



LAND



SEA



AIR

THOR200-P16

2U HALF RUGGEDIZED SWITCH



- 16-port Full Gigabit Ethernet ports, including 12 Gigabit RJ45 and 4 1/10Gigabit SFP+
- Layer 2+ Managed Switch
- 12V~52V DC-IN
- Operating Temperature: -25°C~ 75°C



Introduction

The THOR200-P16 2U Half Ruggedized Switch is a high-performance Layer 2+ managed switch designed for mission-critical applications in harsh environments. Equipped with 16 full Gigabit Ethernet ports (12 RJ45 and 4 SFP+ supporting up to 10G speeds), it ensures high-bandwidth, low-latency data transmission essential for real-time operations. Its ruggedized design and wide operating temperature range (-25°C to 75°C) make it ideal for mobile command centers and field deployments.

In high-stakes military operations, smooth, uninterrupted video and data streams are vital. The THOR200-P16 features a powerful switching chip with a robust backplane and large cache to eliminate network congestion, enabling seamless HD video surveillance, real-time situational awareness, and coordinated unmanned systems. Flexible VLAN configuration with IEEE 802.1Q, protocol VLAN, and QinQ support allows secure network segmentation based on mission roles or unit hierarchies.

Security is paramount in defense-grade networks, and the THOR200-P16 delivers comprehensive protection. It supports multi-layer authentication methods, including 802.1x, RADIUS, TACACS+, and web interface logins. Advanced hardware-based security features such as IP/MAC ACLs, MAC binding, DHCP snooping, and port filtering ensure that only authorized devices access the network. It's vital for preventing cyber threats in tactical environments.

Key Features

High Performance 10G Layer 2 Switch

- High-bandwidth switching chip with a robust backplane and large cache reduces network congestion
- Supports IEEE802.3X full-duplex flow control for smooth, lag-free HD transmission
- Automatic MAC address learning and updating, plus Auto MDI/MDIX functionality for seamless connectivity
- Service ports include 6KV anti-surge protection, overload safeguards for secure use

L2+ Management Switch Features

- Supports up to 128 static routes and 1024 ARP entries for efficient routing and address resolution.
- Offers flexible bandwidth and traffic configuration with optical port DDMI diagnostics for precise network management.
- Includes IEEE 802.1Q, protocol VLAN, and QinQ VLAN for flexible VLAN configuration based on

user needs.

- Features three priority modes (port-based, 802.1P, and DSCP) and four queue scheduling algorithms (Equ, SP, WRR, SP+WRR) to optimize traffic handling.
- Provides customizable security policies with rule-based filtering, processing actions, and time-based permissions for enhanced network protection.
- Supports IGMP V1/V2 and IGMP Snooping V1/V2/V3 for seamless multi-terminal HD video surveillance and conferencing.
- Supports ITU-T G.8032 v1/v2 ERPS Standard Ring Redundancy protocol and STP/RSTP/MSTP for loop elimination, link backup, and network stability.
- Supports static and dynamic (LACP) aggregation for higher bandwidth, load balancing, link redundancy, and reliability.

Security

- Supports WEB interface authentication for secure access
- Supports 802.1x, remote RADIUS, and TACACS+ authentication for robust access control
- Hardware supports IP ACL, MAC ACL, port filtering, MAC address binding, and multi-factor binding (IP+MAC+VLAN+Port) for enhanced security
- Features DHCP Snooping V1/V2/V3, port isolation, and broadcast storm suppression for reliable and secure network operation

Appearance



Specifications

SYSTEM

Switch Technology	Store and Forward Technology with Non-Blocking Switch Fabric
Number of MAC Address	16K
Packet Forwarding Cache	12Mbits
Transfer performance	Backplane Bandwidth: 56 Gbps (non-blocking), Packet forwarding rate @ 64byte: 77.38 Mpps
Jumbo Packet	10KBytes

I/O PORT

Ethernet Port	12 x 10/100/1000Base-T RJ45 4 x 1/10G SFP+
Console	1 x RS232 in RJ45 for System Configuration. Baud Rate: 115200.n.8.1
USB	1 x USB
Power Input	1 x DC-IN with D38999 connector
System LED	1 x Power : Green ON(Power is on) 1 x SYS : Green Blinking (System is ready)

SOFTWARE

Management	Web-based, CLI command line (Console, Telnet), SNMP (V1/V2c/V3), HTTP, TFTP file upload/download, RMON 1, 2, 3 and 9 groups, one key to restore factory settings, NTP clock and local clock, local logs and system logs (SYSLOG), Ping detection, cable status checking, instant CPU utilization status, Link Layer Discovery Protocol LLDP, NMS (LLDP+SNMP)
IP Routing	L2+ network management functions. Support IPv4/IPv6 static/dynamic routing, Support IPv4/IPv6 dual-stack management Support RIPv1/v2, RIPv6, OSPFv1/v2, OSPFv3 ARP protocol with a maximum of 1024 entries
VLAN	port-based VLANs (4K), IEEE802.1q VLANs, protocol-based VLANs Access, Trunk, and Hybrid port configurations
Port Aggregation	static aggregation and dynamic aggregation (LACP) up to 8 aggregation groups, each aggregation group supports up to 8 ports
Redundancy	STP/RSTP/MSTP spanning tree protocols ITU-T G.8032 v1/v2 Ethernet Ring Protection Switching (ERPSv2)

	(single-ring, multi-ring, intersecting ring and tangent ring configurations), ring self-healing time less than 20ms Virtual Router Redundancy Protocol (VRRP)
IGMP, Mirroring	IGMP Snooping v1/v2/v3 and up to 1024 multicast groups. bi-directional traffic mirroring on basic ports
DHCP	DHCP Server, DHCP Client, DHCP Snooping v1/v2/v3
QoS	port-based, 802.1P and DSCP/ToS prioritization, and supports 8 output queues per port. Four priority scheduling modes: Equ, SP, WRR, SP+WRR. Priority Mark/Remark, Flow-based rate limiting, packet filtering, redirection
ACL	L2 to L4 packet filtering function and provides ACLs defined based on source MAC address, destination MAC address, source IP address, destination IP address, IP protocol type, TCP/UDP port, TCP/UDP port range, VLAN, etc. Port-based and VLAN-based ACL issuance
Security	Hierarchical management and password protection, Port-based IEEE802.1X authentication, AAA & RADIUS with TACACS+ authentication, MAC address learning number limit, MAC address blacklist, address binding, SSH 2.0 encrypted channel for user login, Port isolation, ARP message speed limit function, IP source address protection, ARP intrusion detection, Anti-DoS attacks, Port broadcast message suppression, Host data backup/restore mechanism, IP+MAC+VLAN+Port Quad Binding

POWER REQUIREMENT

Power Input	12V~52V DC
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MECHANICAL

Dimension	220 x 200 x 88 mm(W x D x H) (TBD)
Weight	5kg(TBD)
Chassis	Aluminum
Cooling	Natural Passive Convection/Conduction. No Moving Parts

ENVIRONMENTAL

Operating Temp.	-25 to 75°C (ambient with air flow)
Storage Temp.	-40 to 85°C
Relative Humidity	5% to 95%, non-condensing.

STANDARD

IEEE 802.3 10Base-T Ethernet

IEEE 802.3u 100Base-TX Fast Ethernet

IEEE802.3z 1000Base-X

IEEE 802.3ab 1000Base-T Gigabit Ethernet Copper

IEEE 802.3z Gigabit Ethernet Fiber

IEEE 802.3x Flow Control and back-pressure

IEEE 802.1AB Link Layer Discovery Protocol (LLDP)

IEEE 802.1p Class of Service (CoS)

IEEE 802.1Q VLAN

IEEE 802.1D-2004 Rapid Spanning Tree Protocol (RSTP)

IEEE 802.3ad Link Aggregation Control Protocol (LACP)

IEEE 802.1X Port based Network Access Protocol

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