

# Robustel GoRugged M1000 Pro

## Serial to GPRS/EDGE Gateway

## for GSM/GPRS/EDGE Networks



### Overview

- The Robustel GoRugged M1000 Pro is a rugged serial to GPRS/EDGE gateway offering state-of-the-art GSM/GPRS (EDGE optional) connectivity for machine to machine (M2M) applications.
- Automatic GPRS connection (no AT commands required) and watchdog for reliable communications.
- Transparent TCP and UDP socket connections.
- Modbus/RTU to Modbus/TCP.
- Support Virtual COM (COM port redirector).
- Various wakeup policies, such as always online, wakeup by serial data, SMS, Caller ID and preset time.
- Remote configuration via SMS.
- 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 and GPRS.
- 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
- Configurable by Robustel **ModemConfigurator Pro** GUI
- Auto GPRS connection (no AT commands required) and watchdog for reliable communications
- Transparent TCP client, TCP server and UDP socket connections
- Modbus/RTU to Modbus/TCP
- Support Virtual COM (COM port redirector)
- Various dial-up policies
  - Always online: automatic GPRS connection while it powered on, automatic redial while the line dropped
  - Serial data wakeup
  - Wakeup on Caller ID or SMS
  - Wakeup at preset time of a day or periodically at preset interval
- Auto GPRS connect/reconnect, Keep Alive command to maintain socket connection
- Auto disconnect GPRS when idle, switch off wireless module to save power is optional
- Auto SMS of IP for dynamic IP SIM card
- Remote configuration via SMS
- Packetization methods: packet length / time interval / special end characters
- Auto reboot at preset time of a day; Auto reboot via Caller ID/SMS
- 1xDI and 1xDO with wireless communications via SMS and GPRS
- Firmware upgrade via serial interface

## Specifications

<b>Cellular Interface</b>	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
	Output Power	1 watt GSM1800/1900, 2 watts EGSM 900/GSM 850
<b>SIM Interface</b>	Number of SIMs	1
	SIM Card Reader	3V, 1.8V
<b>Antenna Interface</b>	Antenna Interface	SMA Female, 50 ohms impedance
<b>Serial Interface</b>	Number of Ports	1
	Interface	DB9 Female
	Serial Standards	RS232 and RS485 selectable by software
	ESD Protection	15KV
<b>Serial Communication Parameters</b>	Parameters	8, None, 1
	Flow Control	RTS/CTS hardware flow control XON/XOFF software flow control
	Baudrate	Baud rates from 300bps to 115200bps
<b>Serial Signals</b>	RS-232	TxD, RxD, RTS, CTS, GND

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	RS-485	Data+ (A), Data- (B), GND
<b>Digital Input</b>	Type	Dry Contact
	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	
<b>Digital Output</b>	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
<b>LED Indicators</b>	LED Indicators	6 LED indicators, PWR, RUN, NET and 3 level RSSI
<b>RTC</b>	Real Time Clock	Built-in real time clock with button battery
<b>Watchdog</b>	Watchdog and Timer	Built-in watchdog and timer
<b>Switch</b>	Switch	<b>Configuration mode</b> and <b>Normal mode</b> selecting by switch
<b>Power Supply Interface</b>	Power Supply Interface	2-pin 5mm pluggable terminal block
<b>Power Requirements</b>	Input Voltage	9 to 36 VDC
	Power Consumption	Idle: 50-60 mA @ 12 V
		Data Link: 100 to 200 mA (peak) @ 12 V
<b>Physical Characteristics</b>	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	
<b>Environmental Limits</b>	Operating Temperature	-25 to 70°C
	Storage Temperature	-40 to 85°C
	Operating Humidity	5 to 95% RH
<b>Regulatory and Type Approvals</b>	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
<b>Warranty</b>	Warranty Period	1 year
* Function is not supported by all the models; please refer to " <a href="#">Selection and Ordering Data</a> " for supported models.		

**Packing List**

- Robustel M1000 Pro modem x1

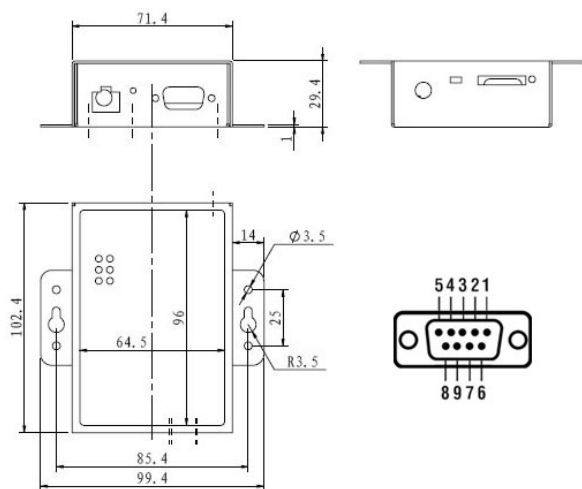
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- SMA antenna (Stubby antenna or Magnet antenna optional) x1
- 2-pin 5mm pluggable terminal block for power connector x1
- CD with user guide and modem configuration utility x1

**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-PC55IA	Cinterion MC55i	Quad-Band GSM 850/900/1800/1900 MHz, GPRS Class 10	<b>O</b>	<b>X</b>
M1000-PC55IB	Cinterion MC55i	Quad-Band GSM 850/900/1800/1900 MHz, GPRS Class 10	<b>O</b>	<b>O</b>
M1000-PCS2WA	Cinterion BGS2-W	Quad-Band GSM 850/900/1800/1900 MHz, GPRS Class 10	<b>O</b>	<b>X</b>
M1000-PCS2WB	Cinterion BGS2-W	Quad-Band GSM 850/900/1800/1900 MHz, GPRS Class 10	<b>O</b>	<b>O</b>
M1000-PC75IA	Cinterion MC75i	Quad-Band GSM 850/900/1800/1900 MHz, <b>GPRS/EDGE Class 12</b>	<b>O</b>	<b>X</b>
M1000-PC75IB	Cinterion MC75i	Quad-Band GSM 850/900/1800/1900 MHz, <b>GPRS/EDGE Class 12</b>	<b>O</b>	<b>O</b>
<b>O:</b>		<b>X:</b>		
Supports this feature.		Does not support this feature.		

Subject to change without notice.



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