



THOR200-M10

2U HALF L3 RUGGEDIZED MILITARY SWITCH



- 10-Port Full Gigabit Ethernet ports, including 8 x Gigabit/w M12 and 2 x 100/1000M SFP w D38999
- Layer 3 Managed Switch
- 10V~60V DC-IN
- Operating Temperature: -40°C to +70°C
- IEEE 802.3u 100Base-FX Fast Ethernet Fiber
- IEEE 802.1p Class of Service (CoS)
- IEEE 802.1D-2004 Rapid Spanning Tree Protocol (RSTP)
- ITU-T G.8032 version 2 Ethernet Ring Protection Switching (ERPSv2)

Key Features

(1) High Performance CPU & Full Gigabit Switching

- Powerful 1.2GHz ARM Cortex-A9 processor
- Non-blocking switch fabric design
- 8 flexible Class of Service (CoS) queues
- 16K MAC address table
- 9Kb Jumbo Frame
- Fiber ports support both 100M and 1000M SFP
- DDM function for fiber connectivity monitoring
- Energy-Efficient Ethernet for power saving

(2) L3 Management Switch Features

- Various configuration paths, including WebGUI, CLI, SNMP, Modbus TCP, LLDP topology control
- Layer 3 Switch features include VLAN, QoS, LACP/Trunk, Rapid Spanning Tree protocol...etc.
- IGMP Snooping v1/v2/v3, IGMP Query, 512 L2 Multicast Groups for video applications

(3) ITU ERPSv2 PLUS Ring Technology

- ITU G.8032 v1/v2 ERPS Ring Redundancy & HW-based CFM for quick acknowledgement while GbE copper link failure, providing 20ms recovery time, seamless restoration.
- ERPSv2 available to replace Ring + Chain + Dual Homing
- Inter-Operability with 3rd party industrial switch and still remain fast recovery time.
- Support Enhanced RSTP for large ring network topology with up to 80 switches.

(4) Layer 3 Dynamic Routing with Redundancy Protection

- RIPv1&v2, OSPFv2 for intra-domain routing within an autonomous system
- Efficient unicast/multicast static routing
- VRRPv2 guarantees sustainable routing in a single point of failure

(5) IEC62443-4-2 Level 3 / 4 Cyber Security

- 802.1X/RADIUS port-based access control
- IP Security/Port Security
- HTTPs/SSH Management IP secure access
- Supports advanced cybersecurity features, 802.1X MAB, TACAS+, DHCP Snooping, IP Source Guard, Dynamic ARP Inspection, advanced Port Security & L2-L7 Access Control List

Specifications

SYSTEM

Processor	Arm Cortex-A9, max. 1.2GHz, DDR3 2Gb
Switch Technology	Store and Forward Technology with Non-Blocking Switch Fabric Internal Packet Buffer: 4Mb Forwarding rate: 14.88Mpps/10-port (1,488,000pps/Gigabit port)
Number of MAC Address	16K
Jumbo Frame	9216 Bytes
VLAN	256 VLANs, VLAN ID 1~4094
IGMP Groups	512
Traffic Prioritize	8 Priority Queues per Port
Routing Table	4K

I/O PORT

Ethernet Port	8 x 100/1000Base-T Auto-Negotiation with M12 Connectors 2 x 100/1000M SFP with D38999
Console	1 x RS232 with D38999
Digital Input, Digital Output	1 x DI, 1 x DO with D38999
Power Input	1 x DC-IN with D38999 Connector

SOFTWARE

Management	WebGUI, Command Line Interface (CLI), IPv4/IPv6(RFC2460), Telnet, SNMP v1/v2c/v3, RMON, SNMP Trap, LLDP, DHCP Server/Client/Option 82, TFTP, System Log, SMTP
Traffic Management	Flow Control, Rate Control, Storm Control, CoS, QoS, RFC 2474 DiffServ
Filter	IGMP Snooping v1/v2/v3, IGMP Snooping Fast-Leave/Immediate-Leave, IGMP Query, GMRP, IEEE802.1Q VLAN, QinQ, GVRP, Private VLAN
Security	IEEE 802.1X/RADIUS, TLS v1.2, Access Control List (ACL, MAC/IP/ARP filter), HTTPs/SSH secure login, First login password management
Advanced Security	TACACS+, Mutli-user authentication, IEEE802.1x MAB, DHCP Snooping/IPSG, Dynamic ARP inspection, SFTP
Time Management	NTP, IEEE 1588 Precision Time Protocol v2
MIB	ERPS MIB, MIB-II, P-BRIDGE MIB, Q-BRIDGE MIB, Bridge MIB, RMON MIB Group 1, 2, 3, Private MIB

Diagnostic	LLDP, Port Mirror, Ping, Port Statistic, Event Log
L3 Routing	Static/Dynamic IP Routing, VLAN Routing, RIP v1/v2, OSPF v2, Static Multicast Route

POWER REQUIREMENT

Power Input	10V~60V DC
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MECHANICAL

Dimensions	220 x 350 x 88 mm (W x D x H) (TBD)
Weight	6.6 kg (TBD)
Chassis	Aluminum AL6061
Heatsink	Aluminum Alloy, Corrosion Resistant.
Finish	Anodic aluminum oxide.
Cooling	Natural Passive Convection/Conduction. No Moving Parts

ENVIRONMENTAL

Reliability	No Moving Parts; Passive Cooling. Designed & Manufactured using ISO 9001/2000 Certified Quality Program.
Operating Temp.	-40 to +70°C (ambient with air flow)
Storage Temp.	-40 to +85°C
Relative Humidity	0% to 95%, non-condensing.

STANDARD

	IEEE 802.3u 100Base-TX Fast Ethernet
	IEEE 802.3u 100Base-FX Fast Ethernet Fiber
	IEEE 802.3ab 1000Base-T Gigabit Ethernet Copper
	IEEE 802.3z Gigabit Ethernet Fiber
	IEEE 802.3x Flow Control and back-pressure
	IEEE 802.3az Energy Efficient Ethernet
	IEEE 802.1p Class of Service (CoS)
	IEEE 802.1Q VLAN and GVRP
	IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
	IEEE 802.1D-2004 Rapid Spanning Tree Protocol (RSTP)
	IEEE 802.1S Multiple Spanning Tree Protocol (MSTP)
	IEEE 801.1AX/802.3ad Link Aggregation Control Protocol (LACP)

IEEE 802.1x Port-based Network Access Protocol

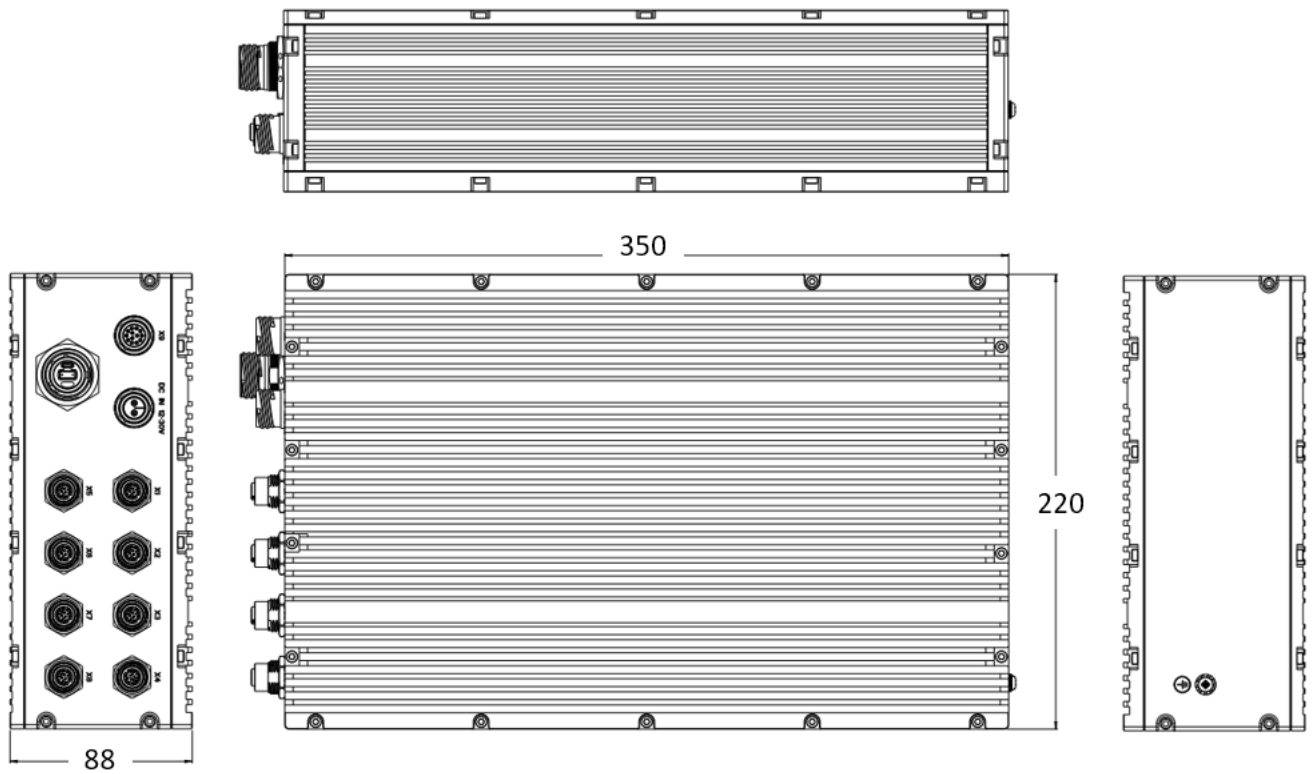
IEEE 1588 Precision Time Protocol v2

ITU-T G.8032 version 2 Ethernet ring protection switching (ERPSv2)

Appearance



Dimensions



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