MILTECH™ 9022

Military Managed 12 Ports Gigabit Switch Router

FEATURES DESCRIPTION

The MILTECH™ 9022 is a MIL-STD Fully managed Military-grade network switch router offering 12 triple speed (10/100/1000) ports. The MILTECH™ 9022 is compatible with all the newest military industry network protocols for redundant link topology, security, multicast and management requirements.

Developed specifically for military and harsh mobile applications, the MILTECH™ 9022 features mechanical packaging enhancements designed for MIL-STD-810F airborne and ground environmental compliance and high reliability. The unit has been especially hardened to improve ingress, impact, and shock/vibration protection, as well as eliminate all moving parts through passive cooling, and interface through sealed circular connectors. Leveraging best-in-class switching technology, the MILTECH™ 9022 serves as a robust COTS solution for providing local area network (LAN) connectivity to IP-enabled computing and net-centric devices. The MILTECH™ 9022 is particularly useful for expanding port density to tactical IP routers in space-constrained airborne and ground vehicle environments.

MILTECH™ 9022 is specifically designed for Data Acquisition & Transmission, Battlefield Communication C4ISR, Rugged Networks, Mobile Communications, Combat vehicles, Avionic & Shipboard Systems.

SPECIFICATIONS

ETHERNET PORTS:	• Router/switch layer 3 managed 12x10/100/1000 TX ports + 4x1G/10G fiber ports — Total of up to 16 x 1G ports.
NETWORKING:	• Wire-speed hardware-based 12 ports gigabit Ethernet switch — L2, L3, L4 Capabilities • L3-Routing capabilities:static,RIPV1,V2,OSPF V2/V3 Multicast Routing, BGP4*, VRRP,ECMP Routing • Multicasting (IGMP Snooping), GARP, GMRP, MLD and GVRP up to 8K groups for both IPv4 and IPv6 • Broadcasting and flooding Control up to 8K Groups • 802.1q Tagged based VLAN up to 4K VLAN groups • Bridge Support for VLAN Q-in-Q, manual tunneling • Link Aggregation 802.3ad, up to 16 members in group • Link Aggregation mechanism based on L2/ L3/ L4 parameters • Jumbo Frame support up to 10K • WEB, CLI, Telnet, SNMP V2/V3 management

NON ITAR

AS9100D CERTIFIED ISO 9001

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SPECIFICATIONS

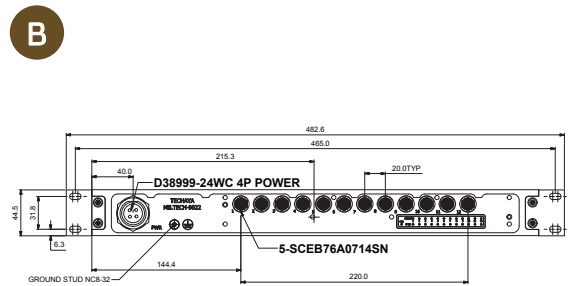|	
NETWORKING: Quality of Service:	• QoS Multi-Layer Classifier: 802.1p, EtherType, VLAN-ID, IPv4/6 DSCP/ToS, and UDP/TCP ports & ranges traffic classification. • Per port WFQ and Strict Queuing scheduling • DSCP remarking for both IPv4 and IPv6 frames • Ingress policer and ingress shaper per port with 500Kbps granularity • Egress shaper per port with 500Kbps granularity • Full-duplex flow control (IEEE802.3X) and half-duplex backpressure, symmetric and asymmetric

NETWORKING: Security:	• Security via Radius Authentication 802.1x, Port / MAC access control
	• Port Security
	• Per port ingress and egress port mirroring
	• Mirroring per VLAN and per content awareness match
	• Private VLAN support per VLAN (Isolated and Promiscuous ports)
	• Content Aware Policers:
	  • 128 Content Aware Policers
	  • 16 Content Aware rate policers with rates from 1fps to 32 million fps
	  • 8 UDP/TCP port range policers
	  • Advanced ACL through hardware based match patterns
	  • Content Aware Policers for generic MAC, ARP, IPv4, IPv6 protocols
	  • No restriction on any mix of entries to Content Aware Policers
	  • Content Aware Policers actions are permit/deny, police, count, snoop and mirror
	  • Special support for IP fragments, UDP/TCP port ranges
	  • Extensive CPU DoS prevention
	  • Surveillance functions by Content Aware Policers counters
	  • Multiple ACLs per port for optimal usage of Content Aware Policers
	• Storm controllers for flooded broadcast, multicast and unicast

Redundancy and ring protection:	• Spanning Tree (802.1d), RSTP (802.1w) and multiple Spanning Tree (802.1S) for fast recovery rings • RPR for up to 30 units per ring with recovery time <50ms hardware based • 20-Gbps bandwidth for ring topology • QoS consistency across stack / ring • Mirroring across stack / ring • Link aggregation groups spanning multiple switches in stack / ring
CONNECTORS:	• 1 x Power Connector Type: D38949/24WC04PN • 12 x LAN Connector Type: SCE2-B-76A07-14SN • Fiber connector types: See ordering information table • 1 x Serial interface, shared with LAN port #1 • LED Indication: Per Port (Speed, Link/Activity)
CHASSIS:	• Low profile rugged aluminum extrusion • Conductively cooled w/custom internal heat-sinks • Ingress protection against sand, dust and moisture • Anodize Coating, MIL-A-8625, Type II, Class 2
STANDARDS:	• MIL-STD-1275B	MIL-STD-704A	MIL-STD-461E	MIL-STD-810F GM	IP67

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PERFORMANCE:	• 96.8 Mpps wire speed forwarding rate • 56 Gbps maximum forwarding bandwidth • 8K MAC Address
POWER:	• Voltage Input: 24Vdc Nominal (18-32Vdc or 90-230VAC) • Power Consumption: 20W Max • Chassis grounding
ELECTROMAGNETIC:	• MIL-STD-461E Electromagnetic compatibility • CE-102, CS-114, CS-115, CS-116, RE-102, RS-103
SHOCK/VIBRATION/HUMIDITY:	• MIL-STD-810F; 501.4I | 501.4II | 502.4I | 502.4II | 507.4 | 500.4II | 514 | 516I | 516VI | 514.5 | 512.4
PHYSICAL:	• Dimensions: 482mm (L) x 242mm (W) x 44mm(H), including connectors & hardware, 1U, 19” rack. • Dimensions: 18.97”(L) x 9.52”(W) x 1.73”(H), including connectors & hardware, 1U, 19” rack.Weight: 3.1kg
INSTALLATION:	• 19” standard mounting ears.
COOLING:	• No Moving Parts. Passive Cooling.
OPERATING TEMP:	• -45ºC to +85ºC (-49ºF to +185ºF) Cold Start-Up
STORAGE TEMP:	• 45ºC to +85ºC (-49ºF to +185ºF)

* Currently not supported — software upgrade option.

A

B
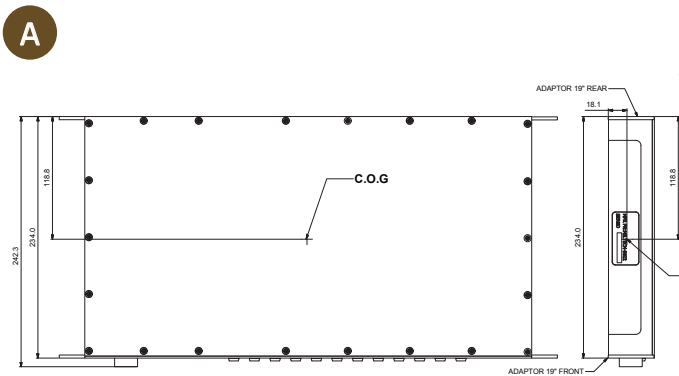
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ORDERING INFORMATION Options for MILTECH 9022/9022AC*

1-9022-A-B-C-D-E

A	Number of 10G fiber ports
0	None
1	1X10G fiber port
2	2X10G fiber ports
3	3X10G fiber ports
4	4X10G fiber ports

B	Number of 1G fiber ports
0	None
1	1X1G fiber port
2	2X1G fiber ports
3	3X1G fiber ports
4	4X1G fiber ports

C	Fiber types
0	None
1	MM fiber
2	SM fiber
3	WDMA fiber
4	WDMB fiber

D	Connector type
0	None
1	D38999 - 2 pins
2	D38999 - 4 pins
3	ARINC801 - 2 Pins
4	ARINC801 - 4 Pins

E	Reserved for special configurations

*Ordering Information for AC power supply version use1-9022AC

ORDERING INFORMATION

PART NUMBER	DESCRIPTION
2-CBL9028LAN	• LAN Harness for MILTECH9022/9028/9012/918/904
2-CBL9028PWR	• Power Harness for MILTECH9028
2-CBL9028LN+	• LAN and management Harness for MILTECH9022/9028/9012/918/904

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