VME218

24 Port VME Managed Layer Two Switch

VME218

Key Features

- VME compliant (only takes power from the VME bus)
- Managed Layer two switch
- 12/24 Ports of 10/100/1000 via RJ-45 on the base board and 12 Ports via SFP Ports
- 4K IEEE 802.1Q VLANs
- Packet classification using IEEE802.1p QoS

Benefits

- Supports up to 8K MAC address
- VLAN-based packet filtering
- Electrical, mechanical, software, and system-level expertise in house
- AS9100 and ISO9001 certified company
- Full system supply from industry leader

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VME218

The VME218 is a 6U single slot VME module that has 12 Ports of 10/100/1000 GbE via RJ-45 on its baseboard and 12 Ports via SFP+. With 24 Ports the module will take two slots. The module also comes with 24 ports of RJ-45 and it will take two slots.

The switch is managed via http and supports a rich set of features such as VLAN, Spanning tree, QoS, Mirroring, etc.

VadaTech can modify this product to meet special customer requirements without NRE (minimum order placement is required).

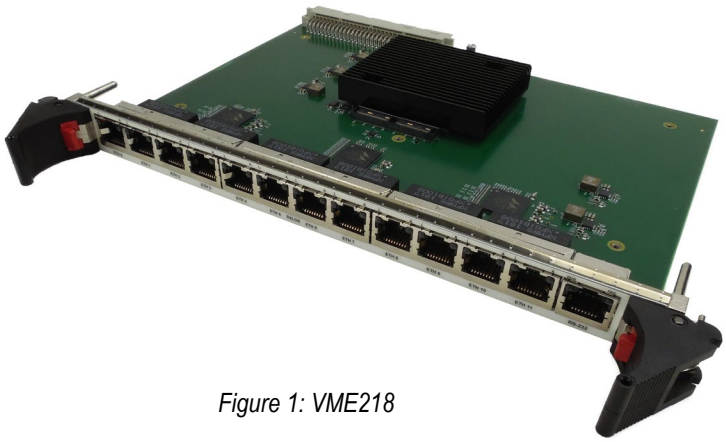

Figure 1: VME218

Block Diagram

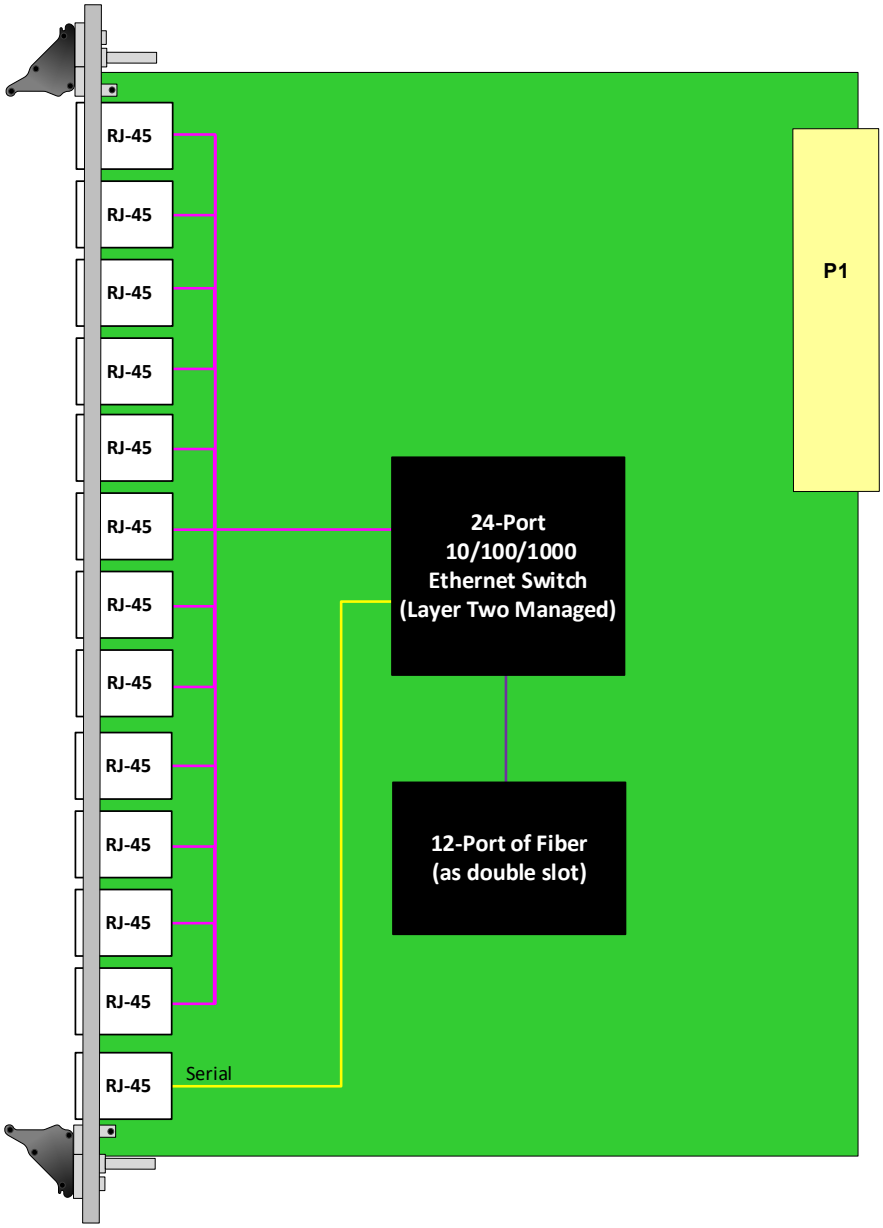

Figure 2: VME218 Functional Block Diagram

Front Panel

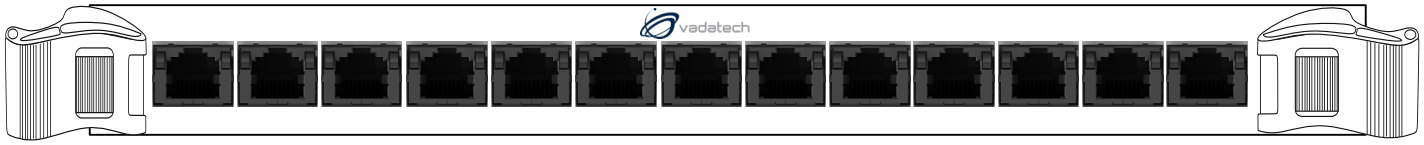

Figure 3: VME218 Front Panel

Managed Layer Two GbE

Configuration
- Ethernet/IEEE 802.3 Packet size (64 bytes to 1522 bytes)
- Jumbo packets up to 9216 bytes

L2 Switching
- Supports up to 8K MAC address
- Line rate switching for all packet sizes
- Independent VLAN learning
- VLAN flooding for broadcast and DLF packets
- Hardware-based address learning
- Hardware-and-software-based aging
- Software insertion/deletion/lookups of the L2 table
- Station movement control

L2 Multicast
- 4K VLANs
- Protocol-based VLANs
- IEEE 802.1p
- IEEE 802.1Q
- Independent VLAN learning (IVL)
- VLAN-based packet filtering
- MAC-based VLAN

Storm Control Per-Port
- Unknown unicast packet rate control
- Broadcast packet rate control
- Multicast packet rate control

Spanning Tree
- IEEE 802.1D spanning tree protocol (single spanning tree per port)
- Spanning tree protocol packets detected and sent to the CPU

Double-Tagging
- Unqualified learning/forwarding
- IEEE 802.1 Q-in-Q

Mirroring
- Ingress/egress mirroring support
- Mirror-to-port receives the unmodified packet for ingress mirroring
- Mirror-to-port receives the modified packet for egress mirroring

Content Aware Filter Processing
- Intelligent Protocol Aware processor with backward-compatible, byte-based classification option
- Parses up to 128 bytes per packet
    - 512 ACL rules support
- Multiple matches and actions per packet
- ACL-based policing
- Ingress/egress port-based filtering
- MAC destination address remarking
- Traffic class definition based on the filter
- Programmable meters allow policing of flows
- Metering granularity from 64 Kbps to 1 Gbps
- Multiple look-ups per packet
- Metering support on ingress ports and CPU queues

QOS Features
- Four QoS queues per port
- Per-port, per QoS drop profiles
- Port level shaping
- Traffic shaping available on CPU queues
- Programmable priority to QoS queue mapping
- Provides two levels of drop precedence per queue
- Strict Priority (SP), Weighted Round Robin (WRR), and Deficit Round Robin (DRR) mechanisms for shaped queue selection

DSCP
- DSCP-based prioritization
- Back pressure metering
- DSCP to IEEE 802.1p mapping

Port Security
- Per port blocking
- Supports IEEE 802.1x
- MAC address blocking

DoS Prevention
- Denial of Service detection/prevention

Management Information Base
- SMON MIB, IETF RFC 2613
- RMON statistics group, IETF RFC 2819
- SNMP interface group, IETF RFC 1213, 2836
- Ethernet-like MIB, IETF RFC 1643
- Ethernet MIB, IEEE 802.3u
- Bridge MIB, IETF RFC 1493

Specifications

Architecture		
Physical	**Dimensions**	Height: 6U
		6.366 x 9.187 (PCB size)
		Single slot on the base board and double slot with the daughter card
Type	**Ethernet**	GbE Switch
		12 Ports or 24 Ports as double slot
		10/100/1000 per Port
Standards		
VME	**Type**	VME
Configuration		
Power	**VME218**	12W Base Module
Environmental	**Temperature**	See Ordering Options
		Storage Temperature: –40° to +90°C
	Vibration	1G 5-500 Hz each axis
	Shock	30Gs each axis
	Relative Humidity	5 to 95% non-condensing
Front Panel	**Interface Connectors**	RJ-45 on base board
	LEDs	Run/Fail, Link/Activity
	Mechanical	Hot-swap Ejector Handle
Software Support	**Operating Systems**	Independent
Other		
MTBF	MIL Hand book 217-F@ TBD hrs	
Certifications	Designed to meet FCC, CE and UL certifications, where applicable	
Standards	VadaTech is certified to both the ISO9001:2000 and AS9100B:2004 standards	
Warranty	Two (2) years, see VadaTech Terms and Conditions	

INTEGRATION SERVICES AND APPLICATION-READY PLATFORMS

VadaTech has a full ecosystem of OpenVPX, ATCA and MTCA products including chassis platforms, shelf managers, AMC modules, Switch and Payload Boards, Rear Transition Modules (RTMs), Power Modules, and more. The company also offers integration services as well as pre-configured Application-Ready Platforms. Please contact VadaTech Sales for more information.

Ordering Options

VME218 – AAB-BCC-GHJ

AA = Number of Fiber SX Transceivers		G = Additional 12 ports (24 ports total)
0 = No TXCVRs X = Number of Transceivers		0 = None 1 = 12x SFP cages for options AA/BB/CC 2 = 12 ports of GbE Copper via RJ-45
BB = Number of Fiber LX Transceivers		**H = Operating Temperature**
0 = No TXCVRs X = Number of Transceivers		0 = Commercial 1 = Industrial
CC = Number of Copper Transceivers		**J = Conformal Coating**
0 = No TXCVRs X = Number of Transceivers		0 = No coating 1 = Humiseal 1A33 polyurethane 2 = Humiseal 1B31 acrylic

Notes: The total number of transceivers must not exceed 12

Related Products

CP218

- Compact PCI 24 Ports managed layer 2 switch
- 12 Ports of 10/100/1000 via RJ-45 on the base board
- 12 Ports via SFP (daughter module)

AMC217

- 10 ports AMC managed layer 2 switch
- single module, full size AdvancedMCTM (AMC)
- 8 front panel 10/100/1000 Mbit ethernet Ports via RJ-45 and two additional GbE ports routed to the rear

VPX005

- 3U OpenVPX Switch, 10/40GbE, Integrated Health Management
- Full Layer 3 managed Ethernet switches
- Dual 100/1000/10G uplink on the front panel

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