



RFU-400

429 MHz RS-232/RS-485 Wireless Modem

Features

- 429 MHz Radio Frequency
- 16 RF Channels
- 4 RF Baud Rates
- Includes a PA switch that can be used to enhance the RF power
- Wireless line of sight (LOS) transmission range of up to 1000 meters at an RF Baud Rate of 9600 bps
- Transparent transmission mode
- Provides Baud Rates from 1200 to 115200 bps for both the RS-232 and RS-485 interfaces
- ESD Protection: Contact ± 4 kV
- Isolation: 3000 Vdc for DC-to-DC, 2500 Vrms using a photocoupler
- DIN-Rail Mountable
- Operating Temperatures, $-25^{\circ}\text{C} \sim +75^{\circ}\text{C}$



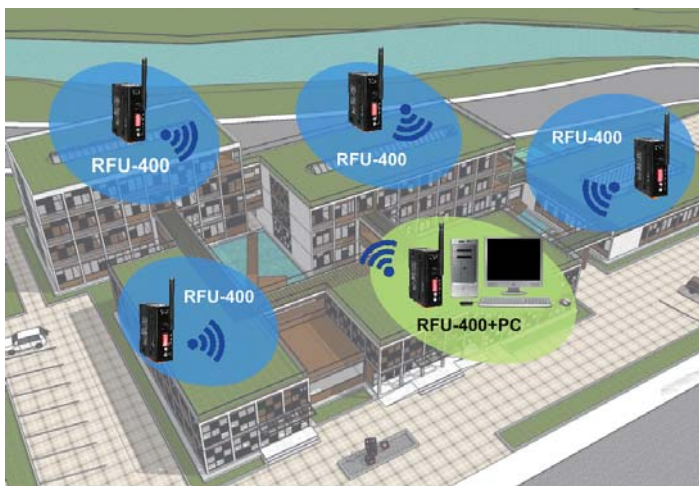
Introduction

The RFU-400 is an RS-232/RS-485 to 429 MHz radio modem that can be used to convert data from an RS-232/RS-485 device to an RF message that can then be transmitted in transparent mode via the 429 MHz ISM frequency band. The RFU-400 provides a maximum line of sight (LOS) transmission distance of 1000 meters (1 km) at an RF Baud Rate of 9600 bps. In order to overcome the interference that may be encountered in harsh environments, the RFU-400 allows the RF transmission Baud Rate to be configured to a minimum of 650 bps, enhancing the capability of the modem to resist noise and other interference. Additionally, the RF channels and Group IDs are adjustable, which is helpful when attempting to avoid interference encountered when two RFU-400 networks are adjacent. The 16 RF channels and 8 Group IDs can be configured in order to distinguish and control the different RFU-400 networks. The majority of these configuration parameters can be adjusted using a combination of the Rotary and DIP switches, thereby providing a simple method of maintaining the system if the RFU-400 modem needs to be replaced.

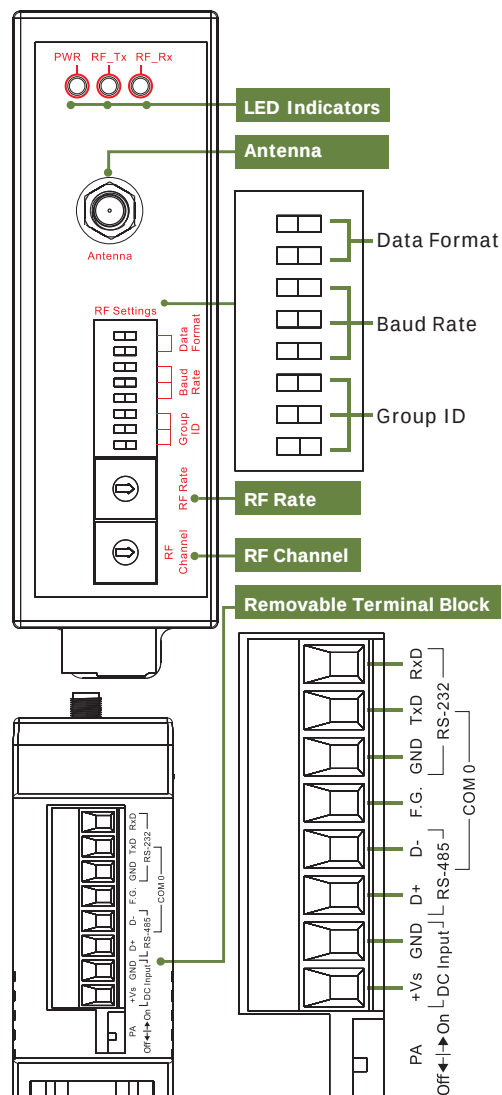
Specifications

RF Interface	
Radio Frequency	Channel 0 ~ 9 : 429.8125 MHz ~ 429.9250 MHz Channel A ~ F: 429.1750 MHz ~ 429.2375 MHz
Baud Rate	115200 bps, 38400 bps, 9600 bps, 650 bps
Transmission Power	PA Off : 10 dBm , PA On : 19 dBm
Transmission Distance (LoS)	1000 m (at 9600 bps RF Rate)
Group ID	0 ~ 7
Protocols	Transparent transmit
Temporary Buffer Size	512 Bytes
Configuration	Rotary and DIP switch
COM Port Interface	
COM Port	RS-232 $\times$ 1, RS-485 $\times$ 1
Baud Rate (bps)	1200 ~ 115200
LED Indicators	
RF_Tx / RF_Rx / PWR	Green / Yellow / Red
Isolation	
Intra-module Isolation	2500 Vrms for photocoupler (RS-485 / RS-232 side)
EMS Protection	
ESD	± 4 kV Contact
EFT	± 1 kV
Surge	± 1 kV
Power	
Input Voltage Range	+10 Vdc ~ +30 Vdc
Power Consumption	1 W (Max.)
Mechanical	
Flammability	Fire Retardant Materials
Dimensions (L x W x H)	108 mm x 84 mm x 33 mm (not include antenna)
Antenna Dimensions (L x Ø)	108 mm x 10 mm
Installation	DIN-Rail
Environment	
Operating Temperature	$-25 \sim +75^{\circ}\text{C}$
Storage Temperature	$-30 \sim +80^{\circ}\text{C}$
Relative Humidity	0 ~ 90% RH, Non-condensing

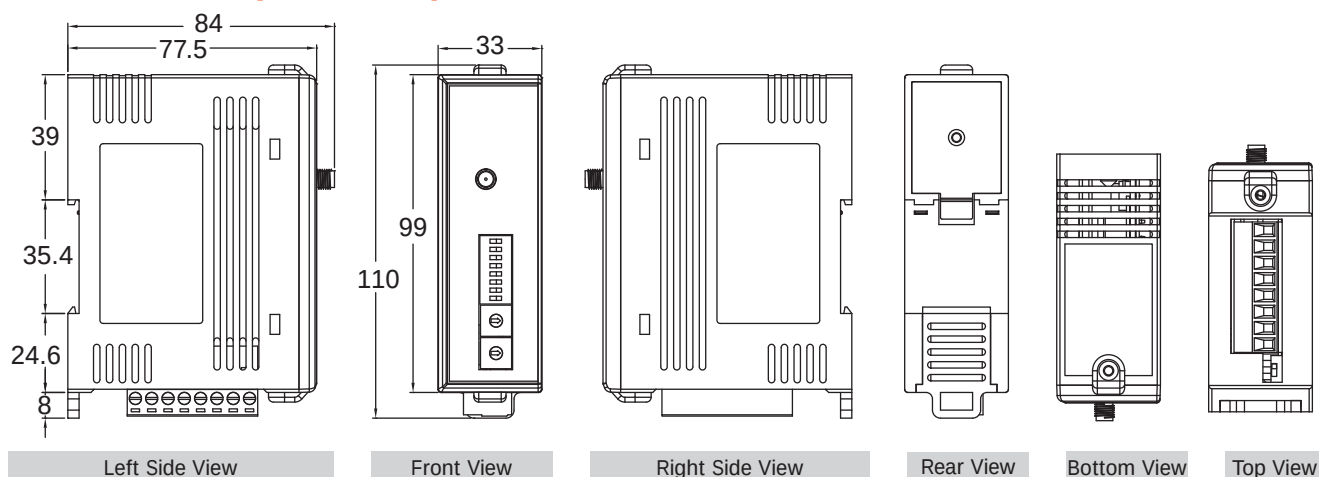
Applications



Appearance



Dimensions (Units: mm)



Ordering Information

RFU-400 CR	RS-232 / RS-485 to 429 MHz Radio Modem (RoHS)
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Accessories

ANT-104-01	0 dBi 429 MHz External Antenna
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