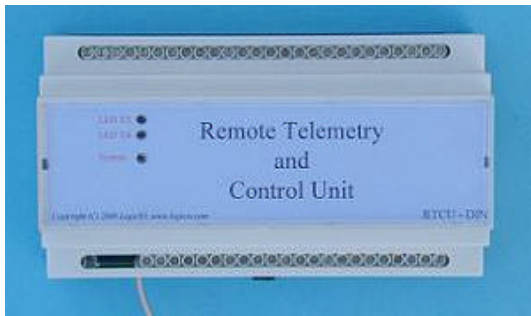


Technical Documentation, RTCU-DIN



The RTCU-DIN product

The RTCU-DIN product is a RTCU unit with a built-in communications module such as GSM, DECT or FSK Modem. The RTCU-DIN unit is suitable for mounting on standard DIN-rails. The electrical connections to the unit are done using a number of screw terminals on the unit. The connection to the built-in RS232/Programming port is via a RJ-11 connector. A coaxial cable exists the unit, this cable is terminated in a standard TNC Female connector for connecting to a suitable 900 MHz GSM antenna.

A status indicator is present on the front of the unit (see the graphical view below). Different colors/blinking patterns are used to signal different types of errors/status change in the RTCU unit:

Fast blinking, green	The unit is initializing, preparing to start the VPL program
Slow blinking, green	The unit is executing the VPL program
Blinking, red/yellow	A runtime error has been detected in the program

The unit supports the following features of the RTCU platform functions:

- [GSM](#) Handle the GSM module
- [Voice](#) Play voice messages
- [DTMF](#) Functions for receiving DTMF key presses
- [Board](#) Functions specific for the RTCU core platform
- [Miscellaneous](#) Other functions

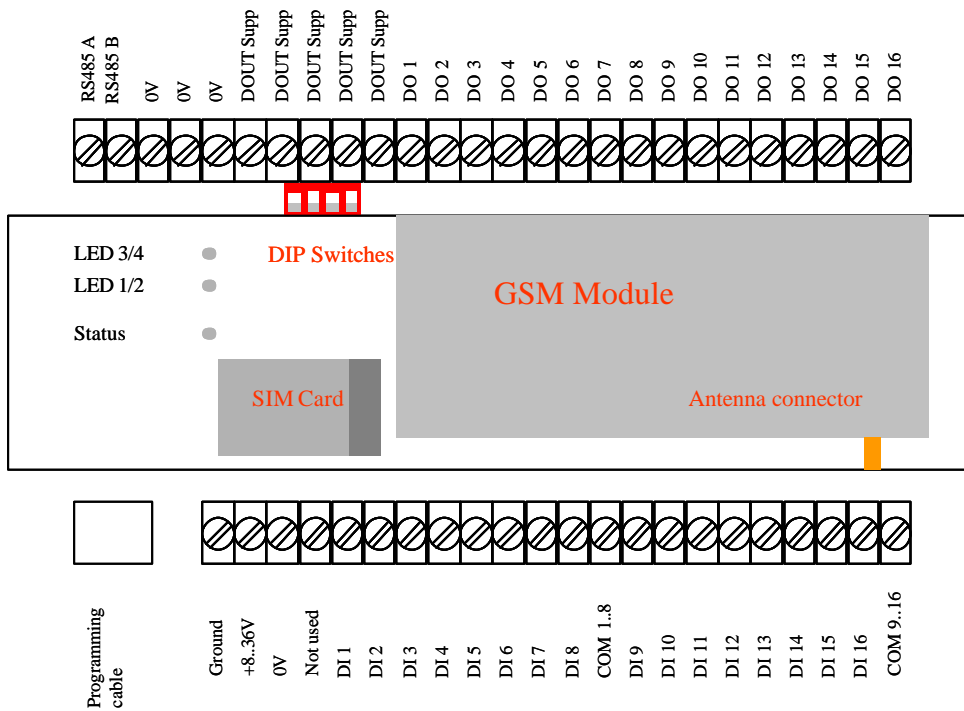
Features:

- 16 Digital inputs
- 16 Digital outputs, max 1 Amp/channel
- GSM Phone for voice, data, SMS, fax, email etc.
- Real Time Clock with battery backup
- 3 User defined dipswitches
- 2 User defined Bi-color LED indicators
- Monitors its own supply voltage
- RS232/RS485 Serial port (baudrates: 110 baud to 115 Kb)
- Standard SIM card reader
- Optional temperature sensor onboard
- Optional DECT support (only data transfer)
- Optional support for 1200 Baud FSK using UHF radio
- 64 Kbyte storage for VPL programs
- 3 Kbyte storage for user variables

- 64 Kbyte storage for textmessages
- Upto 140 seconds storage for voice messages (upgradeable to 560 sec)
- Maximum of 128 separate voicemessages
- 512 Kbyte for datalogging (upgradeable to 2 Mbytes)
- 16 simultaneous VPL jobs operating in one of two priorities

Graphical view:

Below you will find a graphical view of the different connections and the most important components in the RTCU-DIN unit.

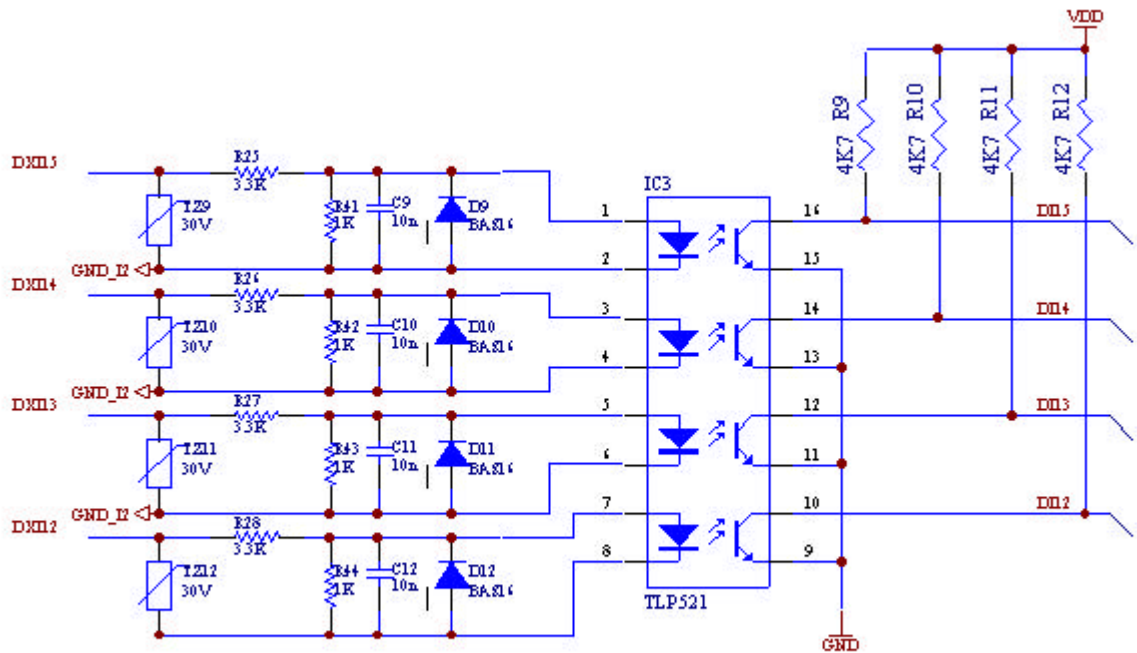


Electrical wiring:

Digital Inputs:

The digitale inputs are galvanic isolated from the RTCU with optocouplers and they are also low-pass filtered and transient protected.

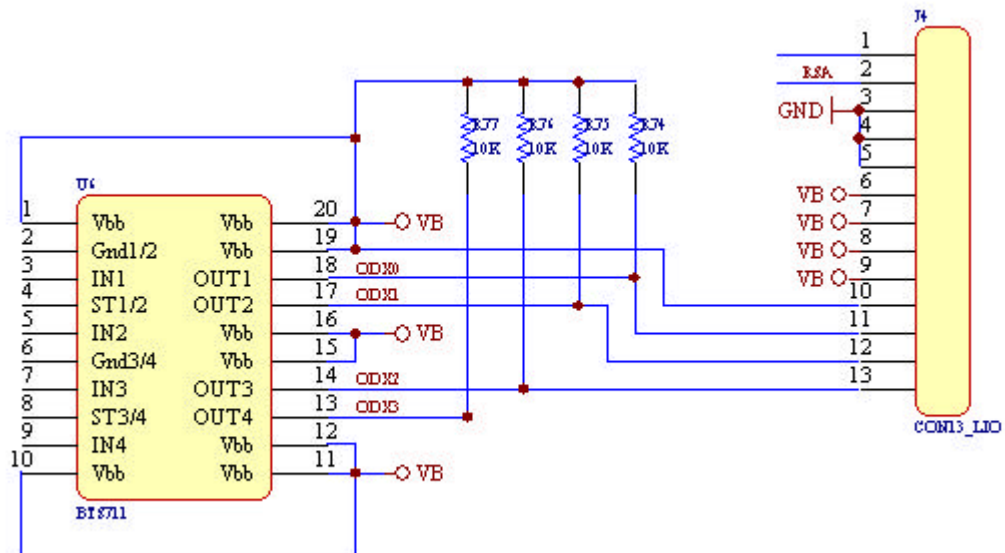
Electrical schematic for the digital inputs



Digital outputs:

The digital outputs interfaces to the outside world via high power solid state drivers.

Electrical schematic for 4 of the 16 digital outputs:



RS485 port:

The connection to the RS485 port is done using 3 screw terminals (see Graphical view). The RS485 port is a multidrop port, with maximum 64 units connected simultaneously to the line. The RS485 connection contains the A and B signals, as well as a signal ground, which always needs to be connected to the common signal ground for all units connected to the RS485 bus ! The RS485 port is shared with the programming port/RS232 port, and the unit can only

communicate with one at a time. If the RS485 port is used, you have to make sure that no communication is taking place on the RS485 line while a new project is uploaded to the RTCU, or the communication can fail to the RTCU unit, and/or to the attached RS485 devices. The maximum cable length is 1300 feet, however the limit can be influenced by the quality of the cable, signalling rate, noise etc.

Technical specifications:

Digital inputs		Min	Typ	Max		All inputs are protected against transients and lowpass filtered
	Logic "High"	8	10	40	VDC	
	Logic "Low"	-5	-	5	VDC	
Digital outputs		Min	Typ	Max		All outputs are protected against short-circuit. Build-in alarm for short-circuit and excessive temperature.
		5	-	34	VDC	
		-	-	1000	mA	
Power supply		Min	Typ	Max		Protected against wrong polarity, self healing fuse
		8	-	36	VDC	
Power consumption		40	55	150	mA	At 24 VDC supply voltage
External dimensions	W 157 x D 58 x H 86 mm (M36)				For mounting on standard DIN rail (EN50022). A flying-lead 3mm thick coaxial cable with a TNC Female connector is included for connection to external GSM antenna (antenna not included).	
Storage temperature	-40		+90	°C		
Operating temperature	-20		+45	°C		

Technical data subject to change