



S-BOX

433M wireless transparent transmission module

User manual

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1. Introduction

1-1. Product

The wireless transparent transmission no need protocol, the two devices can communicate with each other when the baud rate (DIP switch), channel (button) are same. It makes the communication simple for PLC, HMI and PC.

S-BOX include S-BOX-T and XD-S-BOX-ED (XD series PLC left expansion module).

- **S-BOX-T**

RS232 serial port parameters: baud rate 19200, 1 stop bit, even parity, max package length 1024 bytes.

Serial port frame production rule: wait for 1ms (for baud rate below 19200bps, the time is about 2 characters)



- **XD-S-BOX-ED**

This model is only for XD PLC left expansion module. The parameters are same to S-BOX-T.



XD-S-BOX-ED

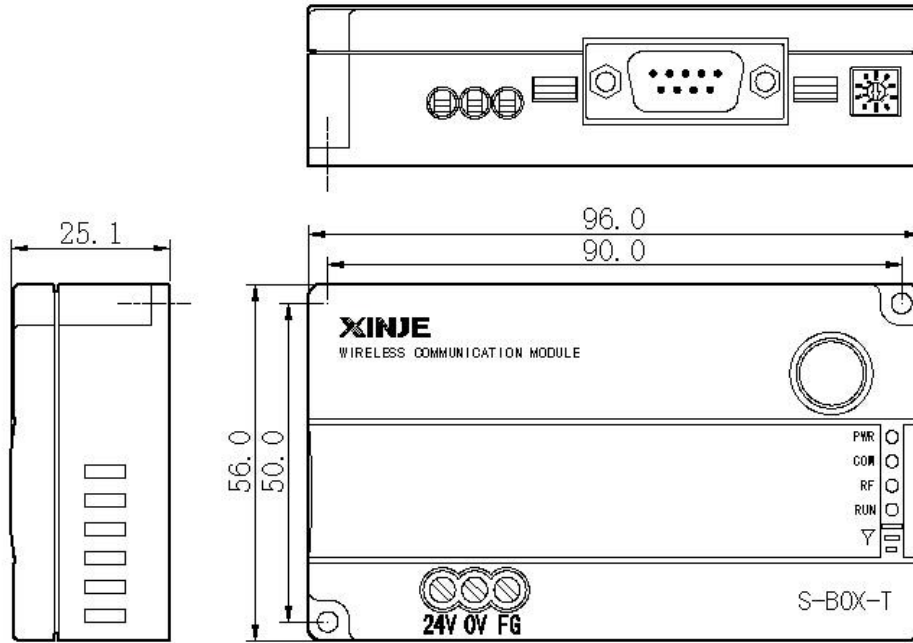


XD-S-BOX-ED connected to XD PLC

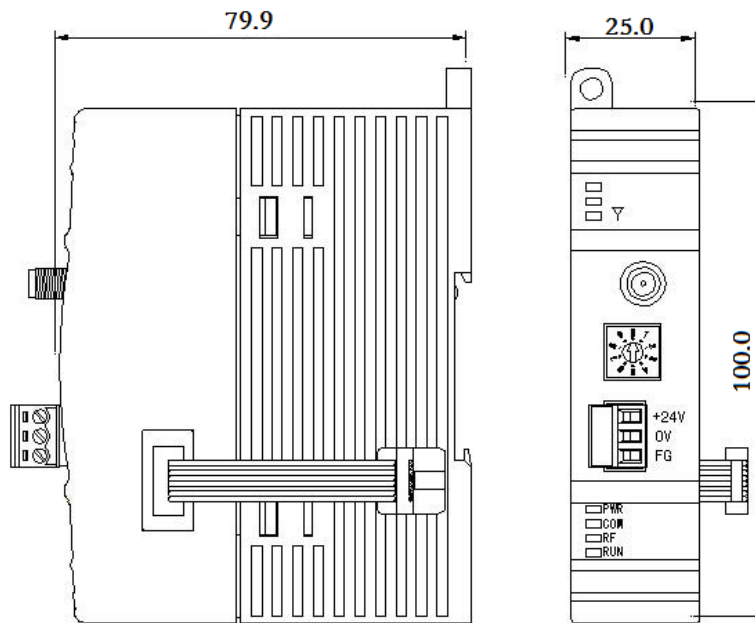
1-2. Specifications

Parameter	Specification
Power supply voltage	DC 24V
Wireless parameters	Carrier frequency $433 \pm 20\text{MHz}$, 4 kinds of baud rate, 10 channels
Wireless transmit power	+10dBm
Antenna interface	SMA
Working mode	Transparent transmission
Working temperature	$-15^{\circ}\text{C} \sim +65^{\circ}\text{C}$

1-3. Dimensions



S-BOX-T



XD-S-BOX-T-ED

2. Configuration

2-1. LED definitions

The definitions of LED lights on the modules:

LED	Meaning
POWER	Power supply, always ON after power on
COM	Wireless receive serial port send, flicker once when serial port sent one pack of data, it seems always ON when sending very fast
RF	Serial port receive wireless send, flicker once when wireless sent one pack of data, it seems always ON when sending very fast
RUN	Running, module is error when RUN is OFF
RSSI3	Signal intensity 3
RSSI2	Signal intensity 2
RSSI1	Signal intensity 1

Note:

1. signal intensity LED has margin. If the environment is good, the device can communicate well when the signal intensity LED all OFF.
2. The signal intensity LED shows the intensity of wireless receiving the last pack of data.

2-2. Channel

Choose the channel by the knob. Different channels cannot communicate with each other.

2-3. Wireless baud rate

The baud rate is set by DIP switch. The higher the baud rate, the smaller the communication delay, the shorter the transmission distance.

The setting of DIP switch:

Switch 1	Switch 2	Baud rate	Communication distance in open space (km)
OFF	OFF	115k	0.6
ON	OFF	38.4k	0.8
OFF	ON	19.2k	1.0
ON	ON	4.8k	1.2

Note:

1. The distance is measured in the open lake.
2. The table result is based on 1 meter sucker antenna, the effect of adhesive rod antenna is

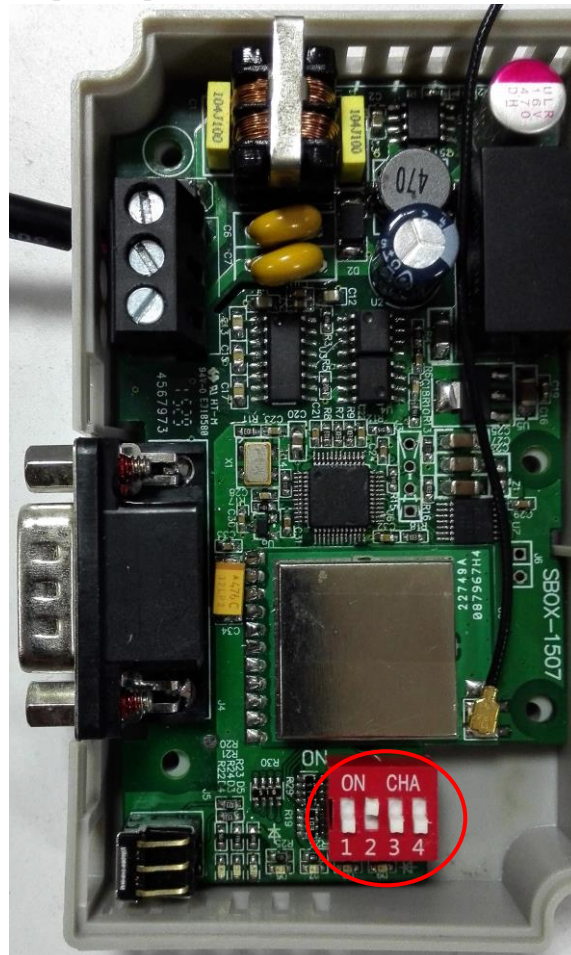
not good.

3. Switch 3 and 4 are reserved.

XD-S-BOX-ED DIP switch:



S-BOX-T DIP switch: please open the cover to set the switch



3. Accessories

Sucker antenna:



4. S-BOX testing method

Testing process:

1. Install the SBOX-T in the PC and PLC serial port, the distance between the two devices is larger than 2 meter.
2. Turn OFF all the switch in the SBOX-T, the knob turn to 0
3. Open the PLC software to online monitor the PLC, if PLC can communicate with PC, it means the module is working fine.

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