



SMART INDUSTRIAL IOT GATEWAY

Model Code: ALT-M66-ADV-01

Industrial RS-485 to Cloud Protocol Converter & Bidirectional VFD Controller

The **ALT-M66-ADV-01** is a robust, streamlined communication gateway engineered for low-latency bidirectional cloud communication with industrial field hardware. Optimized for pairing with variable frequency drives (VFDs), smart meters, and PLCs, it brings full remote transparency and operational agility to distributed field installations.

Key Capabilities

- Reverse Control Overrides:** Enables absolute remote configuration management. Fully supports writing live target adjustments to edge hardware, explicitly including **dynamic operational frequency adjustments** (*Hz* optimization via secure app or SMS command payloads) alongside hardware Start/Stop commands.
- Parameter Monitoring:** Reliably pulls and streams critical Modbus parameters into central dashboards, detailing output frequency (*Hz*), motor current draw (*A*), output voltage (*V*), and DC bus voltage.
- Self-Healing Architecture:** Outfitted with smart automated "Keep-Alive" reconnect polling and fallback capabilities to execute parameters via cellular SMS messaging if standard internet data lines drop.

Specification Category	Technical Parameters & Performance Profile
Cellular Core	Unified 2G Quad-Band with 4G LTE Cat M1 / NB-IoT Migration Stack
Serial Interface	RS-485 Protocol (2-Wire, Half-Duplex); Terminals: A (D+), B (D-), GND
Cloud Transport	MQTT, TCP, UDP, HTTP / HTTPS Protocols
Power Topology	9V – 36V DC Wide Range Industrial Input (Recommended: 12V DC / 2A)
Diagnostics	Quad-LED Visual Indicators: PWR NET SIM STATUS

ADVANCED 4G LTE EDGE CONTROLLER



Model Code: ALT-EC200U-AC-02

High-Performance Modbus Cloud Gateway with Dual Wireless Networks & Integrated AC Power

The **ALT-EC200U-AC-02** is an all-in-one industrial edge automation computer engineered for high-throughput computing environments, localized device wireless networking, and fully autonomous field orchestration. Powered by dual wireless chips and containing a native AC power transformer module, it functions as a highly integrated master terminal for mission-critical setups.

Key Capabilities

- **Mains Grid Integration:** Simplifies physical footprint allocations. Houses an onboard, highly certified industrial transformer module, letting field engineers terminate 100–240V AC utility lines directly onto the board without separate external adapters or power bricks.
- **Hybrid Dual-Wireless Path:** Pairs a premium high-speed **4G LTE Cat 1** core for robust enterprise cloud synchronization alongside an independent **ESP32 Wi-Fi / BLE** microchip. Field personnel can safely connect using standard handheld mobile apps locally to push firmware or adjust register values completely data-free.
- **Blackbox Edge Caching:** Features an integrated **Real-Time Clock (RTC)** powered by an independent backup cell battery alongside a full-sized **SD Card Slot** to execute uninterrupted offline timestamping and historical log caching.

Specification Category	Technical Parameters & Performance Profile
Primary Cell Network	Quectel EC200U-CN Core Stack (High-Speed 4G LTE Cat 1 Connection)
Local Wireless	Espressif ESP32 Series (Wi-Fi 802.11 b/g/n + Bluetooth Low Energy)
Onboard Transformer	Hi-Link HLK-20M05 System (Input: 100–240V AC, 50–60Hz Output: 5V DC / 4A, 20W)
Isolation Safeguard	Integrated Mornsun Industrial Serial Transceiver/Isolator Block
Peripherals & Memory	SD Card Interface, CR2032 RTC Slot, Type-C Diagnostics USB Port

Ecosystem Integration Notice: Both platforms offer native out-of-the-box support for leading industrial clouds (AWS IoT Core, Azure IoT Hub, and customized Private MQTT Brokers). Remote configuration maps and technical architecture repositories are hosted securely on the private portal: ai.altiussuryatech.in.