

High Speed Industrial Radio Modem

Product Overview

The Yokogawa 905U-D radio modem forms part of Yokogawa's Wireless Serial product range providing connectivity between RS232 or RS485 devices such as PLCs, intelligent transducers and dataloggers to supervisory computers such as SCADAs/HMIs.

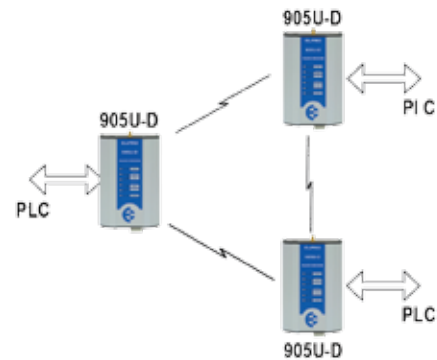
The 905U-D combines 1 watt spread spectrum wireless technology, user friendly installation/ diagnostics, repeatability, addressing options and license-free use in industrial applications.

Features and Benefits

- RS232 and RS485 connections
- Configurable data communications to 115.2 kbps
- License-free 902-928MHz FHSS with sub-band availability
- Communication modes:
 - Transparent/ simultaneous broadcast messaging
 - Addressable/ specific field device messaging
- LOS distance to 20 mi/ 32 kms (single hop): unlimited repeatability options
- Low power consumption mode with DTR control
- Hayes AT commands or Windows software configurable
- Diagnostics including- radio signal strength and BER indication
- Forward error correction communications (CRC error checking with ARQ)

Applications

- Monitoring, control and reporting for:
 - Oil /Gas field production/ distribution
 - Water /Waste water to SCADA
 - PLC - PLC - SCADA/DCS connection
 - Electrical metering/ consumption
 - Serial transducer devices to SCADA/HMI
 - Serial datalogger connectivity
- Surveillance/ monitoring of:
 - Conveyor belt header drums
 - Notification panels and sirens



PLC Network - Transparent Mode

SPECIFICATIONS

Serial Port

- Standard data rates 1200 to 115200 baud.
- RS232 and RS485 standard interface connections provided, each connected to the same serial port. Serial interfaces are asynchronous non-return-zero (NRZ) format
- Characters supported 7 or 8 data bits, even/odd/no parity, 1 or 2 stop bits
- RS232 connection provides full duplex operation as a DCE device with RTS/CTS hardware handshaking- standard D9 connector.
- RS485 connection provides half duplex operation for twisted pair multidrop networks.
- Input and output buffers 2Kbyte

Power Supply

- 10 - 30 VDC or 10 - 24 VAC supply
- Normal current drain 70mA/12VDC or 50mA/24VDC
- Current when transmitting 350mA/12V or 250mA/ 24V
- Low power mode current drain 20mA/12VDC or 15mA/24VDC

Radio Transceiver

- Frequency Hopping Spread Spectrum Transceiver
- Frequency - USA/Canada 902 - 928 MHz
- Hop Sequence - 16 x 50
- Transmit Power 1W
- RSSI -120 to -60 dBm
- Expected line-of-sight range, depending on local conditions
- USA/Canada 20+ miles
- RF Data Transmission Rate - 19200 baud, 57600 baud, 115200 baud (selectable)
- Range may be extended by: - up to five intermediate repeaters in controlled mode - unlimited repeaters in transparent mode
- Conforms to FCC Part 15 Class A and FCC Part 15.247
- Antenna connection is SMA coaxial

Configuration and Diagnostics

- Configuration by freeware software package or by Hayes AT commands. Radio noise, signal strength and bit error rate (BER) diagnostics included. Radio signal strength value available on-line to host device.

Data Transmission

- Transparent mode: Data is transmitted with a system and group address. Data transmission begins as serial data is received - maximum packet size is 530 bytes. All modules, with correct system address, which receive the data packets, outputs the data - error checking is optional.
- Controlled mode: Data is transmitted in packets with a system address, source address, destination address, up to five intermediate repeater addresses, and a 16 bit CRC error check. If the packet is received with a correct error check, only the destination module will output the data and will also return an ACK transmission. If the source module does not receive the ACK, it will retry a further four times. DCD provides communications status.
- Auto-connect and dial-up-control modes are available.
- CTS/RTS flow control provided based on input buffer availability.

General

- Environmental -40 to +140 degF (-40 to 70 degC)
- EMC Compliant FCC Part 15 Class A
- Housing, extruded aluminum case 4.5"x 7.3"x 1.2"(114 x 185 x 30mm) DIN rail mounting, removable terminal blocks for ease of module replacement, terminals suitable for 12 gauge (2.5sqmm) conductors
- LED indication for unit OK, radio TX and RX, serial TX and RX, DCD (comms OK)

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