# C600 *pro*

## *GSM/GRPS Control Unit with GPS*

**The C600 PRO is the first member belonging to the new X32-Generation. The unit has an impressive list of features including full support for GPRS, SMS, Voice/DTMF and Data calls. The unit is especially suited for mobile tracking applications with its on-board GPS-receiver and advanced power-management features. The unit is fully supported by the IDE development tool and is fully back-ward compatible with previous generations.**

The C600 pro product allows rapid development of custom specified applications combining mobile tracking / control / monitoring / datalogging with advanced communication techniques alarm / messages send to / from the unit as SMS (both as SMS and PDU) messages or via data-transfer directly to / from a Windows application. The C600 pro includes a full TCP/IP stack and therefore fully support the GPRS technology. Using the M2M Control proprietary VSMS (Virtual SMS) technology SMS, GPRS and Datacalls merges together allowing any Control Unit application that uses SMS-messages to transparently send / receive messages using either SMS, GPRS or Datacall *without* any changes to the software already developed.

The C600 pro is fully programmable using the user-friendly Integrated Development Environment (IDE) running under Windows. In the environment the complete application is developed, simulated and finally transferred to the unit via a standard serial port, or alternatively using the GSM Datacall / GPRS capability. Full software backward compatibility to previous generation of Control units, so that already written/tested applications can be reused.

The C600 pro includes many sophisticated features, including a CAN-bus interface for connection to vehicle bus networks, a SD-CARD reader with a FAT compatible file-system for easy sharing of files with a PC. There is optional support for Bluetooth, Ethernet, WiFi, Camera module and a Mobile Data Terminal for user interaction. The advanced power-management features on the C600 pro combined with the on-board high-capacity Li-Ion battery allows the unit to stay in power-saving modes for a longer period of time capable of waking up on for example GSM activity, change of digital inputs or a vibration sensor! The on-board high performance 16-channel GPS receiver makes implementation of location based applications a swift.

These features open up for the use of the C600 pro in exciting new application areas where extremely low power consumption and flexible wake-up conditions are a crucial parameter for successful product integration.

### Some of the application areas includes:

- ❖ Fleet management system.
- ❖ Datalogging applications.
- ❖ Alarm / Security systems
- ❖ Mobile tracking applications
- ❖ Asset management.
- ❖ *Your applications...*

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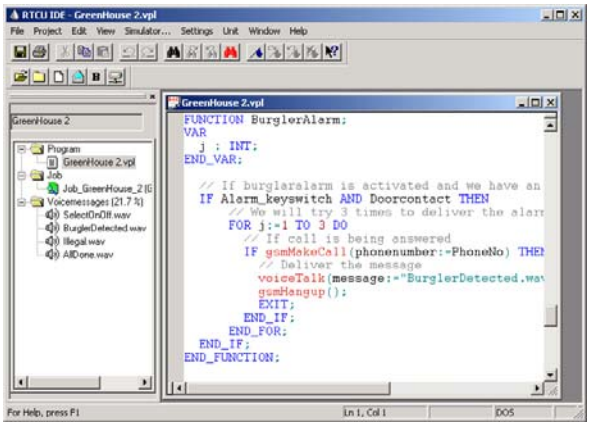


*The Integrated Development Environment (IDE) for the Control Units, is an easy-to-use program for all aspects in the development of applications for the C610. The IDE contains a broad range of features, such as project control, comprehensive online help, built-in syntax highlighting editor, code generating wizard, voice recorder etc. A built-in simulator enables complete simulation of all features on the Control Unit: GSM, GPRS, SMS messaging, GPS, Analog / Digital I/O etc. A remote update feature allows the application developer to download new versions of a program, firmware or voice messages to a remote Control Unit, via a modem connection or over GPRS. Together, all of these features enables the user to cut development time to a minimum.*



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M2M Control

## *Powerfull and Flexible Platform...*

### *High Performance 32-bit Processor with Large Memory Capacity*

- Powerful industry leading dedicated 32-bit ARM7 Processor
- Up to 10 times faster execution than previous generations
- 1088 KByte RAM
- 2304 KByte Flash for application and database.
- 512 Kbyte Dataflash for datalogging/parameters
- 8 KByte FRAM for fast access memory without any write endurance limitations

### *Extensive Range of Standard Features*

- 5 Digital inputs and 4 Digital solid state outputs, 2 Analog Inputs
- Two RS-232 serial ports. Can be used as service port with special cable or as a standard RS232 port
- Three user available bi-color LED-Indicators with 3 colors: Green, Red and Yellow
- Full CAN 2.0B Controller with support for J1930 and FMS Automotive protocols
- One bi-color and one yellow system LED indicating state of GSM and Power management.
- Vibration sensor with user definable sensitivity
- Temperature sensor

### *State of The Art Communication Technology*

- Quad Band (850/900/1800/1900 Mhz) GSM based on industry leading Texas Instruments Chipset solution
  - SMS (Text and PDU)
  - GPRS. Multislot class 10.
  - CSD (Datacall)
- On-board high-performance 16 channel GPS-receiver with low-power consumption
- Standard NMEA verbs can be output to any serial port

### *Advanced Power Management*

- Supervision of supply voltage
- Several power-saving modes: Power-down, 'Wait for Event' and 5 Processor execution steps
- Wakeup from Power-down using Ignition (Digital input 5) and optional timer
- Wakeup from 'Wait for Event' using: Digital input, Vibration, Timeout, GSM-, or UART activity
- Real time clock






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## *...ready to meet ALL your requirements...*

### *Development Tools for Rapid Application Development*

- Programmable using the FREE IDE full-feature development environment
- Easy to learn VPL high-level programming language based on EIC 1131-3 industrial standard
- More than 450+ standard functions and 600 pages of on-line documentation suits every application
- Many example programs available to "kick-start" application development
- Microsoft Windows Simulator allowing test of complete application without use of physical unit
- VSMS technology seamlessly supports SMS, GPRS, CSD without application/server changes
- Seamless upgrade to future technologies

### *Industry Leading Deployment Features*

- Full M2M Control GPRS Gateway Professional / Upgrade & Deployment server compatible
- Upgrade of application, firmware and parameters over CSD, GPRS and Cable
- Upgrade can occur during full unit operation minimizing the impact on the customer
- Unattended and fully automatic upgrade and deployment
- Automatic "bootstrap" of un-programmed unit on first time installation

### *Innovative Design*

- Encapsulated in a compact custom designed aluminum housing
- All interfaces externally accessible for easy and safe installation

### *Proven Technology from M2M Control*

- Practical experience from more than 30+ GSM networks
- Network of Partners around the globe
- More than 20.000 units in operation worldwide

- M2M Control is a Brand of Infranet Technologies GmbH

## *...and beyond!*



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## Technical Data

| Power supply | | Min | Typ | Max | | |
|---|---|---|---|---|---|---|
| Operating Voltage | | 8 | - | 36 | VDC | Protected against wrong polarity. |
| Unit Active<br>Unit Active with GSM On<br>Unit Active with GPS On<br>Unit Active with GSM/GPS On<br>Unit in Powerdown | | | 45<br>55<br>60<br>70<br>0.3 | | mA<br>mA<br>mA<br>mA<br>mA | <br>GSM idle @ -63 dBm<br><br>GSM idle @ -63 dBm<br>Restart on: DI 5 and RTC<br>*All measurements @ 12 VDC Supply.* |
| | | Min | Typ | Max | | |
| Digital inputs | Logic "High" | 8 | 12 | 40 | VDC | All inputs are protected against transients and lowpass filtered. |
| | Logic "Low" | -5 | - | 3 | VDC | |
| | | Min | | Max | | |
| Digital outputs (Solid state) | | - | - | 36 | Volt | Protected against: Short circuit, ESD and inductive (Relay) kickback up to 20mH. |
| | | - | - | 1.5 | Amp | |
| | | Min | | Max | | |
| Analog inputs | | 0 | - | +10 | VDC | Resolution is 10 bits. All inputs are protected against transients and lowpass filtered. |

| | | | | | |
|---|---|---|---|---|---|
| Storage temperature | -40 | - | +90 | °C | External interfaces:<br>• TYCO "Mate'n'Lock' connector for:<br>▪ RS232 port 1 (service port)<br>▪ Power, Digital I/O<br>• Three bi-color LED and one yellow status LED<br>• SMA-Female connectorfor GSM antenna<br>• SMB-Male for active 3 Volt GPS antenna<br>• Standard 3 Volt SIM-Card reader (external access)<br><br>All interfaces are externally accessable |
| Operating temperature<br>(According to GSM 11.10 specification) | -25 | - | +55 | °C | |
| Restricted operation<br>(deviations from the GSM specification may occur) | -30 | - | +70 | °C | |
| | | | | | |
| Humidity (non condensing) | 5 | - | 90 | % | |
| Weight | 0.2 | | | Kg | |
| External dimensions | W 97 x H 35 x D 132 mm | | | | without SMA and SMB connectors |
| Ingress Protection (IP) | IP44 (SIM in use) | | | | Aluminum enclosure |
| Approvals | EN-61000-6-3;2001 Emission<br>EN-61000-6-2;2001 Immunity | | | | E1 10R-024899 e1 034899 CE |

*Technical data subject to change*

ARM

**For more information:**

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