RTCU AX9 encore

Advanced Telemetry Appliance

The perfect balance of quality, performance, flexibility and affordability

For Professional M2M Applications

The RTCU AX9 encore has been designed for the most demanding M2M and Internet of Things applications, which cannot be solved with simpler non-programmable devices.

The RTCU AX9 encore rests on the **RTCU M2M Platform,** that brings all the necessary tools together to develop, implement and maintain todays sophisticated M2M/IoT applications.

The **development task** is supported by the **free** RTCU IDE development environment complimented by a large and comprehensive documentation and application example library.

The RTCU Gateway 2 is the corner-stone of the **communication infrastructure** ensuring reliable two-way device communication in any network environment.

Deploying and maintaining new application and firmware versions for devices in the field are handled by the powerful RTCU Deployment Server.

Almost two decades of know-how in one product!

Experience and Know-how

For almost twenty years Logic IO has been committed to offer the most sophisticated platform for advanced and highly demanding M2M / IoT applications.

The RTCU AX9 encore is the result of this accumulated experience combined with valuable feedback from hundreds of professional and mission critical applications by major organizations around the world.

RTCU products are deployed **underground**, **stationary**, **on the road**, **at sea**, **on the rail** and **in the skies**! - In any imaginable application and environment.

Device Advantages

- Quad-band GSM engine.
- Internal/external antenna.
- Digital and analog input/output.
- AC/DC relay outputs.
- RS232/RS485 channels.
- MODBUS expandable I/O.
- 1-Wire bus.
- Digitized voice playback.
- DTMF decoding/transmission.
- Micro SD-CARD with up to 32 GB.
- FAT32 file-system.
- AC / DC powered.
- Backup battery.
- IP65 Ingress Protection
- State of the art power-management.

Platform Advantages

- NX32 execution architecture.
- Free RTCU IDE development tool.
- Fully programmable.
- Huge standard API.
- Comprehensive protocol support.
- Full featured Device Simulator.
- Sophisticated deployment tools.
- Fast and free email support.
- Backward and forward compatible.

World Leader in Advanced and Professional M2M Technology since 1999.

RTCU AX9 encore Highlights

Advanced Telemetry Appliance

The RTCU AX9 encore is targeting a broad range of advanced telemetry applications and has been designed according to the highest technical standards for professional industrial use.

- Based on the **RTCU M2M Platform**.
- **NX32 execution architecture.**
  - RTCU IDE development tool with full featured device simulator.
  - Huge standard API with more than 800+ functions.
  - Comprehensive protocol support, including: TCP-UDP/IP, FTP, SMTP, RACP, MQTT, MODBUS.
  - Full backward-compatibility with existing X32 applications.
- World-wide **Quad-band GSM engine**.
- **Internal and external GSM antenna** connector. Selectable from application.
- Internal SIM-card reader.
- **Digitized audio** can be played over GSM.
- **DTMF** support for implementation of Interactive Voice Response applications.
- Enhanced memory sub-system with **fast program execution**.
- Huge data-flash/logger memory with a capacity **of 4.5 MB**.
- Internal **4 MB FAT32 flash drive**.
- Standard FAT32 **SD-CARD** reader with up to 32 GB capacity.
- **RS232** channel with optional shared **RS485** channel.
- **2 x analog inputs** with 0..10 volt / 0..20 mA with **12 bit precision**.
- **5 x digital inputs** and **4 x high-power relays.**
- Up to 4 digital inputs can be configured as IEC62053-31 Class A compliant.
- **Expandable I/O** with standard MODBUS modules.
- **1-Wire bus** for accessories such as ID-button reader, temperature sensors, etc.
- Wide AC/DC power operating range from **100..260VAC / 8..36 VDC**.
- On-board **Li-Ion battery**.
- **24 Volt DC-out capability** for powering external equipment.
- Advanced **power-management** with wake-up on a wide range of events.
- High-speed **mini-USB programming** connector.
- Housed in an **ruggedized plastic** encapsulation with **cable glands.**
- **IP65** water protected for outdoor usage.
- Fully supported by the **RTCU Gateway 2** and the **RTCU Deployment Server**.
- **Accessories:** 1-wire accessories, MODBUS modules, etc.
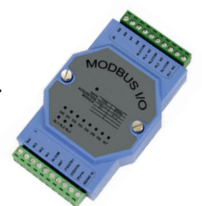
Services Available

Technical Support.

Application development support.

Maintenance.

Hardware support.

Warranty services.

Accessories

MDT-200 Data Terminal.

MODBUS IO extension modules.

Antennas.

Cable parts.

1-Wire parts.

RS485

Industrial

SD-CARD.

...and more.

Find out more and start developing today!

Learn more about the RTCU M2M platform and the NX32 architecture in the **"The RTCU M2M Platform"** data sheet.

To learn more about the technical details and usage of the RTCU AX9 encore, please download the **"RTCU AX9 encore Technical Manual"**.

Also make sure to get the **FREE RTCU IDE** Development Environment, **RTCU Gateway 2** and the **Deployment Server** to get a hands-on experience how rapid development/deployment of game changing M2M/IoT applications were meant to be.

Please visit www.logicio.com

RTCU AX9 encore Specifications

Processor and Main-memory
- Powerful 32-bit ST ARM7 processor.
- 2112 KB fast execution RAM.
- 4532 KB Flash for firmware/application.

Storage
- 4.5 MB persistent data flash.
- 4 MB internal FAT32 flash drive.
- 1 MB circular automatic datalogger.
- 20 KB FRAM with fast access / unlimited write endurance.
- SD-CARD reader with up to 32 GB.

GSM
- 850/900/1800/1900 Mhz.
- GPRS Multi-slot class 12.
- Max. 85.6 kbps (up/down link)
- CSD with up to 14.4 Kbps.
- SMS / PDU.
- DTMF decoding / transmission.
- Digitized voice playback / IVR.
- Mini-SIM 1.8/3 volt.
- Internal SIM card-reader.
- Internal GSM antenna.
- External or internal antenna selecable by DIP-switch or user application
- Optional Gemalto eSIM.

User Interaction
- Three bi-colour LED / Yellow status.
- DIP-switches.
- Reset/recovery switch.
- Antenna selection dip-switch.
- Configuration jumpers.
- Mini-USB for service port.

Battery and Charger
- On-board 1Ah (nominal) Li-Ion battery.
- Intelligent charger with temperature throttle and sub-zero degrees support.
- On-board temperature sensor.

Digital/Analog Interface
- 4 x relay output.
  Max. 5A @ 250VAC / 30 VDC
- 5 x digital inputs.
  Logic high: 6 to 40 VDC.
  Logic low: -5 to 3 VDC.
- 4 x IEC62053-31 Class A input.
- Digital input #5 can be used as ignition.
- 2 x analog inputs.
  Range is 0..10VDC or 0..20 mA
  Resolution: 12 bit
  Precision: ±1.5% FSR @ 25°C
- Protected against transients and low-pass filtered.
- Expandable I/O with MODBUS.

Communication
- RS232 channel.
- On-demand: RS485 (shared).
- 1-Wire bus.

Power Management
- 5 execution speeds.
- Wait for Event: Timer, Digital input, RS232, GSM, Power change state.
- Wait for event, from: 600 uA@12V.
- Supervision of supply voltage / type.

Electrical Specification.
- Supply operating range:
  8 to 36 VDC.
  100 to 260 VAC.
- Short and reverse power protected.

Internal Interfaces.
- Screw-terminals for:
  Power, I/O and 24V DCOUT.
- Angled screw-terminals for:
  RS232, RS485, 1-Wire.
- Mini-USB for programming/service.

On-Demand Hardware Options
- Applied "*any-time*" - locally or remotely.
- Over-the-air hardware upgrade.

External Interfaces.
- SMA Female connector for external GSM antenna.
- 3 x PG11 cable glands.
- 2 x PG9 blind plugs.

Physical Characteristics
- Encapsulation:
  Durable Polycarbonate plastic.
- Approx. 690 gram without accessories.
- W 130 x H 180 x D 60 mm.
  (wihout SMA and PG connectors.

Environmental Specification
- Operating temperature: -30 to 60°C.
- Battery charge temperature:
  -10 to 45 °C
- Recommended storage temperature:
  0 to 45°C.
- Humidity: 5..90% (non condensing).
- Ingress Protection: IP65.

Approvals
- RE Directive, RED 2014/53/EU.
- RoHS
- Cellular engine: CE/GCF/FCC/PTCRB.

Warranty
- Two-years return to factory parts and labor.
- Optional warranty up to 5 years. (restrictions apply).

Models Available
SKU RT-AX9E