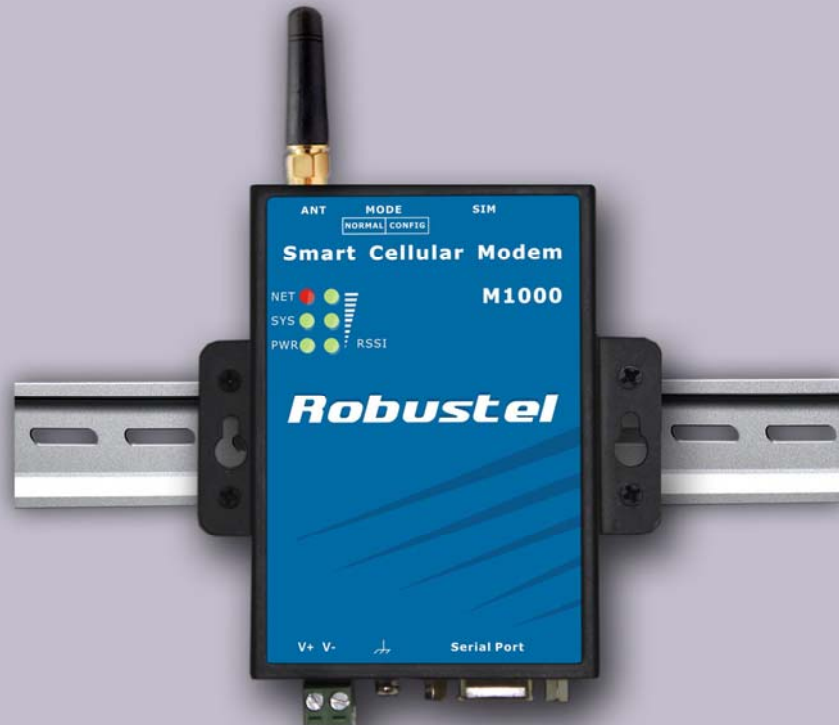


Robustel GoRugged M1000

Smart Cellular Modem

for GSM/GPRS/EDGE Networks



Overview

- The Robustel GoRugged M1000 is a rugged smart cellular modem offering state-of-the-art GSM/GPRS (EDGE optional) connectivity for machine to machine (M2M) applications.
- The modem transmits data and short messages (SMS) over GSM/GPRS/EDGE mobile networks, also is controlled by firmware through a set of AT commands.
- Featured **SMS Direct** mode can transparently converts serial data (Text, binary, and Unicode formats) to SMS or vice versa without using AT Commands, verification of incoming Caller ID is implemented to block uncertified users.
- Support Modbus RTU slave protocol, converts alarm to text format SMS without using AT commands.
- Built-in software selectable RS232 / RS485 interfaces, with 15 KV ESD serial line protections.
- Additional 1 Digital Input and 1 Digital Out with wireless communications via SMS.
- Six LED indicators provide signal strength (RSSI) and status.
- The modem supports a wide range of input voltages from 9 to 36 VDC and a wide range of temperature from -25 to 70°C.
- The metal enclosure can be mounted on a DIN-rail or on the wall, also with extra ground screw.

Features

- **Configuration mode** and **Normal mode** selecting by switch
- Control via AT commands (Hayes 3GPP TS 27.007 and 27.005)
- PPP, TCP/IP stack for GPRS data transfer
- CSD Data Transmission Rate up to 14.4 kbps
- Send / receive SMS via AT commands (Under normal mode)
 - Text and PDU SMS
 - Point to point SMS (MT/MO)
- **SMS Direct** Mode can transparently converts serial data (Text, binary, and Unicode formats) to SMS or vice versa **without using AT Commands**, verification of incoming Caller ID is implemented to block uncertified users (Under Configuration Mode)
- Support Modbus RTU slave protocol, converts alarm to text format SMS without using AT commands
- Auto reboot at preset time of a day; Auto reboot via Caller ID/SMS
- 1xDI and 1xDO with wireless communications via SMS
- Remote configuration via SMS
- Firmware upgrade via serial interface

Specifications

Cellular Interface	Standard	GSM and GPRS (* EDGE optional) GPRS: max. 86 kbps (DL and UL) EDGE: max. 236.8 kbps (DL and UL)
	Band Options	Quad-Band 850/900/1800/1900 MHz
	GPRS Multi-slot Class	Class 10 (* Class 12 optional)
	GPRS Coding Schemes	CS1 to CS4
	CSD Data Transmission Rate	Up to 14.4 kbps
	Output Power	1 watt GSM1800/1900, 2 watts EGSM 900/GSM 850
SIM Interface	Number of SIMs	1
	SIM Card Reader	3V, 1.8V
Antenna Interface	Antenna Interface	SMA Female, 50 ohms impedance
Serial Interface	Number of Ports	1
	Interface	DB9 Female
	Serial Standards	RS232 and RS485 selectable by software
	ESD Protection	15KV
Serial Communication Parameters	Parameters	8, None, 1
	Flow Control	RTS/CTS hardware flow control XON/XOFF software flow control
	Baudrate	Baud rates from 300bps to 115200bps Auto-bauding from 1200 to 115200bps
Serial Signals	RS-232	TxD, RxD, RTS, CTS, GND
	RS-485	Data+ (A), Data- (B), GND
Digital Input	Type	Dry Contact

Robustel GoRugged M1000
Industrial Smart Cellular Modem

	Mode	DI or event counter
	Dry Contact	On: short to GND
		Off: open
	Isolation	3K VDC or 2K Vrms
	Counter Frequency	900 Hz
	Digital Filtering Time Interval	Software selectable
Over-voltage Protection	36 VDC	
Digital Output	Type	Sink
	Mode	DO or pulse output
	Pulse Output Frequency	1 kHz
	Over-voltage Protection	40 VDC
	Over-current Protection	0.5 A
	Isolation	3K VDC or 2K Vrms
LED Indicators	LED Indicators	6 LED indicators, PWR, RUN, NET and 3 level RSSI
RTC	Real Time Clock	Built-in real time clock with button battery
Watchdog	Watchdog and Timer	Built-in watchdog and timer
Switch	Switch	Configuration mode and Normal mode selecting by switch
Power Supply Interface	Power Supply Interface	2-pin 5mm pluggable terminal block
Power Requirements	Input Voltage	9 to 36 VDC
	Power Consumption	Idle: 50-60 mA @ 12 V Data Link: 100 to 200 mA (peak) @ 12 V
Physical Characteristics	Housing	Metal
	Weight	300g
	Dimension	Without ears (L x W x H): 102.4 x 71.4 x 29.4 mm With ears (L x W x H): 102.4 x 99.4 x 29.4 mm
	Installation Method	35mm Din-Rail or wall mounting or desktop
Environmental Limits	Operating Temperature	-25 to 70°C
	Storage Temperature	-40 to 85°C
	Operating Humidity	5 to 95% RH
Regulatory and Type Approvals	Directives	RoHS and WEEE compliant
	CE and R&TTE Approval	CE 1177
	EMS	EN 61000-4-2 (ESD) Level 4, EN 61000-4-3 (RS) Level 4, EN 61000-4-4 (EFT) Level 4, EN 61000-4-5 (Surge) Level 3, EN 61000-4-6 (CS) Level 3, EN 61000-4-8, EN 61000-4-12
Warranty	Warranty Period	1 year
* Function is not supported by all the models; please refer to " Selection and Ordering Data " for supported models.		

Packing List

- Robustel M1000 modem x1
- SMA antenna (Stubby antenna or Magnet antenna optional) x1
- 2-pin 5mm pluggable terminal block for power connector x1

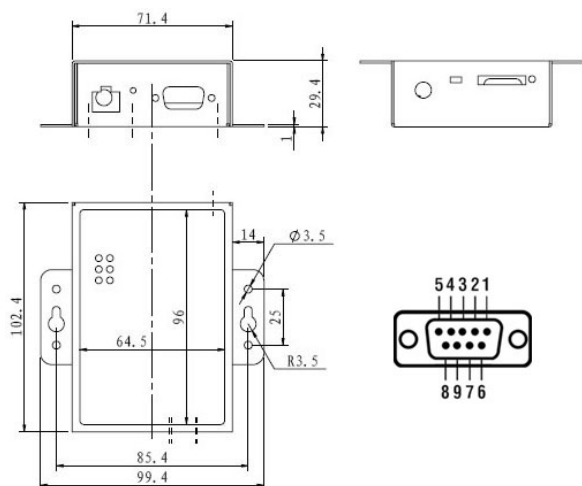
Robustel GoRugged M1000
Industrial Smart Cellular Modem

- CD with user guide and modem configuration utility x1

Optional Accessories (can be purchased separately)

- AC/DC Power Supply Adapter (Input 100 to 240VAC, output 1A @ 12VDC) x1
- 35mm Din-Rail mounting kit x2
- Serial cable for RS232 (DB9 Female to DB9 Male, 1.5 meters) x1
- DB9 Male to 9-pin 5mm pluggable terminal block for serial port and DI/DO x1

Dimensions



PIN Assignment

DB9 Female Connector

PIN	RS232	RS485 (2-wire)	I/O
1		Data- (B)	
2	RXD ->	Data+ (A)	
3	TXD <-		
4			DO
5	GND	GND	
6			DI
7	RTS <-		
8	CTS ->		
9			IO GND

Selection and Ordering Data

Model No.	Built-in Module	Networks	RS232	RS485
M1000-SC551A	Cinterion MC55i	Quad-Band GSM 850/900/1800/1900 MHz, GPRS Class 10	O	X
M1000-SC551B	Cinterion MC55i	Quad-Band GSM 850/900/1800/1900 MHz, GPRS Class 10	O	O
M1000-SCS2WA	Cinterion BGS2-W	Quad-Band GSM 850/900/1800/1900 MHz, GPRS Class 10	O	X
M1000-SCS2WB	Cinterion BGS2-W	Quad-Band GSM 850/900/1800/1900 MHz, GPRS Class 10	O	O
M1000-SC751A	Cinterion MC75i	Quad-Band GSM 850/900/1800/1900 MHz, GPRS/EDGE Class 12	O	X
M1000-SC751B	Cinterion MC75i	Quad-Band GSM 850/900/1800/1900 MHz, GPRS/EDGE Class 12	O	O
O:		X:		
Supports this feature.		Does not support this feature.		

Subject to change without notice.



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