Quick Installation Guide

AP110-LORA-MODBUS
Industrial Modbus LoRa Converter

www.avcomm.us

· Overview

AP110-LORA-MODBUS is the new private LoRa converter to replace traditional serial cable with wireless Lora at the device end for kilometer level wireless coverage. For the data transmission, AP110-LORA-MODBUS supports Modbus Master-Slave mode with 1 master to 40 slaves polling within 1 minute. AP110-LORA-MODBUS is a convenient LoRa end node converter to upgrade the Modbus communication in factory automation applications.

· Factory Default Setting

The initial setting parameters of the product are as follows:

UART			
Baud Rate[bps]	9600	Parity	None
Date Bit	8	Stop Bit	1

LoRa			
Frequency [Hz]	915500000	Spreading Factor	9
Bandwidth [kHz]	125	Tx Power [dBm]	20
Encryption	30313233343536373839414243440000		

· Package Checklist

- 1 x Product Unit
- 1x 7-pin Removable Terminal Connector
- 1 x Default LoRa Antenna
- 1 x Quick Installation Guide

· Interface and Wiring Installation

Terminal Block (from left to right)						
1	2	3	4	5	6	7
DC 5 ~ 24V		RS-485		RS-232		
Power (+)	Power (-)	D-	D+	Rx	Tx	GND

Power input mode can be input from the terminal block or Micro USB jack.

Micro USB Port	Reset Button
DC 5V (Power Input)	Restart the System

**** Caution 1:** This device can use Micro USB Power Cable 5V or terminal block 5-24V. ***Please choose only one of those powering methods for providing power to the converter. Do not use both powering methods at the same time to avoid damage to the device.***

**** Caution 2:** Do not connect the power supply before and after wiring to avoid damage or electric shock.

· DIP Switch Description

Description of DIP switch settings: DIP adjustment ON ↑ ; OFF ↓

Terminal Resistance 120ΩSetting:

DIP Switch Position	1
	RS485Ω
ON	
OFF	

Setting Mode:

DIP Switch Position	2
	Set
ON	
OFF	

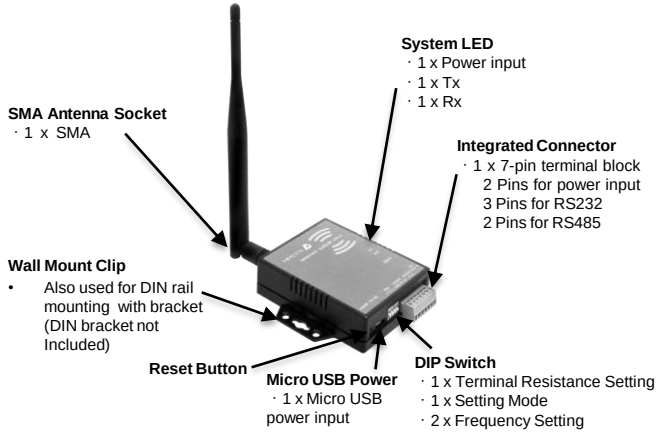
**Please refer to How to enter the setting mode section

Frequency Modulation Setting:

DIP Switch Position	3	4
	CF1	CF2
CONF		
913.5 MHz		
921.5 MHz		
923.5 MHz		

** CONF is set for any frequency band, preset 915.5MHz. Restart the device after adjusting the frequency.

· Appearance



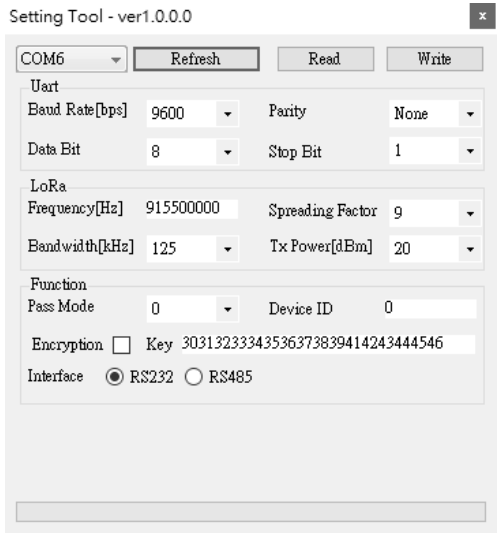
· LED Indicator

LED	Status	Description
Power	Red On	DC-IN Power is On
Tx	Green Blinking	Packets transmitting
Rx	Blue Blinking	Packets receiving

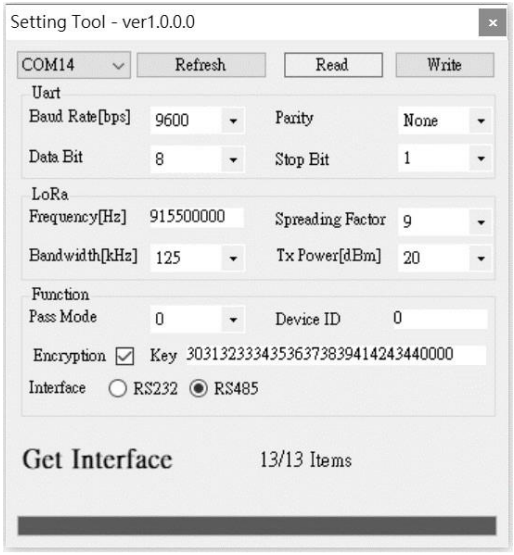
· How to Enter the Setting Mode

****Note: The setting mode is unified by RS-232 connection**
Please follow the step below:

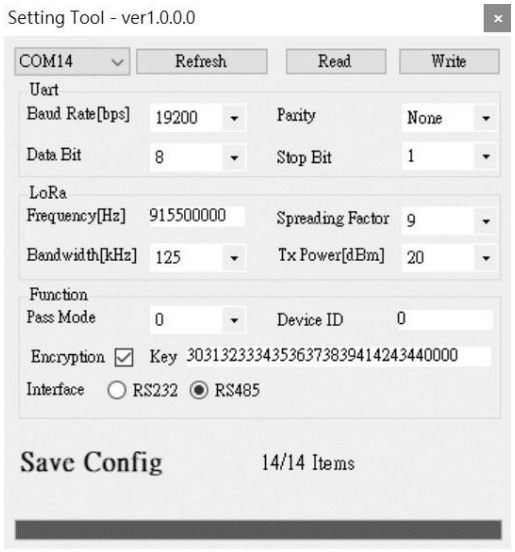
- Adjust the position of the DIP Switch 2 to ON, and then plug in the power, it will directly enter the setting mode.
- Download the file AP110-LORA-MODBUS _Setting_Tool from AVCOMM website. (www.avcomm.us)
- Open the software to make related settings.



- Click **Refresh** button to get the COM Port data.
- Click **Read** to get the current settings.



- If the parameter cannot be read, it means that the setting mode is not entered, confirm whether the position of the DIP Switch 2 is correct, and then power on again.
- After setting the parameters, click **Write** to complete the setting.



- After the setting is completed, adjust the DIP Switch 2 to OFF and then power on again to complete the setting.

· 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 warranty 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 purchasers 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 package 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.

· Disclaimer

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Defects, malfunctions, or failures of the warranted Product(s) caused by damage resulting from unforeseeable incidents (such as lightings, 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.