

Elpro 805U

High Speed Industrial Radio Modem

the wireless

highspeed

industrial radio modem



The ELPRO 805U 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 805U has been designed to be easy to use and simple to install. It uses a low power 868MHz 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

- Radio data rate up to 76 800 bits/sec
- RS232 / RS485 up to 115 200 bits/sec
- Licence-free 868MHz radio band
- Single hop distance 5 km line-of-sight
- Repeater function for longer distances, unlimited repeater hops
- Forward error correction, CRC error checking with ARQ
- Turn-around time 5 msec
- Radio signal strength and BER indication
- Configurable on-line by Hayes AT commands or Windows configuration software
- Transparent broadcast mode, peer to peer
- 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



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Elpro 805U Specifications

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

General

- Environmental -40 to 60 degC, 0 to 99 %RH
- EMC Compliant ETS 300 683
- Housing, extruded aluminium case 114 x 185 x 30 mm DIN rail mounting, removable terminal blocks for ease of module replacement, terminals suitable for 2.5sqmm conductors.
- LED indication for unit OK, radio TX and RX, serial TX and RX, DCD (comms OK).

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

Radio Transceiver

- Single channel, synthesised transceiver
- Frequency 869.4 - 869.65 MHz, 250KHz channel
- Transmit Power 500mW
- RSSI -60 to -120 dBm
- Expected line-of-sight range, 5 km at 19200 bits/sec
- RF Data Transmission Rate - 19200 baud, 38400 baud, 76800 baud
- Range may be extended by:-
 - up to five intermediate repeaters for controlled mode
 - unlimited repeaters for transparent mode
- Conforms to EN 300 220
- Antenna connection is SMA coaxial

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.

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.

Elpro Technologies
9/12 Billabong Street Stafford Qld 4053 Australia

Telephone: +61 7 3352 4533

Facsimile: +61 7 3352 4577

email: sales@elpro.com.au

Internet: www.elpro.com.au

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