

M301-TPG Industrial 4G LTE Cellular Router

Introduction

Proscend Industrial-grade M301-TPG 4G LTE Cellular Router is highly reliable and secure wireless communications gateway designed for Industrial IoT and M2M applications. The **M301-TPG** provides **3-port 10/100 Base-TX Ethernet interfaces** and **1 WAN port with 802.3at/af PoE PD function**, eliminating the need for separate power and data cables. Built for secure and uninterrupted operation in harsh environments, the **M301-TPG** supports extended operating temperature from **-40 to 75°C** and a flexible input voltage range of 10-32V DC.



With GPS function, the **M301-TPG** can track accurately the fixed locations where the routers position and sync the time for quickly managing existing devices. It supports multi-band connectivity including FDD/TDD LTE, WCDMA and GSM. To enhance reliability, the **M301-TPG** is equipped with dual SIM that supports failover and roaming over to customize your professional applications in diverse environments for mission-critical cellular communications.

Proscend M301-TPG also provides enterprise-grade software features, such as TR069 for remote management and Quality of Service (QoS) for traffic prioritization. Featuring **VPN Tunnels**, such as **IPSec**, **OpenVPN** to ensure the critical security, and providing multiple network protocols for a wide range of applications and vertical machine-to-machine (M2M) markets, such as **Modbus**, **MQTT**. The device is administrated via web GUI, Telnet, SSH v2 and HTTP/HTTPS. **Proscend M301-TPG 4G LTE Cellular Router** with approval industrial-grade certificates is an ideal cellular communications solution for heavy industrial use.



Features

- Highly reliable and secure for mission-critical cellular communications
- Support multi-band connectivity with FDD LTE/ TDD LTE/ WCDMA/ GSM/ LTE Cat 4
- Provide 3-port ETH LANs, 1-port ETH WAN with IEEE 802.3at/af PoE PD
- Built-in dual SIM for network redundancy
- Integrated dual detachable antenna against radio interference
- Equipped with GPS for quickly and easily deploying your devices
- LED indicators for connection and data transmission status
- Industrial rated from -40 to +75°C for use in harsh environments
- Aluminum housing with IP40 industrial-grade protection
- IPv6/IPv4 dual stack and all applications are IPv6 ready
- Support various serial communication protocols for rich connectivity
- Enhance security and encryption for authentication and transmission

Specifications

Cellular Interface

- Standards: (Please see ordering information for optional band)
 - 4G : FDD LTE, TDD LTE
 - 3G : WCDMA
 - 2G : GSM/EDGE
 - GNSS : GPS
- LTE Data Rate: Cat 4, 150Mbps (DL), 50Mbps (UL)

Processor & I/O Interface

- High performance 528 MHz CPU with 512 Mbytes of DDR3 memory
- 2 x SIM Card Slots
- 3 x LAN 10/100 Mbps Ethernet ports
- 1 x WAN 10/100 Mbps Ethernet port with IEEE 802.3at/af PoE PD
- Reset Button
- Console: 1 x RS232 (9-pin Sub-D)
- 2 x SMA connectors for detachable LTE antenna
- 1 x GPS detachable antenna (Optional)
- 1 x RS485 (D+/D-)
- 1 x RS232 (TXD/RXD)
- 2 x DI, 1 x DO (Alarm +/-)

Physical Characteristics

- Enclosure : Aluminum Case
- Housing : IP40 Protection
- Dimensions (W x H x D) : 60 x 110 x 106 mm
- Weight : 452 g (0.9965 lb)
- Installation : DIN Rail (Default) or Wall Mount (Optional)

LED Display

- 1 x System status LED (Green)
- 1 x VPN status LED (Green)
- 1 x SIM1 status LED (Green)
- 1 x SIM2 status LED (Green)
- Ethernet status LEDs (Green for LINK/ACT, Yellow for SPEED)
- 2 x Mobile connection strength LEDs (Green)

Power Supply

- Power Consumption 7 Watts(Max)
- Power Input 10 ~ 32V DC

MTBF (mean time between failures)

- M301-TPG: 148,930 hrs (MIL-HDBK-217-FN2)

Software

- **Network Protocols:**
IPv4, IPv6, IPv4/IPv6 dual stack, DHCP server and client, PPPoE, Static IP, SNTP, GPS sync time, DNS Proxy, Modbus, VRRP, OSPF, Message Queue Telemetry Transport (MQTT Broker), BGP
- **Routing/Firewall:**
NAT, Virtual Server, DMZ, MAC Filter, URL Filter, IP Filter, VLAN, Static Routing and RIP-1/2
- **VPN:**
OpenVPN, IPSec (3DES, AES128, AES196, AES256, MD5, SHA-1, SHA256), GRE, PPTP, L2TP
- **Wireless Connectivity:**
Two SIM for failover/ roaming over/ back up
Two SIM data usage control
Seamless multi WAN connections switch
- **Others:**
DDNS, QoS, Virtual COM, UPnP
- **Alarm:**
DI, DO, SMS, VPN/WAN Disconnect, SNMP Trap, E-mail

Management Software

- Web GUI for remote and local management, CLI
- Dual Image firmware upgrade by Web GUI
- Syslog monitor
- SNMP, TR069
- Remote management via SSH v2, HTTPS
- Local management via Telnet, SSH v2, HTTP/HTTPS

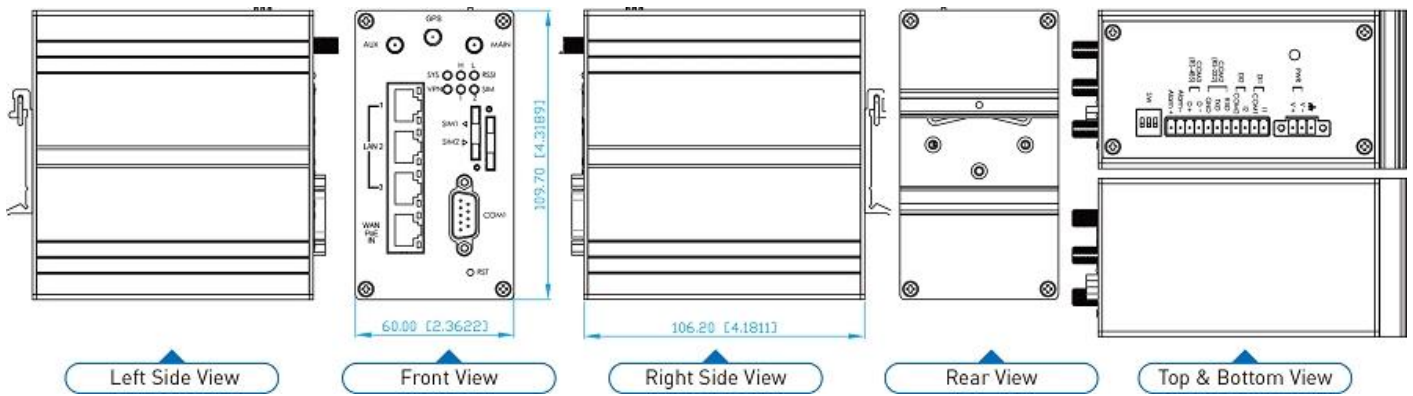
Environment

- Operating Temperature -40 ~ +75°C
- Storage Temperature -40 ~ +85°C
- Ambient Relative Humidity 10 ~ 95% (non-condensing)
- Humidity 0 ~ 95% (non-condensing)

Standards and Certifications

- **EMC** : CE, FCC
- **EMI** : EN 55032 Class A, FCC Part 15 Subpart B Class A
- **EMS** : EN 55024 / EN 61000-4-2 (ESD) Level 3 / EN 61000-4-3 (RS) Level 3 / 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 (PFMF) Level 4 / EN 61000-4-11 / EN 61000-6-2 (Industrial) / EN 61000-6-4 (Industrial)
- **Rail Traffic** : EN50121-4
- **Vibration** : IEC60068-2-6
- **Safety** : EN60950-1
- **Highly Accelerated Life Test (HALT)**

Dimensions



Ordering Information

Model	Description
M301-TPG	Industrial 4G LTE Cellular Router (1 x WAN with PoE PD, 3 x LANs, 2 x RS232, 1 x RS485, 2 x DI, 1 x DO, 2 x SIM Card Slots, 1 x GPS, -40 ~ +75°C)

Options of Bands/Frequencies (MHz)

Option	4G		3G	2G	Region
	FDD LTE	TDD LTE	WCDMA	GSM / EDGE	
E	B1(2100), B3(1800), B5(850), B7(2600), B8(900), B20(800)	B38(2600), B40(2300), B41(2500)	B1(2100), B5(850), B8(900)	B3(1800), B8(900)	Europe Africa Middle East Korea Thailand India
A	B2(1900), B4(1700), B12(700)		B2(1900), B4(1700), B5(850)		North America
AU	B1(2100), B2(1900), B3(1800), B4(1700), B5(850), B7(2600), B8(900), B28(700)	B40(2300)	B1(2100), B2(1900), B5(850), B8(900)	B2(1900), B3(1800), B5(850), B8(900)	Australia New Zealand South Africa Taiwan
J	B1(2100), B3(1800), B8(900), B18(850), B19(850), B26(850)	B41(2500)	B1(2100), B6(850), B8(900), B19(850)		Japan

* Features and specifications are subject to change without prior notice.