

ELPRO Technologies

CONNECTIVITY/CELL

ELPRO EL-245U-E-G1 **WIRELESS ETHERNET MODEM**

802.11b/g 2.4Ghz wireless Ethernet, for reliable long distance connectivity

DESCRIPTION

The ELPRO 245U-E-G1 wireless Ethernet modem is a robust, inexpensive, license free wireless 802.11 standards-compliant transceiver capable of high-bandwidth communications. Operating at 2.4 GHz and up to 630 mW, the ELPRO 245U-E-G1 is optimized for data rates of up to 108 Mbps, providing robust long-distance and secure two-way wireless communications in challenging environments typical of industrial monitoring and control applications.

Capable of operating in access point/client configuration, functioning as a network bridge/router, or serving as a serial server (RS-232/RS-485), the ELPRO 245U-E-G1 offers node-to-node deterministic mesh network repeatability for greater range and multiple channel spacing options to increase network scalability. Integrated Modbus® server capability allows seamless I/O expansion through the use of ELPRO 115S expansion modules or third-party modbus devices.

The ELPRO 245U-E-G1 is a cost-effective and robust solution to enable your devices for the Internet of Things (IoT) and Industrie 4.0. With an easy to access 802.11 wireless network, the 245U-E-G1 allows your devices to communicate through the industry-standard 2.4GHz frequency band used by most devices. The 245U-E is a cost-effective and robust Ethernet modem, with industry-leading transmit power and industrial ratings.

APPLICATIONS

- Factory automation and safety interlocks
- Networking wind turbines and solar collectors
- Video surveillance
- Automated vehicle control
- Tank farm monitoring

FEATURES

- 2.412–2.472 GHz frequency (802.11b/g) and 15–630 mW RF power
- Up to 108-Mbps data throughput
- 13-channel (802.11b/g) options
- Single antenna connection for easy installation
- Access point/client and bridge/router configuration
- Serial client/server/multicast Modbus® TCP to RTU gateway
- 10/100baseT IEEE 802.3 Ethernet
- Spanning tree (self-healing) support
- Deterministic AP-to-AP mesh network repeatability
- Fast roaming for AP-to-AP handover
- IEEE 802.11i secure 128-bit AES encryption (WPA2)
- MAC and IP address filtering
- Digital I/O channel transfer
- Configurable settings for high-noise environments
- Over-the-air network diagnostics and configuration
- VLAN tagging support for bridging and routing modes

SPECIFICATIONS

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ELPRO EL-245U-E-G1
WIRELESS ETHERNET MODEM

Transmitter and receiver	
Frequency	2.412–2.472 GHz [a]
Transmit power	15–400 mW (data rate and country-specific)
Transmission	Direct Sequence Spread Spectrum (DSSS) [a]
Modulation	Orthogonal frequency data modulation (OFDM) [a]
Receiver sensitivity	–100 dBm@250kbps, -74 dBm@108 Mbps (8% FER) [a]
Channel spacing	5-MHz spacing (13 channels, 2.412–2.472 GHz) [a]
Typical data rate	250 kbps –108 Mbps [a] "Auto Mode" selects fastest rate possible relative to RSSI
Typical range (LoS)	9 miles (15 km) [b]
Antenna connector	1 x female SMA, standard polarity
Input and Output	
Discrete I/O	Input voltage-free contact [c], output FET 30 Vdc 500 mA [c]
Ethernet Port	
Ethernet port	100baseT, RJ-45 connector–IEEE 802.3
Link activity	Link, 100baseT via LED
Serial Port	
RS-232	DB-9 female DCE, RTS/CTS/DTR/DCD
RS-485	2-pin terminal block, non-isolated [d]
Data Rate (bps)	1200, 2400, 4800, 9600, 14400, 19200, 38400, 57600, 76800, 115200, 230400 baud
Serial Settings	7/8 data bits, stop/start/parity (configurable)
Protocols and configuration	
System address	ESSID; 1 to 31-character text string
Supported protocols	TCP/IP, UDP, ARP, SNMP, RADIUS/802.1x, DHCP, DNS, PPP, ICMP, HTTP, FTP, TFTP, TELNET, MODBUS and MODBUS-TCP
User configuration	User configurable parameters via HTTPS embedded Web server
Configurable parameters	Access point/client/bridge/router/VLAN Point to point, point to multipoint Wireless distribution system (AP–AP repeater) Modbus TCP/RTU gateway Serial client/server/multicast Simultaneous RS-232/RS-485 connection Embedded Modbus master/slave for I/O transfer
Security	Data encryption, 802.11i with CCMP 128-bit AES Support for 802.1x Radius server Secure HTTP protocol
Bandwidth Protection	MAC address; whitelist/blacklist IP filtering; whitelist/blacklist ARP/GARP filtering; whitelist/blacklist
LED Indication and Diagnostics	
LED indication	Power/OK, RX, TX/link, RS-232, LAN, RS-485, digital/O status Refer to product manual for further information
Reported diagnostics	RSSI measurements, connectivity information/ statistics, log file
Network management	Optional network management system

Compliance	
EMC	FCC Part 15; EN 301 489–17; AS/NZS CISPR22
RF (Radio)	EN 301 893; FCC Part 15; RSS 210
Hazardous area	CSA Class I, Division 2; ATEX; IECEx nA IIC
Safety	IEC 60950 (RoHS compliant)
UL	UL listed
Power supply	
Nominal supply	9-30 Vdc, undervoltage/overvoltage protection
Average current draw	270 mA @ 12V (idle); 140 mA @ 24V (idle)
Transmit current draw	470 mA @ 12V (400 mW), 250 mA @ 24V (400 mW)
General	
Size (H x W x D)	4.5" x 5.5" x 1.2" (114 x 140 x 30 mm)
Housing	Powder-coated aluminum
Terminal blocks	Removable, max conductor 14 AWG 0.1"² (2.5mm²)
Mounting	DIN rail
Temperature rating	-40 to +140°F (-40 to +60°C)
Humidity rating	0-90% RH non condensing
Weight	1.0 lb (0.45 kg)

Note: Specifications subject to change

[a] Frequency range dependent on country model.

[b] Typical maximum line of sight range

[c] Can be used to transfer I/O status or communications failure output

[d] Maximum distance: 3937' (1200m)

Order Codes	
EL-245-E-G1	Ethernet Modem: 2.4GHz, 802.11a, 630mW, DSSS, 108Mbps

CONTACT

Australia
ELPRO Technologies
29 Lathe Street
Virginia QLD 4014
T +61 7 3352 8600
E sales@elprotech.com
W elprotech.com

USA
ELPRO Technologies Inc
2028 East Ben White Boulevard
#240-5656 Austin, TX 78741-6931
T +1 855 443 5776
E sales@elprotech.com
W elprotech.com

HOW TO ORDER

Simply send us an email at **sales@elprotech.com**, contact your local distributor, or phone **+61 7 3352 8600**

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