



WMO-800S Series

High Speed Industrial Radio Modems

- Provides wireless connectivity for serial devices
- Licence-free 869MHz radio band
- Single hop distance 5 km line-of-sight
- Repeater function for longer distances
- Radio data rate up to 76,800 bits/sec
- RS232 / RS485 up to 115,200 bits/sec



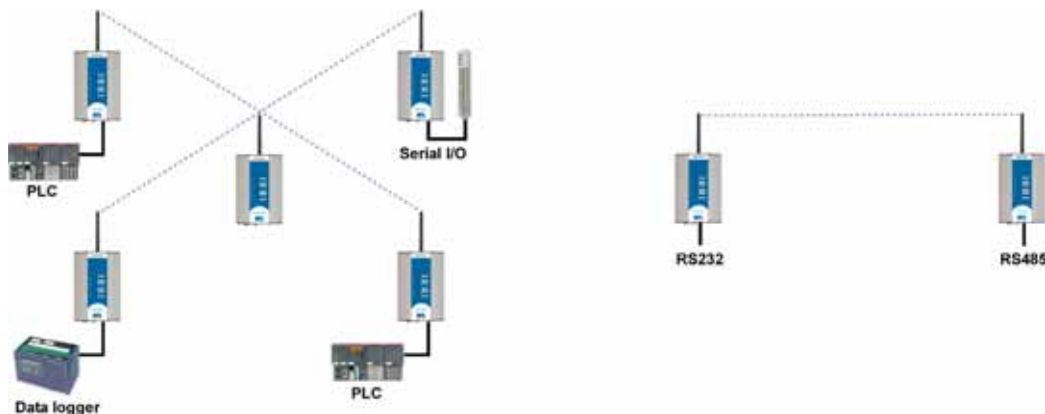
Overview

The **MTL WMO-800S radio modem** provides RS232 or RS485 connections by radio. It is a low cost wireless alternative for linking PLC's, data loggers, supervisory computers and intelligent transducers.

The **WMO-800S has been designed to be easy to use and simple to install.** It uses a low power 869MHz radio which does not require a radio licence in most European countries. The module is fully integrated with radio, power supply, serial ports and microprocessor controller housed in a strong industrial aluminium case.

Features

- Forward error correction, CRC error checking with ARQ
- Turn-around time 5 msec
- Radio signal strength and BER indication
- Transparent broadcast mode, peer to peer
- Configurable on-line by Hayes AT commands or Windows configuration software
- Addressed mode, multipoint and point-to-point
- Low power mode with DTR control
- On-line "dial-up" control using AT commands
- Repeater functionality in all units
- Repeater routing via address selection
- Security against cross-talk between systems



SPECIFICATION

RADIO TRANSCEIVER

Single channel, synthesised transceiver

Frequency

869.4 - 869.65MHz, 250kHz channel

Transmit Power

500mW

RSSI

-60 to -120dBm

Expected line-of-sight range

5km at 19200 bits/sec

Range may be extended by:-

- up to five intermediate repeaters for controlled mode

- unlimited repeaters for transparent mode

RF Data Transmission Rate

19200 baud, 38400 baud, 76800 baud

Conforms to EN 300 220

Antenna connection

SMA coaxial

SERIAL PORT

Data rates

1200 to 115200 baud

RS232 and RS485 standard interface connections provided, each connected to the same serial port

Format

Asynchronous, non-return-zero (NRZ)

Characters supported

7 or 8 data bits, even/odd/no parity, 1 or 2 stop bits

RS232 connection

Full duplex operation as a DCE device with RTS/CTS hardware handshaking- standard D9 connector.

RS485 connection

Half duplex operation for twisted-pair multidrop networks.

Input and output buffers

2kbyte

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.

Flow control

CTS/RTS provided based on input buffer availability.

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.

POWER SUPPLY

Input

10 - 30V DC or 10 - 24V AC

Normal current drain

70mA @ 12V DC or 50mA @ 24V DC

Current (when transmitting)

350mA @ 12V or 250mA @ 24V DC

Low power mode current drain

20mA @ 12V DC or 15mA @ 24V DC

GENERAL

Environmental

Temperature: -40 to +60°C

Humidity: 0 – 99% RH non-condensing

EMC compliance

To ETS 300 683

Housing

Powder-coated, extruded aluminium

Dimensions

114 x 185 x 30mm

Mounting

'T' section 35mm DIN rail to EN 50022

Terminals

Pluggable terminal block with up to 12AWG (2.5mm²) capacity

LED indication

Unit OK, radio TX and RX, serial TX and RX, DCD (comms OK).

ORDERING INFORMATION

WMO-869S EU 869.525 MHz serial modem, 500mW

WMO-869S-L EU 869.875 MHz serial modem, 5mW

The given data is only intended as a product description and should not be regarded as a legal warranty of properties or guarantee. In the interest of further technical developments, we reserve the right to make design changes.



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