

## Unpacking

Before using the device, check the device model and ensure that the shipped box includes the following items:

|                                                                                                                 |                                                                                                              |                                                                                                                 |                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
|  1 X<br>R20K-L                 |  1 X<br>Wiring cover        |  6 X<br>M2.5X6 crosshead screw |  1 X<br>Rope                                      |
|  1 X<br>Sealing pressing plate |  3 X<br>Rubber plug (S,M,L) |  2 X<br>Diode                  |  1 X<br>RJ45 coupler Ethernet extension connector |
|  1 X<br>RJ45 cable             |  2 X<br>8-Pin cable         |                                                                                                                 |                                                                                                                                    |

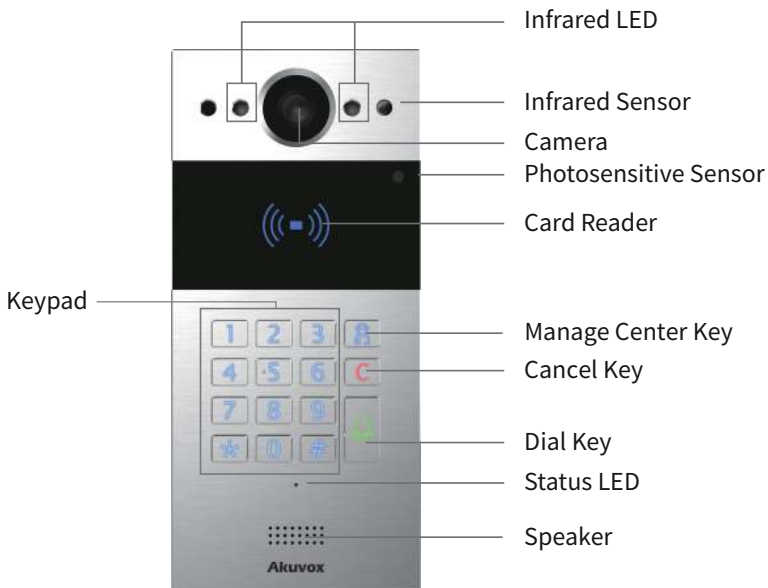
## Wall-mounting Accessories:

|                                                                                                                |                                                                                                                 |                                                                                                                |                                                                                                                 |
|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|  1 X<br>Wall-mounting bracket |  4 X<br>ST4X20 crosshead screw |  2 X<br>M4X30 crosshead screw |  4 X<br>Plastic wall anchor    |
|  1 X<br>Allen wrench          |  2 X<br>M3X6 hex socket screw  |  4 X<br>Wall-mounting screw   |  1 X<br>Wall-mounting template |

## LTE Accessories:

|                                                                                                                     |                                                                                                        |                                                                                                            |                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
|  1 X<br>LTE Module               |  1 X<br>RF cable    |  1 X<br>M3X5 head screw |  2 X<br>M4X20 Torx head screw |
|  1 X<br>M2.5X4.5 crosshead screw |  1 X<br>Torx wrench |  1 X<br>Antennae        |  1 X<br>Antennae stand        |
|  2 X<br>Plastic wall anchor      |                                                                                                        |                                                                                                            |                                                                                                                  |

### Product Overview



R20K-L

### Before You Start

#### Tools needed

(not included in shipped box)

- Cat Ethernet Cable
- Crosshead Screwdriver
- Electric Drill

#### Voltage and Current Specifications

- It is suggested that use 12VDC 1.5A power adapter to power on device .

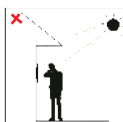
## AWG Sizes and Properties Table

Please follow the properly wire data to install device:

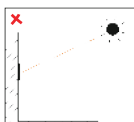
| Power Supply                            | 12VDC 1.5A |        |        |
|-----------------------------------------|------------|--------|--------|
| AWG                                     | 20         | 22     | 24     |
| Resistance (ohm/km)                     | 33.9       | 48.5   | 79.6   |
| Cross-sectional Area (mm <sup>2</sup> ) | 0.5189     | 0.3247 | 0.2047 |
| Wire Length (m)                         | ≤50        | ≤40    | ≤20    |

## Requirements

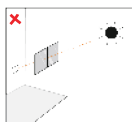
1. Place the device away from sunlight and light sources to prevent potential damage.
2. Do not place the device in the high-temperature, and humid environments or in surroundings impacted by magnetic field.
3. Install the device on the flat surface securely to avoid personal injuries and property loss caused by device's falling.
4. Do not use or place the device near heating objects.
5. Please keep device at least 2 meters away from light, and at least 3 meters away from window and door.



Backlight



Direct sunlight



Direct sun through window



Indirect sunlight through window



Close to light



### Warning!

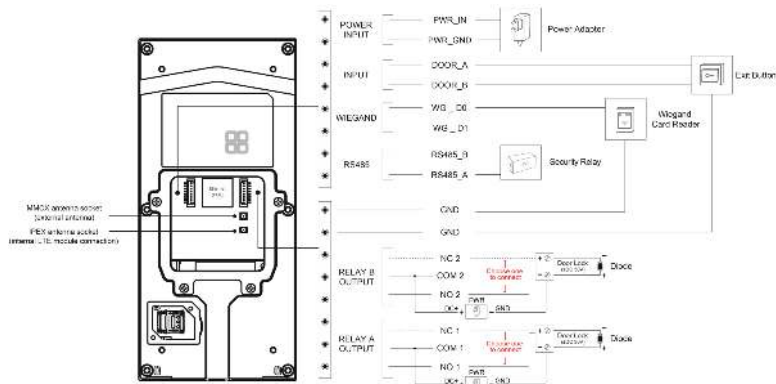
- 1.To ensure safety, avoid touching power cord, power adapter, and device with wet hands, bending or pulling the power cord, damaging any components, and use only qualified power adapter and power cord.
- 2.Be careful that standing up on the area under the device in case of personal injuries cause by hitting the device.



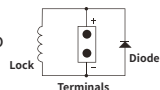
### Caution

- 1.Do not knock device with hard objects.
- 2.Do not press down hard on the device screen.
- 3.Do not expose device to chemical products, such as alcohol, acid liquid, disinfectants, and so on.
- 4.To prevent the device installation from becoming loose, ensure accurate diameters and depths of screw holes.  
If the screw holes are too large, use glue to secure the screws.
- 5.Use wet cloth clean device surface softly, and then wipe the surface with dry cloth for cleaning the device.
- 6.If there is abnormal situation of the device, including uncommon sound and smell, please power off the device and contact Akuvox Technical Team immediately.

## Wiring Interface



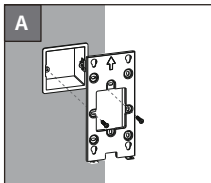
To protect the device from potential damage caused by over-voltage, it is recommended to wire a diode into the circuit. Connect the anode of the diode to the negative cable of the lock, and connect the cathode of the diode to the positive cable of the lock.



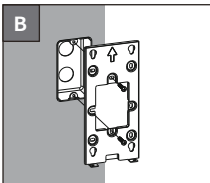
## Installation

### Step 1: Wall-mounting Bracket Installation

1. With embedded box (86x86 mm or 2x3 inches in size) in the wall.

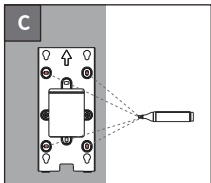


With 86x86 mm embedded box

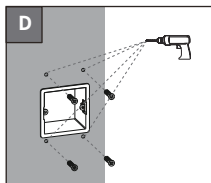


With 2x3 inches embedded box

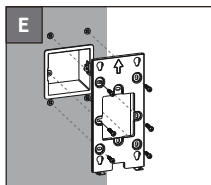
Attach the wall-mounting bracket to the embedded box using two **M4x30 crosshead screws**.



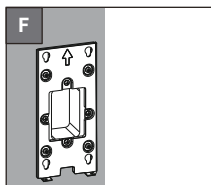
Mark the hole positions at the center of the four holes on the **wall-mounting bracket**.



- Remove two **M4x30 crosshead screws** and **wall-mounting bracket**.
- Use a 6 mm hand drill to make the four holes with a depth of 25 mm.
- Insert four **plastic wall anchors** into the holes.

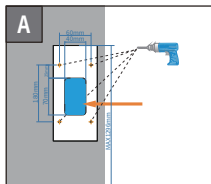


For fasten t he wall-mounting bracket, tighten the four **ST4x20 crosshead screws** to **plastic wall anchors** and two **M4x30 crosshead screws**.

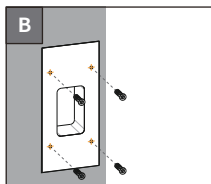


Finish the wall-mounting bracket installation.

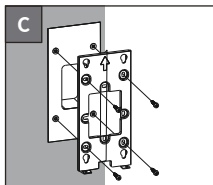
## 2. Without embedded box in the wall



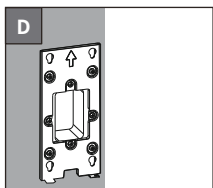
- Position the **wall-mounting template** closely against the wall, aligning it with the wire' s location.
- Use a 6mm hand drill to drill four screw holes with a depth of 25mm.
- Cut a rectangular hole in the wall measuring 40x70mm to accommodate all required cables.



Insert four **plastic wall anchors** into the holes.

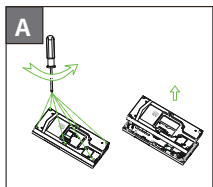


Fix the wall-mounting bracket to the wall by tightening four **ST4x20 crosshead screws** to the **plastic wall anchors**.



Finish the wall-mounting bracket installation.

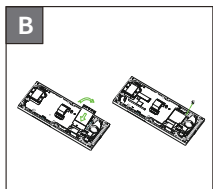
## Step2: LTE Module Installation



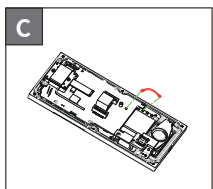
- Remove the six **M3x6 crosshead screws** on the device's back cover.
- Remove the device's back cover.

### **Warning!**

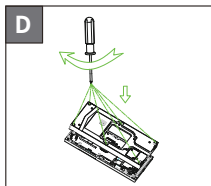
- Please keep the screws carefully.
- Do not open the back cover when the SIM card is installed otherwise it might cause the damage to the device.



- Insert the **LTE module** into the interface as indicated in the figure.
- Press down the other end of module to align screw hole of left side with lower bolt.
- Use **M2.5x4.5 crosshead screw** to fix the module onto the bolt of device.

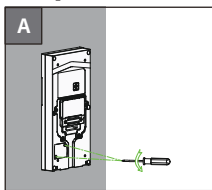


Use RF cable to connect the first connector of the LTE module to the antenna connector on the motherboard.



Put the back cover to the device and tighten it using the six **M3x6 crosshead screws** that are removed before.

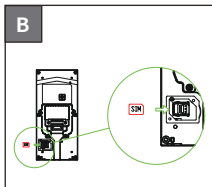
## Step3: LTE SIM Card Installation



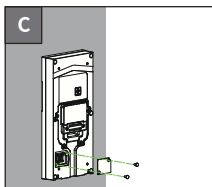
Use a crosshead screwdriver to remove the two **M2x3 crosshead screws** from the SIM card cover, then take off the cover.

Note:

Please keep the screws carefully.

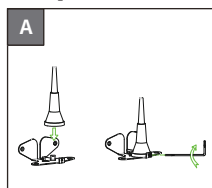


- Slide the SIM card slot cover to the left and lift it open.
- Insert the SIM card, close the cover, and slide it to the right to lock the SIM card in place.

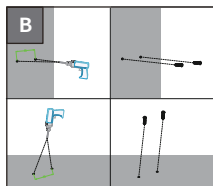


Reattach the SIM card cover and secure it with the two previously removed M2x3 crosshead screws to complete the SIM card installation.

## Step 4: Antennae Installation



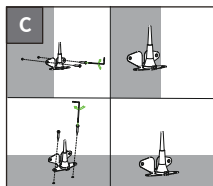
- As shown in the figure, attach the antenna to the stand.
- Use a **Torx wrench** to fasten an **M3x5 Torx head screw** on the stand to **secure the antenna**.



- Use an electric drill to make two holes 70mm apart.
- Insert two plastic wall anchors.

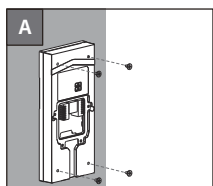
**Note:**

Please install the antenna on an open and unobstructed wall. It can be mounted on either a vertical or horizontal surface.

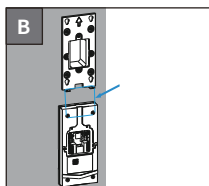


Use **Torx wrench** to fix two **M4x20 Torx head screws** for securing the antenna stand to the wall. Antenna installation is complete.

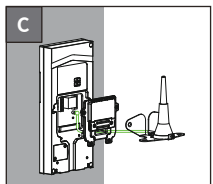
## Step 5: Main Unit Installation



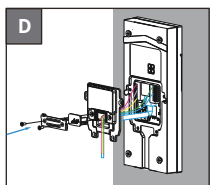
Fix four **wall-mounting screws** to the back of the device.



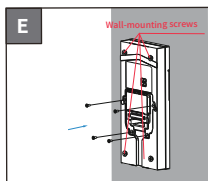
For easier installation, hang the device on the bracket using the **rope**.



Pass the other end of the antenna through the wiring cover and connect it to the designated port on the main unit using an RF cable.

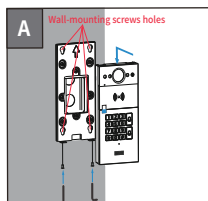


- Make cables go through the **wiring cover**, connecting to the corresponding interfaces as needed (for details, refer to "Wiring Interface").
- Select an appropriate **rubber plug** (small, medium, or large) to secure the wires.
- Fasten **sealing pressing plate** with two **M2.5x6 crosshead screws**.

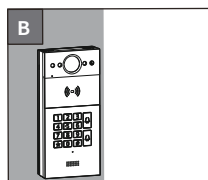


Use four **M2.5x6 crosshead screws** to fix the wiring cover.

## Step6: Device Mounting

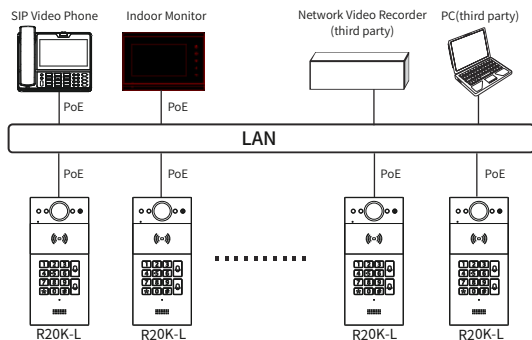


- Insert the four **wall-mounting screws** on the device into the corresponding holes on the wall-mounting bracket.
- Press down to slide the wall-mounting screws into the groove.
- Use **Allen wrench** to tighten the device with two **M3x6 hex socket screws**.



Installation is completed, please remove the protect film.

## Application Network Topology



## LED Status Information

| LED Status |           | Description      |
|------------|-----------|------------------|
| Blue       | Always on | Normal status    |
|            | Flashing  | Calling          |
| Green      | Always on | Talking          |
|            | Flashing  | Receiving a call |
| Red        | Flashing  | Offline          |

**Note:** For more LED settings, please check in **Intercom > LED Setting** of R20K-L Web UI.

## Device Test

Please verify the device status after installation:

- 1.Network:** Press **\*3258\*** on the keypad to obtain IP address, network is working properly if the IP address is obtained.
- 2.Intercom:** Enter the IP or SIP number and press **Dial** key to make a call. Or, press APT number to call. The call configuration is correct if the call is successful.
- 3.Access Control:** Use pre-configured PIN code and RF card to unlock door.

## Warranty

- 1.Akuvox warranty does not cover intentional mechanical damage or destruction caused by improper installation.
- 2.Do not attempt to modify, alternate, maintain, or repair device by yourself. Akuvox warranty does not apply to damages caused by anyone who is not representative of Akuvox or an Akuvox authorized service provider. Please contact Akuvox Technical Team if the device need to be repaired.

## Get Help

For help or more assistance, contact us at:



<https://ticket.akuvox.com/>



[support@akuvox.com](mailto:support@akuvox.com)

Scan the QR code to get more videos, guides, and additional product information.



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