



## RFU-IO-920

920 MHz RF Wireless I/O Module, Single-Slot I/O Expansion Board

### Features

- 920 MHz Radio Frequency
- 16 RF channels
- Provides RF Baud Rates from 5 k to 250 kbps
- RF output power maximum 18 dBm
- Provides 4 Group IDs numbered from 0 ~ 3.
- Wireless line of sight (LOS) transmission range of up to 300 meters at an RF Baud Rate of 125 kbps and output power 18 dBm.
- Modbus RTU communication protocol.
- Modbus station ID: 1 ~ 32.
- One XV I/O board can be installed.
- Supports I/O pair-connection mode.
- Supports repeater mode



### Introduction

RFU-IO-920 is a 920 MHz RF wireless I/O unit that uses the Modbus communication protocol. A remote Modbus master can use a 920 MHz wireless converter, such as the RFU-920, to convert Modbus commands into 920 MHz signals to control the I/O module on the RFU-IO-920, thereby implementing a wireless I/O solution. The RFU-IO-920 can achieve a transmission distance of 300 meters at a wireless baud rate of 125 kbps in a line-of-sight environment. To address potential environmental interference, the RFU-IO-920 offers multiple wireless baud rate options, ranging from 5 k bps to 250 kbps, allowing users to make adjustments. Additionally, users can adjust the wireless channel and group ID to avoid interference between adjacent 920 MHz networks. The RFU-IO-920 supports repeater mode to overcome communication distance and dead zone issues. The RFU-IO-920 also provides I/O pair-connection mode for remote I/O control without a host. These features can be configured via rotary and dip switches, making system maintenance and equipment replacement simple and convenient.

### Applications

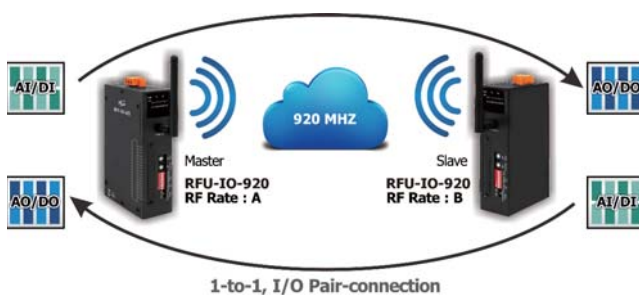
#### RF I/O Mode



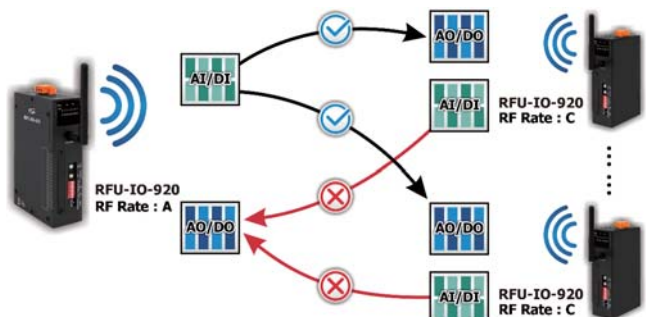
#### Repeater Mode



#### 1-to-1 Pair-connection Mode



#### 1-to-many Pair-connection Mode

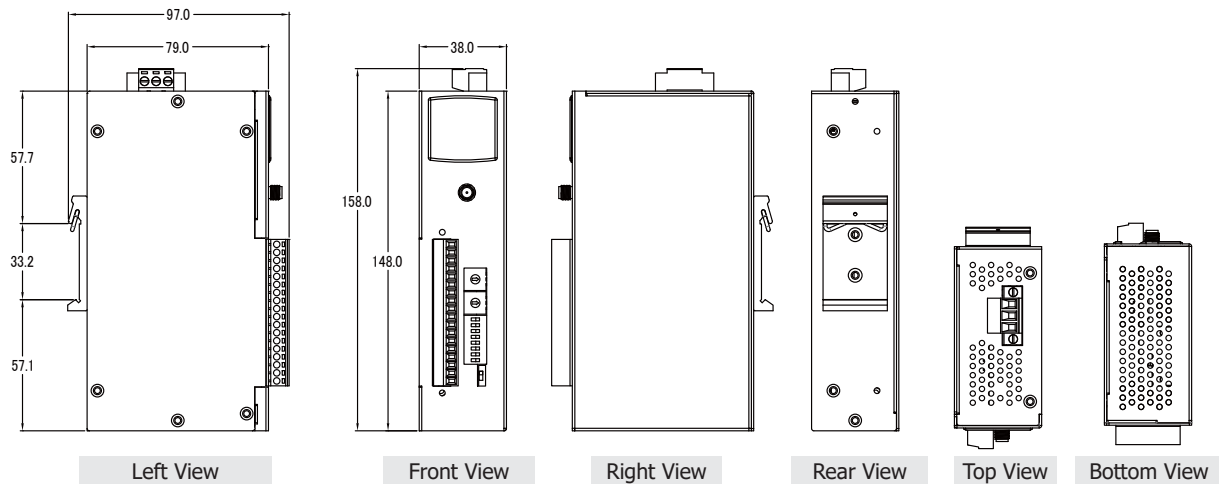


## System Specifications

Model	RFU-IO-920
<b>EMS Protection</b>	
EFT (IEC 61000-4-4)	+/- 1 kV
ESD (IEC 61000-4-2)	+/- 4 kV Contact
Surge (IEC 61000-4-5)	+/- 1 kV
<b>LED Indicators</b>	
Status	PWR * 1, Tx * 1, Rx * 1
<b>RF</b>	
Antenna	2 dBi Omni directional, RP-SMA
Baud Rate	5 k ~ 250 kbps
Channels	0 ~ 15
Group ID	0 ~ 3
Protocol	Modbus RTU
Radio Frequency	920.0000 MHz ~ 924.6875 MHz
Transmission Power	Maximum 18 dBm
Transmission Distance (LoS)	300 m (125 kbps, output power 18 dBm)
<b>Antenna</b>	
Dimensions (mm)	108 mm x 10 mm

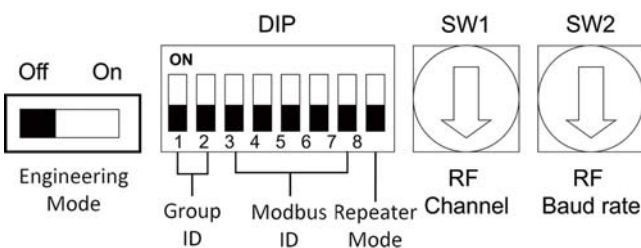
Model	RFU-IO-920
<b>I/O Expansion</b>	
I/O Type	plug-in, XV-board
Slots	1
<b>Power</b>	
Input Range	+10 VDC ~ +30 VDC
Consumption	3 W @ 24 VDC
<b>Power</b>	
Input Type	+10 ~ +30 VDC
Consumption	1.2 W @ 24 VDC (not include XV board)
<b>Mechanical</b>	
Dimensions (mm)	158 mm x 38 mm x 97 mm
Installation	DIN-Rail
<b>Environment</b>	
Operating Temperature	-25°C ~ +75°C
Storage Temperature	-30°C ~ +80°C
Humidity	10 to 90% RH (Non-condensing)

## Dimensions (Units: mm)



## Pin Assignments

CONN	Pin	Description
 +Vs GND F.G.	+Vs	Power: +10 ~ +30 V
	GND	
	F.G.	Frame Ground



## XV-board supported list

DIO Expansion	Multi-Function Expansion
XV107 (A)	XV303
XV110	XV305
XV111 (A)	XV306
XV161-SL	XV307
Relay Output Expansion	XV308
XV116	XV310
XV119	XV315
Encoder/Frequency/Counter Input	PWM Output Expansion
XV484	XV488

## Ordering Information

RFU-IO-920 CR	920 MHz RF Wireless I/O Module, Single-Slot I/O Expansion Board (RoHS)
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