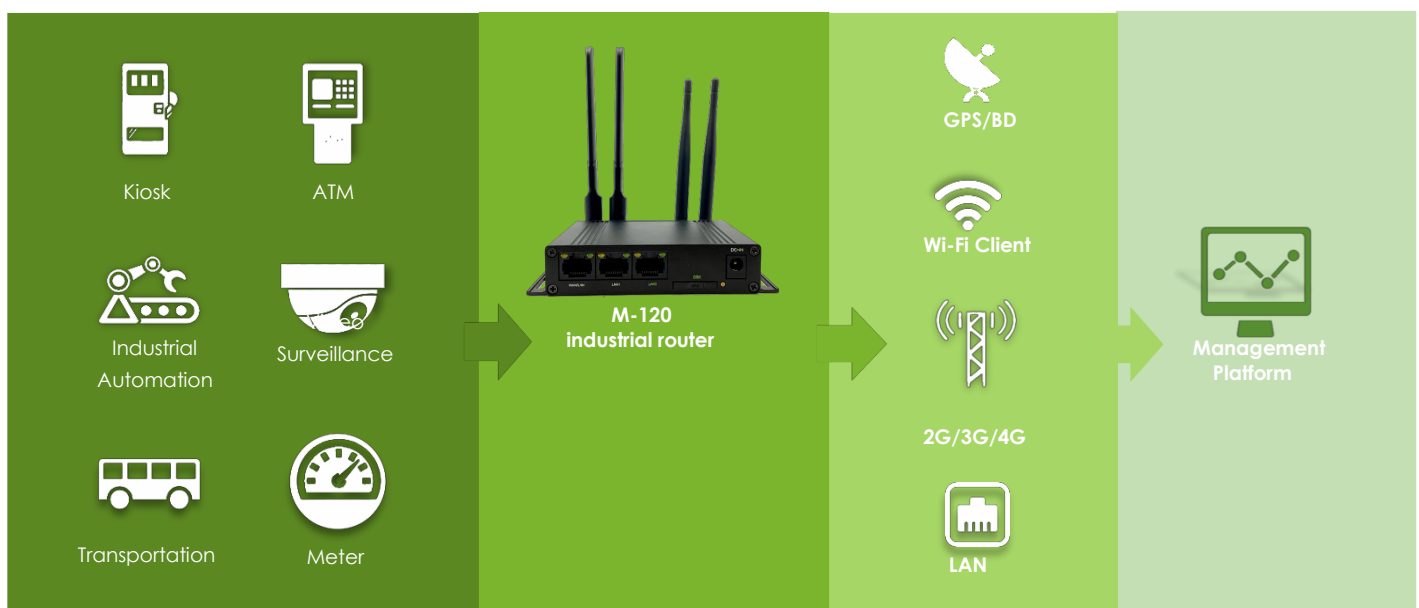# M-120 4G LTE Industrial router

(**V1.01**)

MaxComm M-120 Cellular industrial router is a wireless communication product developed based on 4G LTE network requirements. Supports 2G/3G/4G LTE global frequency bands. Supports 4G LTE CAT 4 Internet access. The maximum downlink bandwidth of 4G LTE is 150Mbps, and the maximum uplink bandwidth is 50Mbps. Supports 1 channel RS485 or RS232 for transparent IP packet transmission or data acquisition. Supports for 2.4GHz WIFI function to meet the access and sharing needs of more than 30 users WIFI hotspots. Supports GPS positioning function, which is convenient for users to monitor operation and maintenance. It meets the application design of industrial harsh environment, and is suitable for wide access and data transmission in industrial application scenarios.

TYPICAL APPLICATION

Kiosk

ATM

Industrial Automation

Surveillance

Transportation

Meter

M-120 industrial router

GPS/BD

Wi-Fi Client

2G/3G/4G

LAN

Management Platform

Product features

◆ Wireless Mobile Broadband 2G/3G/4G LTE Connection. Supports 2G/3G/4G LTE global frequency bands.

◆ Supports 1 channel RS485 or RS232 for transparent IP packet transmission or data acquisition.

◆ Supports 1*WAN/2*LAN fast Ethernet ports to internet access.

◆ 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 application scenarios.

◆ Power Input Range. DC +6V/2A to +36V/0.5A.

◆ Industrial design for harsh environment.

◆ 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 OpenWRT 18.06 operating system. Supports user secondary application development.

SPECIFICATIONS

Cellular feature	
2G/3G/4G LTE data connectivity	It provides data connectivity on LTE-FDD, LTE-TDD, DC-HSDPA, HSPA+, HSDPA, HSUPA and WCDMA networks.
2G/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 A.** LTE FDD: B2/B4/B5/B12/B13/B14/B66/B71 WCDMA: B2/B4/B5 **Version AU.** LTE FDD: B1/B2①/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 **Remarks. More frequency bands requirements,please contact us.**
2G/3G/4G LTE Data rates	**LTE.** LTE FDD: Max 150Mbps (DL)/Max 50Mbps (UL) LTE TDD: Max 130Mbps (DL)/Max 30Mbps (UL) **UMTS.** DC-HSDPA: Max 42Mbps (DL) HSUPA: Max 5.76Mbps (UL) WCDMA: Max 384Kbps (DL)/Max 384Kbps (UL) **GSM.** EDGE: Max 296Kbps (DL)/Max 236.8Kbps (UL) GPRS: Max 107Kbps (DL)/Max 85.6Kbps (UL)

LTE features	◆ Support up to 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)
UMTS features	◆ Supports 3GPP R8 DC-HSPA+ ◆ Supports 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)
GSM/GPRS 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
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 3 (24dBm+1/-3dB) for WCDMA bands ◆ Class 3 (23dBm±2dB) for LTE-FDD bands ◆ Class 3 (23dBm±2dB) for LTE-TDD bands
2G/3G/4G LTE 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) 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 EGSM900: -109dBm DCS1800: -109dBm PCS1900: -109dBm
Antennas	◆ 2* 2 MIMO 4G LTE external antennas, standard SMA connectors with 50 Ω impedance. ◆ 1* GPS 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 . or 1* eSIM card. (**Optional**)
Hardware feature	
CPU	MTK7628NN,575/580MHz ,MIPS 24KEc
MEMORY	FLASH 16MByte, DDR2 128MByte
Hardware interface	1* WAN/2* LAN 10/100Mbps fast Ethernet ports. 1*RS232 or 1*RS485 port.
Watchdog	Built-in watchdog feature.
Key button	Reset
Protection level	RS232/RS485,Ethernet port , Contact electric shock, +/-4KV, air discharge: +/-8KV.
LED status indicator	PWR ,SYS, Net, WAN, LAN,WLAN
Standard Power	Power supply input. DC 12V/1A
Power Supply	Power supply input. DC +6/2A~36V/0.5A, Default standard 1A/12V power adapter.
Peak current	Max current. 1A @12V
Working current	Max 160 mA,1.92W @12 V
Power Consumption	**Idle.** 36mA, 0.43W @12 V **Data link.** Max 160 mA, 1.92W @12 V **Peak.** Max 270mA , 3.24W @12V
Temperature	Operating Temperature -20 °C ~+70°C, Storage Temperature -30 °C ~+75°C
Environment humidty	5%~95% ,no condensation.
Ingress Protection	IP30
Housing	Aluminum black shell.
Dimensions	115mm * 73mm * 20mm
Installations	Wall mounted.
Weight	200g
Wi-Fi （Optional）	
WLAN	◆ IEEE 802.11b/g/n. ◆ Supports 20MHz,40MHz channel bandwidth in 2.4GHz band. ◆ Max bandwidth 300Mbps in 2T/2R 2.4GHz band.
Wireless Mode	Access Point (AP), Client
Wireless Speed	300Mbps @2.4GHz.
Wireless Security	Supports WPA, WPA2,WPAI, WEP, TKIP encryption.
Frequency Bands	2.4 GHz

WIFI transmit power	**2.4GHz Tx power.** TX CCK, 11Mbps @ -20dBm HT20,MCS 7 @ -20dBm HT40,MCS 7 @ -17dBm
WIFI Rx Sensitivity	**2.4GHz Rx sensitivity.** 11Mbps:≤-90dBm. 54 Mbps:≤-72dBm. HT20 MCS7:≤-69dBm. HT40 MCS7:≤-66dBm
WIFI antenna	2*2 MIMO external antennas ,standard SMA connector with 50 Ω impedance.
WIFI hotspot sharing	Supports more than 30 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 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.
VLAN	Supports VLAN feature.
Embedded system	**OpenWRT 18.06**
Application development	Supports secondary development of application functions based on our device motherboard software.
VPN	
VPN Feature	Supports OpenVPN, IPSEC VPN,PPTP,L2TP etc VPN feature.
MONITORING & MANAGEMENT	
Web GUI	HTTP, Firmware Upgrade
Command Line Interface	SSHv2 ,telnet
Management platform	Remote Management Platform

Dimensions.

WIFI   RSSI   NET   WAN   SIM   3G/4G

RST   SYS   LAN2

98.10

23.05

2

4

16

40.8

10

73

75.4

107