 Switch board zone settings:

Main switch board (default): Settings -> System Settings -> Incoming Call Management -> All Units

Zone switch board: Settings -> System Settings -> Incoming Call Management -> Add Management Unit

3 PC switch board settings

Set IP address of PC switch board to 10.0.0.1 the subnet mask to 255.0.0.0. Restart and enter user name and password.

[Note] User name: admin, password: 123456

Networking debugging

1 MCM calls switch board

Press “Switch Board” button on MCM to call switch board. The switch board will be unlocked after replying.

2 MCM calls monitor

Enter room number in MCM (e.g. enter “0110101” when calling 0101# tenant of Building A) to call monitor. The monitor will be unlocked after replying.

3 Call module calls switch board

Press “Switch Board” button on call module to call switch board. The switch board will be unlocked after replying.

4 PCM calls switch board

Keep pressing “PCM” button to call switch board, and the switch board will reply.

5 PC switch board calls switch board

Select PC Switch Board, Engineering Configuration and Read Networking Device successively, enter building number 1-2 and unit number 1, click Read Networking Device and enter into Device Researching.

The list of networking device will be automatically generated after the research.

6 Monitor calls switch board

Press “Switch Board” button on monitor to call switch board. The switch board will reply.

7 Monitor monitors MCM

Select MCM in switch board, and enter MCM number (e.g. enter “01” when monitoring #01 MCM).

8 Security alarm of monitor

Set up and trigger the defense of monitor to give out alarm, then monitor, switch board and PC switch board will give out alarm accordingly.

Troubleshooting

The common faults and troubleshooting methods, as shown below, are only for your reference. Please consult our customer service staff or dealer if the faults cannot be solved.

Faults		Methods
Calling of monitor	The networking logo of monitor status bar turns grey.	1. Check the connected netting twine between the monitor and its interchanger; 2. Check whether the interchanger of monitor is normal; 3. Check whether the interchanger of monitor is normally powered up.
	Call module and switch board cannot call monitor.	
Security of monitor	The alarm is given out after the defense is withdrawn.	Check whether the defense zone of monitor is on standby for 24 hours.
	The defense zone of monitor is not flexible.	Check whether the defense zone of monitor connects to 10K resistance.
Configuration of PCM	The PCM is not configured.	Read the handbook and operate based on its requirements: Power the PCM up, keep pressing the button until hearing “toot, toot, toot”, and press it within 3 min.
	The PCM cannot be configured in normal operation.	Check whether the netting twine works.
PC switch board searches device	PC switch board cannot search device.	1. Check whether the device is powered on; 2. Check whether the device has network; 3. Check whether the set device number is correct.
Call module calls monitor	No vibration, ringing and image in monitor.	Check whether the set building number, unit number and household number are correct or repeated;
	There is image, which is unclear however.	Check whether the factory protective film on camera cover plate is torn or polluted; Check whether there are foreign matters or too much dust on the camera of call module, replace it if any;
	The call volume is small.	Check whether the set volume of call module or monitor is too small;

	The communication fails.	Check whether the terminal is well contacted, whether the set device number is wrong;
	Monitor networking logo turns grey.	Check whether monitor and interchanger are well connected;
Call module is powered on, display screen works while the button does not.		Check whether the button is stuck;
Unlocking fault		A. Check whether the indoor unlocking button works; B.Check whether the lock and call module are correctly connected.

Project cases

Client demands

Building A (9 tenants/floor * 8 floors) and Building B (20 tenants/floor * 8 floors) are situated in a community, each of which is required for 1 call module for access control. 2 external enclosing wall gates and 2 MCMs have been used in the community. However, 1 switch board and 1 PC switch board, taken as the management tools, are required by the management center of the community to manage access control and tenant security.

Demands of Tenants of Community

Building A:

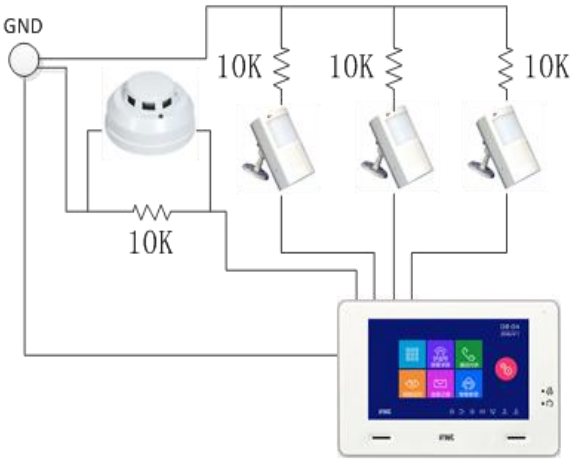
Device	Module/type	Qty.
Monitor	U1	1
PCM		1
Gas detector	Normally opened	1
Infrared detector	Normally closed	3

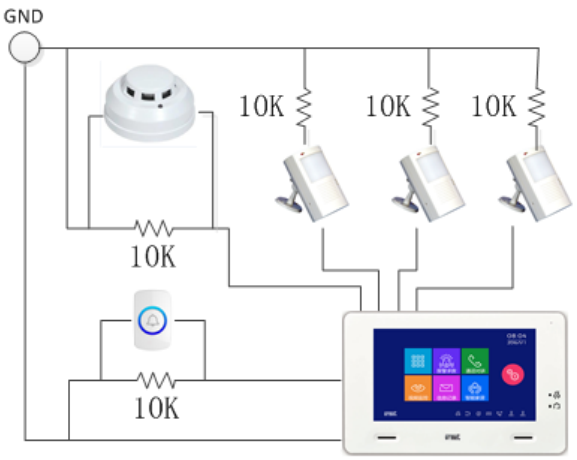
Building B:

Device	Module/type	Qty.
Monitor	U1	1
Doorbell	Normally opened	1
Gas detector	Normally opened	1
Infrared detector	Normally closed	3

Demand analysis

Our digital intercom system well meets the demands of community system. In order to simplify the wiring design, we power the device with POE interchanger. The interface type of POE interchanger is 7+2, i.e. 7 electric network interfaces and 2 nonelectric network interfaces. The defense zone will be wired based on the specific tenant demands. The wiring of Building A/B is as shown below:





Wiring Diagram of Defense Zone of Building A

Wiring Diagram of Defense Zone of Building B

Configuration List of Product:

Device	Monitor	Wall-mounted shelf	Call Module	Embedded box	Switchboard	PoE	PCM	PC switchboard	Interchanger	Infrared detector	Doorbell	Smoke detector
Qty.	232	232	4	4	1	49	72	1	2	696	160	232

[Note]Unit interchanger is 2-layered networking interchanger.

Room Number of Building A/B

F8	0801-0803	0804-0806	0807-0809	0801-0807	0808-0814	0815-0820
F7	0701-0703	0704-0706	0707-0709	0701-0707	0708-0714	0715-0720
F6	0601-0603	0604-0606	0607-0609	0601-0607	0608-0614	0615-0620
F5	0501-0503	0504-0506	0507-0509	0501-0507	0508-0514	0515-0520
F4	0401-0403	0404-0406	0407-0409	0401-0407	0408-0414	0415-0420
F3	0301-0303	0304-0306	0307-0309	0301-0307	0308-0314	0315-0320
F2	0201-0203	0204-0206	0207-0209	0201-0207	0208-0214	0215-0220
F1	0101-0103	0104-0106	0107-0109	0101-0107	0108-0114	0115-0120
	Building A Building No.: 01, Unit No.: 1 Call module: No. 1, Unit 1, Building 01			Building B Building No.: 02, Unit No.: 1 Call module: No. 1, Unit 1, Building 02		
Management center	Switch board No. 1					
Enclosing wall	MCM No.: 1			MCM No.: 2		

Indoor debugging

Connect the detector based on the wiring diagram of defense zone. Set up the defense and touch it off, then the monitor of relevant defense zone will give out the alarm.

Setting & debugging of unit device

Please set and debug the unit device based on Engineering Debugging.

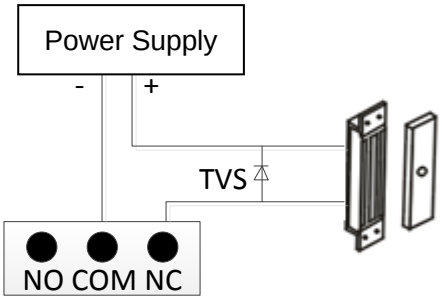
Setting & debugging of networking device

Please set ad debug the height of networking device based on Engineering Debugging.

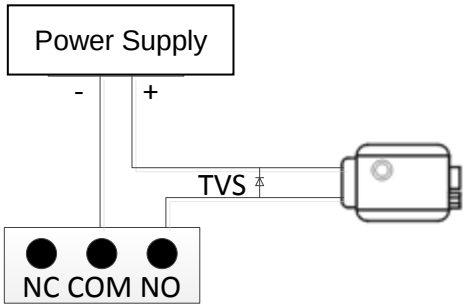
Appendix

Other cabling diagram

- Unlocking and wiring of signal



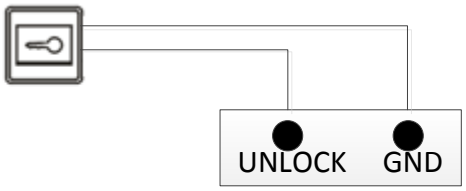
Normally opened unlocking and wiring method



Normally closed unlocking and wiring method

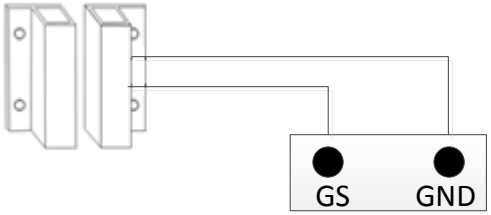
Note]Please check whether relevant parameters meet the requirements when signal unlocking is powered by the call module of the system, preventing the device from being damaged.

- Unlocking and wiring of exit button



[Note] There is no polarity in the wiring.

- Wiring of gate status alarm

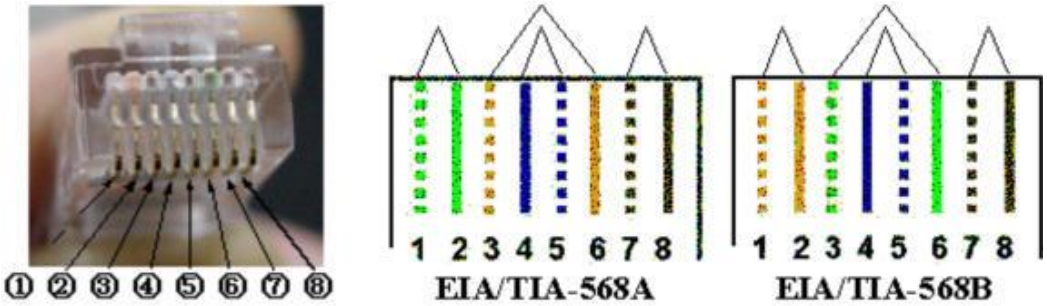


[Note] The gate status alarm function can be turned off in 2 ways:

1. Ground GS port of host;

1. *2. Set the gate status alarm to Forbidden (see “System settings -> Gate status alarm” of “Instruction for Use of Device”).*

Production method of netting twine



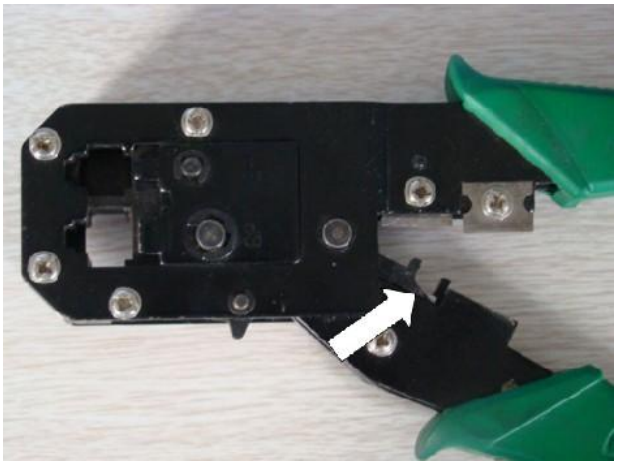
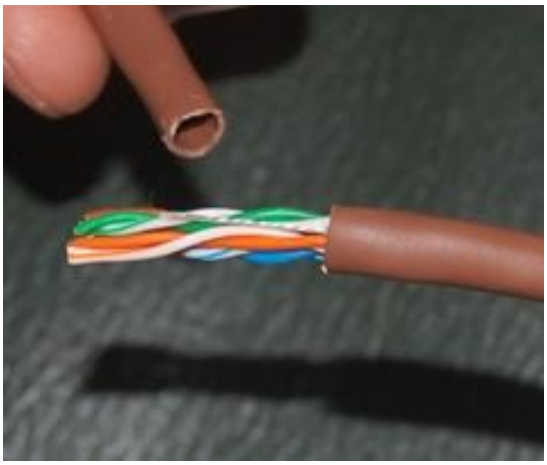
Face the end of plug toward yourself, and make sure the contact point is at the bottom of the plug, then the leftmost contact point is ①and the rightmost one is ⑧.

Line sequence of EIA/TIA-568A: Green and white --- 1, green --- 2, orange and white --- 3, blue --- 4, blue and white --- 5, orange --- 6, brown and white --- 7, brown --- 8;

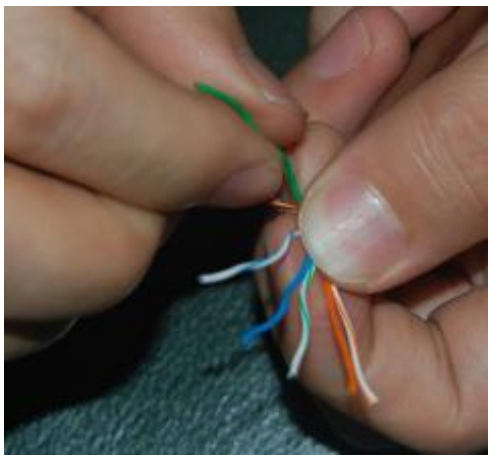
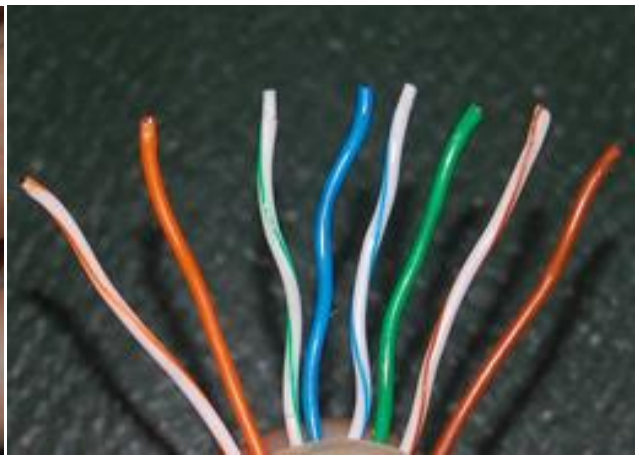
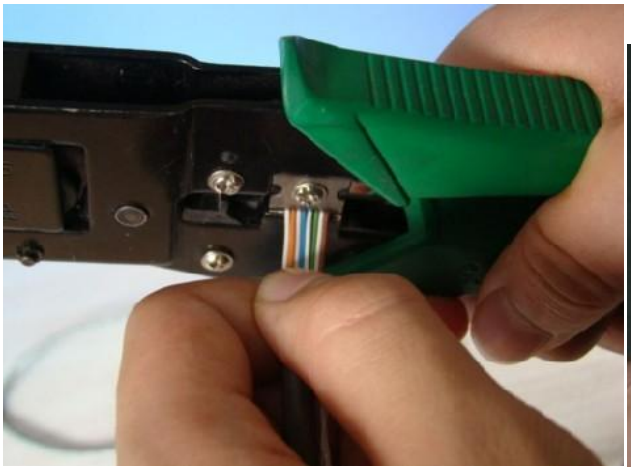
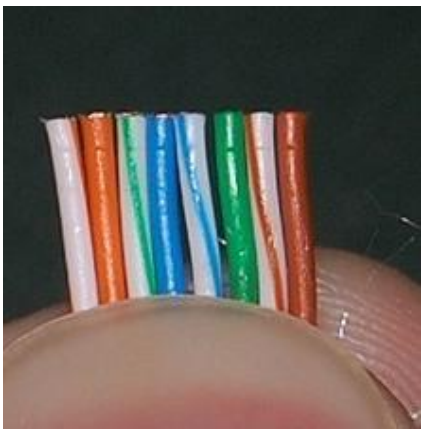
Line sequence of EIA/TIA-568B: Orange and white ---1, orange --- 2, green and white --- 3, blue --- 4, blue and white --- 5, green --- 6, brown and white --- 7, brown --- 8;

Step 1: Cut the twisted pair to reasonable length with the cutting notch of RJ-45 crimping pliers, as shown below:

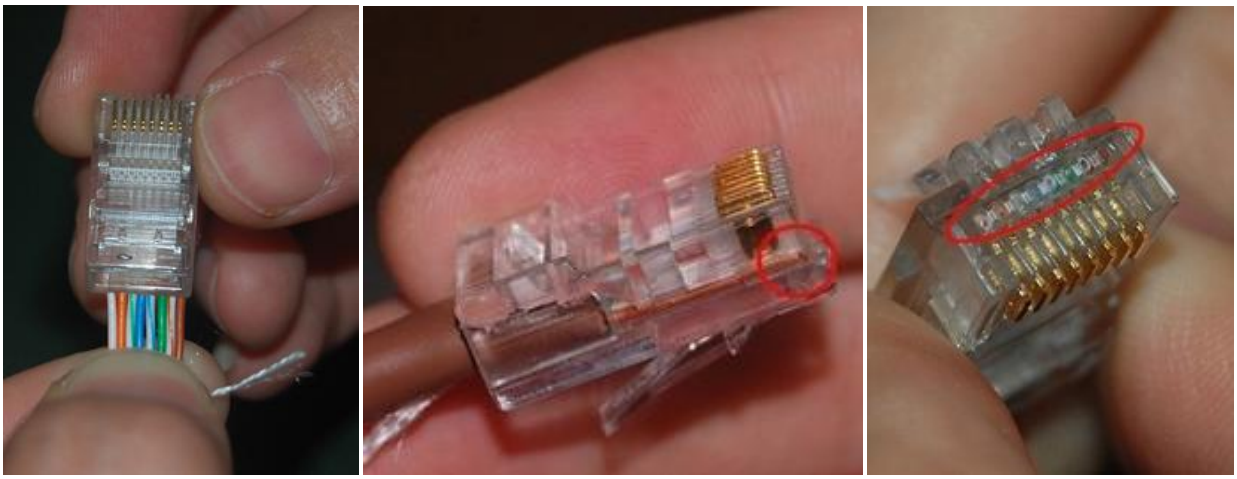
Step 2: Stripe 1.5cm external protective shell at one end of twisted pair with the wire stripper of RJ-45 crimping pliers (the joint will be loose if the stripped shell is too long and its metal knife edge cannot fully touch with core wire if the stripped shell is too short). The core wire shall not be damaged, as shown below:

Step 3: Sector 4 pairs of core wire, arrange and straighten them from left to right based on the corresponding interface standard (EIA/TIA-568A or EIA/TIA-568B, see the appendix), until they are parallel with each other. Then cut them evenly with diagonal pliers, as shown below (EIA/TIA-568B is adopted herein):

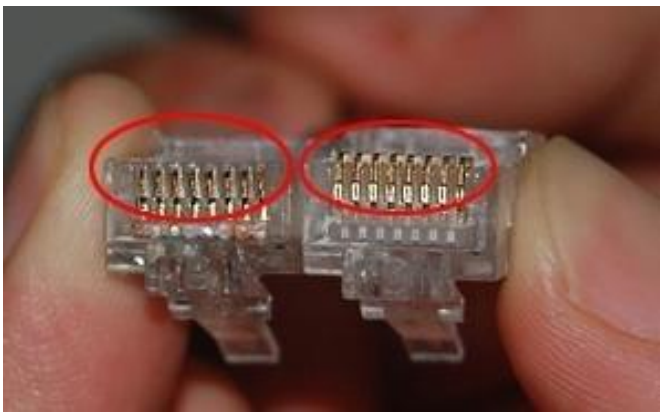





Step 4: Turn the side of the plastic joint with clip upside down, and horizontally plug the ordered twisted pair into the trunking of plastic joint. The end of the conductor shall touch the bottom, otherwise, the metal knife edge of the plastic joint may poorly contact with the conductor in clamping, as shown below:



Step 5： Put the plastic joint in RJ-45 clamping slot of crimping plier, press and clamp it in the twisted pair after confirming the conductor sequence and connecting the conductor. It is recommended to clamp it for several times. Finally, the plastic joint of one end of the netting twine has been manufactured, as shown below:

See the following photo for the pressed plastic joint and unpressed plastic joint. The left one is pressed, whose copper pressing knife is fully sunk in the plastic joint, as shown below.



Step 6: Make the other joint in the other end of twisted pair in the same way. The line sequence of the joints in two ends of crosswire is different from that of twisted pair.

Step 7: Test the connectivity of the netting twine with the corresponding tester, preventing open circuit from disconnecting the communication, or short circuit damaging network card or concentrator. Plug RJ45 plastic joint at two ends of netting twine into two interfaces of the tester respectively, and switch on the tester. Then

two sets of indicators on it will flash, as shown below:

8 indicators on the tester will successively flash green light when the tested cable is shoot-through cable.