

2635A-RF900 2635A-RF900USB

Wireless RF Modems for Hydra Series

Technical Data



The 2635A-RF900 and 2635A-RF900USB are RF (radio frequency) modems for wireless operation of Hydra Series data acquisition instruments. They provide a wireless link between a Fluke Hydra Series unit and a computer running Hydra application software.

Wireless links are useful when data acquisition is needed in remote, inaccessible, or environmentally hostile locations. Wireless is also useful when the data being acquired is in a location that is moving, such as on an assembly line or track, or simply when wired connection to a computer is impractical or inconvenient.

There are two RF wireless modem models available:

- The 2635A-RF900 is a serial RS-232 modem, which connects to the Hydra Series or to a serial COM port on a computer.
- The 2635A-RF900USB is a USB-based modem, which connects to a USB port for use on a PC that may not have an available serial COM port.

A wireless system for the Hydra Series requires two RF modems. One is a 2635A-RF900 serial RS-232 modem that is connected to the Hydra Series unit. The other modem can be either a 2635A-RF900USB USB modem or 2635A-RF900 serial modem connected to the computer.

Features

- Up to 1500 ft (450 m) indoor range
- Secure spread spectrum frequency-hopping transmissions
- Rugged industrial case, wide operating temperature range
- Easy positioning, flexible antenna
- Low power operation

Product summary

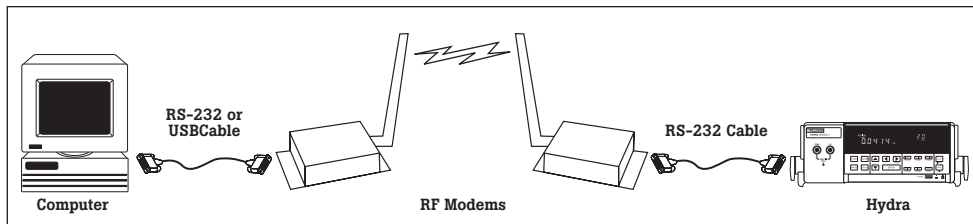
The 2635A-RF900 and 2635A-RF900USB are RF modems that provide a radio frequency link to allow a user to create a wireless Hydra Series system. Two modems form a "point-to-point" connection, which connects one Hydra Series unit to a computer wirelessly.

The wireless connection between the Hydra Series and the computer is transparent, i.e. it behaves the same as a wired

RS-232 serial cable connection. This means that no special modem software is required: the standard Hydra Logger software, as well as any other software that can communicate with the Hydra Series including custom developed programs, will work with the wireless system.

A wireless system is easy to set up with these RF modems. The factory default settings typically do not need to be changed: the 2635A-RF900 serial RS-232 modem does not need configuration in most cases, while the 2635A-RF900USB usually only needs drivers installed in the computer (drivers are included on the product CD-ROM).

The 2635A-RF900 and 2635A-RF900USB RF modems provide a wireless connection with typical range of up to 1500 feet with the included standard antennas. The range is greater in line-of-sight situations or if using high-gain antennas available from third-party sources.



The RF modems act as a “point-to-point” wireless serial cable replacement, as shown in the illustration above. A pair of modems wirelessly connects a single Hydra unit to a serial COM port on a computer.

A single point-to-point wireless system can be set up and operated without changes to the default settings of the RF modems. If multiple point-to-point wireless systems are used, changes to the modems’ settings are required to prevent interference between the systems. Configuration software to make these changes is included with the modems.

The 2635A-RF900 and 2635A-RF900USB modems use spread-spectrum technology on the unlicensed 900 MHz band. The frequency-hopping spread spectrum transmissions provide secure, reliable operation with good rejection of interference from noise or other radio frequency sources. The longer wavelength of the 900 MHz signals also tend to give better range in real-world conditions compared to the commonly used 2.4 MHz band of other wireless systems.

Note that these RF modems are for use in North America or in countries allowing unlicensed 900 MHz operation only. Many countries do not allow unlicensed 900 MHz operation: users outside of the United States must check with local regulatory agencies before operating these modems.

Specifications

	2635A-RF900 Serial Modem	2635A-RF900USB USB Modem
Performance		
Indoor/Urban range	Up to 1500 ft (450 m)	
Outdoor line-of-sight range	Up to 7 miles (11 km) w/ dipole antenna Up to 20 miles (32 km) w/ high-gain antenna	
Transmit power output	100 mW (20 dBm)	
Interface data rate	125 - 65,000 bps (software selectable)	Software selectable 1200 - 57600 bps
Throughput data rate	9,600 bps	
RF data rate	10,000 bps	
Receiver sensitivity	-110 dBm	
Power requirements		
Supply voltage	7-18 V dc	5-12 V dc external or USB bus-powered
Receive current	70 mA	90 mA
Transmit current	170 mA	185 mA
Pin sleep power-down	6 mA	50 mA
General		
Frequency	902-928 MHz	
Spread spectrum	Frequency Hopping, Wide band FM modulator	
Network topology	Peer-to-Peer, Point-to-Multipoint, Point-to-Point, Multidrop	
Channel capacity	7 hop sequences share 25 frequencies	
Data connection	DB-9	USB 1.1, 11 Mbps connection
Physical properties		
Enclosure	7.1 oz. (200g), Extruded aluminum, black anodized	
Enclosure size	2.750 in x 5.500 in x 1.125 in (6.99 cm x 13.97 in x 2.86cm)	
Operating temperature	0 to 70 °C (commercial)	
Antenna		
Type	1/2 wave dipole whip, 6.75 in (17.1 cm), 2.1 dBi gain	
Connector	Reverse-polarity SMA	Reverse-polarity SMA (RPSMA)
Impedance	50 ohms unbalanced	
Warranty	90 days	

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Ordering Information

2635A-RF900 900 MHz RF Serial RS-232 modem

Included with this model: 900 MHz RS-232 RF Modem, 1/2 wave dipole antenna, RS-232 DB-9 male to DB-9 female serial cable, ac power adapter, manufacturer’s quick start guide, CD-ROM with documentation and software, 9 V battery adapter, serial loopback connector, null modem adapter, male RS-485/422 adapter, female RS-485/422 adapter, and instruction sheet

2635A-RF900USB 900 MHz RF USB interface modem

Included with this model: 900 MHz USB RF Modem, 1/2 wave dipole antenna, USB 6 ft. cable, manufacturer’s quick start guide, CD-ROM with documentation and software, and instruction sheet