

# M2M Control C310

## Advanced M2M and IoT Platform

The perfect balance of quality, performance, flexibility and affordability

### For Professional M2M and IoT Applications

The M2M Control C310 has been designed for the most demanding M2M and Internet of Things applications, which cannot be solved with simpler non-programmable devices.

The C310 combines a freely programmable PLC controller, a data logger with an integrated GSM/GPRS modem. This makes the C310 to a very powerful solution for professional industrial wireless applications.

The **M2M Control RTCU Platform** brings all the necessary tools together to develop, implement and maintain today's sophisticated M2M / IoT applications.

The development task is supported by the **M2M Control IDE development environment** (IEC 61131-3) complimented by a large and comprehensive documentation and application example library.

The C310 is fully supported by the **M2M Control GPRS Gateway**. 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 **M2M Control Upgrade & Deployment Server** (FOTA).

*10 years of experience and know-how in one product!*

### Experience and Know-how

For 10 years Infranet Technologies has been committed to offer the most sophisticated platform for advanced and highly demanding M2M / IoT applications. We supply our products under the brand "**M2M Control**".

The M2M Control C310 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.

M2M Control products are deployed all over the world - In any imaginable application and environment.



### Device Advantages

- Quad-band GSM engine.
- Internal SIM card reader.
- 8 Digital inputs and outputs
- 4 Analog inputs and outputs
- RS232 / RS485 interfaces
- MODBUS expandable I/O
- 1-Wire Bus
- Large memory capacity.
- Internal data logger
- FAT32 file-system.
- Pluggable connectors
- Backup battery.

### Platform Advantages

- X32 execution architecture.
- RTCU IDE development tool.
- Programmable in IEC61131-3 (ST)
- Huge standard API.
- Comprehensive protocol support: TCP/IP, UDP, FTP, SMTP, MQTT and more.
- Full featured Device Simulator.
- Sophisticated deployment tools.
- Fast and free email support.
- Backward and forward compatible.

# M2M Control C310 Specifications

## Processor and Main-memory

- Powerful 32-bit ST ARM processor.
- 1088 KB fast execution RAM.
- 2304KB 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.
- DTMF decoding / transmission.
- Digitized voice playback / IVR.
- Micro-SIM 1.8/3 volt.
- Internal SIM card-reader.
- Optional Gemalto SIM Chip.

## User Interface

- Piezo Buzzer for user attention.
- 4 x bi-colour 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

- 8x digital solid-state digital output.  
Max. 36 volt / 1.5 A per. channel.  
Short-circuit, ESD, Inductive kick-back protected up to 20 mH.
- 8x digital inputs.  
Logic high: 8 to 40 VDC.  
Logic low: -5 to 3 VDC.
- 4 configurable as IEC62053-31 Class A input
- Digital input #5 can be used as ignition.
- 4x analog inputs.  
Range is 0..10V or 0..20mA  
Resolution: 10/ 12 bit  
Precision:  $\pm 1.5\%$  FSR @ 25°C
- 4x analog ioutputs.  
Range is 0..10V or 0..20mA  
Resolution: 10bit  
Precision:  $\pm 1.5\%$  FSR @ 25°C
- Protected against transients and low-pass filtered.
- Expandable I/O with MODBUS.

## Communication

- 1 x RS232 / service port
- 1 x RS485
- 1-Wire bus.

## Power Management

- 5 execution speeds.
- Wait for Event: Timer, Digital input, RS232, CAN, GSM, and power change state.
- Wait for event, from: 600 uA@12V.
- Supervision of supply voltage.
- Disable external power.

## External Interfaces.

- SIM-card slot for micro-SIM with presence detection.
- 4 x LED indicators
- Reset/recovery switch,
- Pluggable Connectors for: power, I/O, RS485, 1Wire,
- RS232 with TYCO "Mate'n'Lock' connector
- SMA Female connector for GSM.

## Physical Characteristics

- Encapsulation: M36 DIN Rail (9 Module)
- Approx. 430 gram without accessories.
- W 157 x H 86 x D 58 mm.  
(without antenna 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: 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).

**Note:** Some features are currently under development.

## Infranet Technologies GmbH

Tempowerkring 19  
21079 Hamburg  
Germany

Phone: +49 40 696 47 - 260

Telefax: +49 40 696 47 - 259

Email: sales@m2mcontrol.de

Technical support: support@m2mcontrol.de