

EZ-Gate 600

Designed with Passion and Built with perfection



Technology for Smart, clean and connected world

The **EZ-Gate 600 IoT Gateway** is a state-of-the-art development platform designed for embedded Artificial Intelligence (AI) and the Internet of Things (IoT) applications. Crafted by **Enerziff Solutions**, this compact and feature-rich board simplifies the development and deployment of edge devices, industrial automation, and data acquisition solutions. It delivers seamless performance and ease of use with advanced connectivity and versatile peripheral support.

Functions:

- On Board : Wi-Fi, Bluetooth 5, 240MHz with 16MB Flash and 8MB PS-RAM
- 36 programmable GPIOs, AI acceleration support, full speed USB 2.0
- Quectel EC200U-CN 4G LTE Cat 1 module with 10Mbps downlink
- Built-in GNSS/GPS
- Isolated RS485 / RS232 (jumper selector)
- Micro SD Card and Nano SIM slot
- Single USB Type-B connector for programming and monitoring
- DS3231 RTC based on I2C protocol
- MS51FB9AE for Data acquisition
- 5 ch. 12-bit Analog Inputs 4-20mA / 0-5v
- 4 ch. Digital Isolated Inputs (upto 24v)
- 2 Relay Output 30v DC / 2A
- Protocols: MQTT(s), HTTP(s), DHCP, FTP, Modbus, SPI, I2C, etc, FOTA supported
- 9 - 30v DC Power Supply, PCB size 130x105, separate enclosure available



Additional Module Supports

- W5500 Ethernet Module for Internet or Modbus TCP/IP
- 2.4 inch SPI Interface 240x320 TFT LCD Display Module with Touch for HMI
- Camera modules like OV2640, OV7670 and other similar modules for AI vision
- INMP441 Digital I2S Microphone Module for Audio / Voice Activation functions
- RFM95W LoRa module
- Header extension for I2C devices like MPU6050 Accelerometer, EEPROM, sensors, etc.
- TJA1050/TJA1051 or similar chip for Isolated CAN support

Application

- Embedded / Edge AIoT, Industrial Automation, Data Acquisition and Logging, Control, etc.
- Various protocols such as MQTT(s), HTTP(s), DHCP, FTP, Modbus, SPI, and I2C are supported, enabling easy
- Integration with different systems.

#Building No: 2, IFZA Business Park, Dubai Silicon Oasis, Dubai, United Arab Emirates
Email: support@enerziff.com; sales@enerziff.com; website: www.enerziff.com



Applications:

Industrial Automation: The VAIRUINO module's support for Ethernet, Modbus, RS485, and RS232 protocols makes it suitable for industrial automation applications, including data acquisition, control systems, and monitoring.

Internet of Things (IoT): With built-in Wi-Fi, cellular connectivity, and support for various protocols, the module can be used in IoT projects for remote monitoring, data transmission, and control.

Data Logging and Time-keeping: The Micro SD card slot allows for data logging, making the module ideal for applications that require storage and analysis of large amounts of data. The accurate RTC ensures precise timekeeping for scheduling and synchronization in applications such as event triggering, data logging, and automation. The module also features a 32KB EEPROM for non-volatile storage of critical data, providing reliability and persistence across power cycles.

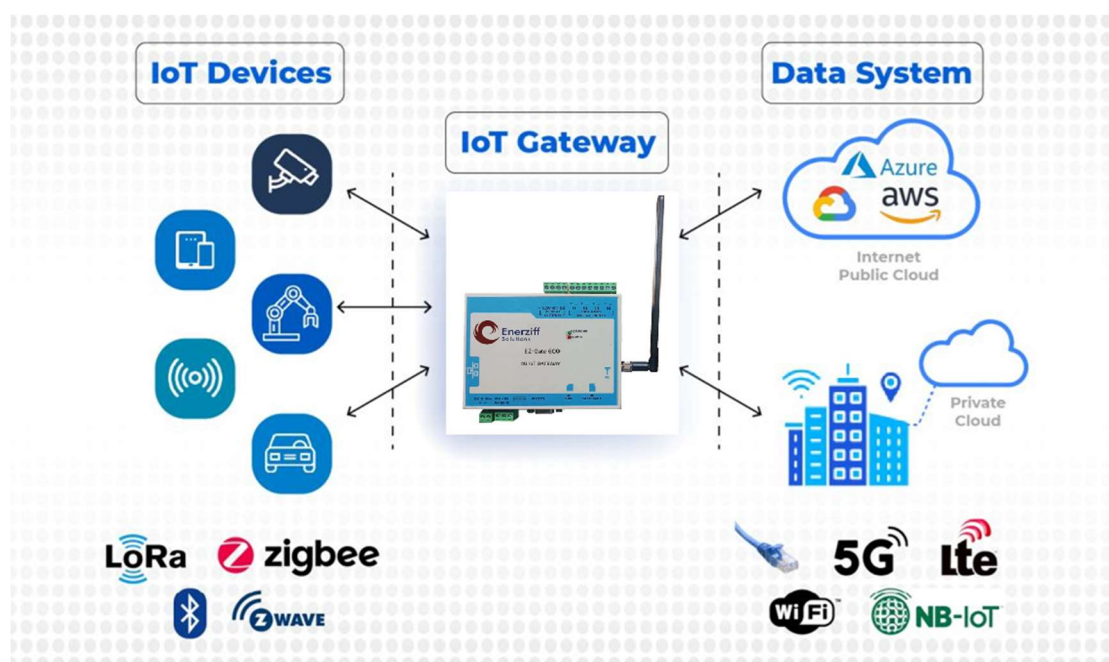
Protocol Support: Various protocols such as MQTT(s), HTTP(s), DHCP, FTP, Modbus, SPI, and I2C are supported, enabling easy integration with different systems.





Key Features:

- **Secure IoT Cloud Connectivity:** Connect seamlessly to IoT cloud platforms via 4G LTE, Ethernet, or Wi-Fi, ensuring your data is transmitted securely.
- **Compatibility with All International Telecom Operators:** The EZ-GATE 600 is compatible with frequency bands of all Indian telecom operators, ensuring reliable network connectivity.
- **Modbus RTU Master over Isolated RS485:** Easily integrate with various industrial devices using Modbus RTU master over isolated RS485.
- **Modbus TCP/IP Client over Ethernet:** Efficiently communicate with other devices and systems using Modbus TCP/IP client over Ethernet.
- **Secure MQTT Connectivity:** Ensure data security with secure MQTT connectivity, a robust protocol for IoT communication.
- **Convenient Web Portal Configuration:** Effortlessly configure your gateway through a user-friendly web portal over Wi-Fi, simplifying setup and management.
- **Data Telemetry in Standard JSON Format:** Receive data in a standardized JSON format with timestamps, making it easy to process and analyze.
- **Micro SD Card for Local Data Backup:** Store critical data locally with the Micro SD card support, ensuring data redundancy and reliability.
- **SMS alerts:** Receive SMS alerts at prescribed time intervals to stay informed about important events or conditions.
- **Firmware Over-The-Air (OTA) Updates:** Keep your gateway up to date with OTA updates via Wi-Fi, eliminating the need for manual firmware updates.
- **Versatile Data Acquisition:** Benefit from 4 digital isolated inputs for versatile data acquisition, suitable for various sensing and monitoring applications.
- **Compact DIN Mount Enclosure:** The EZ-GATE 600 comes in a compact DIN mount enclosure with dimensions of 135x110x55mm, making it easy to install in various environments.





Technical specifications:

SYSTEM CHARACTERISTICS

Processor	240 MHz processor with 16MB Flash and 8MB PSRAM
Memory	Micro SD card slot (16GB max)
Cellular Connectivity	Quectel EC200U-CN 4G LTE Cat 1 module with GNSS/GPS

INPUT / OUTPUT

Inputs	5 Analog Inputs (4–20mA / 0–5V)
DI	4 Isolated Digital Inputs (up to 24V)
Outputs	2 Relay Outputs (30V DC/2A)
Events	Email, RMS, SMS

POWER SUPPLY

Connector	Connector 4-pin industrial DC power socket
Input Range	Connect a regulated DC supply (9–30V) to the power input terminal.
Power Consumptions	< 5 W

PHYSICAL INTERFACE

Ethernet	1 x RJ45 port, 10/100/1000 Mbps
Serial Port	2xRS485 Half Duplex
I/Os	4 x Digital Input, 2 x Relay Output on 4-pin power connector
Status LED	2 x connection type status LEDs, 2 x connection strength LEDs
SIM Slot	1 x SIM slot (Mini SIM – 2FF), 1.8 V/3 V
Power	1 x 4-pin power connector
Antenna	1 x SMA for LTE
Reset	Reboot/User default reset/Factory reset button

PHYSICAL SPECIFICATION

Casing Material	Polycarbonate, Fire retardants
Dimensions (W x H x D)	150mm x 115mmX45mm
Weights (kg)	1.3kg
Mounting options	DIN rail, wall mount, flat surface (all require additional kit)

OPERATING ENVIRONMENT

Operating temperature -	-10 °C to 55 °C
Operating humidity -	10% to 90% non-condensing
Ingress Protection Rating	IP20

PROTOCOL SUPPORT

MQTT, HTTP, FTP, Modbus, SPI, I2C

PERIPHERAL SUPPORT

Cameras (AI Vision)
Microphones (I2S Audio)
LCDs
LoRa modules



PROGRAMMING

Connect the board to your computer via USB Type-B for programming. Use Arduino IDE or similar platforms with CONTROLLER32-S3 configuration.
Default Baud Rate: 115200.

WEB INTERFACE

Connect to the hotspot with SSID: iotgateway and password: iot@1234. Access the web interface at iotgateway.local.



GATEWAY



9 W PSU



1X LTE ANTENNA (MAGNETIC MOUNT, SMA MALE, 3 M CABLE)