![ELPRO Technologies logo]

615M-1 Multi-Service Provider Cellular Modem and Router

Wide-area Ethernet/serial connectivity solution

Features

- Multiple service provider protocols: GPRS/EDGE, UMTS/HSPA, EVDO Rev0/A, 1xRTT
- Receive antenna diversity
- Client and router configuration
- TCP/IP packet assembler/dis-assembler for serial devices
- Internal PPTP VPN server and client
- IPsec, GRE tunneling, PPTP, VPN, RADIUS/802.1x
- Built-in DHCP server and port forwarding
- MAC and IP address filtering
- ARP/GARP filtering (whitelist/blacklist)
- Dual 10/100baseT IEEE 802.3 Ethernet
- RS-232 serial port
- Analog I/O and digital I/O
- Over-the-air network diagnostics and configuration
- Auto-redial for always-on connection
- USB configuration and firmware programming

Description

The ELPRO 615M-1 is a powerful multi-service provider cellular broadband router that delivers wireless data connectivity for up to two LAN connections and one serial port through public cellular networks at 3G network speeds.

UMTS technology leverages high-speed HSPA to provide data access at speeds up to 14.4 Mbps with backward compatibility to GSM's EDGE and GPRS. CDMA technology leverages high-speed EV-DO Rev A to provide data access at speeds up to 3.1 Mbps with backward compatibility to EV-DO Rev 0 and CDMA 1 x RTT.

The ELPRO 615M-1 provides real-time redundancy between carriers in event of a network failure, reliable connectivity for programmable logic controllers (PLCs), remote terminal units (RTUs), Ethernet Web cameras or any other Ethernet connectivity device. It features an integrated DHCP server, and port forwarding and port mapping capabilities.

Applications

- Networking wind turbines and solar collectors
- Electricity network control
- Tank farm monitoring
- Water distribution network
- Environmental monitoring

Specifications

SPECIFICATION	DESCRIPTION
Transmitter and Receiver	
Frequency	Quad-band 850/900/1900/2100 MHz/AWS ① ②
	Quad-band 850/900/1800/1900 MHz ③ ④
	800 MHz cellular/1900 MHz PCS/2100 MHz ⑤
	800 MHz cellular/1900 MHz PCS/2100 MHz ⑥
	800 MHz cellular/1900 MHz PCS ⑦
Transmit power (max)	250 mW ① ②, 2W ③ ④, 250 mW ⑤ ⑥ ⑦
Transmission	UMTS, HSPA, EDGE, GPRS, EVDO Rev A (IS-856-A), EV-DO Rev 0 (IS-856), 1xRTT (IS-2000)
Modulation	UMTS, HSPA, EDGE, GPRS, EVDO Rev A (IS-856-A), EV-DO Rev 0 (IS-856), 1xRTT (IS-2000)
Receiver sensitivity	−109 dBm ①, −109 dBm ②, −105 dBm ③ ④, −107 dBm ⑤ ⑥ ⑦
Channel spacing	5 MHz ① ②, 10 MHz ②, 1.25 MHz ⑤ ⑥ ⑦
Data rate	Downlink up to 384 kbps, uplink up to 384 kbps ①
	Downlink up to 14.4 Mbps, uplink up to 5.76 Mbps ②
	Downlink up to 236 kbps, uplink up to 236 kbps ③
	Downlink up to 115 kbps, uplink up to 115 kbps ④
	Downlink up to 3.1 Mbps, uplink up to 1.8 Mbps ⑤
	Downlink up to 2.4 Mbps, uplink up to 153.6 kbps ⑥
	Downlink up to 153.6 kbps, uplink up to 153.6 kbps ⑦
Range (LoS)	Cellular depends on service provider
Antenna connector	2 x female SMA standard polarity ① ② ③ ④ ⑤ ⑥ ⑦

Specifications (continued)

SPECIFICATION	DESCRIPTION
Input and Output	
Discrete input	2.3 Vdc (on), 0.7 Vdc (off), 5.5 Vdc max ⑧
Discrete output	NPN transistor close to digital ground, pull down 100 ohm ⑧
Relay outputs	Max voltage 30 Vdc, max current 1A ⑧
Analog inputs	Voltage input range 0–30 Vdc, accuracy +/–0.2 Vdc ⑧
Ethernet Port	
Ethernet port	10/100BaseT, RJ-45 connector, 2 x IEEE 802.3 (auto MDIX)
Link activity	Activity LED
Serial Port	
RS-232	DB-9 female DCE
Data rate (Bps)	1200, 2400, 4800, 9600, 14400, 19200, 38400, 57600, 76800, 115200
Serial settings	8 data bits, no stop/1 start/parity (configurable)
Protocols and Configuration	
Protocols supported	TCP/IP, UDP, ARP, ICMP, FTP, TFTP, TELNET, PING, GPS-NMEA (optional), DHCP, MAC filtering (whitelist), IP filtering (blacklist), DMZ, dynamic DNS, port forwarding, SNMP, HTTP embedded Web server, IPsec, GRE tunneling, PPTP, VPN, RADIUS/802.1x
User configuration	Configuration and firmware upgrades via HTTP/OTA (over the air)
Configurable parameters	Client/router, serial client server. Simultaneous RS-232 connection
Security	VPN, SIM card PIN, RADIUS, IPsec
Bandwidth protection	MAC address, whitelist/blacklist. IP filtering, whitelist/blacklist
Network management	SNMP V2c, V3
LED Indication and Diagnostics	
LED indication	RSSI, SVC, NET, GPS, AUX. Refer to the product manual for further information
Reported diagnostics	Diagnostics available through Web pages
Power Supply	
Nominal supply	9–28 Vdc, under/over voltage protection and reverse polarity. Molex 43025-0400 4-pin locking connector
Average current draw	130 mA @ 13.8 Vdc (idle)
Transmit current draw	350 mA @ 13.8 Vdc
Compliance	
EMC	FCC Part 15; Industry Canada; CE; A-Tick
RF (radio)	EN 300 328; FCC Part 15
Hazardous area	Class I, Division 2; UL; cUL
Safety	IEC 60950-1
UL	UL Listed
Environmental	MIL-STD-810F
Approvals	PTCRB, carrier specific approvals
General	
Size	4.3" x 6" x 1.8" (109 mm x 153 mm x 45 mm)
Housing	Powder-coated aluminum
Mounting	DIN rail, panel mount (optional)
Terminal blocks	I/O: removable terminal block, screwless push in wire, 18–28 AWG
Temperature rating	–22 to +158°F (–30 to +70°C)
Humidity rating	55–95% RH noncondensing
Weight	2.5 lb (1.13 kg)

Note: Specifications are subject to change.

① UMTS	④ GPRS	⑦ 1xRTT (IS-2000)
② HSPA	⑤ EV-DO Rev A (IS-856-A)	⑧ Access via SNMP only
③ EDGE	⑥ EV-DO Rev 0 (IS-856)	

Accessories

PRODUCT CODE	DESCRIPTION
Antennas - Cellular	
WHGSM-3	Cellular antenna, 5" (130 mm), SMA male, magnetic base mount, 2 dBi gain
CSNEXTG-GSM3G-2	Cellular antenna, SMA male, 1.8/2.0/3.5 dBi gain
SGNEXTG-GSM-6	Cellular antenna, N-type female, 3/6.2 dBi gain
Cables	
CC3/10-SMA	Coaxial cable kit, 9.8' (3m)/32' (10m), N-type to SMA
CCTAIL-SMA-F/M	Coaxial cable tail, 24" (600 mm), SMA to N-type female or male
SER-RJ45	Configuration cable, RS-232 serial, DB-9 female to RJ-45
SER-DB9NULL	RS-232 serial, null modem
ETH-C5X	Ethernet cable, 6' (1.8m), crossover, RJ-45 to RJ-45
ETH-C5A	Ethernet cable, 6' (1.8m), straight through, RJ-45 to RJ-45
Surge Diverters	
CSD-SMA-2500	SMA surge diverter for use with CC10, CC20-SMA
CSD-N-6000	Coaxial surge diverter, bulkhead N female to N female
IOP32D	Signal surge diverter, 2 x 2-wire/1 x 4-wire
Power Supplies	
PS-WW-XP	100 Vac input power supply
PS-DINAC-12DC-OK	DIN rail power supply, 100–250 Vac, 12 Vdc/2.5A
PSG60E	DIN rail power supply, 85–264 Vac, 24 Vdc/2.5A
Mounting Brackets	
BR-615-PLATE	Panel mounting plate kit for 615M-xx series

Ordering

PRODUCT CODE	DESCRIPTION	FREQUENCY	RF POWER
615M-1	Cellular modem and router. Supplied with BR-615-DINCLIP	Quad-band	Up to 2W

Note: Available RF power and frequency may vary depending on country of application.

ELPRO Technologies

9/12 Billabong Street
Stafford Queensland 4053 Australia

Telephone:
Global: +61 7 3352 8600
USA: +1 855 443 5776

sales@elpro.com.au
www.elpro.com.au