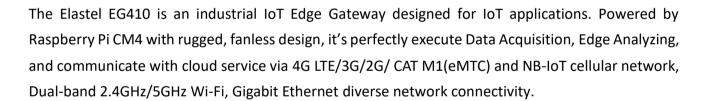# High-performance Industrial Edge Computing Gateway

- High-performance Raspberry Pi Compute Module 4 Cortex-A72 @ 4x1.5GHz

- Global 4G LTE/3G/2G/NB-IoT Cellular network, LoRa optional

- Gigabit Ethernet ports for configurable WAN/LAN

- Dual-band 2.4GHz/5GHz Wi-Fi

- 35mm DIN-Rail and wall mount Supported

- Isolated RS485, RS232, DI & DO ports for industrial

- Fanless design with full aluminum heatsink enclosure

- -25°C to +70°C Operating Temperature for harsh environment

- Optimized OpenWRT OS with Raspberry Pi programs Compatible

The Elastel EG410 is an industrial IoT Edge Gateway designed for IoT applications. Powered by Raspberry Pi CM4 with rugged, fanless design, it's perfectly execute Data Acquisition, Edge Analyzing, and communicate with cloud service via 4G LTE/3G/2G/ CAT M1(eMTC) and NB-IoT cellular network, Dual-band 2.4GHz/5GHz Wi-Fi, Gigabit Ethernet diverse network connectivity.

Equipped with industrial-grade RS232, RS-485, DI, DO interfaces, and Optimized OpenWRT based OS, EG410 was designed for easy deployment of typical industrial applications, such as smart grid, transportation management, public utilities remote monitoring and control, digital signage, and industrial automation, etc.
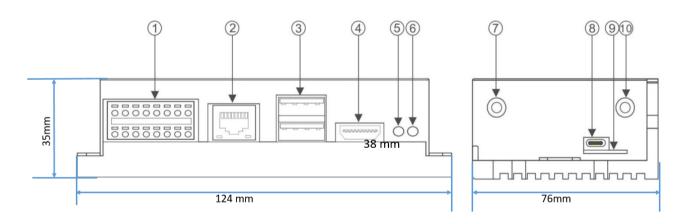
Specifications

Hardware platform	
CPU	Broadcom BCM2711, Quad-core A72 (ARM v8)@ 1.5 GHz
Memory	2GB (1GB/4GB/8GB optional) LPDDR4
FLASH	8GB (16GB/32GB optional) eMMC
Network & Interfaces	
Ethernet	Gigabit Ethernet x 1, (1-WAN or 1-LAN Configurable)
Cellular	4G LTE CAT4/CAT6, 3G, 2G, NB-IoT, CAT-M1
Wi-Fi	Dual Band 2.4GHz & 5GHz + Bluetooth 5.0
GPS	Cellular Module built-in supported (Optional)
SIM	1.8 V/3 V; drawer-type Nano card holder × 1
	15KV ESD Protection
Antenna	4G: SMA x 1、WiFi/Buletooth: SMA x 1
Industrial Serial Port	RS-232 x 1，RS-485 x 1;
	RS-232: TXD, RXD, GND; RS-485: A, B, GND; ESD protection: 15KV
I/O	2-channel digital input DI
	2-channel digital/pulse output DO
USB	USB 2.0 x 2 for peripherals,
	USB-C x 1 for Console
HDMI	HDMI 2.0 x 1, (Up to 4kp60 video & audio output)
Additional drive	1 x M.2 socket with 2280 NVME SSD support
	Standalone Watchdog timer
Power	
Power supply	Wide Range Voltages 9~36V DC/1A
Power Terminal	Unpluggable industrial terminal connection
Power consumption	Less than 10 W (system)
(Optional) Real-time clock (RTC)	Embedded RTC, power supply with a supercapacitor
Mechanical features	
Protection	IP20
Housing	Aluminum Heatsink
Cooling	Fanless cooling
Dimensions (cm)	124mm x 76mm x 35mm
Installation	DIN-rail, wall mounting
Ambient temperature and humidity	
Storage temperature	-30 ~ 75°C
Ambient humidity	5 ~ 95% (non-condensing)
Operating temperature	-25 ~ 70°C (industrial grade)
EMC index	
Static electricity	level 3
Radiated electric field	level 3
Surge	level 3

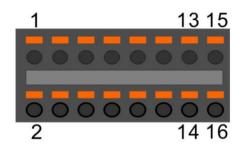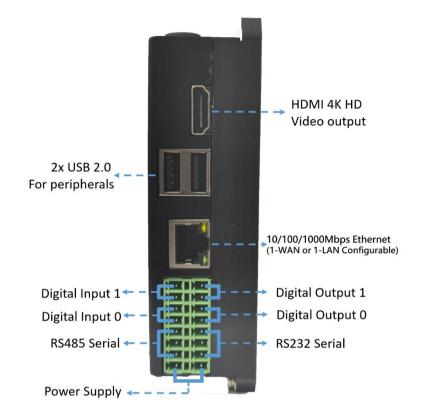| Others	
Certification	CE
Warranty	Standard 12 Months
Software Features	
OS	Optimized OpenWRT V21 with SDK /Raspbian
Configuration	WebUI, Local CLI, Remote configuration
Upgrade operate	Local USB upgrade and remote upgrade (optional)
Timed startup and shutdown	Supported
Application features	Data Acquisition, Modbus RTU, VPN, Router, Firewall, Media Player… Python, Node-RED, Docker…, Support Secondary Development.
Network Features	WWAN and WAN Failover, Load Balance, PPP, PPPoE, SNMP v1/v2c/v3, TCP, UDP, DHCP, RIPv1/v2, OSPF, BGP, DNS, DDNS, Modbus RTU/TCP, Siemens S7, OPC UA, HTTP, MQTT, ARP, QoS, SNTP, Telnet, SSH

Interfaces & Dimensions

①	Multi-Func phoenix connector	⑥	LED1
②	RJ45 Ethernet	⑦	SMA antenna 1
③	USB 2.0 x 2	⑧	Console(USB type C)
④	HDMI	⑨	SIM card slot
⑤	LED2	⑩	SMA antenna 2

Func name	PIN #	PIN#	Func name
POWER	1	2	GND
RS485_A	3	4	RS232_RX
RS485_B	5	6	RS232_TX
RS485_GND	7	8	RS232_GND
DI0-	9	10	DO0_0
DI0+	11	12	DO0_1
DI1-	13	14	DO1_0
DI1+	15	16	DO1_1

HDMI 4K HD Video output

2x USB 2.0 For peripherals

10/100/1000Mbps Ethernet (1-WAN or 1-LAN Configurable)

Digital Input 1 — Digital Output 1
Digital Input 0 — Digital Output 0
RS485 Serial — RS232 Serial
Power Supply

About Elastel

Elastel Technology Ltd is a global leading design and manufacturing company providing industrial-quality wireless solution for IoT and M2M. Founded in 2018, Elastel leverages its independent research and development and innovation to pursue its core mission: "Streamline IoT communication development, shorten and simplify the process of system implementation"

The company's high-quality industrial Computer & Gateway hardware and software service enhance the IoT communication efficiency and competitive advantages of its customers all over the world.

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Technical Support

Send email to Elastel Support center (support@elastel.com) for firmware upgrade, product documents, FAQ, technical support and more.