M2MCONTROL
by Infranet Technologies

M2M Control C370

Advanced M2M and IoT Platform

The perfect balance of quality, performance, flexibility and affordability

For Professional M2M and IoT Applications

The M2M Control C370 has been designed for the most demanding M2M and Internet of Things applications, which cannot be solved with simpler non-programmable devices.

The C370 combines a freely programmable PLC controller, a data logger with an integrated **LTE Cat. M1 und NB-IoT** modem. This makes the C370 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 todays sophisticated M2M and industrial 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 C370 is fully supported by the **M2M Control GPRS Gateway**. The cornerstone 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 15 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 C370 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

- **LTE Cat. M1 und NB-IoT (NB1)**
- Internal and external SIM reader.
- Digital and analog inputs and outputs
- MODBUS expandable I/O
- Graphical Display with keypad
- Multiple RS232 / RS485
- Full CAN 2.0B support.
- 1-Wire Bus
- Large memory capacity.
- FAT32 file-system.
- High-capacity battery.
- State of the art power-management.

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.

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M2M Control C370 Specifications

Processor and Main-memory

- Powerful 32-bit ST ARM processor.
- 1088 KB fast execution RAM.
- 2304 KB Flash for firmware/application.
- Real-Time clock with battery backup

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.
- SD-CARD reader with up to 32 GB.

GSM

- LTE Cat. M1/Cat NB1 / EGPRS.
- SMS / PDU.
- Micro-SIM 1.8/3 volt.
- External SIM card-reader.
- Optional Gemalto SIM Chip.

User Interface

- 144x32 pixels graphical/text display. White-on-blue back-lit.
- Keypad with 8 user defined keys.
- Piezo Buzzer for user attention.
- 4 x bi-colour LED.
- DIP-switches.
- Reset / recovery switch.

Electrical Specification.

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

Battery and Charger

- On-board 2Ah (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.
- 8 x 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: ±1.5% FSR @ 25°C
- 4x analog outputs. Range is 0..10V or 0..20mA Resolution: 10 bit Precision: ±1.5% FSR @ 25°C
- Protected against transients and low-pass filtered.
- Expandable I/O with MODBUS.

Communication

- Full CAN2.0B with hardware filtering and multi-speed support.
- 1 x RS232 with control signals.
- 1 x shared RS232 / RS485
- 1 x RS485 with MODBUS support.
- 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 lock and presence detection.
- SD-CARD slot with presence and write protect detection.
- Audio out for digitized voice playback.
- 4 x LED indicators and 4 x DIP switches.
- Reset/recovery switch,
- Pluggable Connectors for: power, I/O, RS485, 1Wire, CAN
- RS232 with TYCO "Mate'n'Lock' connector
- RJ45 for RS232 with full control signals.
- SMA Female connector for GSM.
- Mini USB-B as service port

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.

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