Lantech®

Pioneering Industrial and IP Networks

RAILWAY COMMUNICATION NETWORK SOLUTIONS

An IRIS Certification-certified company

www.lantechcom.tw

Designed for
Future Rail Applications

Lantech EN50155 certified Ethernet switches and routers

The conventional train communication networks (TCN) are facing several challenges to improve services, including the bandwidth limitations, devices' IP management, and integration. At the same time, the devices in railway systems often operate in a narrow and harsh environment with unique requirements such as cabling, power, and industry standards.

To ensure safety and efficiency of railway communication networks, Lantech designed a complete EN50155 Ethernet portfolio that focuses on speed, safety, mobility, quality, and durability for railway vehicles and systems.

Our solutions aim to help customers build railway communication networks that integrate displays, cameras, WLANs, and other devices in space-limited onboard environments easily and cost-effectively.

R-NAT &TTDP

R-NAT & TTDP are defined in IEC 61375 to build an Ethernet based TCN (Ethernet Consist Network). Lantech also developed DHCP for TTDP & VLAN for TTDP, providing a better solution for devices' IP management and VLAN applications.

VLAN for TTDP

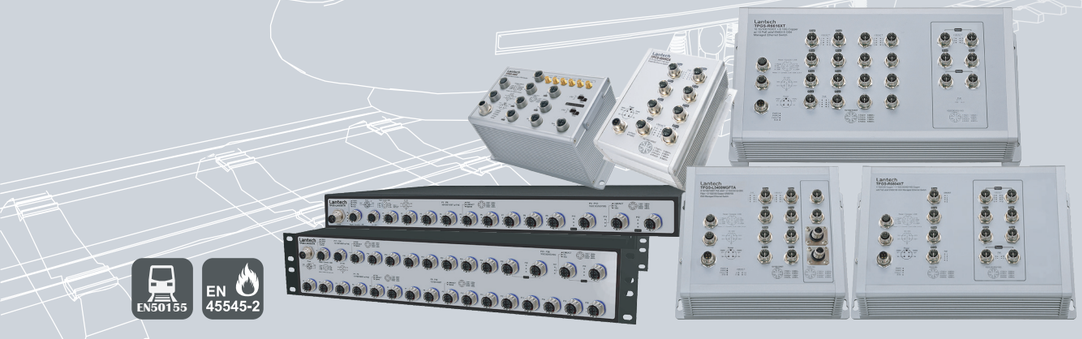
DHCP for TTDP

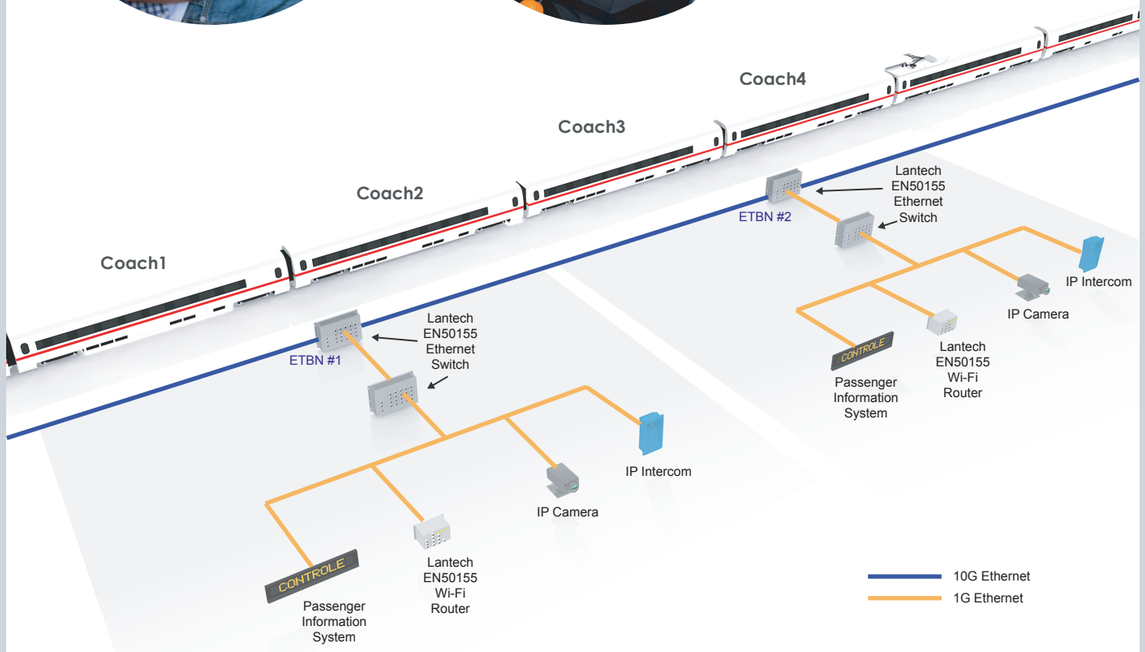
IEC 61375 2-5/3-4

The support of ECN (Ethernet Consist Network) allows interconnection between end devices located in a single consist of train and interoperability with IEC 61375-2-5 (TBN).

10G Fiber or Copper

Lantech EN50155 Ethernet switches come with up to 8X 10GbE speed uplink ports which make the series ideal for rail applications.





About Lantech

Lantech is an IRIS and ITxPT certified company focused on on-board EN50155 and E-Marking Ethernet switches and Wireless /LTE Routers development. Lantech is dedicated to transportation verticals where it covers onboard train/bus, stations, trackside, ITS and smart city. Lantech has been working together with key customers in effort to create up-to-date on-board passenger information, video security, track side data communications by providing rugged 10GbE, PoE Managed switches, LTE/ Wi-Fi Routers, ITxPT and E-mark certified solutions to fulfil various and critical requirements.

IRIS Certification

MEMBER OF ITxPT

afaq ISO 9001 Quality AFNOR CERTIFICATION

TAIWAN QUALITY 5 YEAR WARRANTY

*Industrial-grade products

Software platform

OS4 Platform
OS3 Platform

Layer 3

L3 includes all L3L features mentioned above plus the following features:

*RIP v1/v2**

Routing Information Protocol (RIP) is a dynamic routing protocol which uses hop count as a routing metric to find the best path between the source and the destination network.

*DVMRP**

Distance Vector Multicast Routing Protocol (DVMRP) is a routing protocol used to share information between routers to facilitate the transportation of IP multicast packets among networks.

*PIM-DM/SSM**

Protocol-Independent Multicast (PIM) is a family of multicast routing protocols for Internet Protocol (IP) networks that provide one-to-many and many-to-many distribution of data over LAN, WAN or Internet. PIM Dense Mode (PIM-DM) uses dense multicast routing. It implicitly builds shortest-path trees by flooding multicast traffic domain wide, and then pruning back branches of the tree where no receivers are present. PIM Source-Specific Multicast (PIM-SSM) builds trees that are rooted in just one source, offering a more secure and scalable model for a limited number of applications (mostly broadcasting of content).

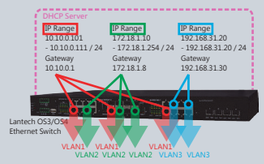
Software platform

OS4 Platform
OS3 Platform

Layer 3 Lite

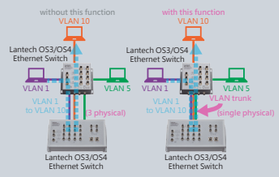
Inter-VLAN Routing

Route traffic between different VLAN by implementing a switch with routing function in the network.



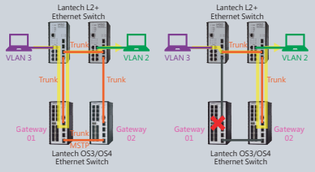
Router-on-a-stick

A type of routing configuration in which a single physical interface set as VLAN trunk port manages traffic between multiple VLANs from edge site.



VRRP

Provides automatic assignment of available VLAN gateways to participating hosts and increases the availability and reliability of VLAN routing paths via automatic default gateway selections on different VLAN groups.



Static route (Up to 32)

Set routing path manually, static routes are fixed and do not change if the network is changed or reconfigured.

Rescue mode

Offers repairing ability to repair operating system if the booting image of the switch is damaged.

PIM-SM

PIM Sparse Mode (PIM-SM) explicitly builds unidirectional shared trees rooted at a rendezvous point (RP) per group, and optionally creates the shortest-path trees per source. PIM Allow RP (Rendezvous Points) enable the receiving device to use its own RP to create state and build shared trees when a PIM Join is processed and a different RP is identified. Lantech switches support static RP client and dynamic RP address (BSR). BSR (Bootstrap) can let Lantech switch find address of RP automatically.

OSPF

Open Shortest Path First (OSPF) protocol is an Interior Gateway Protocol used to distribute routing information within a single Autonomous System.

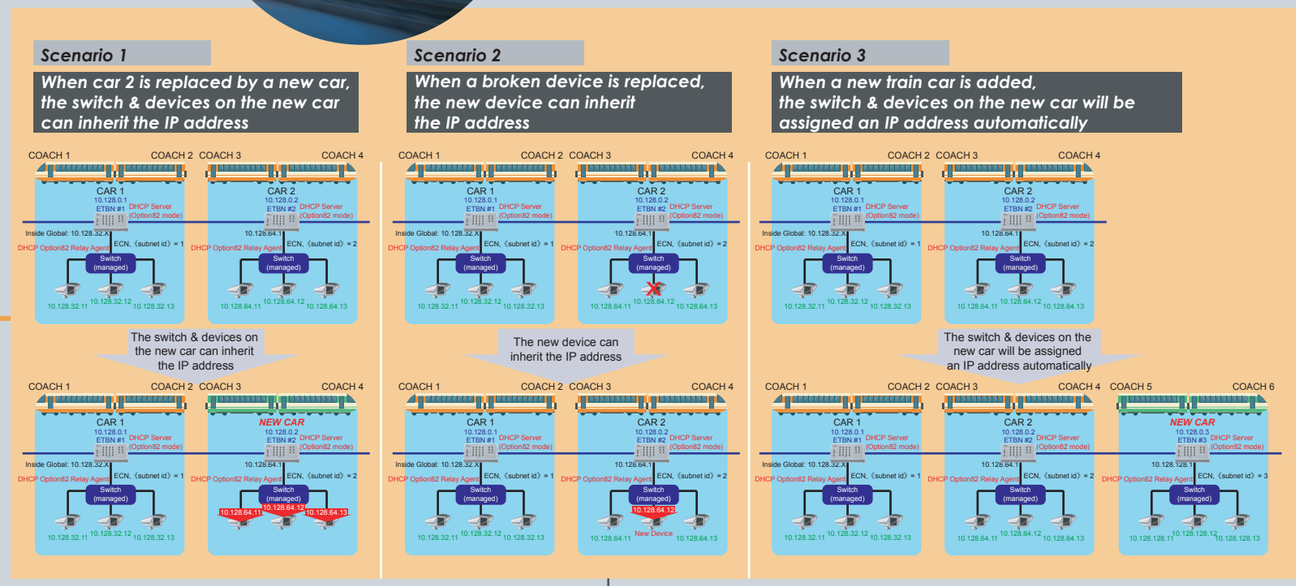
*TTDP (IEC61375-2-5)***

TTDP (Train Topology Discovery Protocol) can assign IP and Gateway IP automatically when train network topology is changed due to the adjustment of train cars.

IEC 61375-2-5

OS4 Platform
OS3 Platform

DHCP for TTDP



Dual flash images

Provides independent primary and secondary operating system files for backup while upgrading.

Multiple configuration files

Stores easily to the flash image

Complete session logging

Provides detailed information for problem identification and resolution

SNMPv1, v2c, and v3

Facilitate centralized discovery, monitoring, and secure management of networking devices

SNMP MIB – RMON

Uses standard SNMP to monitor essential network functions; supports events, alarm, history, and statistics group plus a private alarm extension group

Command authorization

Leverages RADIUS to link a custom list of CLI commands to an individual network administrator's login; an audit trail log activity.

Secure Web GUI

Provides a secure, easy-to-use graphical interface for configuring the module via HTTPS.

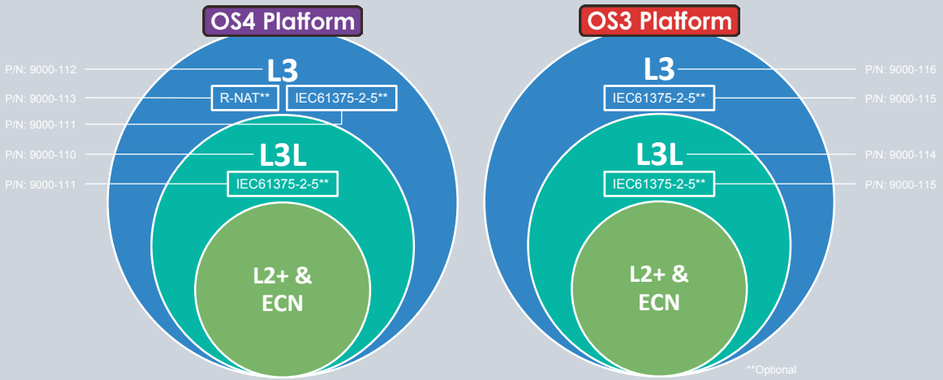
*Future release
**Optional

Under the DHCP standard, a DHCP server has to build a DHCP Pool for assigning the IP address for its DHCP clients and each DHCP client can get the IP within this Pool. The IP of the DHCP server must be fixed and be under the same network segment with the DHCP Pool since the DHCP protocol is designed for communication between client and server via broadcast packets. The TTDP standard only manages the switch's IP. The TTDP doesn't assign IPs to devices connected to the switch.

With Lantech's DHCP for TTDP technology, when the IP of the switch is re-assigned by TTDP due to train car changes, the switch will reserve a new IP automatically and compile a new DHCP Pool for its DHCP client. This technology ensures the DHCP client can connect to the new ECN (Ethernet Consist Network) network via IP. Lantech's DHCP for TTDP technology can also be combined with Port based DHCP or DHCP Option 82, which means, if the end device connected to the switch needs to be replaced, the new device can inherit the IP assigned by simply connecting it to the same switch port.

When a new train car is added, the switch will calculate automatically and add the domain for the new train car after the switch is rebooted.

OS3 OS4 Platform Comparison



Layer 3 vs. Layer 3 Lite

OS3 Platform OS4 Platform	Layer 3 (L3)	Layer 3 Lite (L3L)
Unicast Routing: RIP v1/v2*	●	
Unicast Routing: OSPF	●	●
Multicast Routing: DVMRP*	●	
Multicast Routing: PIM (DM)	●	●
Multicast Routing: PIM (SSM)	●	●
Multicast Routing: PIM (SM)	●	●
Multicast Routing: PIM (BSR)	●	●
VRRP	●	●
VLAN routing	●	●

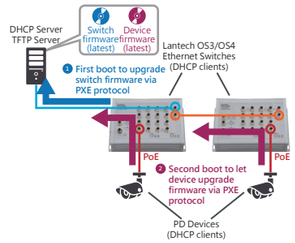
*Future release

Ethernet Switches FEATURE HIGHLIGHTS

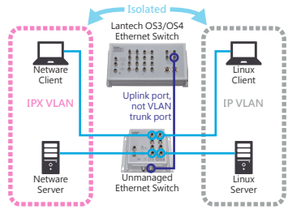
Software Advantage – Layer 2+

OS4 Platform
OS3 Platform

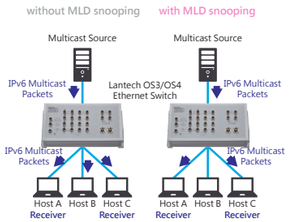
1. PXE



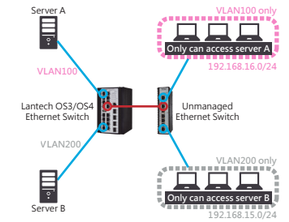
2. Protocol-based VLAN



3. IPv6 Multicast



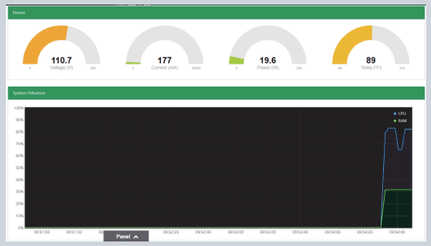
4. Subnet-based VLAN



Real-time Environmental Monitoring

The enhanced environmental monitoring can detect when the switch's overall temperature, total PoE load, voltage or current are abnormal and it can send syslog or e-mail as a notification.

OS4 Platform
OS3 Platform



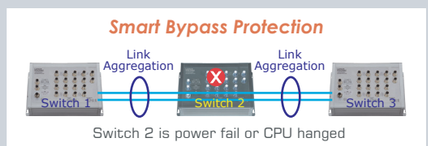
Firmware System Protection

The 4 mechanisms are designed to provide a more reliable firmware system: Boot Loader Protection, Dual Image, Rescue Mode, and NAND Flash Protection.

OS4 Platform
OS3 Platform

Smart Bypass Protection (Optional)

The bypass relay is set to bypass the switch to the next one when the power is off or the CPU hanged in order to prevent network disruption.



802.3at/af PoE up to 30W per port

Inrush current protection

Wide voltage (isolated) 16.8~137.5VDC power input

(EN50155 Series)

10GbE connectivity to fulfill huge bandwidth requirement

Built-in power converter 12/24VDC boost up to 48VDC

(Industrial Series)

USB port to upload & download the configuration file

EN50155 10G Uplinks Managed Ethernet Switches

OS4 Platform

T(P)GS-R6804XFT
4 1G/2.5G + 6 10G copper
+ 2 10G Q-ODC fiber (w/8 PoE)
EN50155 OS4 Managed Switch

T(P)GS-R6804XT
4 1G/2.5G + 8 10G copper
(w/8 PoE)
EN50155 OS4 Managed Switch

T(P)ES-R6804XFT
4 10/100TX + 6 10G copper
+ 2 10G Q-ODC fiber (w/8 PoE)
EN50155 OS4 Managed Switch

T(P)ES-R6804XT
4 10/100TX + 8 10G copper
(w/8 PoE)
EN50155 OS4 Managed Switch

T(P)GS-R6616XFT
16 10/100/1000T (PoE at) +
4 10G copper + 2 10G Q-ODC fiber
EN50155 OS4 Managed Switch

T(P)GS-R6616XT
16 10/100/1000T (PoE at)
+ 6 10G copper
EN50155 OS4 Managed Switch

T(P)GS-R6416XFT
16 10/100/1000T (PoE at)
+ 2 10G copper + 2 10G Q-ODC
Fiber EN50155 OS4 Managed Switch

T(P)GS-R6416XT
16 10/100/1000T (PoE at)
+ 4 10G copper
EN50155 OS4 Managed Switch

T(P)GS-R6608XFT
8 10/100/1000T (PoE at) +
4 10G copper + 2 10G Q-ODC fiber
EN50155 OS4 Managed Switch

T(P)GS-R6608XT
8 10/100/1000T (PoE at)
+ 6 10G copper
EN50155 OS4 Managed Switch

T(P)GS-R6408XFT
8 10/100/1000T (PoE at) +
2 10G copper + 2 10G Q-ODC Fiber
EN50155 OS4 Managed Switch

T(P)GS-R6408XT
8 10/100/1000T (PoE at)
+ 4 10G copper
EN50155 OS4 Managed Switch

T(P)ES-R6616XFT
16 10/100TX (PoE at) +
4 10G copper + 2 10G Q-ODC fiber
EN50155 OS4 Managed Switch

T(P)ES-R6616XT
16 10/100/1000T (PoE at)
+ 6 10G copper
EN50155 OS4 Managed Switch

OS3 Platform

T(P)GS-L6416XFT
16 10/100/1000T (PoE at)+
2 10G Copper + 2 10G Q-ODC fiber
EN50155 OS3 Managed Switch

T(P)GS-L6416XT
16 10/100/1000T (PoE at)
+ 4 10G Copper
EN50155 OS3 Managed Switch

T(P)GS-L6408XFT
8 10/100/1000T (PoE at) +
2 10G Copper + 2 10G Q-ODC fiber
EN50155 OS3 Managed Switch

T(P)GS-L6408XT
8 10/100/1000T (PoE at)
+ 4 10G Copper
EN50155 OS3 Managed Switch

T(P)GS-L6216XT
16 10/100/1000T (PoE at)
+ 2 10G Copper
EN50155 OS3 Managed Switch

T(P)GS-L6216XF
16 10/100/1000T (PoE at)
+ 2 10G Q-ODC fiber
EN50155 OS3 Managed Switch

T(P)GS-L6208XT
8 10/100/1000T (PoE at)
+ 2 10G Copper
EN50155 OS3 Managed Switch

T(P)GS-L6208XF
8 10/100/1000T (PoE at)
+ 2 10G Q-ODC fiber
EN50155 OS3 Managed Switch

T(P)ES-L6424XFT
24 10/100TX (PoE at) +
2 10G copper + 2 10G Q-ODC fiber
EN50155 OS3 Managed Switch

T(P)ES-L6424XT
24 10/100TX (PoE at)
+ 4 10G copper
EN50155 OS3 Managed Switch

T(P)ES-L6416XFT
16 10/100TX (PoE at)+
2 10G Copper + 2 10G Q-ODC fiber
EN50155 OS3 Managed Switch

T(P)ES-L6416XT
16 10/100TX (PoE at)
+ 4 10G Copper
EN50155 OS3 Managed Switch

T(P)ES-L6408XFT
8 10/100TX (PoE at) +
2 10G Copper + 2 10G Q-ODC fiber
EN50155 OS3 Managed Switch

T(P)ES-L6408XT
8 10/100TX (PoE at)
+ 4 10G Copper
EN50155 OS3 Managed Switch

T(P)ES-L6216XT
16 10/100TX (PoE at)
+ 2 10G copper
EN50155 OS3 Managed Switch

T(P)ES-L6216XF
16 10/100TX (PoE at)
+ 2 10G Q-ODC fiber
EN50155 OS3 Managed Switch

T(P)ES-L6208XT
8 10/100TX (PoE at)
+ 2 10G copper
EN50155 OS3 Managed Switch

T(P)ES-L6208XF
8 10/100TX (PoE at)
+ 2 10G Q-ODC fiber
EN50155 OS3 Managed Switch

Model name (P) = PoE model

Learn more

EN50155 2.5G Uplinks Managed Ethernet Switches

OS4 Platform

T(P)GS-R5804MGFT
4 10/100/1000T + 6 1G/2.5G copper
+ 2 1G/2.5G Q-ODC fiber w/8 PoE
EN50155 OS4 Managed Switch

T(P)GS-R5804MGT
4 10/100/1000T + 8 1G/2.5G copper
w/8 PoE
EN50155 OS4 Managed Switch

T(P)ES-R5804MGFT
4 10/100TX + 6 1G/2.5G copper
+ 2 1G/2.5G Q-ODC fiber w/8 PoE
EN50155 OS4 Managed Switch

T(P)GS-R5804MGT
4 10/100TX + 8 1G/2.5G copper
w/8 PoE
EN50155 OS4 Managed Switch

T(P)GS-R5616MGFT
16 10/100/1000T (PoE at) + 4 1G/
2.5G copper + 2 1G/2.5G Q-ODC
fiber EN50155 OS4 Managed Switch

T(P)GS-R5616MGT
16 10/100/1000T (PoE at)
+ 6 1G/2.5G copper
EN50155 OS4 Managed Switch

T(P)GS-R5416MGFT
16 10/100/1000T (PoE at) + 2
1G/2.5G copper + 2 1G/2.5G Q-ODC
Fiber EN50155 OS4 Managed Switch

T(P)GS-R5416MGT
16 10/100/1000T (PoE at)
+ 4 1G/2.5G copper
EN50155 OS4 Managed Switch

T(P)GS-R5608MGFT
8 10/100/1000T (PoE at) + 4
1G/2.5G copper + 2 1G/2.5G Q-ODC
fiber EN50155 OS4 Managed Switch

T(P)GS-R5608MGT
8 10/100/1000T (PoE at)
+ 6 1G/2.5G copper
EN50155 OS4 Managed Switch

T(P)GS-R5408MGFT
8 10/100/1000T (PoE at) + 2 1G/
2.5G copper + 2 1G/2.5G Q-ODC
Fiber EN50155 OS4 Managed Switch

T(P)GS-R5408MGT
8 10/100/1000T (PoE at)
+ 4 1G/2.5G copper
EN50155 OS4 Managed Switch

T(P)ES-R5616MGFT
16 10/100TX (PoE at) + 4 1G/
2.5G copper + 2 1G/2.5G Q-ODC
fiber EN50155 OS4 Managed Switch

T(P)ES-R5616MGT
16 10/100/1000T (PoE at)
+ 6 1G/2.5G copper
EN50155 OS4 Managed Switch

OS3 Platform

T(P)GS-L5416MGFT
16 10/100/1000T (PoE at) + 2 1G/
2.5G Copper + 2 1G/2.5G Q-ODC
fiber EN50155 OS3 Managed Switch

T(P)GS-L5416MGT
16 10/100/1000T (PoE at)
+ 4 1G/2.5G Copper
EN50155 OS3 Managed Switch

T(P)GS-L5408MGFTA
8 10/100/1000T (PoE at) + 2 1G/
2.5G Copper + 2 1G/2.5G Q-ODC
fiber EN50155 OS3 Managed Switch

T(P)GS-L5408MGTA
8 10/100/1000T (PoE at)
+ 4 1G/2.5G Copper
EN50155 OS3 Managed Switch

T(P)GS-L5216MGT
16 10/100/1000T (PoE at)
+ 2 1G/2.5G Copper
EN50155 OS3 Managed Switch

T(P)GS-L5216MGF
16 10/100/1000T (PoE at)
+ 2 1G/2.5G Q-ODC fiber
EN50155 OS3 Managed Switch

T(P)GS-L5208MGTA
8 10/100/1000T (PoE at)
+ 2 1G/2.5G Copper
EN50155 OS3 Managed Switch

T(P)GS-L5208MGFA
8 10/100/1000T (PoE at)
+ 2 1G/2.5G Q-ODC fiber
EN50155 OS3 Managed Switch

T(P)ES-L5424MGFT
24 10/100TX (PoE at) + 2 1G/
2.5G copper + 2 1G/2.5G Q-ODC
fiber EN50155 OS3 Managed Switch

T(P)ES-L5424MGT
24 10/100TX (PoE at)
+ 4 1G/2.5G copper
EN50155 OS3 Managed Switch

T(P)ES-L5416MGFT
16 10/100TX (PoE at)+ 2 1G/
2.5G Copper + 2 1G/2.5G Q-ODC
fiber EN50155 OS3 Managed Switch

T(P)ES-L5416MGT
16 10/100TX (PoE at)
+ 4 1G/2.5G Copper
EN50155 OS3 Managed Switch

T(P)ES-L5408MGFTA
8 10/100TX (PoE at) + 2 1G/
2.5G Copper + 2 1G/2.5G Q-ODC
fiber EN50155 OS3 Managed Switch

T(P)ES-L5408MGTA
8 10/100TX (PoE at)
+ 4 1G/2.5G Copper
EN50155 OS3 Managed Switch

T(P)ES-L5216MGT
16 10/100TX (PoE at)
+ 2 1G/2.5G copper
EN50155 OS3 Managed Switch

T(P)ES-L5216MGF
16 10/100TX (PoE at)
+ 2 1G/2.5G Q-ODC fiber
EN50155 OS3 Managed Switch

T(P)ES-L5208MGTA
8 10/100TX (PoE at)
+ 2 1G/2.5G copper
EN50155 OS3 Managed Switch

T(P)ES-L5208MGFA
8 10/100TX (PoE at)
+ 2 1G/2.5G Q-ODC fiber
EN50155 OS3 Managed Switch

Model name (P) = PoE model

Learn more

EN50155 Rackmount Ethernet Switches

OS3 Platform

T(P)GS-L6424XFTR
24 10/100/1000T (PoE at) +
2 10G Copper + 2 10G Q-ODC fiber
EN50155 OS3 Managed Switch

4 10G | 24 GT | 16 PoE | USB

T(P)GS-L6424XTR
24 10/100/1000T (PoE at)
+ 4 10G Copper
EN50155 OS3 Managed Switch

4 10G | 24 GT | 16 PoE | USB

T(P)GS-L6416XFTR
16 10/100/1000T (PoE at) +
2 10G Copper + 2 10G Q-ODC
fiber EN50155 OS3 Managed Switch

4 10G | 16 GT | 16 PoE | USB

T(P)GS-L6416XTR
16 10/100/1000T (PoE at)
+ 4 10G Copper
EN50155 OS3 Managed Switch

4 10G | 16 GT | 16 PoE | USB

T(P)GS-L6408XFTR
8 10/100/1000T (PoE at) +
2 10G Copper + 2 10G Q-ODC fiber
EN50155 OS3 Managed Switch

4 10G | 8 GT | 8 PoE | USB

T(P)GS-L6408XTR
8 10/100/1000T (PoE at)
+ 4 10G Copper
EN50155 OS3 Managed Switch

4 10G | 8 GT | 8 PoE | USB

T(P)GS-L5408MGFTR
8 10/100/1000T (PoE at) + 2 1G/
2.5G Copper + 2 1G/2.5G Q-ODC
fiber EN50155 OS3 Managed Switch

4 2.5G | 8 GT | 8 PoE | USB

T(P)GS-L5408MGTR
8 10/100/1000T (PoE at)
+ 2 1G/2.5G Copper
EN50155 OS3 Managed Switch

4 2.5G | 8 GT | 8 PoE | USB

EN50155 Giga Uplinks Managed Ethernet Switches

OS3 Platform

T(P)GS-L5016T
16 10/100/1000T (PoE at)
EN50155 OS3 Managed Switch

16 GT | 16 PoE | USB

T(P)ES-L5408T
8 10/100TX (PoE at) +
4 Giga Copper Uplinks
EN50155 OS3 Managed Switch

4 GT | 8 TX | 8 PoE | USB

OS1 Platform

T(P)GS-5208GF
8 10/100/1000T (PoE at)
+ 2 1000FX
L2+ EN50155 Managed Switch

2 Q-ODC | 8 GT | 8 PoE

T(P)GS-5010T
10 10/100/1000T
(w/ 8 PoE at)
L2+ EN50155 Managed Switch

10 GT | 8 PoE

T(P)GS-5008T
8 10/100/1000T (PoE at)
L2+ EN50155 Managed Switch

8 GT | 8 PoE

T(P)ES-5416T
16 10/100TX (PoE at)
+ 4 10/100/1000T
L2+ EN50155 Managed Switch

4 GT | 16 TX | 16 PoE

T(P)ES-5408T
8 10/100TX (PoE at)
+ 4 10/100/1000T
L2+ EN50155 Managed Switch

4 GT | 8 TX | 8 PoE

I(P)GS-5008T
8 10/100/1000T (PoE at)
L2+ EN50155 Managed Switch

8 GT | 8 PoE

I(P)ES-5416T
16 10/100TX (PoE at)
+ 4 10/100/1000T
L2+ EN50155 Managed Switch

4 GT | 16 TX | 16 PoE

I(P)ES-5408T
8 10/100TX (PoE at)
+ 4 10/100/1000T
L2+ EN50155 Managed Switch

4 GT | 8 TX | 8 PoE

I(P)ES-5408S
8 10/100TX (PoE at)
+ 4 10/100/1000T
L2+ EN50155 Managed Switch

4 GT | 8 TX | 8 PoE

I(P)ES-5208DF
8 10/100TX (PoE at)
+ 2 100/1000FX
L2+ EN50155 Managed Switch

2 FX | 8 TX | 8 PoE

Learn more

Model name (P) = PoE model

EN50155 Unmanaged Ethernet Switches

Product Line-ups

NEW

T(P)ES-0216T
16 10/100TX (PoE at)
+ 2 10/100/1000T
EN50155 Unmanaged Switch

2 GT | 16 TX | 16 PoE

NEW

T(P)ES-0212T
12 10/100TX (PoE at)
+ 2 10/100/1000T
EN50155 Unmanaged Switch

2 GT | 12 TX | 12 PoE

NEW

T(P)ES-0210T
10 10/100TX (PoE at)
+ 2 10/100/1000T
EN50155 Unmanaged Switch

2 GT | 10 TX | 10 PoE

NEW

T(P)ES-0016T
16 10/100/1000T (PoE at)
EN50155 Unmanaged Switch

16 TX | 16 PoE

T(P)GS-0010T
10 10/100/1000T (8 PoE at)
EN50155 Unmanaged Switch

10 GT | 8 PoE

T(P)GS-0208GF
8 10/100/1000T (PoE at)
+ 2 1000FX
EN50155 Unmanaged Switch

2 Q-ODC | 8 GT | 8 PoE

T(P)GS-0008CA
8 10/100/1000T (PoE at)
EN50155 Unmanaged Switch

8 GT | 8 PoE

T(P)ES-0008CA
8 10/100TX (PoE at)
EN50155 Unmanaged Switch

8 TX | 8 PoE

I(P)ES-0208GF
8 10/100TX (PoE at)
+ 2 1000FX
EN50155 Unmanaged Switch

2 FX | 8 TX | 8 PoE

I(P)ES-0208T
8 10/100TX (PoE at)
+ 2 10/100/1000T
EN50155 Unmanaged Switch

2 GT | 8 TX | 8 PoE

I(P)ES-0008A
8 10/100TX (PoE at)
EN50155 Unmanaged Switch

8 TX | 8 PoE

I(P)ES-0008B
8 10/100TX (PoE at)
EN50155 Unmanaged Switch

8 TX | 8 PoE

I(P)ES-0005B
5 10/100TX (PoE at)
EN50155 Unmanaged Switch

5 TX | 5 PoE

IPES-0101T
1 10/100TX (PoE at)
+ 1 10/100TX
EN50155 Unmanaged Switch

2 TX | 1 PoE

Learn more

Model name (P) = PoE model

EN50155 Power Protector

Product Line-ups

NEW

Power Protector

- Power input voltage protection
- Power input polarity protection
- Inrush current protection
- Enhance Surge protection
- Enhance EFT protection

Learn more

(Coming Soon)

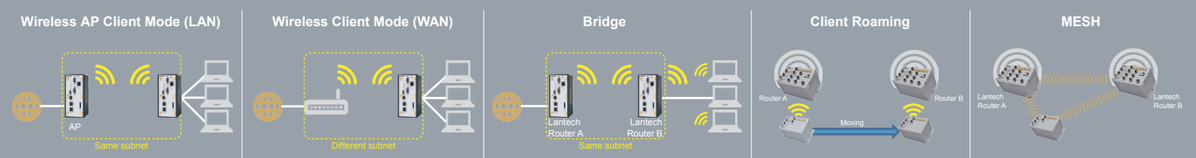
Multi-function Routers
FEATURE HIGHLIGHTS

7-in-1 Multifunction

Lantech 7-in-1 EN50155 multi-function VPN routers are designed for on onboard rolling stock applications, providing anvanced features and powerful performance for future rail.

01 LTE
02 WiFi 802.11AC
03 Gateway
04 PoE
05 Storage
06 VPN
07 Managed Switch

5-in-1 Wireless Modes



Highly Redundancy

LTE & WIFI client redundancy

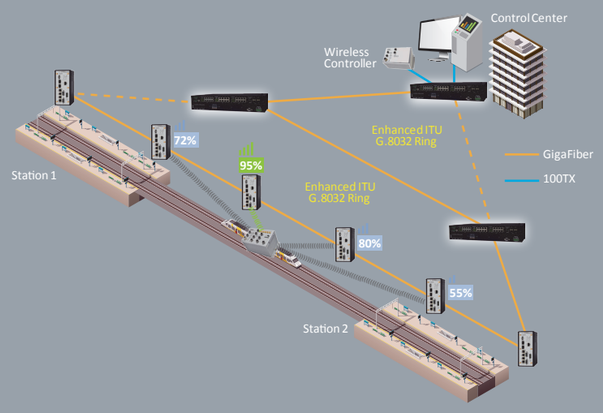
Wi-Fi client & Wi-Fi client redundancy

LTE & LTE redundancy

LTE & WAN port redundancy

Wireless Client Roaming

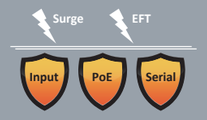
Lantech router supports client-base roaming to swap between the APs in a network.



LAN Ethernet Ring Redundancy

Double isolation

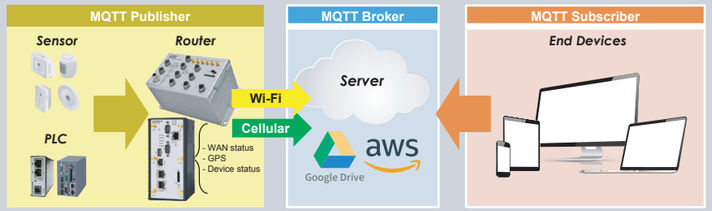
Double isolation design to minimize the risk of surge, EFT at input, PoE and serial ports.



MQTT

Message Queuing Telemetry Transport

MQTT is designed for connections with remote locations where a "small code footprint" is required or the network bandwidth is limited. So, it's ideal for IIoT applications and the latest trends in automation engineering. MQTT is a publish-subscribe-based messaging protocol and works on top of the TCP/IP protocol. An MQTT system comprises one broker and several clients, where clients can either be publishers or subscribers. The publishers send data to the broker in the form of MQTT packets, which consist of a "topic" and "payload", then the broker distributes the "payload" to the subscribers based on which "topics" they have subscribed.

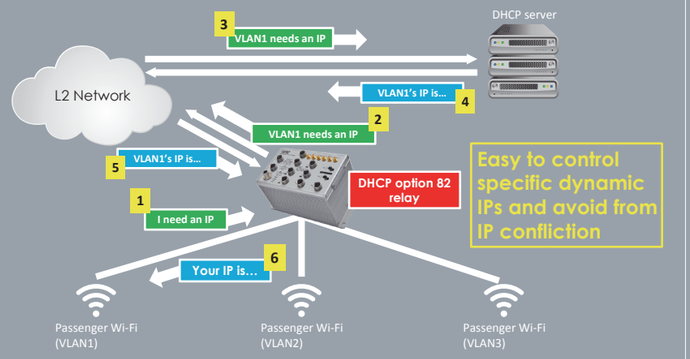


Benefits

- Narrow network bandwidth and small power loss requirements
- A lightweight and reliable binary communication protocol between the sensor and the satellite
- Suitable for IoT devices with limited processor resources and network bandwidth

"Lantech's routers are able to publish the messages of device information, WAN status, GPS location and hardware monitor."

Work as DHCP option 82 relay

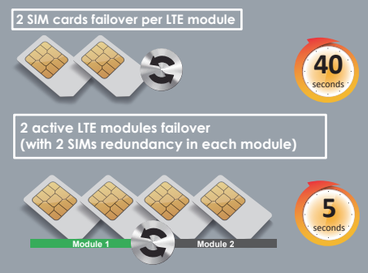


Easy to control specific dynamic IPs and avoid from IP confliction

SIM Redundancy

With one mobile LTE module (1L model), 2 SIM card slots, the series provides redundant link between two service providers.

With dual LTE module design (2L model), 4 SIM card slots, the series allows auto-swap, failover & failback between multiple service providers for real non-stop connection.



Full VPN support

- OpenVPN
- IPSec
- Multi-site VPN
- L2TP over IPSec
- L2 over GRE
- IPGRE MDVPN

DDoS & Firewall

Lantech's DDoS protection can effectively block all kinds of DDoS attacks.

- ✓ UDP Flood
- ✓ TCP SYN Flood
- ✓ ICMP Flood
- ✓ Ping of death
- ✓ Distributed HTTP flood

QoS on WAN

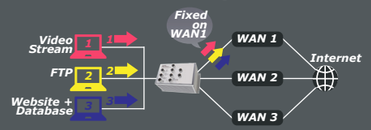
By port: Filter by application
By protocol: Filter by protocol

Load balancing on WAN ports

With 5 different schemes for load balancing, Lantech routers can prioritize different data requirements with different paths for maximum performance of the bandwidth available.

Fixed

All traffic will be distributed to a single WAN.

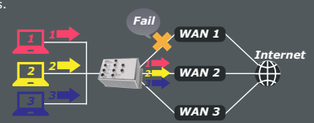


Priority

Select the active WAN according to priority.

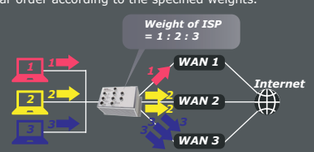
Fail Over

Routes connections through preferred WAN link while others stand-by. Sequentially activating another link if the preferred link fails.



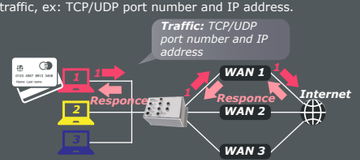
Weighted Round-Robin

Even distribution of the traffic over all working WAN links in circular order according to the specified weights.



Custom Route

Routing through the selected WAN links for each specific traffic, ex: TCP/UDP port number and IP address.



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.

EMMC Flash storage *(Optional)*

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

Smart Bypass Protection *(Optional)*

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.

Graphical Wi-Fi & LTE signal strength

The graphic WIFI & LTE signal strength shows connection status at a glance.

Optional eSIM chip enables router with versatile data plans

IEEE 802.311ac Dual Band Operation

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

Environmental monitoring for inside router info& alerting

802.3at/af PoE up to 30W per port

Wide voltage (isolated) 16.8~137.5VDC power input (WV models)

Built-in power converter 12/24VDC boost up to 48VDC (12V/24V models)

USB port to backup, restore the configuration file and upgrade firmware

Product Line-ups

4G LTE + Wi-Fi Multifunction Routers

Embedded Module Slots X3			Embedded Module Slots X2			Embedded Module Slots X3
NEW	NEW	NEW				
T(P)WMR-5208MGF EN50155 Multifunction VPN Router w/up to 2 WiFi 11ac + up to 2 LTE 4G + 8 GigaT + 2 1G/2.5G Fiber 8 GT · 2 Q-ODC · 8 PoE · USB · 2 WAN	**T(P)WMR-5208MGT** EN50155 Multifunction VPN Router w/up to 2 WiFi 11ac + up to 2 LTE 4G + 8 GigaT + 2 1G/2.5G Copper 8 GT · 2 2.5GT · 8 PoE · USB · 2 WAN	**T(P)WMR-5008** EN50155 Multifunction VPN Router w/up to 2 WiFi 11ac + up to 2 LTE 4G + 8 GigaT Ethernet + 4 serial ports 8 GT · 8 PoE · USB · 4 Serial	**T(P)WMR-5006** EN50155 Multifunction VPN Router w/1 WiFi 11ac + 1 LTE 4G + 2 serial ports + 6 GigaT 6 GT · 4 PoE · USB · 2 Serial	**T(P)WMR-5004** EN50155 Multifunction VPN Router w/1 WiFi 11ac + 1 LTE 4G + 2 serial ports + 4 GigaT + 2WAN 4 GT · 4 PoE · USB · 2 Serial · 2 WAN	**TWMR-5002** EN50155 Multifunction VPN Router w/1 WiFi 11ac + 1 LTE 4G + 2 serial ports + 2 GigaT (incl.1 PD) 2 GT · 1 PD · 2 Serial · USB	**IWMR-3003(-M12)** Industrial Multifunction VPN Router w/up to 2 WiFi 11ac + up to 2 LTE 4G + 2/4 serial ports + 3 GigaT 3 GT · 1 PD · 4 Serial · USB

4G LTE Multifunction Routers

Embedded Module Slots X3			Embedded Module Slots X2			Embedded Module Slots X3
NEW	NEW	NEW				
T(P)MR-5208MGF EN50155 Multifunction VPN Router w/up to 3 LTE 4G + 8 GigaT + 2 1G/2.5G Fiber 8 GT · 2 Q-ODC · 8 PoE · USB · 2 WAN	**T(P)MR-5208MGT** EN50155 Multifunction VPN Router w/up to 3 LTE 4G + 8 GigaT + 2 1G/2.5G Copper 8 GT · 2 2.5G · 8 PoE · USB · 2 WAN	**T(P)MR-5008** EN50155 Multifunction VPN Router w/up to 3 LTE 4G + 8 GigaT Ethernet + 4 serial ports 8 GT · 8 PoE · USB · 4 Serial	**T(P)MR-5006** EN50155 Multifunction VPN Router w/2 LTE 4G + 2 serial ports + 6 GigaT 6 GT · 4 PoE · USB · 2 Serial	**T(P)MR-5004** EN50155 Multifunction VPN Router w/2 LTE 4G + 2 serial ports + 4 GigaT + 2WAN 4 GT · 4 PoE · USB · 2 Serial · 2 WAN	**TMR-5002** EN50155 Multifunction VPN Router w/2 LTE 4G + 2 serial ports + 2 GigaT (incl.1 PD) 2 GT · 1 PD · 2 Serial · USB	**IMR-3003(-M12)** Industrial Multifunction VPN Router w/2 LTE 4G + 2/4 serial ports + 3 GigaT 3 GT · 1 PD · 4 Serial · USB

Wi-Fi Multifunction Routers

Embedded Module Slots X3			Embedded Module Slots X2			Embedded Module Slots X3
NEW	NEW	NEW				
T(P)WAP-5208MGF EN50155 Multifunction VPN Router w/up to 3 WiFi 11ac + 8 GigaT + 2 1G/2.5G Fiber 8 GT · 2 Q-ODC · 8 PoE · USB · 2 WAN	**T(P)WAP-5208MGT** EN50155 Multifunction VPN Router w/up to 3 WiFi 11ac + 8 GigaT + 2 1G/2.5G Copper 8 GT · 2 2.5G · 8 PoE · USB · 2 WAN	**T(P)WAP-5008** EN50155 Multifunction VPN Router w/up to 3 WiFi 11ac + 8 GigaT Ethernet + 4 serial ports 8 GT · 8 PoE · USB · 4 Serial	**T(P)WAP-5006** EN50155 Multifunction VPN Router w/2 WiFi 11ac + 2 serial ports + 6 GigaT 6 GT · 4 PoE · USB · 2 Serial	**T(P)WAP-5004** EN50155 Multifunction VPN Router w/2 WiFi 11ac + 2 serial ports + 4 GigaT + 2WAN 4 GT · 4 PoE · USB · 2 Serial · 2 WAN	**TWAP-5002** EN50155 Multifunction VPN Router w/2 WiFi 11ac + 2 serial ports + 2 GigaT (incl.1 PD) 2 GT · 1 PD · 2 Serial · USB	**IWAP-3003(-M12)** Industrial Multifunction VPN Router w/2 WiFi 11ac + 2/4 serial ports + 3 GigaT 3 GT · 1 PD · 4 Serial · USB

*M12 model does not support serial ports.

EN50155 NAT Routers

T(P)GR-5208MGF-2WAN 8 10/100/1000T + 2 1G/2.5G Q-ODC Fiber + 2 1G/2.5G WAN EN50155 L2+ Managed Ethernet Router 8 GT · 2 Q-ODC · 8 PoE · USB · 2 WAN	**T(P)GR-5208MGT-2WAN** 8 10/100/1000T + 2 1G/2.5G Copper + 2 1G/2.5G WAN EN50155 L2+ Managed Ethernet Router 8 GT · 2 2.5G · 8 PoE · USB · 2 WAN

Model name (P) = PoE model

Learn more

Lantech
Worldwide Offices

Taiwan

Lantech Communications Global, Inc.

7F, No.33, Sec.1, Tiding Blvd.,
Neihu District, Taipei, Taiwan, 114066 (or 11494)
Tel: +886-2-2790-2589
Fax: +886-2-2790-2516
info@lantechcom.tw
www.lantechcom.tw

United Kingdom

Lantech UK & Ireland Sales

The Barracks Business Centre
Wakefield Road Pontefract
West Yorkshire WF8 4HH
Mobile: +44 (0) 7746 256770
Office: +44 (0) 1977 877477
ken.woolley@lantechcom.tw

Europe

Lantech Communications Europe GmbH

Philipp-Kachel-Str. 42a
63911 Klingenberg / Germany
Tel: +49-9372-50959-97
Fax: +49-9372-50959-99
sales@lantechcom.eu
www.lantechcom.eu

Australia

Lantech Communications Australia Pty Ltd.

Melbourne Office:
187 Osborne Ave,
Clayton South, VIC 3169
Perth Office:
15 McCabe Street,
North Fremantle, WA 6159
Tel : +61 8 6558 0818
Email: sales@lantechcom.com.au
www.lantechcom.com.au

Singapore

Lantech Singapore

25 Bukit Batok Crescent
#10-07 THE ELITIST
Singapore 658066
Tel: +65-8822-5589
lim@lantechcom.tw

www.lantechcom.tw

info@lantechcom.tw