

RTCU M11i MAX

Remote Telemetry and Control Unit

The RTCU M11i MAX is another member of the versatile RTCU product line. The unit has an impressive list of features including full support for GPRS, SMS, Voice/DTMF and Datacalls. The unit is supported by the RTCU IDE development tool that dramatically reduces the time to market. The RTCU M11i is available with extended flash memory upto 8 Mbyte!



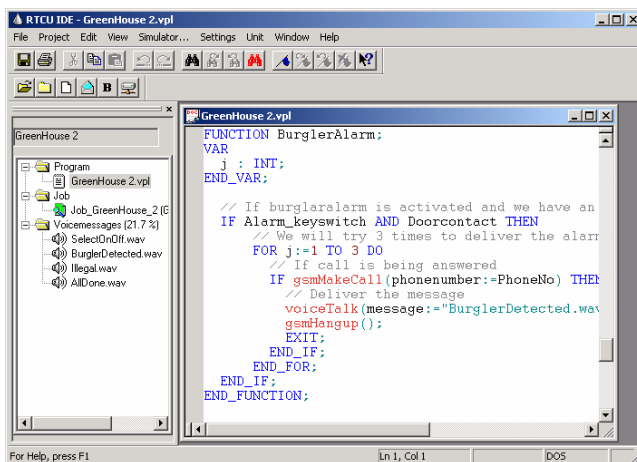
The RTCU M11i MAX product allows rapid development of custom specified applications combining control / monitoring / datalogging with advanced communication techniques such as Voice / DTMF interaction (voice response systems), alarm/messages send to / from the unit as SMS (both as SMS and PDU) messages or via data-transfer directly to / from a Windows application. The RTCU M11i includes a full TCP/IP stack and therefore fully support the GPRS technology. Using the Logic IO proprietary VSMS (Virtual SMS) technology SMS, GPRS and Datacalls merges together allowing any RTCU 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 RTCU M11i fully supports the RTCU GPRS gateway solution also available from Logic IO. Please see separate product sheet for this product.

The RTCU M11i is fully programmable using the user-friendly Integrated Development Environment (RTCU 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.

The unit is programmed the VPL programming language based on the ST language from the international standard IEC1131-3. This language is very easy to learn and can be compared to BASIC / PASCAL but with a number of facilities to allow easy development of applications. Voice-messages are also created within the environment by the use of a simple microphone and a soundcard in the PC. The RTCU IDE environment also includes a sophisticated full feature simulator so that the complete application can be executed and debugged under Windows - before being transferred to a physical unit. From the VPL language all the resources on the platform is easily accesible, such as: send/receive SMS-messages, GPRS communication, receive/initiate GSM calls, GPS functions, Voice, DTMF interaction, Realtime clock, datalogging, Battery charging, 1Wire ID-Button and Temperature sensor functions and low level functions such as timers, counters, triggers, etc. The RTCU M11i can be delivered with expanded flash memory upto 8 MByte for data intensive applications.

Some of the application areas includes:

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





The RTCU-IDE Integrated Development Environment for the RTCU, is an easy-to-use program for all aspects in the development of applications for the RTCU. The RTCU-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 RTCU: GSM phone, SMS messaging, GPS, Analog / Digital I/O etc. A remote update feature allows the application developer to download new versions of a program or voice messages to a remote RTCU, via a simple telephone modem connected to the PC. Together, all of these features enables the user to cut development time to a minimum.

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Key features:

- ❖ 512 Kbyte RAM
- ❖ 1 Mbyte Flash for application and voice messages.
- ❖ 512 Kbyte Flash for datalogging/parameters.
Factory installed Flash expansions for additional:
512 KByte or 8 Mbyte dataflash.
- ❖ 8 Kbyte FRAM for fast access, no write endurance limit.
- ❖ Standard SIM-card reader. 3V
- ❖ Advanced power-saving modes.
- ❖ RS232 Service port / general purpose without control signals
- ❖ RS232 port with all control signals available.
- ❖ Supervision of supply voltage.
- ❖ Real-time clock with battery-backup and wakeup facility.
- ❖ Voice/DTMF with upto 145 seconds of voice-messages.
- ❖ Audio IN/OUT from GSM-module available on RJ12 conn.
- ❖ Digitized audio available on RJ12 connector*
- ❖ On-board temperature sensor
- ❖ 5 Digital inputs, galvanically isolated, 1 is ignition input
- ❖ 4 Relay outputs (1A/30V)
- ❖ 4 Analog inputs (0..5V)
- ❖ Dual-band GSM module for Voice, Data, SMS, GPRS, etc.
- ❖ 2 User defined LED indicators / 2 system LED indicators.
- ❖ 256 Kbyte storage for VPL programs
- ❖ 128 Kbyte storage for user variables
- ❖ 16 simultaneous VPL jobs each operating in one of two priorities
- ❖ Full multithreading support.
- ❖ Full GPRS support. Logic IO GPRS Gateway enabled.
- ❖ Options: Internal backup battery module, RS485, 1Wire ID-Button, 1Wire Temperatur sensor

Analog inputs	Min		Max		
	0	-	+5	VDC	Resolution is 10 bits. All inputs are protected against transients and lowpass filtered.
Digital inputs	Min	Typ	Max		
	Logic "High"	8	12	40	VDC
Logic "Low"	-5	-	3	VDC	
Digital outputs (Relay)	Min		Max		
	-	-	30	Volt	Normally open contacts.
-	-	1	Amp		
Power supply	Min	Typ	Max		
Operating Voltage	8	-	36	VDC	Protected against wrong polarity.
Unit Active with GSM off		80		mA	@ 12 VDC supply voltage.
Unit Active with GSM on		95	270	mA	
Unit in Sleep with GSM off		36		mA	
Unit in Powerdown		0.28		mA	
Storage temperature	-40	-	+90	°C	External connections: <ul style="list-style-type: none"> • SUB-D9M for RS232 port 1 (service-port) • SUB-D9M for RS232 port 2 (general) • SUB-D25M for power, digital, analog and RS485. • SMA-Female for GSM antenna. • RJ12 connector for headset
Operating temperature (According to GSM 11.10 specification)	-25	-	+55	°C	
Restricted operation (deviations from the GSM specification may occur)	-29	-	+70	°C	
Humidity (non condensing)	5	-	90	%	
Weight	0.5			Kg	
External dimensions	W* 170 x H 110 x D 31 mm			*W 202 with mounting flanges	
Ingress Protection (IP)	IP54 (with RJ12 in use)			Steel / aluminum enclosure	
Approvals	EN-50081-1 Emission EN-61000-6-2 Immunity			 E 1 10R-024063 	

Technical data subject to change.

For more information:

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Email: info@rtcu.dk

* Pending firmware support.

Version 1.01