

Viking Series

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

10x1000Base-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
- Unmanaged Ethernet switch - no configuration required

APPLICATIONS

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

- Civil and military vehicle networking
- Plug and play operation - no configuration required
- Unmanaged Ethernet switch port multiplication

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



Unmanaged D38999 10x1000Base-T Port Ethernet Switch

DESCRIPTION

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

The external copper cable interface of the Viking series VS448-BUWN 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-BUWN 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-BUWN
See Appendix A1 for more part number options	

Facilitating Secure Communications in Harsh Environments

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

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

EMI / EMC

Standard	Method	Feature	Minimum	Maximum	Unit
MIL-STD-461F	CS101	Conducted Susceptibility, Power Leads	30	150	KHz
	CE102	Conducted Emissions, Power Leads	10	10000	KHz
	RE102	Radiated Emissions, Electric Field	0.01	18,000	MHz
	RS103	Radiated Susceptibility, Electric Field	30	18,000	MHz

RELIABILITY

Standard	Method	Feature	Maximum	Unit
HDBK-217F	Parts Count	MTBF	211,866.9	Hrs@ 30°C
		FITS	4719.9	10 ⁹ 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/M ³

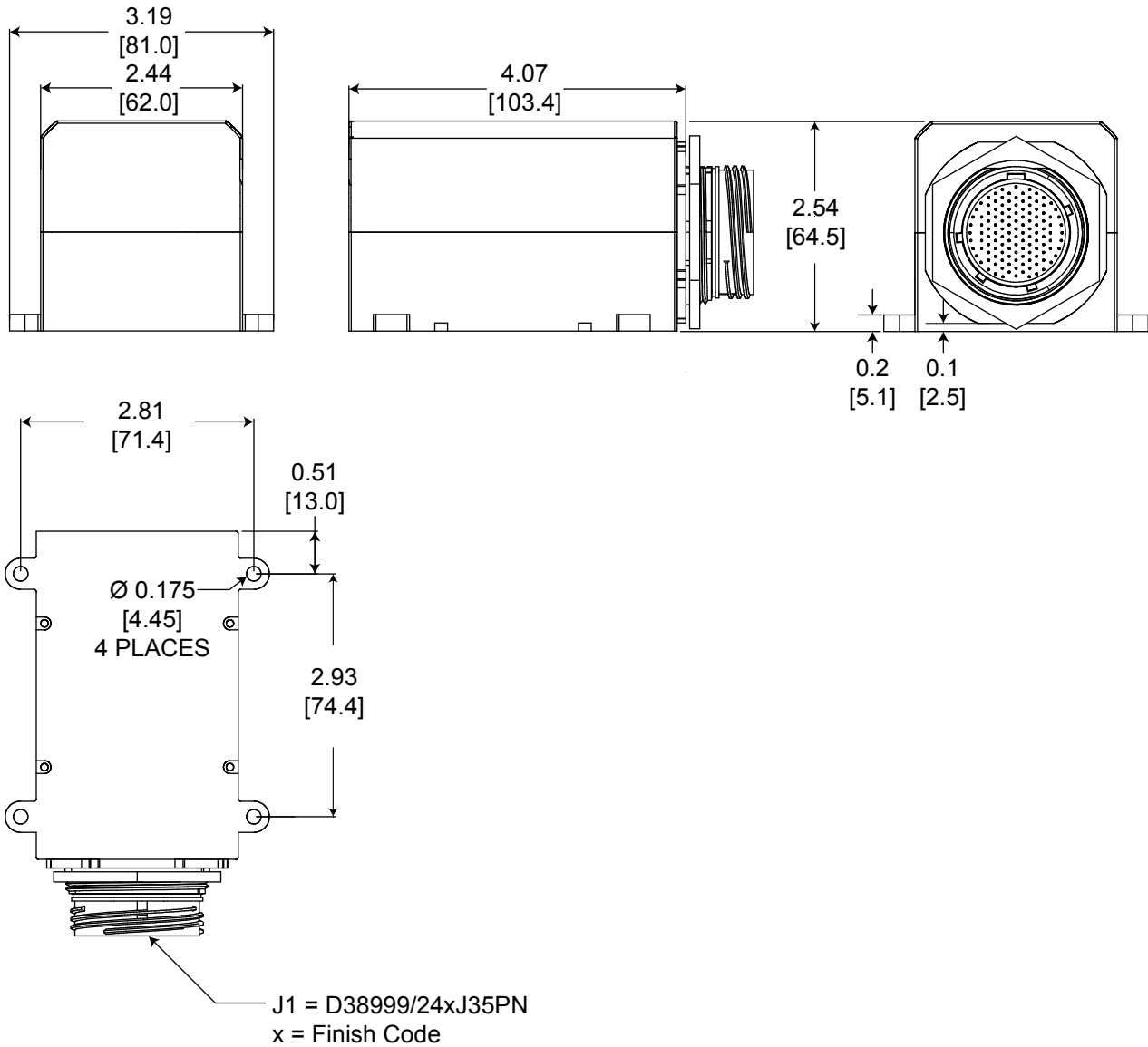
MATERIALS

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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OUTLINE DRAWING

Dimensions are shown as: inches [mm]



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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	N/A	Active Low LVTTTL	

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

VS448 - BU W N

Base Part Number
VS448 = Viking Switch

Configuration
BU = Unmanaged 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 the Protokraft website for alternate configurations.