

T(P)MR-5006

EN50155 Multifunction VPN Router up to 2 LTE 4G + 2 serial ports + 6 Gigabit X-coded Ethernet switch (incl. 4 PoE ports) w/ Load Balancing, VPN, Protocol Gateway, Storage**; WV input



OVERVIEW

Lantech T(P)MR-5006 series is a next generation EN50155 multi-function VPN router up to 2 x LTE modem +6 Gigabit X-coded Ethernet switch incl. 4 PoE ports (PoE model) + 2 serial ports that supports advanced function of VPN, Load-Balancing, EMMC Flash Storage**, Protocol gateway (Modbus), Storage**, and LTE dual SIM fail-over for industrial applications. The dual core CPU with 1.6GHz + 256M flash enables the router to multi-task smoothly.

Dual concurrent LTE design 4G/3G for load-balancing

With dual LTE module design (2L model), 4 SIM card slots, T(P)MR-5006 can allow auto-swap, failover & failback between multiple service providers for real non-stop connection. With concurrent LTE modules, it can also allocate bandwidth by Load Balancing with 8 schemes between multiple WANs.

Both GPS and Russian GLONASS systems are supported.

Optional EMMC Flash storage**

The optional EMMC flash storage on the router can offer 8G/16G/32G capacity.

Load Balancing with 5 mechanism for multi-WANs

T(P)MR-5006 supports Load Balancing for LTE/WAN connections. There are five schemes with Load Balancing Function:

Pack	Algorithm	Description
Basic	Fixed	All traffic will be distributed to a single WAN.
	Failover	Routes connections through preferred WAN link while others stand-by. Sequentially activating another link if the preferred link fails.
	Priority	Select the active WAN according to priority.
	Weighted Round-Robin	Evenly distribute the traffic over all working WAN links in circular order according to the specified weights.

Custom Route	Routing through the selected WAN for each specific traffic, ex: TCP/UDP port number and IP address.
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2 port serial connection, Modbus gateway

It builds in 2 port serial connection for RS232; RS422; RS485 in which RS422/RS485 has 2.5KV isolation protection.

The built-in Modbus gateway can convert Modbus RTU/ASCII to Modbus TCP for device control.

VPN and firewall

Besides traditional VPN peer to peer tunneling, T(P)MR-5006 support latest Multi-Site VPN function that is an efficient way for mesh tunneling. The registration is under cloud service and encrypted by SSH makes the connection easy and safe.

It supports Multi-Site VPN, OpenVPN, L2TP over IPsec, IPsec, L2 over GRE, IPGRE, and NAT for various VPN applications.

The built-in Layer-4 firewall includes DDoS, IP address filter / Mac address filter / TCP / UDP port number.

Support Routing Protocol: Static route / RIPv2 / OSPF / BGP / EIGRP

Lantech router series supports two routing methods: static routing and dynamic routing. Dynamic routing makes use of RIPv2, OSPF, EIGRP and BGP. The user can either choose one routing method to establish the routing table.

Optional 2 GT smart bypass protection

The optional bypass relay is set to bypass the router to the next one when power is off in order to protect the network from crashing. Lantech bypass caters to remain in bypass mode until the router is completely booting up when power is back to avoid another network lost. Also it will be activated when detecting the router is hanged or link down.

DIDO for alarm & email notice; Event log; Remote Web control

2 sets of DIDO function can support additional high/low physical contact for designate applications besides Port / Power events, for example, DIDO function can trigger alarm if the router was moved or stolen. In case of events, the T(P)MR-5006 will immediately send email and trap.

The event log can be sent via syslog, emails or trigger the alarm relay.

When the router is at remote area with limited access, Web/ control can help to get router status or remotely reboot by Web.

Wide range dual input voltage from dual input voltage from 16.8-137.5V (WV model)

The T(P)MR-5006 is able to work from dual 16.8V ~137.5V DC input (WV model) and PoE model built-in PoE at/af with PoE budget 60W that is particular good for vehicle, rail train, depot etc applications.

Built-in Managed Switch Function

Managed switch function is built-in and provides various L2+ functions for network access deployment. It delivers ports and PoE management, VLAN, QoS, multicast, redundant ring, and security functions.

Environmental monitoring for inside router info& alerting; LTE signal strength

The built-in environmental monitoring can detect router ambient temperature, voltage, current and total PoE load where can send the syslog and email when abnormal.

The LTE signal strength shows connection status at a glance

Editable login page of captive portal

The T(P)MR-5006 supports editable captive portal function that allows administrator to force end-users redirect to authentication page.

USB port for back up, restore configuration and upgrade firmware; Dual image firmware

The built-in USB port can upload/download/upgrade the configurations through USB dongle for router replacement
It supports dual-image firmware to choose which one to start

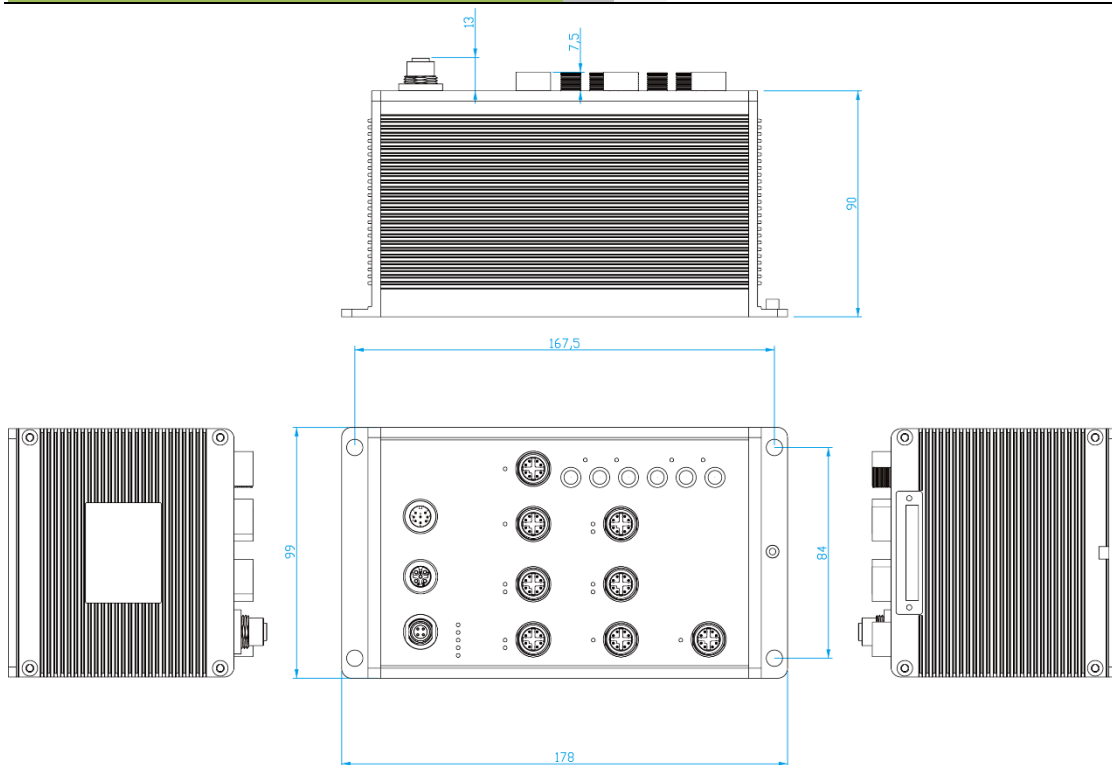
Optional eSIM**

By replacing physical SIM, optional eSIM chip will allow users to purchase data plans at low prices from local carriers in the world.

Ruggedized EN50155 design and FCC/CE & E-marking certificate**

The T(P)MR-5006 series is verified with EN50155, EN61373, EN45545 standard with IP65/54 housing. It passed tests under extensive Industrial EMI and environmental vibration and shocks standards. With CE & FCC radio certification for LTE and E-marking** certificate, the T(P)MR-5006 is best for outdoor community, vehicle, power substation, process control automation etc application. For more usage flexibilities, T(P)MR-5006 supports operating temperature from -40°C to 65°C.

DIMENSIONS (unit=mm)



SPECIFICATION

Cellular Interface		/ TCP/UDP port number), VRRP, DDNS	
Location Solutions	GPS, Glonass	Routing	Static route / RIPv2 / OSPF / BGP / EIGRP
Band Options	Europe & North America (EUNA model) LTE = B1, B2※, B3, B4※, B5※, B7, B8, B12※, B13※, B20, B25※, B26※, B29※, B30※, B41※ (TDD) DC-HSPA+/ HSPA+/ HSPA/ UMTS = B1, B2※, B3※, B4※, B5※, B8	Management	SNMP v1,v2c,v3/ Web/Telnet/CLI
Data Rates – LTE	Europe & North America (EUNA model) Downlink (Cat 6): FDD: 300 Mbps TDD: 222 Mbps Uplink (Cat 6): FDD: 50 Mbps TDD: 26 Mbps	Load Balancing	5 schemes for multiple WAN
Software		Basic	
IPv6/4	Present	Fixed	All traffic will be distributed to a single WAN.
Login Security	Supports IEEE802.1x Authentication/RADIUS	Failover	Routes connections through preferred WAN link while others stand-by. Sequentially activating another link if the preferred link fails.
Access Security	HTTP/HTTPS/Telnet/SSH & Administration; SNMP v1/v2/v3 access for authentication via MD5/SHA(v3) and Encryption via DES/AES(v3)	Priority	Select the active WAN according to priority.
Protocol	PPPoE Client, DHCP server/client, Adjustable MTU, Port forwarding (NAPT), DMZ; NAT, SNTP, Firewall (Firewall (DDoS; IP address filter / Mac address filter	Weighted Round-Robin	Evenly distribute the traffic over all working WAN links in circular order according to the specified weights
		Custom Route	Routing through the selected WAN for each specific traffic ex: TCP/UDP port number and IP address.
		Authentication	Radius Authentication, EAP-TLS, EAP-TTLS, PEAP
		Timer	Built-in Real Time Clock to keep track of time always(RTC)
		Discovery	IEEE 802.1ab Link Layer Discovery Protocol (LLDP)
		SNMP trap	Device cold / warm start Port link up / link down DI / DO high / low

Environmental Monitoring	System status for input voltage, current , ambient temperature to be shown in GUI and sent alerting if any abnormal status	T(X) port indicator	PoE model)
Signal display	LTE signal strength & TX / RX rate display	SIM	Green for Link/Act
Remote Web control	To reboot or get status of router by Web	GPS	Green for Link/Act
Captive portal	Editable captive portal login page	Fault	Red: Ethernet link down or power down
Maintenance	Firmware upgradeable through TFTP/ HTTP	Fault contact	
Configuration backup & restore	Supports text configuration file for quick system installation USB port to upload/download configuration and upgrade firmware by USB dongle Dual image firmware	Relay	Relay output to carry capacity of 1A at 24VDC
Physical Ports & System		Power	
Connectors	10/100/1000T: 6x ports M12 8-pole X-coded (PoE model incl 4 PoE ports) USB/Console connector: 1 x M12 8-pole A-coded DI/DO : 1 x M12 5-pole A-coded Power Input connector : 1 x M12 4-pole A-coded Serial connector : 2 x M12 8-pole X-coded 2L model SMA/QMA** connector for LTE: 4 (female) SMA/QMA** connector for GPS: 2 (female) 1L model SMA/QMA** connector for LTE: 2 (female) SMA/QMA** connector for GPS: 1 (female)	Input power	Dual DC input, 16.8VDC~137.5VDC for (WV model)
Serial Baud Rate	1000Kbps high data rate,250Kbps normal for RS232 ; 20Mbps high data rate,250Kbps normal for RS422/RS485	System power	30.5W
Serial Data Bits	5, 6, 7, 8	PoE Budget (PoE model)	60W
Serial Parity	odd, even, none, mark, space	Physical Characteristic	
Serial Stop Bits	1, 1.5, 2	Enclosure	IP 65/54 aluminum case
RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND	Dimension	178 (W) x 99 (D) x 103 (H) mm
RS-422	Tx+, Tx-, Rx+, Rx-, GND	Weight	1450g
RS-485 (2-wire)	Data+, Data-, GND	Environmental	
Isolation protection	RS422/RS485 2.5KV isolation; 8KV contact & 15KV air RS232 8KV contact and 15KV air ESD DIDO 2.5KV isolation Input power 1.5KVA isolation	Storage Temperature	-40°C ~ 85°C (-40°F ~ 185°F)
DI/DO	2 Digital Input (DI) : Level 0: -30~2V / Level 1: 10~30V Max. input current:8mA 2 Digital Output(DO): Open collector to 80 VDC, 50mA	Operating Temperature	-40°C ~ 65°C (-40°F ~ 149°F)
EMMC Storage**	8/16/32 GB	Operating Humidity	5% to 95% Non-condensing
LED Indicators		Regulatory approvals	
Power & System indicator	Per unit: Power 1 (Green), Power 2 (Green), P-Fail (Red) , Ring Master(Green), System Ready(Green), Serial1/Serial2(Green) ,	EMC	FCC Part 15 Class A, EN55032 , EN55024
10/100/1000Base-	Link/Activity (Green), Speed (Yellow)), PoE (Green,	EMS	EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6 (CS), EN61000-4-8, EN61000-6-2
		Radio Frequency	EN 301 489-1, EN 301 489-17, EN 301 489-19, EN 301 489-52, EN 301 908-1※, EN 303 413, EN 62311
		Safety	EN60950 (LVD), AS60950 (LVD)
		Stability Testing	EN61373 (Shock & Vibration)
		Verifications & report	EN50155, EN50121-3-2, EN50121-4 verification EN45545-2 R13/R22/R23/R24/R25 (EN ISO 4589-2, EN ISO 5659-2, NF X70-100-1 & 2) Fire & Smoke verification
		MTBF	NA
		Warranty	5 years

*Future Release

**Optional

※Standard test of the following bands are not listed in EN 301 908-1 report (EUNA not listed bands) LTE = B2, B4, B5, B12, B13, B25, B26, B29, B30, B41
WCDMA = B2, B3, B4, B5;

ORDERING INFORMATION

All standard models are non-conformal coating, optional conformal coating are with -C model name; Optional bypass models are available with -BT model name; QMA connector models are with -Q model name.

- **TPMR-5006-1L-2S-WV-65-EUNA.....P/N: 8654-021**
EN50155 Multifunction VPN Router + 1 LTE 4G SMA connectors + 2 serial RS232 ports + 6 Gigabit X-coded Ethernet Managed Switch incl.4 PoE at/af with Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8~137.5VDC; IP65; -40~65C
- **TPMR-5006-1L-2SA-WV-65-EUNA.....P/N:8654-0211**
EN50155 Multifunction VPN Router + 1 LTE 4G SMA connectors + 2 serial RS422 ports + 6 Gigabit X-coded Ethernet Managed Switch incl.4 PoE at/af with Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8~137.5VDC; IP65; -40~65C
- **TPMR-5006-1L-2SB-WV-65-EUNA.....P/N:8654-0212**
EN50155 Multifunction VPN Router + 1 LTE 4G SMA connectors + 2 serial RS485 ports + 6 Gigabit X-coded Ethernet Managed Switch incl.4 PoE at/af with Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8~137.5VDC; IP65; -40~65C
- **TPMR-5006-1L-2S-WV-54-EUNA.....P/N: 8654-041**
EN50155 Multifunction VPN Router + 1 LTE 4G SMA connectors + 2 serial RS232 ports + 6 Gigabit X-coded Ethernet Managed Switch incl.4 PoE at/af with Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8~137.5VDC; IP54; -40~65C
- **TPMR-5006-1L-2SA-WV-54-EUNA.....P/N: 8654-0411**
EN50155 Multifunction VPN Router + 1 LTE 4G SMA connectors + 2 serial RS422 ports + 6 Gigabit X-coded Ethernet

- Managed Switch incl.4 PoE at/af with Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8~137.5VDC; IP54; -40~65C
- **TPMR-5006-1L-2SB-WV-54-EUNA.....P/N: 8654-0412**
EN50155 Multifunction VPN Router + 1 LTE 4G SMA connectors + 2 serial RS485 ports + 6 Gigabit X-coded Ethernet Managed Switch incl.4 PoE at/af with Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8~137.5VDC; IP54; -40~65C
 - **TPMR-5006-2L-2S-WV-65-EUNA.....P/N: 8654-024**
EN50155 Multifunction VPN Router + 2 LTE 4G SMA connectors + 2 serial RS232 ports + 6 Gigabit X-coded Ethernet Managed Switch incl.4 PoE at/af with Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8~137.5VDC; IP65; -40~65C
 - **TPMR-5006-2L-2SA-WV-65-EUNA.....P/N: 8654-0241**
EN50155 Multifunction VPN Router + 2 LTE 4G SMA connectors + 2 serial RS422 ports + 6 Gigabit X-coded Ethernet Managed Switch incl.4 PoE at/af with Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8~137.5VDC; IP65; -40~65C
 - **TPMR-5006-2L-2SB-WV-65-EUNA.....P/N: 8654-0242**
EN50155 Multifunction VPN Router + 2 LTE 4G SMA connectors + 2 serial RS485 ports + 6 Gigabit X-coded Ethernet Managed Switch incl.4 PoE at/af with Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8~137.5VDC; IP65; -40~65C
 - **TPMR-5006-2L-2S-WV-54-EUNA.....P/N: 8654-044**
EN50155 Multifunction VPN Router + 2 LTE 4G SMA connectors + 2 serial RS232 ports + 6 Gigabit X-coded Ethernet Managed Switch incl.4 PoE at/af with Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8~137.5VDC; IP54; -40~65C
 - **TPMR-5006-2L-2SA-WV-54-EUNA.....P/N: 8654-0441**
EN50155 Multifunction VPN Router + 2 LTE 4G SMA connectors + 2 serial RS422 ports + 6 Gigabit X-coded Ethernet Managed Switch incl.4 PoE at/af with Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8~137.5VDC; IP54; -40~65C
 - **TPMR-5006-2L-2SB-WV-54-EUNA.....P/N: 8654-0442**
EN50155 Multifunction VPN Router + 2 LTE 4G SMA connectors + 2 serial RS485 ports + 6 Gigabit X-coded Ethernet Managed Switch incl.4 PoE at/af with Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8~137.5VDC; IP54; -40~65C
 - **TMR-5006-1L-2S-WV-65-EUNA.....P/N: 8651-021**
EN50155 Multifunction VPN Router + 1 LTE 4G SMA connectors + 2 serial RS232 ports + 6 Gigabit X-coded Ethernet managed switch for Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8V~137.5VDC; IP65; -40~65C
 - **TMR-5006-1L-2SA-WV-65-EUNA.....P/N: 8651-0211**
EN50155 Multifunction VPN Router + 1 LTE 4G SMA connectors + 2 serial RS422 ports + 6 Gigabit X-coded Ethernet managed switch for Load Balancing, VPN, Protocol Gateway; EU and US band ; dual 16.8V~137.5VDC; IP65 ; -40~65C
 - **TMR-5006-1L-2SB-WV-65-EUNA.....P/N: 8651-0212**
EN50155 Multifunction VPN Router + 1 LTE 4G SMA connectors + 2 serial RS485 ports + 6 Gigabit X-coded Ethernet managed switch for Load Balancing, VPN, Protocol Gateway; EU and US band ; dual 16.8V~137.5VDC; IP65 ; -40~65C
 - **TMR-5006-1L-2S-WV-54-EUNA.....P/N: 8651-041**
EN50155 Multifunction VPN Router + 1 LTE 4G SMA connectors + 2 serial RS232 ports + 6 Gigabit X-coded Ethernet managed switch for Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8V~137.5VDC; IP54; -40~65C
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 - **TMR-5006-2L-2SB-WV-65-EUNA.....P/N: 8651-0242**
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- **EMMC Flash Storage**
- 8G.....P/N:8850-113
- 16G.....P/N:8850-114
- 32G.....P/N:8850-115

OPTIONAL ACCESSORIES

Management System

- **InstaAir.....P/N: 9000-121**
Cloud Based Fleet Management System for Routers

GPS Antenna

- **ANT12000001** SMA GPS antenna, 28dB, 300m



Cellular Antenna

- **ANT11000046** LTE hinge rotatable antenna, 698-960MHz, 1710-2690MHz, Diameter 10mm, Length 108mm, SMA Connector



Antenna Base

- **ADA11000053** Magnetic antenna base for 3G/4G, RP SMA Jack Base, Length : 1M



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