

# RTCUC LX4 pro

## Advanced Industrial M2M / IoT Gateway

State-of-the-art platform for tomorrows demanding applications

### For Professional M2M Applications

The RTCUC LX4 pro has been designed for the most demanding M2M and Internet of Things applications, which cannot be solved with simpler non-programmable devices.

The RTCUC LX4 pro rests on the **RTCUC 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** RTCUC IDE development environment complimented by a large and comprehensive documentation and application example library.

The RTCUC Communication Hub 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 RTCUC Deployment Server.

*Two decades of know-how in one product!*

### Experience and Know-how

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

The RTCUC LX4 pro 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.

RTCUC 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

- High-performance IoT Core.
- Worldwide LTE Cat.4 Cellular Engine.
- Ethernet interface.
- Wired M-Bus.
- Optional: Wireless M-Bus.
- 1-Wire bus.
- Multiple RS232/RS485 channels.
- Digital and analog input/outputs.
- Modbus expandable I/O.
- Graphical display with keypad.
- Digitized audio subsystem.
- DTMF decoding/transmission.
- Large flash memory capacity.
- SD-Card with up to 32 GB.
- Integrated battery backup.
- DIN rail mounting.

### Platform Advantages

- NX32L execution architecture.
- Free RTCUC IDE development tool.
- Secure platform.
- Hardware accelerated security.
- Huge standard API.
- Open platform SDK.
- Comprehensive protocol support.
- Device Emulator.
- Sophisticated deployment tools.
- Fast and free email support.

*World Leader in Advanced and Professional M2M Technology since 1999.*

# RTCU LX4 pro Highlights

## Advanced Industrial M2M / IoT Gateway

### Platform:

- Based on the **RTCU M2M Platform**.
- **NX32L (NX32 for Linux) execution architecture.**
  - RTCU IDE development tool.
  - Operates under a full and highly optimized Linux variant.
  - Secure communication with TLS and hardware assisted encryption/authentication.
  - Open and extendable with Platform SDK.

### Wireless Communication:

- **Worldwide LTE Cat. 4 Multi-Band Cellular Engine.**
- Internal **SIM-card reader** with support for **embedded SIM**.
- Optional: **Wireless M-Bus** according to EN 13757-4/7 OMS EU/CE.



Coverage

### Wired Communication:

- **Ethernet** LAN interface with 10/100 Mbps.
- **Wired M-bus** (EN 13757 2/3) with support for up to 20 slave devices.
- **1-Wire bus** for accessories such as ID-button reader, temperature sensors, etc.
- **2 x RS485** channels and **1 x RS232** channel.

### I/O Interfaces:

- **8 x digital inputs** and **8 x high-power solid-state digital outputs.**
- Up to 4 digital inputs can be configured as **IEC62053-31 Class A** compliant.
- **4 x analog inputs** with 0..10 volt / 0..20 mA with **12 bit precision.**
- **2 x analog outputs** with 0..10 volt / 0..20 mA.
- **Expandable I/O** with standard Modbus modules.

### User Interaction:

- **Graphical 144x32 pixels display** with black-on-green back-lit text/graphics.
- **Keypad** with 8 keys for sophisticated user interaction and control.
- **DTMF** support for Interactive Voice Response applications.
- High-speed **Mini-USB service-port** connector.

### Storage:

- Internal **flash drive** with up-to 64 MByte capacity.
- **Persistent memory** and circular **datalogger.**
- Standard **SD-Card** reader.

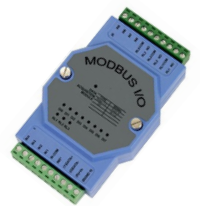


### Services Available

Technical Support.  
Application development support.  
Maintenance.  
Hardware support.  
Warranty services.

### Accessories

Modbus IO extension modules.  
Antennas.  
Cable parts.  
1-Wire parts.  
...and more.



## Find out more and start developing today!

Learn more about the RTCU M2M platform and the X32 architecture in the "The RTCU M2M Platform" data sheet.

To learn more about the technical details and usage of the RTCU LX4 pro, please download the "RTCU LX4 pro Technical Manual".

Also make sure to get the **FREE RTCU IDE** Development Environment, **RTCU Communication Hub** 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](http://www.logicio.com)

# RTCX LX4 pro Specifications

## RTCX M2M Platform

- NX32 for Linux - NX32L.
- Fully NX32 compatible.
- Hardened execution environment.
- Full TLS/SSL support.

## LX Hardware Core

- Powerful 32-bit ARM processor.
- Hardware floating point and DSP.
- 128 Mbyte RAM.
- 256 Mbyte NAND flash.
- Real-time clock with battery-backup.

## Storage

- Internal flash drive (Up to 64 MByte).
- Persistent data flash.
- Multiple circular dataloggers.
- SD-card reader.

## Cellular Engine

- **LTE Cat.4 Engine (Worldwide).**  
Max 150 Mbps(DL)/Max 50 Mbps(UL).  
LTE FDD: 15 bands.  
LTE-TDD: 4 bands.  
WCDMA: 7 bands.  
GSM: Quad-band.
- DTMF decoding / transmission.
- Digitized voice playback / IVR.
- Internal SIM-card reader.
- Optional eSIM.

## Communication Interfaces

- 100BASE-T Ethernet interface.
- 1 x RS232 with RTS/CTS.
- 2 x RS485.
- 1-Wire bus with LED support
- Wired M-Bus with up to 20 slaves.  
Compliant with EN13757 2/3.
- Optional: wM-Bus. Mode S, T, C, R2.  
Compliant with EN13757 4/7 OMS.
- USB service/programming port.

## Digital I/O Interface

- 8 x digital solid-state digital output.  
Max. 36 volt / 1.5 A per. channel.  
Short-circuit, ESD, Inductive kick-back protected up to 20 mH.  
User supplied power source.
- 8 x digital inputs.  
Logic high: 8 to 40 VDC.  
Logic low: -5 to 3 VDC.  
Impedance: 3.3kohm @ 12V.
- 4 x IEC62053-31 Class A input.

## Analog I/O Interface

- 4 x analog inputs.  
Range is 0..10VDC or 0..20 mA  
Resolution: 12 bit  
Accuracy: Typ.  $\pm 0.5\%$  FSR @ 25°C  
Impedance: 40 kohm (V)/504 ohm (C).
- 2 x analog outputs.  
Range is 0..10VDC or 0..20 mA  
Resolution: 10 bit  
Accuracy: Typ.  $\pm 0.5\%$  FSR @ 25°C.
- Protected against transients and low-pass filtered.

## User Interaction

- 144x32 pixels graphical/text display with black text on green a back-lit background.
- Keypad with 8 user defined keys.
- 3 x bi-colour LED / Yellow status LED.
- DIP-switches.
- I/O configuration jumpers for digital and analog modes.
- Jumpers for RS485 termination
- Reset / recovery switch.

## Battery and Charger

- On-board 2Ah (nominal) Li-Ion battery.
- Intelligent charger with temperature throttle and sub-zero degrees support.
- On-board temperature sensor.

## Electrical

- Supply operating range: 8 to 36 VDC.
- Short and reverse power protected.

## External Interfaces

- Two-part pluggable connector for: Power, I/O, RS232, RS485, Wired M-Bus.
- RJ45 for LAN with LED status.
- SD-card slot with presence and write protect detection.
- SMA Female connector for cellular.
- Optional: SMB male for Wireless M-bus.
- LED indicators and DIP switches.
- Reset/recovery switch.
- Mini USB-B as service port.

## Physical Characteristics

- Encapsulation:  
9 Module M36 DIN-rail.
- Approx. 430 gram without accessories.
- W 157 x H 86 x D 58 mm.  
(without SMA and screw-terminals).

## 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: IP20 .

## Approvals

- 2014/53/EU Radio Equipment Directive.
- 2014/30/EU EMC Directive
- 2011/65/EU RoHS Directive.

## Warranty

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

## Logic IO Worldwide Headquarters

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## Models Available

**SKU:**  
**RT-LX4P**  
**RT-LX4WM1 (Wireless M-Bus CE)**