



CONNECTIVITY/CELL

ELPRO EL-641M-X 4G-LTE IOT ROUTER

Industrial 4G-LTE Wireless Modems & Routers, Industrial IOT Connectivity

DESCRIPTION

The ELPRO 641M modems are targeted at enabling your devices to access the Internet of Things (IoT) and Industry 4.0.

Secure connectivity of your devices has never been so important in today's industrial world. With the 641M-4 cellular modem, there is a secure, fast, reliable, and simple way to IIoT enable devices for remote monitor and control of industrial plant/equipment and environmental applications

Using the 4G /LTE broadband cellular technology including 4GX, the 641M-4 ensures fast, reliable, and consistent connectivity with mission critical field devices and assets.

For Internet of Things or Industry 4.0 applications the 641M-4 offers a cost-effective full featured industrial grade router for WAN connectivity.

Additionally, the 641M-4 can provide a gateway from Modbus to MQTT or MQTT with SparkplugB to suit a range of SCADA applications.

Supporting a wide range of interfaces including, Ethernet, RS232, RS485 and discrete inputs/outputs, the 641M-4 is a flexible and reliable connectivity solution for remote access to IIOT/Industry 4.0 devices.

APPLICATIONS

- **Water/Waste Water** municipal applications
- **Oil & Gas and Mining** connectivity
- **Factory Automation** embedding in machines
- **Traffic control systems**
- **Extending SCADA** networks in water and oil and gas systems
- **Alternative energy systems**, such as Wind Turbines or Solar Arrays

FEATURES

- Cellular 3G/4G/LTE CAT4 router, including Band 28 support
- IEEE 802.11b/g/n, Access Point (AP), Client, 2*2 MIMO 300Mbps (641M-4 only)
- Compact industrial metal enclosure with DIN rail mounting for easy integration into machines or electrical cabinets
- Ethernet Ports - 10/100M LAN / WAN (4x 641M-4, 2x 641M-2)
- 2 digital Inputs and 2 digital outputs
- Dual SIM card support
- IPSec & OpenVPN Client & Server, L2TP, PPTP, GRE, Port Forward, DMZ
- NMEA 0183 GPS Reporting (641M-4 only)
- Modbus RTU, TCP, MQTT and SparkplugB support
- MQTT/SparkplugB backfill for up to 100000 historical tags for Devices & Nodes
- MQTT Broker & Bridge Functionality
- Internal RS232/RS485 serial server
- Very wide power supply range supporting 9 to 48Vdc input
- SMS to read or control inputs/outputs, router status/alarm/state
- LAN Fallback for redundant networks
- Enhanced security for both cyber and data transmission
- Antenna diversity for Cellular bands

MODELS

The two models available are below.

- **641M-4**
- **641M-2**

The difference is the 641M-2 has only two Ethernet ports and no WiFi or GPS Support. Please contact your Local sales partner for price differences.

SPECIFICATIONS

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ELPRO EL-641M-X WIRELESS I/O GATEWAY

Communications

Frequency	4G LTE Global	
LTE-FDD	B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/ B19/B20/B25/B26/B28	
LTE-TDD	B38/B39/B40/B41	
WCDMA	B1/B2/B4/B5/B6/B8/B19	
GSM/EDGE	B2/B3/B5/B8	
WiFi (641M-4 only)	802.11b/g/n: 300Mbps, RF Power; 20dBm 100mW, Access Point / Client / WDS	
Data Rate	Model -C1,3,4,5 4 W (+36 dBm) 2.5 W (+34 dBm) 10 W (+40 dBm)	Model C9 2.5 W (+34 dBm) 1.6 W (+32 dBm) 6.3 W (+38 dBm)
Modulation	LTE Cat4: Max 150Mbps DL/50Mbps UL	
GPS (641M-4 only)	NMEA-0183	
SIM	2 x SIM slots (Standard size) Auto-switch: data, no network, connect fail	

Protocols & Configuration

User Configuration	Web Page
Configurable Parameters	Network connection, tunnelling protocol, security, gateway protocols, LAN configuration
Network / Protocols	TCP, UDP, IPv4, ICMP, NTP, DNS, HTTP, HTTPS, ARP, PPP, PPPoE, DHCP, IP Passthrough, VRRP
Industrial Protocols	Modbus RTU/TCP, Enhanced MQTT SparkplugB
Firewall	Flexible access control of TCP, UDP, ICMP packets, MAC address filter
VPN	OpenVPN: client/server up to 5 connections GRE: Layer2/3, up to 5 GRE tunnels IPsec: IKEv1, IKEv2, up to 5 IPsec tunnels
Remote Management	HTTP/HTTPS, Firmware Upgrade, SSHv2 and TELNET Central Management Platform
Application	Additional applications available (max of 5): DNP3, Email notification, AT command, IEC101/104, dynamic routing and many more
SMS	SMS Configuration, SMS Gateway, SMS Notification on input/outputs or events

Interfaces & I/O

Ethernet (641M-4)	1 x WAN, 3 x LAN or 4 x LAN, Auto 10/100Mbps
Ethernet (641M-2)	1 x WAN, 1 x LAN or 2 x LAN, Auto 10/100Mbps
Cellular Antenna	2 x SMA Female Diversity switched Main / AUX
GPS Antenna (641M-4)	1 x SMA Female
Wi-Fi Antenna (641M-4)	2 x SMA male (req adaptor to use std Elpro Antennas)
Terminals IO/RS232/RS485	Pluggable, push connect terminals Up to 1.5 mm ² (28 - 16 AWG) 300V / 8A
Terminals Supply	Pluggable, push connect terminals Up to 1.5 mm ² (28 - 16 AWG) 300V / 8A
RS-232	2 wire interface (Tx and Rx) Terminal block
RS-485	2 wire data interface (A and B) Terminal block
Discrete input/Outputs	IP 2 digital inputs, 2 digital outputs Max voltage 36Vdc, Max current 100mA Isolation 3kVdc or 2kVrms
LEDs	SYS, NET, USR and RSSI (3)

Power supply

Nominal supply	9-48 Vdc, under/over voltage protection
Average current draw	100 mA at 12Vdc
Transmit current draw	400 mA peak at 12Vdc
Power Connection	Terminal Block

General

Size (H x W x D)	106 x 106 x 40 mm (4.2" x 4.2" x 1.6")
Housing	Sheetmetal powder-coated, IP30
Mounting	DIN rail
Temperature rating	-40 to +75°C (-40 to +158°F)
Humidity rating	0-90% RH noncondensing
Weight	370g (0.8lb)
Altitude	0-3000m (0-10000ft)
Polution Degree	4

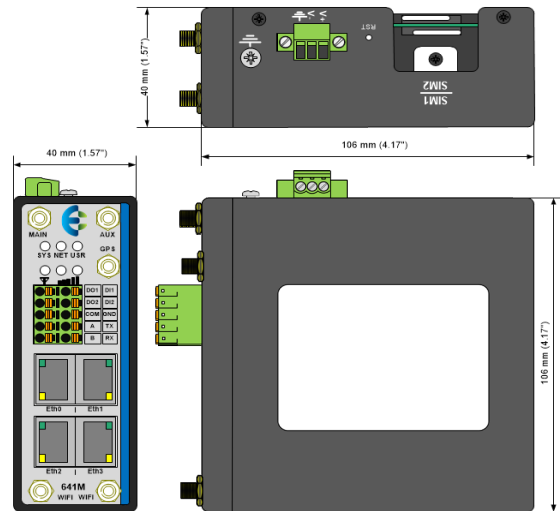
Compliance

Regulatory	Australia: RCM, Europe: CE, USA: FCC, Canada: IC
Safety	EN/IEC 62368 (RoHS compliant)
Certified	Verizon
Specifications subject to change	

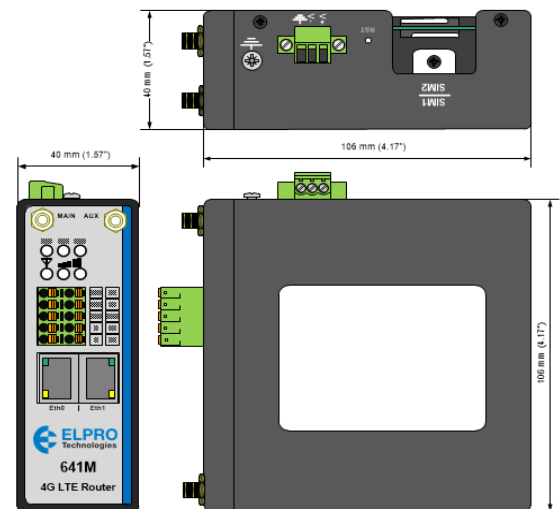
Order Codes

EL-641M-2	4G/LTE Ethernet/Serial Cellular modem, 2 x Eth, I/O,
EL-641M-4	4G/LTE Ethernet/Serial Cellular modem, 4 x Eth, I/O, Wifi

641M-4



641M-2



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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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