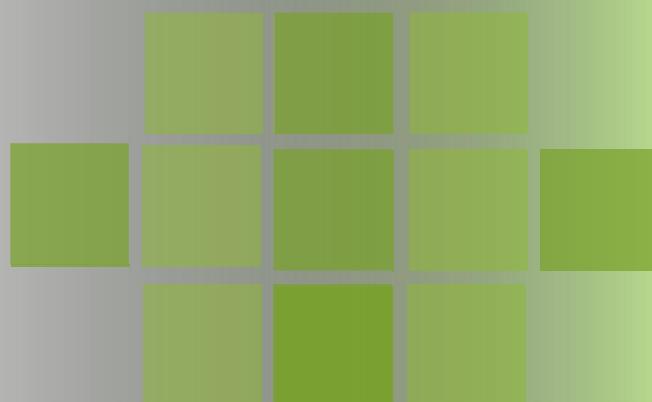# M-125 4G LTE Industrial Gateway

(**V1.01**)

MaxComm M-125 L1 Cellular industrial gateway is a wireless communication product developed based on 4G LTE network requirements. Supports 2G/3G/4G LTE global frequency band. Supports 2G/3G/4G LTE CAT 4 Internet access. The maximum downlink bandwidth of 4G LTE is 150Mbps, and the maximum uplink bandwidth is 50Mbps. Provides RS232, RS485, GPIOs, LAN etc hardware communication ports. Supports industrial equipment data collection, protocol analysis, dirty data cleaning, data operation, point table configuration, remote management, remote upgrade etc features. Supports for 2.4GHz WIFI function to meet the needs of more than 10 users WIFI hotspots. supports GPS positioning function, which is convenient for users to monitor operation and maintenance.It meets the needs of data collection and transmission in application scenarios such as power, vehicle, logistics, security, water conservancy, environmental protection, and industrial automation.

TYPICAL APPLICATION

Product features

◆ Wireless Mobile Broadband 3G / 4G Connection. Supports 3G/4G global frequency bands.

◆ Supports industrial equipment data collection, protocol analysis, dirty data cleaning, data operation, point table configuration, remote management, remote upgrade etc feature.

◆ Built-in communication protocols for industrial equipment such as electricity meters, inverters, weather stations, and sensors etc.

◆ Supports Modbus, IEC101,IEC102,IEC103,IEC104,IEC61850,DL/T645, DL/T698 , DLMS,TLS etc protocols.

◆ Supports power failure alarm, TF card data storage, breakpoint resume etc features.

◆ Supports system crashes and automatically recovers. The system automatically maintains the data link and is permanently online.

◆ Supports Multiple VPN tunnels for data encryption .

Designed for industrial usage

◆ Power Input Range. DC 6V~36V

◆ Industrial design for harsh environment. The interface design meets multiple protections such as anti-surge, anti-static, and lightning protection.

◆ Black aluminum alloy shell.

Easy to use and easy maintenance

◆ User friendly web interface for user interaction.

◆ Supports remote management platform.

◆ Supports local web UI and remote FOTA update firmware.

Operating system

◆ Built-in **Linux kernel 3.18.20** operating system. Supports user secondary application development.

SPECIFICATIONS

Cellular feature	
3G/4G data connectivity	It provides data connectivity on LTE-FDD, LTE-TDD, DC-HSDPA, HSPA+, HSDPA, HSUPA and WCDMA,EDGE,GPRS networks.
3G/4G LTE Frequency bands	**Version C** LTE-FDD. B1, B3, B5, B8 LTE-TDD. B38, B39, B40, B41 WCDMA. B1, B8 GSM.900/1800MHz **Version E.** LTE FDD. B1/B3/B5/B7/B8/B20,B28A LTE TDD. B38/B40/B41 WCDMA. B1/B8 GSM. B3/B8 **Version AU.** LTE FDD. B1/B2/B3/B4/B5/B7/B8/B28 LTE TDD. B40 WCDMA. B1/B2/B5/B8 GSM. B2/B3/B5/B8 *** Version J** LTE FDD. B1/B3/B8/B18/B19/B26 LTE TDD. B41 WCDMA. B1/B6/B8/B19 ***Version A.** LTE FDD. B2/B4/B5/B12/B13/B14/B66/B71 **Remarks. More 4G LTE frequency bands requirements,please contact us.**

2G/3G/4G LTE Transmitting Power	Class 4 (33dBm±2dB) for GSM850 Class 4 (33dBm±2dB) for EGSM900 Class 1 (30dBm±2dB) for DCS1800 Class 1 (30dBm±2dB) for PCS1900 Class E2 (27dBm±3dB) for GSM850 8-PSK Class E2 (27dBm±3dB) for EGSM900 8-PSK Class E2 (26dBm±3dB) for DCS1800 8-PSK Class E2 (26dBm±3dB) for PCS1900 8-PSK Class E2 (27dBm±3dB) for EDGE 900MHz Class E2 (26dBm±3dB) for EDGE 1800MHz Class 3 (24dBm+1/-3dB) for WCDMA bands Class 3 (23dBm±2dB) for LTE-FDD bands Class 3 (23dBm±2dB) for LTE-TDD bands Class 3 (23dBm±2dB) for LTE FDD Class 3 (23dBm±2dB) for LTE TDD
2G/3G/4G LTE Receive sensitivity	LTE B1. -101.5dBm (10M) LTE B2. -101dBm (10M) LTE B3. -101.5dBm (10M) LTE B4. -101dBm (10M) LTE B5. -101dBm (10M) LTE B7. -99.5dBm (10M) LTE B8. -101dBm (10M) LTE B12. -101dBm (10M) LTE B13. -100dBm (10M) LTE B14. -99dBm (10M) LTE B18. -101.7dBm (10M) LTE B19. -101.4dBm (10M) LTE B20. -102.5dB (10M) LTE B26. -101.5dBm (10M) LTE B28. -102dBm (10M) LTE B38. -100dBm (10M) TDD B39. -101.2dBm (10M) LTE B40. -100dBm (10M) LTE B41. -99dBm (10M) LTE B66. -99dBm (10M) LTE B71. -100dBm (10M) WCDMA B1. -110dBm WCDMA B2. -110dBm WCDMA B4. -110dBm WCDMA B5. -110.5dBm WCDMA B6. -110.5dBm WCDMA B8. -110.5dBm WCDMA B19. -110.5dBm GSM850. -109dBm GSM 900. -109dBm GSM 1800. -109dBm
GSM features	**R99.** CSD: 9.6kbps, 14.4kbps **GPRS.** Support GPRS multi-slot class 12 (12 by default) Coding scheme: CS-1, CS-2, CS-3 and CS-4 Maximum of four Rx time slots per frame **EDGE.** Support EDGE multi-slot class 12 (12 by default) Support GMSK and 8-PSK for different MCS (Modulation and Coding Scheme) Downlink coding schemes: CS 1-4, MCS 1-9 Uplink coding schemes: CS 1-4, MCS 1-9

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WCDMA features	Support 3GPP R8 DC-HSPA+ Support 16-QAM, 64-QAM and QPSK modulation 3GPP R6 Cat 6 HSUPA: Max 5.76Mbps (UL) 3GPP R8 Cat 24 DC-HSPA+: Max 42Mbps (DL)
4G LTE features	Support up to non-CA Cat 4 Support 1.4 to 20MHz RF bandwidth Support MIMO in DL direction FDD: Max 50Mbps (UL), 150Mbps (DL) TDD: Max 35Mbps (UL), 130Mbps (DL)
Antennas	◆ 2* 2 MIMO 4G antennas, with 50 Ω impedance. ◆ 1* GPS antenna.(**Optional**). ◆ 1* WIFI antenna.(**Optional**).
GNSS/GPS (Optional)	
GNSS features	◆ Gen8C Lite of Qualcomm ◆ Protocol: NMEA 0183
SIM card feature	
SIM card	Supports 1* SIM slots, 1.8V / 3V.
Hardware feature	
CPU	ARM cortex A7, 1.2GHz
MEMORY	NAND FLASH 512MByte, SDRAM 256MByte
Hardware interface	1* LAN 10/100/1000Mbps Gigabit Ethernet port. 1*RS232/1*RS485 or 2*RS485 ports,GPIOs.
Watchdog	Built-in hardware watchdog feature.
Key button	Reset
Protection level	Ethernet port , RS232/RS485,Contact electric shock, +/-4KV, air discharge: +/-8KV.
LED status indicator	PWR ,SYS, Net, LAN,WLAN
Power Supply voltage	DC 12V
Supply voltage range	DC 6~36V
Peak current	0.22A @12V
Working current	50 mA @12 V
Power Consumption	**Idle.** 0.6W @12 V **Peak Data link.** 2.65W @12V
Operating Temperature	-20 ℃ ~+70℃
Storage Temperature	-30~+80℃
Environment humidty	5%~95% ,no condensation.
Ingress Protection	IP30
Housing	Aluminum black shell.
Dimensions	115mm * 73mm * 20mm
Installations	Desktop installation.
Weight	200g

Wi-Fi （Optional）	
WLAN	◆ IEEE 802.11b/g/n. ◆ Supports 40MHz bandwidth in 2.4GHz band. ◆ Max bandwidth 150Mbps in 2.4GHz band.
Wireless Mode	Access Point (AP), Client
Wireless Security	Supports WPA, WPA2,WPAI, WEP, TKIP encryption.
Frequency Bands	2.4 GHz
WIFI transmit power	**2.4GHz output power.** 11b , 1Mbps @ 18+/- 2dBm 11g , 6Mbps @ 19+/- 3dBm 11n HT20 , MCS0 @ 18.5 +/- 2dBm 11g EVM, 54Mbps @ 16+/- 2dBm 11n HT20 EVM , MCS7 @ 13 +/- 3dBm
WIFI Rx Sensitivity	**2.4GHz Rx sensitivity.** CCK 1Mbps @ -97dBm CCK 2Mbps @ -93dBm CCK 5.5Mbps @ -91dBm CCK 11Mbps @ -89dBm OFDM, 6Mbps @ -93dBm OFDM, 9Mbps @ -92dBm OFDM, 12Mbps @ -91dBm OFDM, 18Mbps @ -88dBm OFDM, 24Mbps @ -85dBm OFDM, 36Mbps @ -82dBm OFDM, 48Mbps @ -77dBm OFDM, 54Mbps @ -76dBm HT20, MCS0 @ -93dBm HT20, MCS1 @ -90dBm HT20, MCS2 @ -88dBm HT20, MCS3 @ -83dBm HT20, MCS4 @ -81dBm HT20, MCS5 @ -76dBm HT20, MCS6 @ -74dBm HT20, MCS7 @ -73dBm
WIFI antenna	1T/1R, external antennas with 50 Ω impedance.
WIFI hotspot sharing	Supports more than 10 users to share WIFI access to the Internet.
Software feature	
Parameter settings	Supports automatic detection of MNC and MCC parameters of global operators. Built-in global operator APN, user name, password and other network parameters. At the same time, manual setting of network parameters is supported.
Dial method	After the device is powered on, the system automatically dials up to connect to the network.
Protocol	Supports PPTP,L2TP,IPSEC VPN,TCP,UDP,DHCP,HTTP,DDNS,TR-069,HTTPS,SSH,SNMP,TLS etc protocol.
Routing	Supports static routing, multiple routing tables.
Bridge	Supports 4G bridge mode feature.
Multiple APN	Supports multiple APN access network.

System Assurance	Supports system automatic detection mechanism, automatic recovery of system abnormality or crash.
Data Link Assurance	Built-in data link maintenance and self-recovery mechanism.
Firewall	◆ Support flexible access control of TCP, UDP, ICMP packets. ◆ Supports port Mapping, NAT etc feature.
DDNS	Supported some service providers, others can be configured manually.
Firmware update	Supports local WebUI and remote OTA update firmware.
Embedded system	Linux 3.18.20
Application development	Supports secondary development of application functions based on our device motherboard software.
VPN	
VPN Feature	Supports Open VPN, IPSEC VPN,PPTP,L2TP etc VPN feature.
Protocol	
Device Protocol	◆ Inverter brand: growatt、east、Ginlong Solis、saj、ceepower、Kstar、sungrow、Invt、moso、huawei、Trannergy、afore、omnik、jingfuyuan etc. ◆ Embedded temperature, ultrasonic, infrared, dew point meter and other sensor protocols. ◆ Supports multi-function meter communication protocol.
Industrial protocol	Supports Modbus IEC101,IEC102,IEC103 , IEC104,IEC61850 , DL/T645 , DLMS,DL/T698 etc protocols.
MONITORING & MANAGEMENT	
Web GUI	HTTP, Firmware Upgrade
Command Line Interface	SSHv2 ,telnet
Management platform	Remote Management Platform

Dimensions.