

Viking Series

10x10/100/1000Base-T Ports, MIL-DTL-38999, L2 Managed Ethernet Switch, 28VDC

10x10/100/1000Base-T Ports

FEATURES

- 10x triple-speed (10/100/1000 Mbps) copper Ethernet ports
- Copper cable link distances up to 100 Meters (EIA/TIA Cat-5E)
- Operating temperature range from -40°C to +85°C
- Full duplex flow control per IEEE Std 802.3X and half duplex back pressure, symmetric and asymmetric
- Shock, vibration and immersion resistant per MIL-STD-810
- Olive drab cadmium plating meets stringent corrosion resistance specifications
- Aluminum connectors and housings are strong, durable and light weight
- Auto sensing of half or full duplex operation
- 802.1Q VLAN switch with 32K MACs and 4K VLANs
- Push, pop, and translate ingress/egress
- Policing with storm control and MC/BC protection
- Hierarchical quality of service (QoS)

APPLICATIONS

Viking series 1000Base-T Ethernet switches enable high speed network communications in harsh environments.

The MIL-DTL-38999 series III shells provide sealed interfaces that are water-tight to MIL-STD-810 when mated.



L2 managed D38999 10x10/100/1000Base-T Port Ethernet Switch

DESCRIPTION

Viking series VS448-BMWN L2 managed Ethernet switches consist of 10x 10/100/1000Base-T ports with Auto negotiation and Auto MDI / MDIX circuitry into a wall or floor mounted assembly.

The external copper cable interface of the Viking series VS448-BMWN Ethernet switch is a D38999/25-35 Series III connector with 10x IEEE-802.3U compliant Gigabit Ethernet ports plus the power supply and ground connections.

Viking VS448-BMWN series Ethernet switches are vibration isolated, environmentally hardened components designed for use in harsh environment applications.

- Sealed against liquid and solid contaminants
- Shock and vibration resistant

ORDERING INFORMATION

Application	Part Number
10x10/100/1000Base-T / 28VDC	VS448-BMWN
See Appendix A1 for more part number options	

POWER

Standard	Feature	Minimum	Typical	Maximum	Unit
IEC 60950-1	Supply Voltage	+12.0	28.0	+36.0	VDC
	Current		700	750	mA
	Power Consumption		19.6	21.0	W

RELIABILITY

Standard	Method	Feature	Maximum	Unit
HDBK-217F	Parts Count	MTBF	211,866.9	Hrs@ 30°C
		FITS	4719.9	10°Hrs@ 30°C

ENVIRONMENTAL

Standard	Method	Feature	Minimum	Maximum	Notes
MIL-STD-810G	501, 502	Storage Temperature	-55	+100	°C
	501, 502	Operating Temperature	-40	+85	°C
	514	Random Vibration	10	2000	Hz
	516	Operating Shock		40.0g	11mS
	507.5	Humidity - Non Condensing		95% RH	40 °C
	500	Operational Altitude		3,962	M
	500	Storage Altitude		12,192	M
	510.4	Blowing Sand and Dust		10	g/M³

MATERIALS

Item	Detail	Notes
Chassis and Connectors	T-6061 Aluminum Alloy	
Chassis Finish	OD-CD, NI or ZN-NI	
PCB	Conformal Coating	
Weight	23.152oz/656.35grams	

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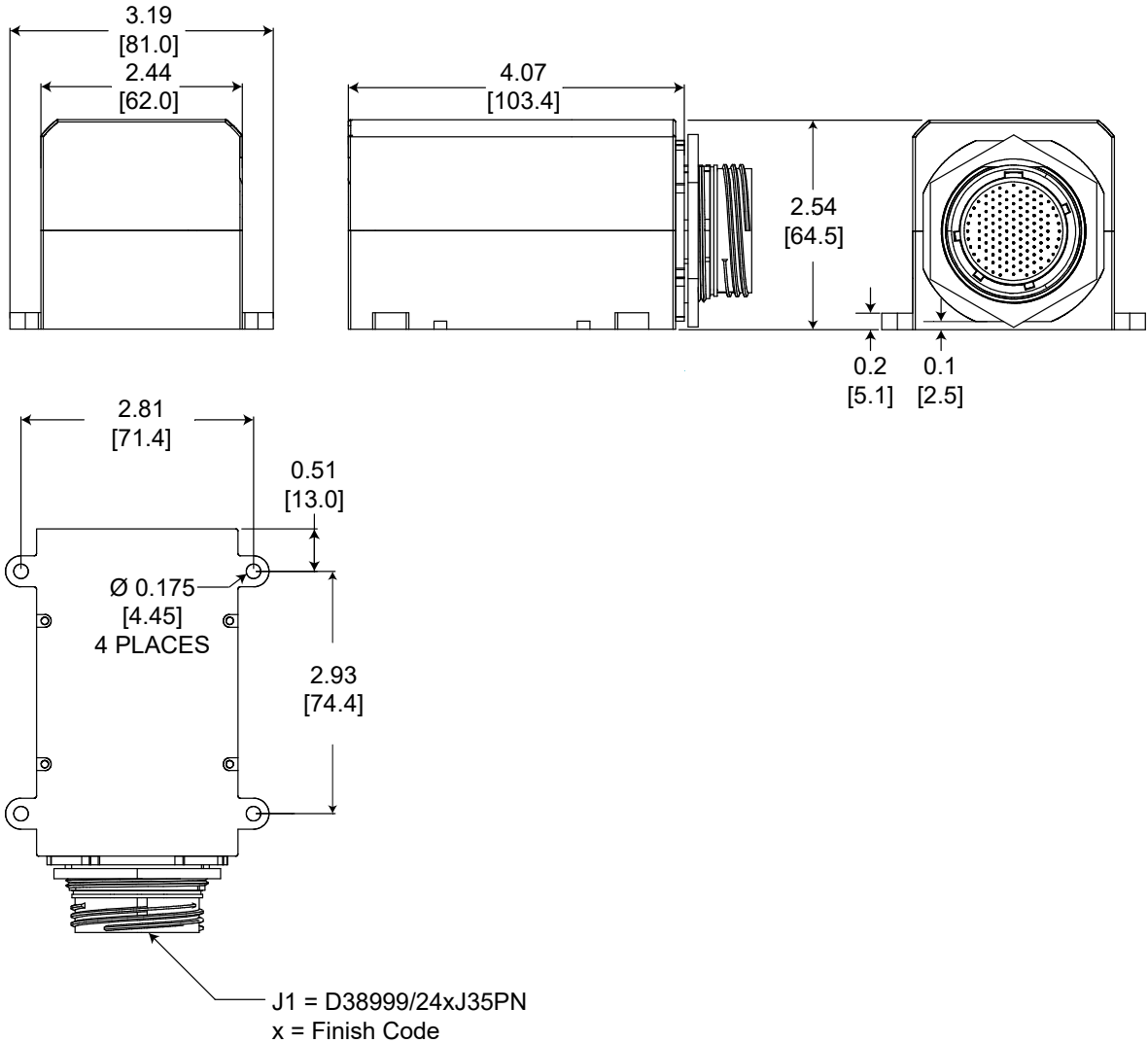
Ethernet Switch Management Features

PERFORMANCE	PARAMETER
Port Speeds	Wire-speed switching on all ports
Maximum Transmission Unit (MTU)	Up to 9600 bytes
MANAGEMENT AND MONITORING	PARAMETER
Management Port Access	(CLI) over Serial; Web Browser, HTTP / HTTPS
Simple Network Management Protocol	SNMP v1 / v2 / v3
DHCP Client	DHCP Port-Based Allocation
IEEE 802.1AB-2005 Link Layer Discovery – LLDP	LLDP defined by IEEE 802.1AB
L2 SWITCHING	PARAMETER
MAC Addresses – Static / Auto MAC addr. Learning/Ageing	Up to 32K Addresses
QoS: Quality of Service Classification/Prioritization of Data	Number of active traffic classes (1, 2, 4 or 8)
VLAN: Virtual Local Area Network Segmentation	Up to 4K VLAN's
Internet Group Management Protocol	IGMPv2 snooping
Port Mirroring	Ingress and Egress mirroring
Link Aggregation	Static or LACP
Storm Control for UC, BC and Unknown	Policer for flooded unicast, multicast and broadcast frames
Random Early Discard (RED)	Weighted Random Early Detection
Spanning Tree Protocol	RSTP & STP
STP Loop prevention	Loop Guard
IEEE-802.1ad Provider Bridge	Native or Translated VLAN
SECURITY	PARAMETER
Port-Based 802.1X	Port access control based on IEEE802.1X
MAC-Based Authentication	MD5 authentication against RADIUS server
Web & CLI Authentication	User Authorization Levels for CLI and Web management
ACLs for filtering/policing/port copy	Access Control Lists for filtering, policing or port copy

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OUTLINE DRAWING

Dimensions are shown as: inches [mm]



Viking Ethernet Switch, D38999, 28VDC
 10x1000Base-T Ports, L2 Managed Ethernet Switch

J1 / D38999/24xJ35PN ELECTRICAL PIN FUNCTIONS - Continued on next page

Port #	Pin #	Function	RJ-45 Eq. Pin #	Logic Family
1	9	MDA+	1	IEEE-802.3 - 10/100/1000Base-T
	17	MDA-	2	
	10	MDB+	3	
	18	MDB-	6	
	11	MDC+	4	
	19	MDC-	5	
	12	MDD+	7	
	20	MDD-	8	
2	25	MDA-	2	
	36	MDA+	1	
	26	MDB-	6	
	37	MDB+	3	
	27	MDC-	5	
	38	MDC+	4	
	28	MDD-	8	
	39	MDD+	7	
3	48	MDA+	1	
	59	MDA-	2	
	49	MDB+	3	
	60	MDB-	6	
	50	MDC+	4	
	61	MDC-	5	
	51	MDD+	7	
	62	MDD-	8	
4	71	MDA+	1	
	82	MDA-	2	
	72	MDB+	3	
	83	MDB-	6	
	73	MDC+	4	
	84	MDC-	5	
	74	MDD+	7	
	85	MDD-	8	

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J1 / D38999/24xJ35PN ELECTRICAL PIN FUNCTIONS - Continued on next page

Port #	Pin #	Function	RJ-45 Eq. Pin #	Logic Family
5	94	MDA+	1	IEEE-802.3 - 10/100/1000Base-T
	105	MDA-	2	
	95	MDB+	3	
	106	MDB-	6	
	96	MDC+	4	
	107	MDC-	5	
	97	MDD+	7	
	108	MDD-	8	
6	109	MDA+	1	
	117	MDA-	2	
	110	MDB+	3	
	118	MDB-	6	
	111	MDC+	4	
	119	MDC-	5	
	112	MDD+	7	
	120	MDD-	8	
7	90	MDA+	1	
	101	MDA-	2	
	91	MDB+	3	
	102	MDB-	6	
	92	MDC+	4	
	103	MDC-	5	
	93	MDD+	7	
	104	MDD-	8	
8	66	MDA+	1	
	78	MDA-	2	
	67	MDB+	3	
	79	MDB-	6	
	68	MDC+	4	
	80	MDC-	5	
	69	MDD+	7	
	81	MDD-	8	

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J1 / D38999/24xJ35PN ELECTRICAL PIN FUNCTIONS - Continued from previous page

Port #	Pin #	Function	RJ-45 Eq. Pin #	Logic Family	
9	43	MDA+	1	IEEE-802.3 - 10/100/1000Base-T	
	55	MDA-	2		
	44	MDB+	3		
	56	MDB-	6		
	45	MDC+	4		
	57	MDC-	5		
	46	MDD+	7		
	58	MDD-	8		
10	21	MDA+	1		
	32	MDA-	2		
	22	MDB+	3		
	33	MDB-	6		
	23	MDC+	4		
	34	MDC-	5		
	24	MDD+	7		
	35	MDD-	8		
All	1	Vcc	N/A	N/A	
	2				
	3				
	4				
	5	GND			
	6				
	7				
	14				
	100	Reset			Active Low LVTTTL
	121	CLI			RS232_IN *
	128	CLI			RS232_OUT *
47	GND	RS232_GND *			

*RS-232 port is wired in a straight-through configuration

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APPENDIX A1
PART NUMBER OPTIONS
Ten 10/100/1000Base-T Ports

VS448 - BM W N

Base Part Number
VS448 = Viking Switch

Configuration
BM = L2 managed 10 Port

Shell Finish
F = NI
W = OD CD / NI
Z = ZN / NI

Shell Polarization
N = N
A = A
B = B
C = C
D = D

Other mounting and interface options are available.
Please consult our website for alternate configurations.



192 Bob Fitz Road, Johnson City, TN 37615
salesmp@moog.com
moogprotokraft.com

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