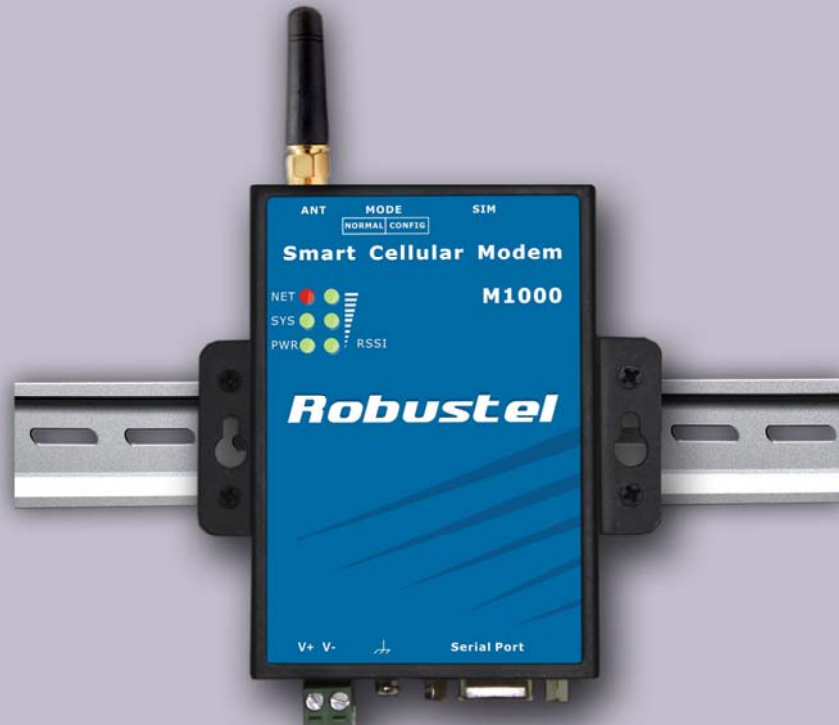


Robustel GoRugged M1000

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 convert 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 vise 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
 - Auto reboot at preset time of a day
 - Auto reboot via telephone 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 |

Robustel GoRugged M1000
Industrial Smart Cellular Modem

| | | |
|--|---|--|
| | RS-485 | Data+ (A), Data- (B), GND |
| Digital Input | 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 | |
| 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 | Q1 2012 |
| Warranty | Warranty Period | 1 year |
| * Function is not supported by all the models; please refer to " Selection and Ordering Data " for supported models. | | |

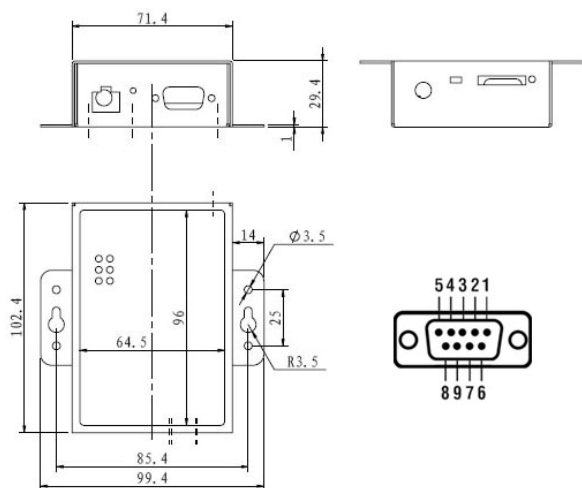
Packing List

- Robustel M1000 modem x1
- SMA antenna (Stubby antenna or Magnet antenna optional) x1
- 2-pin 5mm pluggable terminal block for power connector x1
- 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-SCS2EA | Cinterion BGS2-E | Dual-Band GSM 900/1800 MHz, GPRS Class 10 | O | X |
| M1000-SCS2EB | Cinterion BGS2-E | Dual-Band GSM 900/1800 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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