



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, multi-cast 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 from Techaya, 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:	<ul style="list-style-type: none"> Router/switch layer 3 managed 12x10/100/1000 TX ports+4x1G/10G fiber ports – Total of 1G ports.
NETWORKING:	<ul style="list-style-type: none"> 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





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NETWORKING: Quality of Service:	<ul style="list-style-type: none"> • 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:	<ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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:	<ul style="list-style-type: none"> • 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:	<ul style="list-style-type: none"> • 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:	<ul style="list-style-type: none"> • 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:	<ul style="list-style-type: none"> • MIL-STD-1275B MIL-STD-704A MIL-STD-461E MIL-STD-810F GM IP67



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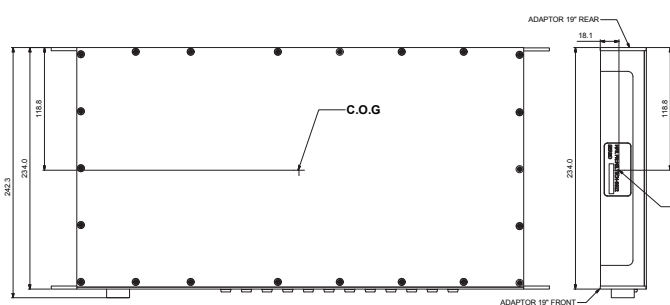
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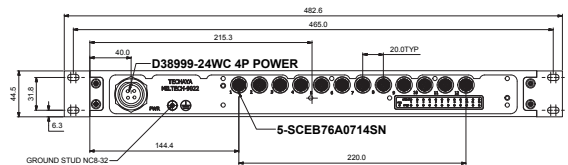
PERFORMANCE:	<ul style="list-style-type: none"> 96.8 Mpps wire speed forwarding rate 56 Gbps maximum forwarding bandwidth 8K MAC Address
POWER:	<ul style="list-style-type: none"> Voltage Input: 24Vdc Nominal (18-32Vdc or 90-230VAC) Power Consumption: 20W Max Chassis grounding
ELECTROMAGNETIC:	<ul style="list-style-type: none"> MIL-STD-461E Electromagnetic compatibility CE-102, C5-114, C5-115, C5-116, RE-102, R5-103
SHOCK/VIBRATION/HUMIDITY:	<ul style="list-style-type: none"> MIL-STD-810F; 501.4I 501.4II 502.4I 502.4II 507.4 500.4II 514 516I 516VI 514.5 512.4
PHYSICAL:	<ul style="list-style-type: none"> 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:	<ul style="list-style-type: none"> 19" standard mounting ears.
COOLING:	<ul style="list-style-type: none"> No Moving Parts. Passive Cooling.
OPERATING TEMP:	<ul style="list-style-type: none"> -45°C to +85°C (-49°F to +185°F) Cold Start-Up
STORAGE TEMP:	<ul style="list-style-type: none"> 45°C to +85°C (-49°F to +185°F)

* Currently not supported – software upgrade option.

A



B





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ORDERING INFORMATION (when the switch includes 12 X10/100/1000Mbps copper ports)

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

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