RTCU DX4i warp

Advanced Telemetry Appliance

The perfect balance of quality, performance, flexibility and affordability

For Professional M2M Applications

The RTCU DX4i warp has been designed for the most demanding M2M and Internet of Things applications, which cannot be solved with simpler non-programmable devices.

The RTCU DX4i warp 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.

15 years of experience and know-how in one product!

Experience and Know-how

For 15 years Logic IO has been committed to offer the most sophisticated platform for advanced and highly demanding M2M / IoT applications.

The RTCU DX4i warp 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 SIM card reader.
- Digital and analog input/outputs.
- MODBUS expandable I/O.
- RS232/RS485 channels.
- Two-part pluggable connectors.
- 1-Wire bus.
- Large flash memory capacity.
- FAT32 file-system.
- On-board backup battery.
- State of the art power-management.
- On-demand options

Platform Advantages

- X32 execution architecture.
- Free RTCU IDE development tool.
- Programmable in VPL.
- 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/IoT Technology since 1999.

RTCU DX4i warp Highlights
Advanced Telemetry Appliance

The RTCU DX4i warp 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**.
- **X32 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.
- World-wide **Quad-band GSM engine**.
- Internal SIM-card reader.
- Large data-flash/logger memory with a capacity **of 4.5 MB**.
- Internal **4 MB FAT32 flash drive**.
- **1 x RS232** channel / service port.
- **5 x digital inputs** and **3 x high-power** solid-state **digital outputs**.
- **2 x analog inputs** with 0..10 volt / 0..20 mA.
- **2 x analog outputs** with 0..10 volt / 0..20 mA.
- Up to 4 x digital inputs can be configured as **IEC62053-31 Class A** compliant.
- **Powerful on-demand hardware options:**
  - *Digital I/O option:* **8 x digital inputs** and **8 x digital outputs** (total).
  - *Analog I/O option:* **4 x analog inputs** and **4 x analog outputs** (total).
  - *Communication option:* **RS485/MODBUS** and **1-Wire bus support.**
- **On-demand options** can be applied **anytime** — even remotely after installation.
- **Expandable I/O** with standard MODBUS modules.
- **1-Wire** for accessories such as ID-button reader, temperature sensors, etc.
- Wide operating range from **8..36 VDC**.
- On-board **Li-Ion battery**.
- Advanced **power-management** with wake-up on a wide range of events.
- High-speed **USB programming cable** support.
- Housed in an industry standard **M36 DIN compliant** encapsulation.
- Two-part pluggable connectors for easy installation and maintenance.
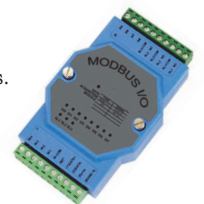- Fully supported by the **RTCU Gateway 2** and the **RTCU Deployment Server**.

Services Available

Technical Support.

Application development support.

Maintenance.

Hardware support.

Warranty services.

Accessories

On-demand hardware.

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 DX4i warp, please download the "**RTCU DX4i warp 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 DX4i warp Specifications

Processor and Main-memory
- Powerful 32-bit ST ARM7 processor.
- 1088 KB fast execution RAM.
- 2304 KB Flash for firmware/application.

Storage
- 3.5 MB persistent data flash.
- 4 MB internal FAT32 flash drive.
- 1 MB circular automatic datalogger.
- 8 KB FRAM with fast access / unlimited write endurance.

GSM
- Quad-band GSM engine. 850/900/1800/1900 MHz.
- GPRS Class B, Multislot 10.
- CSD with up to 19 Kbps.
- SMS / PDU.
- Micro-SIM 1.8/3 volt.
- Internal SIM card-reader.
- Optional Gemalto SIM-on-chip.

User Interaction
- 3 x bi-colour LED.
- Yellow status LED.
- Reset / recovery switch.

Electrical Specification.
- Operating voltage is 8 to 36 VDC.
- Short and reverse power protected.

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
- Up to 8 x solid-state digital outputs. Max. 36 volt / 1.5 A per. channel. Short-circuit, ESD, Inductive kick-back protected up to 20 mH.
- Up to 8 x digital inputs. Logic high: 6 to 40 VDC. Logic low: -5 to 3 VDC.
- Digital input #5 can be used as ignition.
- 4 x IEC62053-31 Class A input.
- Up to 4 x analog inputs. Range is 0..10VDC or 0..20 mA Resolution: 10 bit Precision: ±1.5% FSR @ 25°C
- Up to 4 x analog outputs. Range is 0..10VDC or 0..20 mA Resolution: 10 bit Precision: ±1.5% FSR @ 25°C
- Protected against transients and low-pass filtered.
- Expandable I/O with MODBUS.

Communication
- 1 x RS232/service port.
- 1 x RS485 (on-demand)
- 1-Wire bus (on-demand)

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.

External Interfaces.
- SIM-card slot for micro-SIM.
- LED indicators and DIP switches.
- Reset/recovery switch,
- Two-part pluggable connector for: Power, I/O, RS485, 1Wire.
- TE-Connectivity "Mate'n'Lock' for: RS232 / DCOUT.
- SMA Female connector for GSM.

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

Physical Characteristics
- Encapsulation: 9 Module M36 DIN-rail.
- Approx. 330 gram without accessories.
- W 157 x H 86 x D 58 mm. (wihout 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
- CE. EU EMC directive 2004/108/EU.
- Applied R&TTE directive.
- GSM 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-DX4IW
SKU: RT-DX4IWP (w. pluggable connectors)