



EG5120 **robustOS Pro**

Industrial Edge Computing Gateway

2 x Ethernet ports + 2 x RS232/RS485 + 2 x DI/DO
Wi-Fi, Bluetooth & GPS/GNSS (Optional)



INTRODUCTION

Robustel's EG5120 series is a new generation of industrial edge computing gateways, supporting global 5G/4G/3G/2G networks for cellular backhaul, with a fully-fledged Debian Operating System able to support thousands of existing or new ARMv7 (RPI compatible) based applications.

For many years, customers have used Robustel Gateways as a combination of cellular router + embedded PC and the EG5120 series takes the compute power to the next level with a 1.5GHz Cortex A53 CPU.

EG5120 supports Docker for easy deployment of applications and benefits from '**RobustOS Pro**' – Robustel's latest router OS with enhanced cybersecurity, advanced GUI and a myriad of software features including VPNs, Smart Roaming, SMS remote control and more.

RCMS is Robustel's free router monitoring service that is fully compatible with the EG5120. It allows customers to see a location overview of their routers quickly and simply on a map plus features such as data usage, signal strength, current network and much more can then be viewed on a per router/gateway basis. Over-the-air updates are supported for Firmware, router configuration and Apps serving as essential "insurance" if anything was not quite right during deployment.

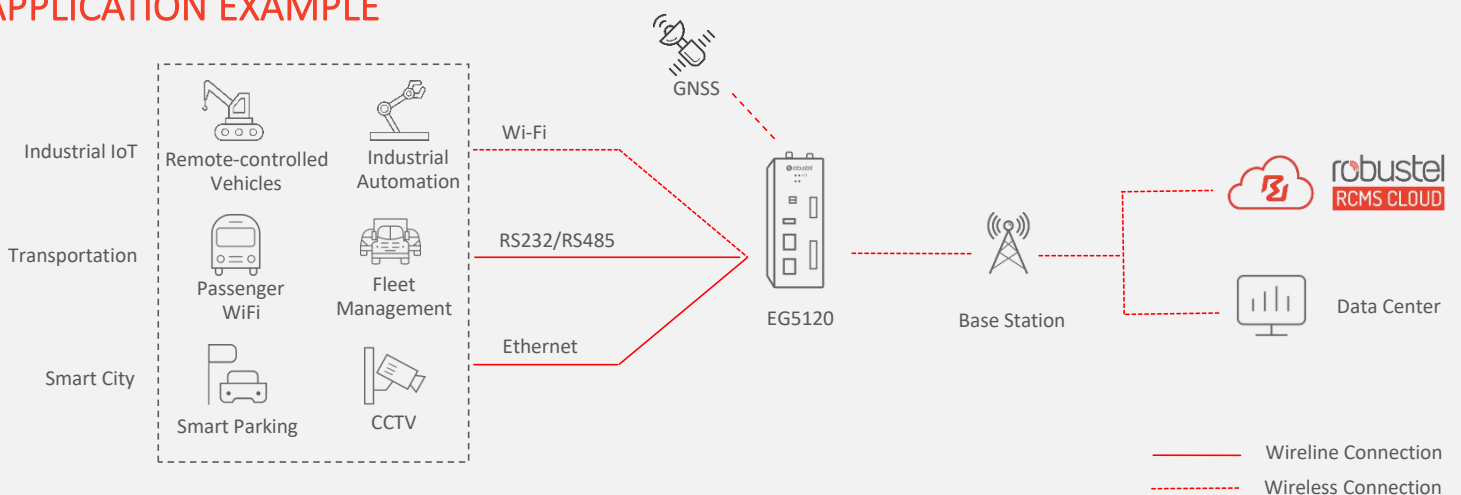
You can try Robustel's free router management platform by signing up here: <https://rcms-cloud.robustel.net>



KEY FEATURES

- Highly stable 5G/4G/3G/2G cellular connectivity with global band coverage
- High performance compute engine with 1.5 GHz CPU + 16 GB eMMC Flash for running complex applications
- 'Docker' containerisation supported
- Cutting-edge (Release 16) 5G interface
- 802.11ac Wi-Fi (optional) supporting AP and Client modes
- Bluetooth (optional), Bluetooth 5.3 compliant
- 2 x RS232/RS485 (software configurable) ports for connection to industrial/legacy devices
- 2 x DI & 2 x DO for simple monitoring and control
- Dual SIM card slots for redundant communications
- Wide Operating Temperature range for industrial applications
- Full Modbus TCP and Modbus RTU support including MQTT transfer to mainstream cloud platforms
- Supports C, C++, Java, Python, Node.js etc. for users to develop their own applications
- More than 50,000 applications from Debian repository currently available
- Wireguard/IPsec/OpenVPN/GRE/L2TP/PPTP/DMVPN + more VPN options
- Supports RCMS – Robustel's router/gateway management platform for effective management of large estates of devices

APPLICATION EXAMPLE



— Wireline Connection
- - - Wireless Connection

SPECIFICATIONS

Hardware System				Ethernet Interface	
CPU	Quad core Cortex-A53, 1.6 GHz Cortex-A7			Number of ports	2 x 10/100/1000 Mbps, LAN or WAN
RAM	2 GB DDR4			Magnet isolation protection	1 KV
Flash	16 GB eMMC			Others	
Cellular Interface				SD	1 x Micro SD
Version	4G 5G			Reset button	1 x RST
Number of antennas	2 4			USB	1 x USB 3.0 (host), Type A, 5V 900mA
Connector	SMA-K			LED indicators	1 x RUN, 1 x MDM, 1 x USR, 1 x Signal
SIM	2 x Mini SIM (2FF)			Watchdog	External
GNSS Interface (Optional)				Software (Basic features of RobustOS Pro)	
Version	4G 5G			Network protocols	PPP, PPPoE, TCP, UDP, DHCP, ICMP, NAT, HTTP, DNS, NTP, SMTP, Telnet, VLAN, HTTPS, DNS, ARP, NTP, SMTP, Telnet, VLAN, SSH2, DDNS, etc.
Number of antennas	1 Optional, requires a 4-in-1 Combo Antenna			VPN tunnel	IPsec, OpenVPN, GRE
Connector	SMA-K			Firewall	DMZ, anti-DoS, Filtering (IP/Domain name/MAC address), Port Mapping, Access Control
Technology	GPS/GLONASS/BeiDou (Compass) /Galileo/QZSS			Remote management	Web, CLI, SMS
Serial Interface				Serial port	Transparent, TCP Client/Server, UDP, Modbus RTU Gateway
Type	2 x RS232/RS485 (software configurable)			Others	Smart Reboot, Data Guard, Smart Roaming
Connector	6-pin 3.5 mm terminal block with lock			SDK	
ESD protection	±8 KV			Operating System	RobustOS Pro (Based on Debian 11(bullseye))
Baud rate	300 bps to 115200 bps			Supported programming languages	C, C++, Python, Java, Node.js etc. (for users to develop own applications)
Signal	RS232: TXD, RXD, GND RS485: Data+ (A), Data- (B), GND			Debian Repository available	
DI/DO Interface				Flash available for SDK	14 GB
Number of ports	2 x DI + 2 x DO, wet contact			RAM available for SDK	1.5 GB
Connector	8-pin 3.5 mm terminal block with lock (DI/DO)			App Center (Available Apps for RobustOS Pro)	
Isolation	Bi-directional optocoupler (DI) Single directional optocoupler (DO)			Apps*	L2TP, PPTP, DMVPN, VRRP, QoS, SNMP, Language, RCMS, Dynamic route, Captive Portal, Modbus Master, etc.
Absolute maximum VDC	+ 30V DC			<i>*Request on demand. For more Apps please visit www.robustel.com.</i>	
Absolute maximum ADC	100 mA			Power Supply and Consumption	
Signal definition	DI1+, DI1-, DI2+, DI2-, DO1+, DO1-, DO2+, DO2-			Connector	2-pin 3.5 mm terminal block with lock
Wi-Fi Interface (Optional)				Input voltage	9 ~ 60V DC
Number of antennas	2			Power consumption	Idle: 5W Data link: 20W (peak)
Connector	RP- SMA-K			Physical Characteristics	
Standards	802.11 a/b/g/n/ac, 2 x 2 MIMO, supports AP and Client modes			Ingress protection	IP30
Frequency bands	2.412 - 2.484 GHz (2.4 GHz ISM band) 4.915 - 5.925 GHz (5 GHz ISM band)			Housing & Weight	Metal, 567 g
Security	WEP 64-bit and 128-bit encryption with H/W TKIP processing WPA/WPA2 (Wi-Fi Protected Access) AES-CCMP hardware implementation as part of 802.11i security standard			Dimensions	49 x 105 x 128 mm
Data rate	802.11n: up to 300 Mbps - 2 x 2 MIMO 802.11ac: up to 866.7 Mbps (80 MHz channel)			Installations	Desktop, wall mounting and 35 mm DIN rail mounting
Bluetooth Interface (Optional)				Operating temperature	-40 ~ +70 °C
Number of antennas	1 (Multiplexing Wi-Fi antenna)			Storage temperature	-40 ~ +85 °C
Connector	RP-SMA-K			Relative humidity	5 ~ 95% RH
Standards	Bluetooth 2.1 and 3.0+Enhanced Data Rate (EDR) + Bluetooth 5.3			Regulatory and Type Approvals (*In progress)	
				Environmental	RoHS2.0*

ORDERING INFORMATION

Model	PN	Wi-Fi + BLE	Cellular	Frequency Bands*	Country/Region	Certification (*In progress)
EG5120-A2AAZ-4L-A06GL	B090702	-	✓	4G: LTE FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28 LTE TDD: B34/B38/B39/B40/B41 3G: WCDMA: B1/B2/B4/B5/B6/B8/B19 2G: GSM: B2/B3/B5/B8	Global	CE* RCM*
EG5120-A2CAZ-4L-A06GL	B090704	✓	✓			
EG5120-A2AAZ-5G-A25GL	B090701	-	✓	5G: NR SA/SA: n1/n2/n3/n5/n7/n8/n12/n13/n14/n20/n25/n26/n28/n29/n30/n38/n40/n41/n48/n66/n71/n75/n76/n77/n78/n79 4G: LTE FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B29/B30/B32/B66/B71 LTE TDD: B34/B38/B39/B40/B41/B42/B43/B48 LAA: B46 (only supports 2 x 2 MIMO) 3G: WCDMA: B1/B2/B4/B5/B8/B19		
EG5120-A2CAZ-5G-A25GL	B090703	✓	✓			
EG5120-A2ZAZ-NU	B090705	-	-	-		
EG5120-A2EAZ-NU	B090706	✓	-	-		

*For more information about frequency bands in different countries, please contact your Robustel sales representative.



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