

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

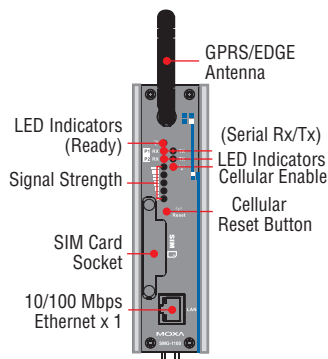
The SMG-1100 series features two software selectable RS-232/422/485 ports, one Ethernet port, and quad-band GPRS/EDGE 900/1800/850/1900 MHz for cellular communication.

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

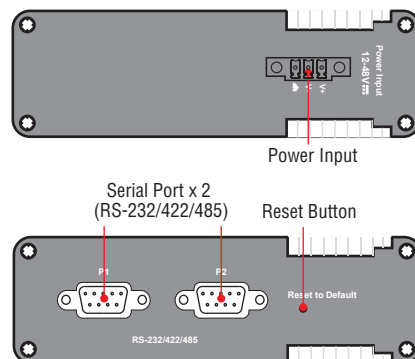
devices with Modbus RTU/ ASCII protocols can work well via GPRS/EDGE or Ethernet to Modbus TCP, and each serial port can support up to 31 serial slaves to IP network. Implemented with the protocol conversion functionality, the SMG-1100 can serve both serial master and slave and the built-in IPsec function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

Appearance

Front View



Top/Bottom View

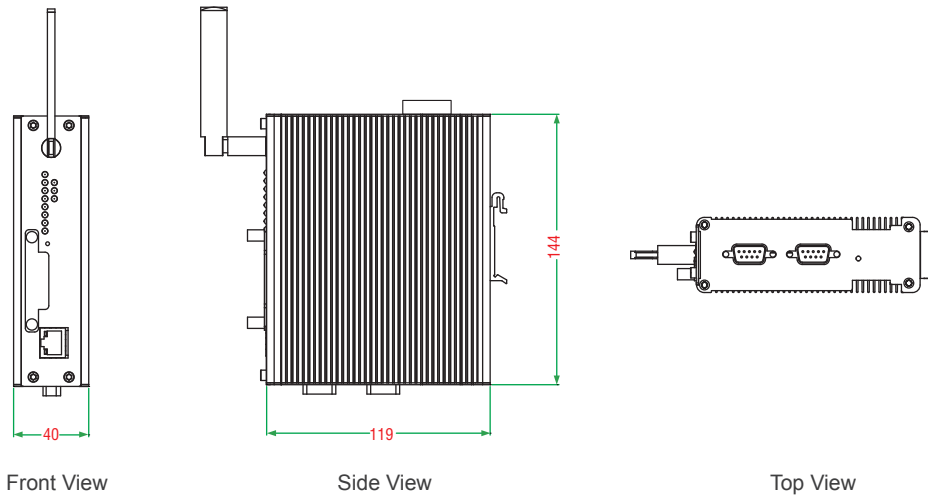


Rear View



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

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