Industrial level, Secure, Reliable, Multiple link backup

MRouter400

Industrial LTE router

Mrouter500 series products are Internet of things wireless router products integrating 3G / 4G network, virtual private network and other technologies. They are MR402 series routers of Mobitel. The device relies on 3G / 4G / 5G wireless wide area network and Wi Fi wireless LAN and other technologies to provide a variety of uninterrupted network access capabilities. With its comprehensive security and wireless services and other characteristics, it realizes the networking of multi terminal equipment and provides a high-speed path for the real meaning of equipment informatization.

The design of the product fully meets the requirements of unattended field communication. The software and hardware watchdog and multi-level link detection mechanism are used to ensure the stability and reliability of communication. At the same time, it supports the cloud manager "equipment cloud" management platform, which is convenient for remote management of users and fully guarantees the intelligent equipment management. Various VPN technologies ensure the security of data transmission and prevent data from being accessed or tampered with maliciously. The user-friendly web configuration interface design is convenient for user configuration and greatly reduces the difficulty of user use.

A variety of network access, easy deployment and perfect remote management functions are shining in the wave of Internet of things construction.

MR402 series routers are especially suitable for large-scale equipment networking and many applications, such as

- Express cabinet terminal
- Organization networking
- Business networking
- Municipal heating,
- Security criminal investigation
- Intelligent Transportation
- Smart Grid
- Intelligent manufacturing
- New photovoltaic energy
- Industrial automation, and other applications

■ Application Case

4G/5G

Vending machine cloud platform

Star manager cloud platform

■ Features

+ Support 4G LTE CAT4 high speed network and LTE CAT1
+ CATM low speed network
+ Support WLAN
+ 2 Ethernet ports available
+ Multiple VPN features supported
+ Multiple link redundancy design to ensure continuous communication of equipment network
+ Support SNMP and Cloud Manager
+ Support efficient completion of large-scale equipment network deployment
+ Compact size, easy to install
+ Fully industrial design without fear of adverse conditions

● Provide uninterrupted multiple network access capabilities

It provides fast LTE WAN links to achieve business continuity and WAN diversity. No matter where the equipment is, you can choose 3G / 4G / 5G network with wide coverage in the world to ensure the interconnection of equipment. Users can select LTE Cat4 (downlink 150Mbps, uplink 50Mbps), CAT1 (downlink 10Mbps, uplink 5mbps), CATM (downlink 375kbps, uplink 300kbps) network system services

It supports Wi Fi and integrates AP / client to easily build a secure wireless network. It supports 802.11b/g/n standard communication, meets the user's needs for WLAN wireless access, with a speed of up to 300mbps. It is easy to build a WLAN, and supports

WEP / WPA / WPA2 encryption to ensure the security of

WLAN

Support 3G / 4G / 5G and Wi Fi for mutual backup, provide users with redundant communication links, which is another powerful guarantee for continuous data transmission

● Powerful Security Features

Data transmission security: support IPsec VPN, L2TP, PPTP, OPEN VPN, GRE, CA certificate to secure data transmission Network protection security: support SPI full state detection, Secure Shell (SSH), intrusion protection (no Ping), DDoS defense, attack The anti-wall function such as anti-defense, IP-MAC binding and so on protects the network from external attack

Equipment management security: support user hierarchical authorization management to achieve different user authority security management mechanism

● High Reliability Design

Link detection design, link layer detection, detection of link conditions, realization of automatic disconnection, long link connection, PPP layer detection, maintenance of the connection with the operator's network side, to prevent being forced to sleep, to maintain the smoothness of the network. VPN channel detection, maintain the connection stability of VPN channel, ensure the continuity of data transmission, self-healing design of equipment failure, embedded hardware watchdog, self-healing of equipment operation failure, and ensure

high availability of equipment

● Link Redundancy Design

Multiple link redundancy design to ensure continuous on-site communication

Support 3G/4G/5G, Wi-Fi and cable backups

● Support Network Management Platform

Support Cloud Manager (DM) " Device Cloud " management platform to facilitate users to monitor and centrally manage a large number of devices through the management platform. A large number of devices can be configured simultaneously to improve the efficiency of network deployment and maintenance
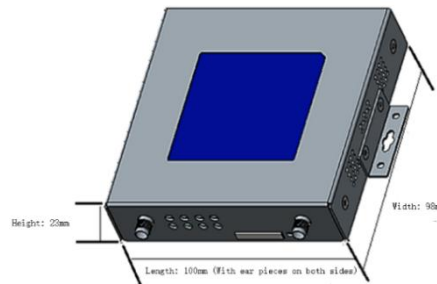
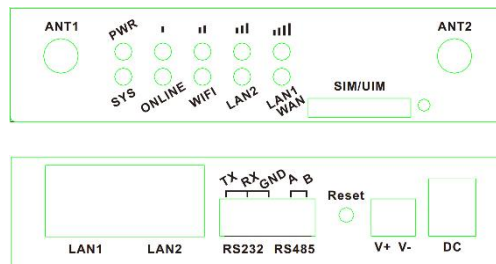● Industrial Design

Metal case, protection grade IP30

EMC Grade 3

Ethernet port supports 1.5KV isolation transformer protection

Operating temp：-35℃~75℃ Input voltage：DC5-36V

■ Dimensions (mm) and Interfaces

Height: 22mm

Width: 98mm

Length: 100mm (With ear pieces on both sides)

■ Indicator Light And Interface

ANT1 PWR · ¡¡ ¡¡¡ ¡¡¡¡ ANT2

SYS ONLINE WIFI LAN2 LAN1 WAN SIM/UIM

LAN1 LAN2 TX RX GND A B RS232 RS485 Reset V+ V- DC

■ Installation Schematic

Ear Rack
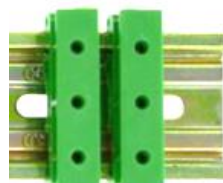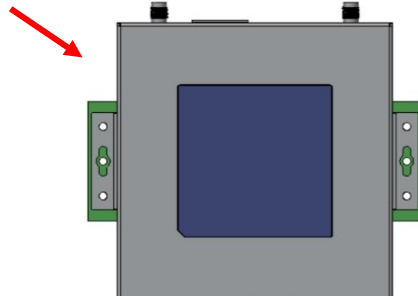
DRG-01

■ Technical Specifications

Hardware Performance	
Memory	64MB DDR2(extended to 128M/256MB)
FLASH	16MB SPI flash (extensible to 32MB)
WIFI	Optional,2.4G support 802.1b/g/n, maximum rate 150Mbps
Network support	Industrial 4G module to support seven-mode all-Netcom
System Time	Time synchronization using NTP technology with RTC built-in
Interface	
WAN	LAN1 can be configured as a WAN port
LAN	2(10M/100M Adaptive MDI/MDIX port)
SIM card interface	1(drawer type card holder, SIM/UIM card with 1.8V/3V)
Reset	1(reset button)
Antenna interface	1(3G/4G antenna, impedance 50 ohms, SMA inner hole interface)
	1(2.4G antenna, impedance 50O, SMA internal pin interface)
DC power	1(DC DC Power Block 2.1mm Inner Core)
Power Interface	1(2 stitches 3.81mm spacing attachment seat)
Console	1(5 stitches 3.5mm spacing connecting seat,1 RS232/1 RS485)
Pilot Lamp	8 Power Indicator and Status Indicator (Power, System, LAN1, LAN2, SIM, Online, WIFI,3G/4G)
Power Supply Features	
Source	External Power Adapter (12V1A)
Working Voltage	Wide Power Input DC5-36V (Extensible to 60V)
Standby	150～230 mA@12V DC
Working	250～310mA @12V DC
Working Conditions	
working temperature	-35～+75ºC　(-31～+167℉)
Storage temperature	-40～+85ºC　(-40～+185℉)
Working humidity	5% to 95%(no condensation)
Equipment ventilation	Natural heat dissipation, no noise
Physical Characteristics	
Chassis	All metal case
Outline Dimension	Length * Width * Height:100mm*98mm*23mm (not including antenna mountings)
Installation	Tabletop flat, rail mounted, wall mounted
weight	Net weight:264g (excluding antennas and fittings)
	Gross weight:614g (with accessories and packing box)
Equipment Safety and Reliability	
Safety and reliability	Power reverse phase protection, overvoltage protection, overcurrent protection; Ethernet

	interface built-in 1.5KV electromagnetic isolation protection; RS232/RS485 interface built-in 15KV ESD protection; SIM/UIM card interface built-in 15KV ESD protection
levels of protection	IP30
Attestation	CCC、Rohs
MTBF	≥100,000 hours

Software Function	
Network Access	Support APN VPDN
Access authentication	Support CHAP/PAP certification
Network mode	GSM/GPRS/EDGE,LIMTS/HSPA+/EVDO/TD-SCDMA/TD-LTE/FDD LTE
LAN protocol	ARP Support, Ethernet
WAN Agreement	Support static IP, DHCP, PP PoE, PPP
IP applications	Support Ping, Trace 、DHCP Server 、DHCP Relay、 DHCP Client、 DNS relay、DDNS 、Telnet
IP route	Support static routing
NAT	Support network address conversion

Network Security	
firewall	Full state packet detection (SPI), protection against denial of service (DoS) attacks Filter multicast/Ping packets, access control list (ACL) content URL filtering, port mapping, virtual IP mapping, IP-MAC binding
Managing security	User hierarchical management
data security	IPsec VPN/L2TP/PPTP/GRE/EN VPN/CA certificate

Reliability	
Backup function	Support dual SIM card backup switching, support VRRP hot backup, support link backup
Link Monitoring	Send heartbeat packet detection, disconnect automatic connection
Watch Dog	Equipment operation self-inspection technology, equipment operation failure self-repair

WLAN (optional)	
Protocol Standard	IEEE 802.11b/g/n)
speed	Support 144Mbps
Safety characteristics	Open system, shared key, WPA/WPA2 authentication, WEP/TKIP/AES encryption
Work pattern	AP, Client mode
Transmission distance	100m (actual transmission distance depending on environment)

Intelligentialize	
DTU	Support TCP, UDP transparent transport mode, TCP Server mode Support Modbus RTU to Modbus TCP bridge, support DCUDP, DCTCP mode Support up to 5 data centres

Web Configuration Function	
QOS Management	Support bandwidth limitation, IP speed limit
Configuration	Support telnet, web, ssh and console configuration
Upgrade approach	Support web upgrade, serial upgrade

Log function	Support local system log, remote log, serial port output log. Important log power down
Dial on demand	On-demand dialing, data activation, SMS activation
Cloud Device	Support STAR-Manager Cloud management platform, batch management
SNMP	Support SNMP v1/v2c/v3, support SNMP function
Flow management	Support flow threshold setting, support flow statistics and flow alarm function
Alarm function	Support system restart, LAN port up and down line, traffic alarm, sim card failure and other alarms
Maintenance tool	Ping, routing tracking, network speed testing
Status query	System state, modem state, network connection state, routing state

■ Packing List

List

- 1xMR402 series industrial wireless routers
- 1x power adapter (12VDC,1A)
- 1 x 1 m 4 G SMA honeycomb mesh suction cup antenna
- 1x Guide to Rapid Use
- 1x Certificate

Optional Accessory

- 4G SMA honeycomb mesh rod antenna
- 1m/3m Wi-Fi antenna
- 1m wire
- 5pin serial debugging line
- Wall mounted mounting kit
- Guide rail mounting kit

■ Order information

Model	MR402-M7	
	MR402 Represents product series	**M7 Represents 7 modules**
MR402	2 Port Router	
MR600	4 Port Router	
MR800	Industrial Edge Computing Gateway	
DTU200	Data transmitting terminal	