



Quick Installation Guide

Outdoor Smart City Box All In One AP402-SCB

www.avcomm.us

• Overview

The next-generation Smart City Box AP402-SCB integrates smart city and IIoT applications into an IP67 metal enclosure and includes two IEEE 802.3at PoE+ ports, a GbE WAN port. AP402A-SCB with an additional serial port, two DI and a DO weatherproof connector. Both are available in AC or DC powered models. Data can be stored locally in an internal USB or remotely connected to other wireless modules via wireless LTE Cat 4/6, LTE M1/NB1, wireless LAN 802.11 ac/a/n. The outdoor AP402A-SCB as both an IoT gateway and controller through Modbus Serial, DIO, wireless LAN AP, cellular VPN/NAT/firewall routers, and PoE for IP cameras. Compared to traditional assembly cabinets, the AP402-SCB/402A is uniquely valuable in terms of saving time/cost of system integration and provides a user-friendly interface for large group deployment, management, and status visualization in your mobile devices. Data can be sent to public AWS/Azure or user-defined cloud servers, or AVCOMM private IoT platform ATMS.

Model Name	Description
AP402-SCB	Industrial Wireless IIoT Smart City Box, IP67, 2GT PoE, 1GT WAN, 1xCOM, 2xDI, 1xDO, Voice, 1xUSB, 8-32V DC or AC Input

• Package Checklist

- 1 x Product Unit
- 1 x Quick installation Guide
- 1 x Mounting kit
- Cable Gland Assembly Pack
 - 1 x M12 T-code Power Cable, 1m
 - 2x M8 5-pin Signal Cable for Serial and 2DI+1DO, 1.5m
 - 3 x Waterproof RJ-45 Ethernet Plug

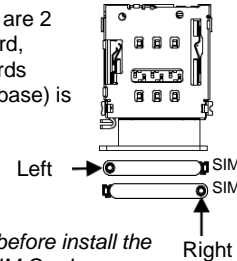
Optional Accessory (for detailed information, please refer to the Datasheet)

• Installation

Nano SIM Card Slot

Open SCB400 cover to install SIM card. There are 2 SIM card slots located on the bottom main board, towards I/O connector side. The top one (towards cover) is SIM1, while the bottom one (towards base) is SIM2. To install SIM card:

1. Draw out SIM tray directly
2. Install SIM card into the tray
3. Insert back the SIM tray.

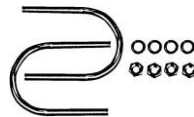
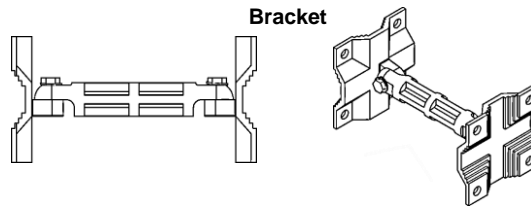


Warning: Turn off the source of power before install the SIM Card. Be careful when install the SIM Card, wrong installation procedure will **cause DAMAGE**. Make sure the SIM tray facing the correct position.

Mounting Kit

The SCB Series has been designed to operate in a vertical position with the antennas are facing up and all the connectors are facing down.

1. Attach the mount bracket to the Smart City Box using 4 Hexagon screws and washers. Screws provided are for general use and could not be valid for every surface. Screw all the screws tightly.
2. Attach the bracket to the pole mount or wall mount kit



Pole Mount



Wall Mount

Grounding Screw

For avoiding system damage from noise or electric shock, establish a direct connection between the ground screw and the grounding surface prior to connecting devices.

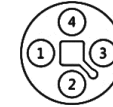
Wiring The Power Input

1. Insert positive and negative wires into V+ and V-contacts respectively of the M12 connector (Plug-side).
2. Tighten the nuts to prevent the loosening of the M12 connectors.
3. Power input supports polarity-reverse protection functions.

Power Input

8-32V DC or AC Input

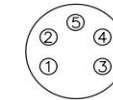
Male M12 T-Code Connector		Description	
1	Black	V-	
2	-	Not Connected	
3	Red	V+	
4	-	Not Connected	



Wiring The Serial Port

This device also equipped with serial port which are RS232/422/485 ports that able to connect to local serial devices.

Male M8 Connector		RS-232	RS-422/ RS-485 (4 wire)	RS-485 (2 wire)
1	Red	-	TX-	Data-
2	Black	TXD	RX+	-
3	Green	RXD	TX+	Data+
4	Yellow	-	RX-	-
5	White	GND	GND	GND



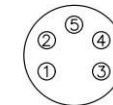
Wiring the Digital Input / Relay Output

There are two digital inputs which share the same common ground, and also one relay output on M8 connector.

Digital Input: Low: 0~1V, High: 2~30V

Dry Relay Outputs: 0.5A/24VDC

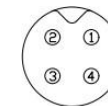
Male M8 Connector		DI	Relay
1	Red	DI1+	-
2	Black	DI2+	-
3	Green	-	Relay
4	Yellow	-	Relay
5	White	DI_GND	-



Wiring The Audio Connector (Optional by Request)

SCB is provided with audio feature. To use this feature connect the M5 connector to the Voice Port.

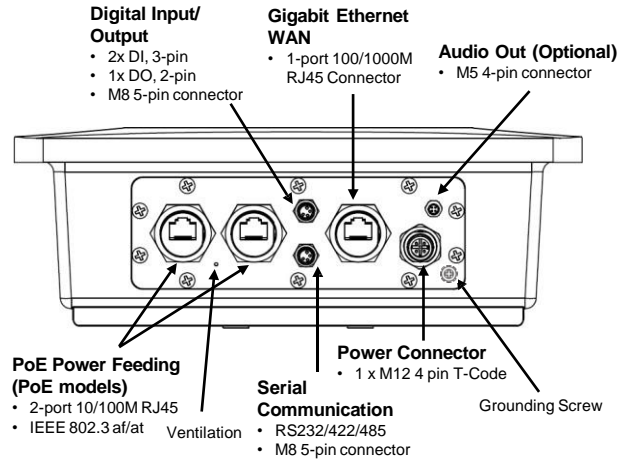
Male M5 Connector		Audio	
1	Brown	Line+	
2	White	Not Connected	
3	Blue	Not Connected	
4	Black	Line-	



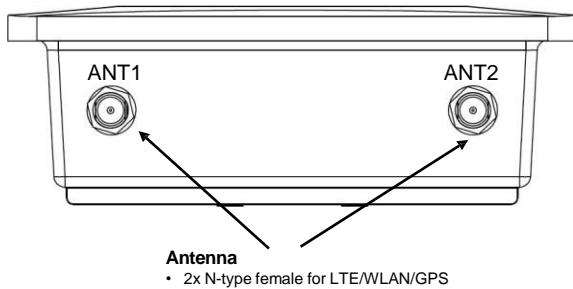
· Appearance

AP402-SCB

Front Panel



Back Panel



**Antenna and module are Optional Accessories (for detailed information please refer to the Datasheet).*

· Antenna (Optional Accessories)

The device supports up to 2 antennas sockets, where functions supported are listed as below. The black antenna belongs to LTE and the white antenna belongs to WIFI. Below is the placement of antennas.

Socket	ANT1	ANT2
WIFI	WIFI 1	WIFI 2
WIFI + LTE	LTE Main	WIFI
LTE / GPS	LTE Main	LTE Div / GPS

· Safety Precautions

- The major power input is AC/DC by model. Turn off the power input source before connecting the Power supply module to M12 power connectors.
- Do make sure that models connect to the corresponding supply voltage. The device is to be supplied by Limited Power Supply. The relay contact supports 0.5 A current, DC 24V.
- Please make sure all of the installations are done, before connecting the Power Supply.
- The device can be installed on roadside power tower, light tower or wall mount on the wall/roof in the field.
- For ventilation, if the customer needs to install the SCB underwater, paste the silicone paste for vent or replace the airtight ventilation cover. **For more information please contact our sales.**
- Do not open the cover or install Wireless/LTE module without the original manufacturer's consent.

· Management

This device supports both in-band and out-of-band network management. The user can either configure the device through the user-friendly Web/HTTPS management or remotely manage the device through the network Telnet/SSH.

- Preparation for **Web management**: First of all, verify that device is properly installed in the network and that every PC of this network can access the router through the web browser.
 - Type http://IP_address in your browser (the default IP address is <http://192.168.10.1/>)
 - Key in the username and password in login screen. The default username and password is **admin**.
 - After you click Login, a page that request to change the password will appear. Then you can enter the new password. Click Submit to apply the changes. After you change the password, the welcome page of the web-based management interface will appear.
 - On the left side you can see the list of software features, on the right side – available settings.
 - ◆ To link with the device, please make sure that the IP Address of the PC is located in the same subnet (**192.168.10.x**).
- Preparation for **Telnet/SSH management**: You can connect to the device by Telnet and the command lines. Below are the steps to open Telnet connection to the router.
 - Start -> Open Command prompt -> Enter
 - Type the Telnet 192.168.10.1 (or the IP address of the router). And then press Enter.

SSH (Secure Shell)

The device also supports SSH console. You can remotely connect to the router to access command line interface. The SSH connection can secure all the configuration commands you sent to the switch. SSH is a client/server architecture while the Router is the SSH server. When you want to make SSH connection with the switch, you should download the SSH client tool first.

SSH Client

There are many free, sharewares, trials or charged SSH clients you can find on the internet.

- ◆ **For further feature configurations, please refer to User Manual.**

· Support

At AVCOMM, you can use the online service forms to **request the support**. The submitted forms are stored in server for AVCOMM team member to assign tasks and monitor the status of your service. Please feel free to write to info@avcomm.us if you encounter any problems.

· Warranty

5-year Global warranties are available for AVCOMM products assuring our customers that the products shall remain free from defects in workmanship or materials and conform in all material respects to AVCOMM specifications, or Purchaser's supplied and accepted specifications. The warranty is limited to the repair and/or replacement, at AVCOMM' sole discretion, of the defective product during its warranty period. The customer must obtain a **Return Merchandise Authorization (RMA)** approval code prior to returning the defective Product to AVCOMM for service. The customer agrees to prepay shipping charges, to use the original shipping container or equivalent, and to ensure the Product or assume the risk of loss or damage in transit. Repaired or replaced products are warranted for ninety (90) days from the date of repair or replacement, or for the remainder of the original product's warranty period, whichever is longer.

Warning, the warranty is not valid if:

- Open the cover without consent. Only the authorized technicians are allowed to open the cover for internal maintenance.**
- (Exception: User can open the SCB cover only for installing the LTE SIM card)**
- Install any non-certificated LTE and wireless modules.**
- If the device is damaged due to the restricted behavior.**
- The device is assembled in an unprotected environment.**

· Disclaimer

AVCOMM reserves the right to make changes to this QIG or to the product hardware at any time without notice. It is the user's responsibility to determine whether there have been any such updates or amendments herein.

Defects, malfunctions, or failures of the warranted Product(s) caused by damage resulting from unforeseeable incidents (such as lightnings, floods, fire, etc.), environmental and atmospheric disturbances, other external forces such as power line disturbances and surge, host computer malfunction and virus, incorrect power input, or incorrect cabling, incorrect grounding and damages caused by misuse, abuse and unauthorized alteration or repair are not warranted.