

RAD-ISM-900-DATA-BD RAD-ISM-900-RS232-BD

Quick Start Guide 1945A

February 2004

Features

- DIN-rail mountable
- All-in-one Master, Slave and Store-and-Forward Repeater/Slave
- GUI and DIP switch configuration
- Remote diagnostics available via second port on radios, and terminal windows in the GUI
- Dry contact LINK output as well as voltage output for quick and easy field RSSI wiring
- 1 watt transmit power
- Class I, Div. 2 approved for hazardous area installation (UL, CUL, and CSA approved)

Description

The RAD-ISM-900-RS232-BD is a radio transceiver that allows two-way communications via RS-232. The RAD-ISM-900-DATA-BD is a radio transceiver that allows two-way communications via RS-232, RS-485 and RS-422. Modbus RTU and Allen Bradley DF1 protocols are supported with assured communications in both radios, which are programmed using the RAD-LINK software. Up to 255 remote locations can be accessed by one Master transceiver. The RAD-ISM-900 transceivers can be used on the license-free 902-928MHz band and proven Frequency Hopping Spread Spectrum technology designed for use in high frequency environments.

Applications

- SCADA systems
- PC/PLC/RTU interface
- Pump controls
- Tank level/pressure/temperature monitoring
- Water/Wastewater
- Petro-chem



Figure 1. RAD-ISM-900-DATA-BD
p/n 2867131

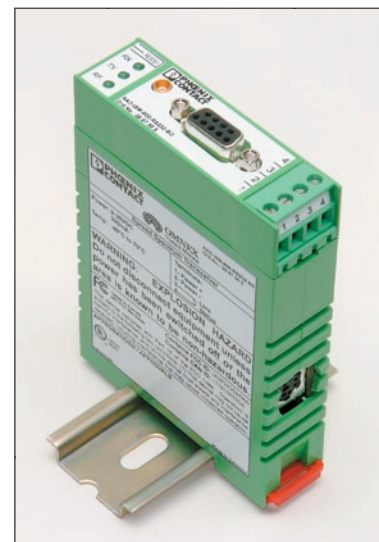


Figure 2. RAD-ISM-900-RS232-BD
p/n 2867555

Engineering Specifications

General Specifications	
Power	9 to 30 VDC required
Power Consumption	Average: 2.5 Watts Peak: 4.1 Watts
Reverse Wiring Protection	Yes
Wiring Connections (DATA-BD)	RS-232 port: DB9 female RS-485/422 port: screw-type terminals; 12-24AWG
Wiring Connections (RS232-BD)	RS-232 port: DB9 female Diagnostic port: 6-pin mini-DIN
Mounting	35mm DIN-rail mount
Dimensions (DATA-BD) (LxWxH)	3.9" x 0.88" x 4.5" (99mm x 22.5mm x 114.5mm)
Dimensions (RS232-BD) (LxWxH)	2.9" x 0.88" x 4.2" (75mm x 22.5mm x 107.5mm)
Case Material	Plastic
Weight	5.5 oz (175 grams)
Temperature Range	-40°C to 70°C (-40°F to 158°F)
Environmental Rating	NEMA 1 (equivalent to IP 30)
Approvals	Class I, Div. 2 Groups A,B,C,D; UL and CSA (pending)
LED Indicators	RF: glows solid when RF link is established TX: flashes when data is being transmitted RX: flashes when data is being received

Communication Interface	
Protocols	MODBUS RTU or AB DF1 half-duplex
Interface (DATA-BD)	RS-232 and RS-485/422 (2-wire or 4-wire half-duplex)
Interface (RS232-BD)	RS-232
Baud Rates	1,200 to 38,400 baud
Data Format	Asynchronous - 7 data, even parity or 8 data, no parity; 1 stop bit
Flow Control	RTS/CTS or non
Radio Specifications	
Range	600 to 1,000 feet (180 to 305m) in-plant (obstructed); 4 to 5 miles (6 to 8km) LOS wit Omni antenna; 20+ miles (32+km) LOS with Yagi antenna
Frequency	902 to 928MHz
Transmit Power	1 Watt
Channel Hopping	FHSS - 256 channels
Bit Error Rates	10e-6 BER at -106dBm wihtout error correction
Rx Sensitivity	<-110dBm
Unit ID	16-bit coding of each transceiver group
Antenna Connector	MCX (female)
FCC ID (USA)	IA9FHOEM900
ISC (Canada)	1338104550A

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Headquarters, U.S.

Phoenix Contact Inc.
P.O. Box 4100
Harrisburg, PA 17111-0100
Phone: (717) 944-1300
Fax: (717) 944-1625
Email: info@phoenixcon.com
Web Site: www.phoenixcon.com

Technical Support or Information

Phone: 1-800-322-3225

Headquarters, Canada

Phoenix Contact Ltd.
235 Watline Avenue
Mississauga, Ontario L4Z 1P3
Phone: (905) 890-2820
Fax: (905) 890-0180

