

# SMG-1100 Series

**Smart machine-to-machine Modbus gateway with 2 serial ports, GPRS/EDGE, Ethernet, IPsec**



- > Built-in GPRS/EDGE cellular communication
- > Frequency bands: 850/900/1800/1900 MHz supported
- > 2 software selectable RS-232/422/485 serial ports
- > 300 bps to 921.6 Kbps, non-standard baudrates supported
- > 10/100 Mbps Ethernet for network redundancy
- > Supports Modbus RTU and Modbus ASCII serial protocols
- > Supports Modbus TCP
- > Generate and filter out gateway exceptions
- > Use Modbus addressing to route network traffic
- > Automatic connection management
- > Supports IPsec
- > User interface for Modbus & IPsec configuration



## Overview

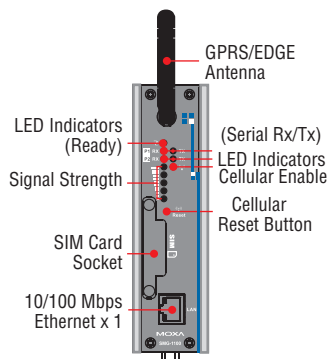
The SMG-1100 series features two software selectable RS-232/422/485 ports, one Ethernet port, and quad-band GPRS/EDGE 900/1800/850/1900 MHz for cellular communication.

The SMG-1100 series provides a sophisticated wireless M2M solution for distributed Modbus devices. The SMG-1100 networks Modbus

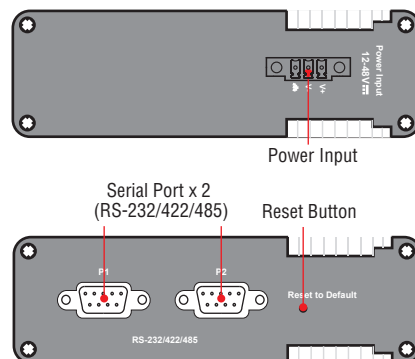
devices with Modbus RTU/ ASCII protocols can work well via GPRS/EDGE or Ethernet to Modbus TCP, and each serial port can support up to 31 serial slaves to IP network. Implemented with the protocol conversion functionality, the SMG-1100 can serve both serial master and slave and the built-in IPsec function guarantees that data transmission is encrypted even in a wireless environment.

## Appearance

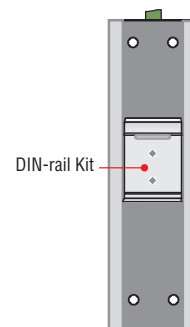
### Front View



### Top/Bottom View

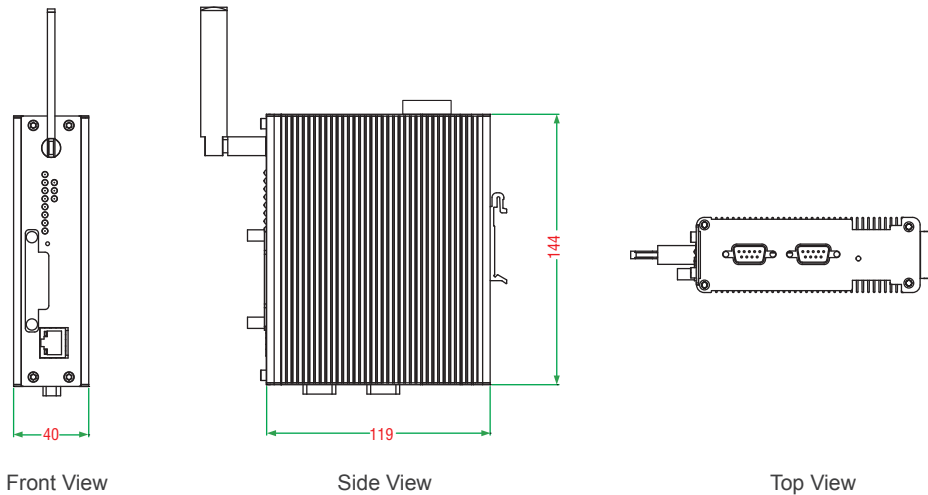


### Rear View



## Dimensions

Unit: mm (inch)



## Specifications

### Ethernet Interface

**LAN:** 1 auto-sensing 10/100 Mbps port (RJ45)  
**Magnetic Isolation Protection:** 1.5 KV built-in

### Cellular Interface

**Cellular Modes:** GPRS, EDGE  
**Radio Frequency Bands:** 850/900/1800/1900 MHz  
**GPRS Class:** 12  
**EDGE Class:** 12  
**Coding Schemes:** CS1 to CS4

### Serial Interface

**Serial Standards:** 2 RS-232/422/485 ports, software-selectable (DB9 male)  
**ESD Protection:** 15 KV ESD protection for all signals

### Serial Communication Parameters

**Data Bits:** 7, 8  
**Stop Bits:** 1, 2  
**Parity:** None, Even, Odd, Space, Mark  
**Flow Control:** RTS/CTS, None  
**Baudrate:** 300 bps to 921.6 Kbps

### Serial Signals

**RS-232:** TxD, RxD, DTR, DSR, RTS, CTS, DCD, GND  
**RS-422:** TxD+, TxD-, RxD+, RxD-, GND  
**RS-485-4w:** TxD+, TxD-, RxD+, RxD-, GND  
**RS-485-2w:** Data+, Data-, GND

### LEDs

**System:** Ready  
**LAN:** 10M/Link, 100M/Link (on connector)  
**Cellular:** Cellular Enable, Signal Strength (5 LEDs)  
**Serial:** TxD, RxD

### Switches and Buttons

**Reset Button:** Supports "Reset to Factory Default"  
**Cellular Reset Button:** Supports cellular reset function

### Physical Characteristics

**Housing:** Aluminum (1 mm)

**Weight:** 1 kg

**Dimensions:** (without ears or antenna)  
 144 x 119 x 40 mm (5.7 x 4.7 x 1.6 in)

**Mounting:** DIN-Rail, wall (requires optional wall mount kit)

**Antenna Length:** 85 mm

### Environmental Limits

**Operating Temperature:** -10 to 60°C (14 to 140°F)  
**Storage Temperature:** -20 to 80°C (-4 to 176°F)  
**Ambient Relative Humidity:** 5 to 95% (non-condensing)  
**Anti-vibration:** 2 g's @ IEC-68-2-6, sine wave, 5-500 Hz, 1 Oct./min, 1 hr/axis

### Anti-shock:

- With DIN-Rail kit: 6 g's @ IEC-68-2-27, half sine wave, 11 ms
- With optional wall mount kit: 20 g's @ IEC-68-2-27, half sine wave, 11 ms

### Power Requirements

**Input Voltage:** 12 to 48 VDC

### Power Consumption:

- 300 mA @ 24 VDC
- 600 mA @ 12 VDC

### Standards and Certifications

**Safety:** UL 60950-1, CSA C22.2 No. 60950-1-03, EN 60950-1  
**EMC:** CE, FCC  
**EMI:** EN 55022 Class A, FCC Part 15 Subpart B Class A  
**EMS:** EN 55024  
**Radio:** EN 301 489-1, EN 301 489-7, EN 301 511  
**Green Product:** RoHS, CRoHS, WEEE

### Reliability

**Alert Tools:** Built-in buzzer and RTC (real-time clock) with battery backup

**Automatic Reboot Trigger:** Built-in WDT (watchdog timer)

### Warranty

**Warranty Period:** 5 years

**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

## Ordering Information

### Available Models

**SMG-1100:** Smart machine-to-machine Modbus gateway with 2 serial ports, GPRS/EDGE, Ethernet, IPSEC

### Package Checklist

- 1 SMG-1100 Modbus gateway
- Ethernet cable: RJ45 to RJ45 cross-over cable, 100 cm
- GPRS/EDGE antenna
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card