



## MILTECH 9022

Military-Grade, 1Gbps and 10Gbps Managed 19-Port Ethernet Router/Switch

The MILTECH 9022 is a fully managed, military-grade Ethernet switch and router designed for mission-critical operations in the harshest environments. It offers 12 triple-speed ports (10/100/1000Base-T) for flexible connectivity, complemented by fiber optic options supporting up to 4 x 1Gbps and 3 x 10Gbps links for high-bandwidth backbone integration.

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:	<ul style="list-style-type: none"> <li>• 12 x 10/100/1000BaseT ports</li> <li>• Up to 4 x 1G Fiber Optic ports</li> <li>• Up to 3 x 10G Fiber Optic ports</li> </ul>
NETWORKING:	<ul style="list-style-type: none"> <li>• Wire-speed hardware-based 12 ports gigabit Ethernet switch – L2, L3, L4 Capabilities</li> <li>• L3-Routing capabilities:static,RIPV1,V2,OSPF V2/V3 Multicast Routing, BGP4*, VRRP,ECMP Routing</li> <li>• Multicasting (IGMP Snooping), GARP, GMRP, MLD and GVRP up to 8K groups for both IPv4 and IPv6</li> <li>• Broadcasting and flooding Control up to 8K Groups</li> <li>• 802.1q Tagged based VLAN up to 4K VLAN groups</li> <li>• Bridge Support for VLAN Q-in-Q, manual tunneling</li> <li>• Link Aggregation 802.3ad, up to 16 members in group</li> <li>• Link Aggregation mechanism based on L2/ L3/ L4 parameters</li> <li>• Jumbo Frame support up to 10K</li> <li>• WEB, CLI, Telnet, SNMP V2/V3 management</li> </ul>



**SPECIFICATIONS**

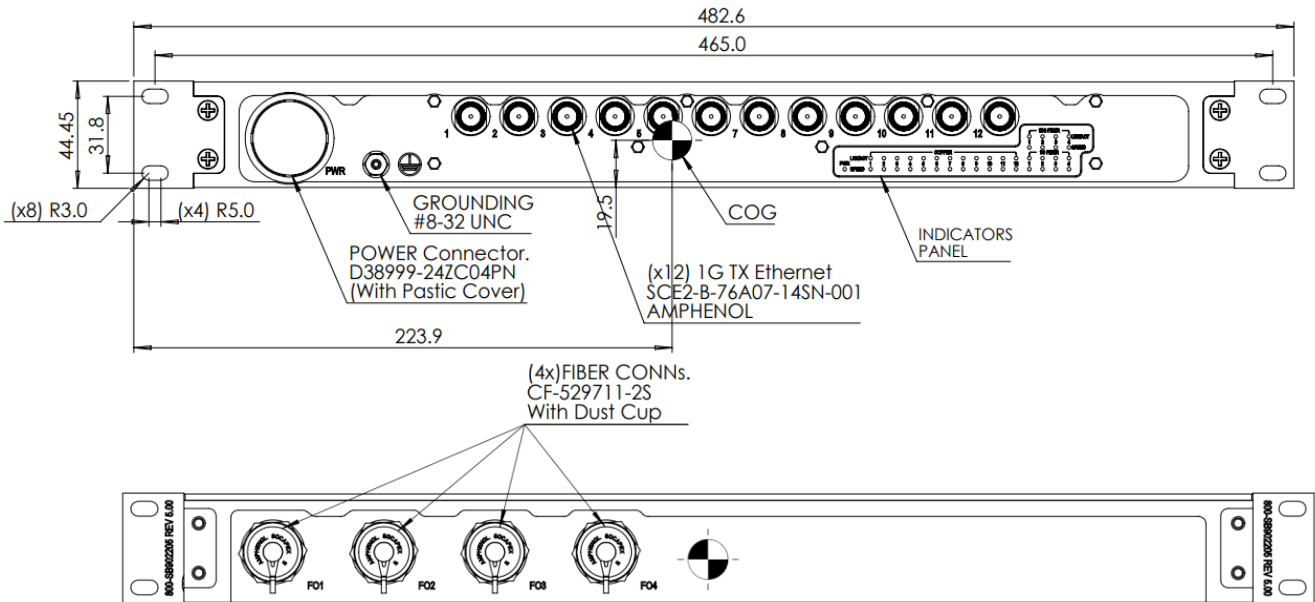
<p>NETWORKING: Quality of Service</p>	<ul style="list-style-type: none"> <li>• QoS Multi-Layer Classifier: 802.1p, EtherType, VLAN-ID, IPv4/6 DSCP/ToS, and UDP/TCP ports &amp; ranges traffic classification.</li> <li>• Per port WFQ and Strict Queuing scheduling</li> <li>• DSCP remarking for both IPv4 and IPv6 frames</li> <li>• Ingress policer and ingress shaper per port with 500Kbps granularity</li> <li>• Egress shaper per port with 500Kbps granularity</li> <li>• Full-duplex flow control (IEEE802.3X) and half-duplex backpressure, symmetric and asymmetric</li> </ul>
<p>NETWORKING: Security</p>	<ul style="list-style-type: none"> <li>• Security via Radius Authentication 802.1x, Port / MAC access control</li> <li>• Port Security</li> <li>• Per port ingress and egress port mirroring</li> <li>• Mirroring per VLAN and per content awareness match</li> <li>• Private VLAN support per VLAN (Isolated and Promiscuous ports)</li> <li>• Content Aware Policers:             <ul style="list-style-type: none"> <li>- 128 Content Aware Policers</li> <li>- 16 Content Aware rate policers with rates from 1fps to 32 million fps</li> <li>- 8 UDP/TCP port range policers</li> <li>- Advanced ACL through hardware based match patterns</li> <li>- Content Aware Policers for generic MAC, ARP, IPv4, IPv6 protocols</li> <li>- No restriction on any mix of entries to Content Aware Policers</li> <li>- Content Aware Policers actions are permit/deny, police, count, snoop and mirror</li> <li>- Special support for IP fragments, UDP/TCP port ranges</li> <li>- Extensive CPU DoS prevention</li> <li>- Surveillance functions by Content Aware Policers counters</li> <li>- Multiple ACLs per port for optimal usage of Content Aware Policers</li> </ul> </li> <li>• Storm controllers for flooded broadcast, multicast and unicast</li> </ul>
<p>NETWORKING: Redundancy and Ring Protection</p>	<ul style="list-style-type: none"> <li>• Spanning Tree (802.1d), RSTP (802.1w) and multiple Spanning Tree (802.1S) for fast recovery rings</li> <li>• RPR for up to 30 units per ring with recovery time &lt;50ms hardware based</li> <li>• 20-Gbps bandwidth for ring topology</li> <li>• QoS consistency across stack / ring</li> <li>• Mirroring across stack / ring</li> <li>• Link aggregation groups spanning multiple switches in stack / ring</li> </ul>
<p>CONNECTORS:</p>	<ul style="list-style-type: none"> <li>• 1 x Power Connector Type: D38949/24WC04PN</li> <li>• 12 x LAN Connector Type: SCE2-B-76A07-14SN</li> <li>• Fiber connector types: See ordering information table</li> <li>• 1 x Serial interface, shared with LAN port #1</li> <li>• LED Indication: Per Port (Speed, Link/Activity)</li> </ul>
<p>CHASSIS:</p>	<ul style="list-style-type: none"> <li>• Low profile rugged aluminum extrusion</li> <li>• Conductively cooled w/custom internal heat-sinks</li> <li>• Ingress protection against sand, dust and moisture</li> <li>• Anodize Coating, MIL-A-8625, Type II, Class 2</li> </ul>
<p>PERFORMANCE:</p>	<ul style="list-style-type: none"> <li>• 96.8 Mpps wire speed forwarding rate</li> <li>• 56 Gbps maximum forwarding bandwidth</li> <li>• 8K MAC Address</li> </ul>
<p>POWER:</p>	<ul style="list-style-type: none"> <li>• Voltage Input: 24Vdc Nominal (18-32Vdc or 90-230VAC)</li> <li>• Power Consumption: 20W Max</li> <li>• Chassis grounding</li> </ul>



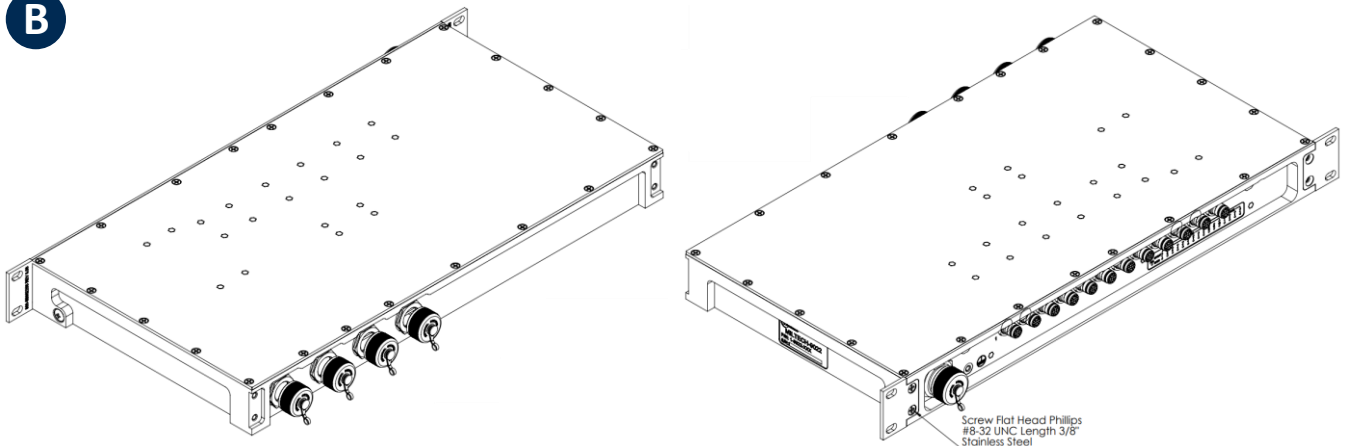
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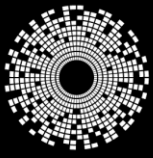
ELECTROMAGNETIC:	<ul style="list-style-type: none"> <li>Design to meet MIL-STD-461. Contact us for available reports</li> </ul>
ENVIRONMENTAL:	<ul style="list-style-type: none"> <li>Design to meet MIL-STD-810. Contact us for available reports</li> <li>Design to meet IP67</li> </ul>
PHYSICAL:	<ul style="list-style-type: none"> <li>Dimensions: 482mm (L) x 242mm (W) x 44mm(H), including connectors &amp; hardware, 1U, 19" rack.</li> <li>Dimensions: 18.97"(L) x 9.52"(W) x 1.73"(H), including connectors &amp; hardware, 1U, 19" rack.</li> <li>Weight: 3.1kg</li> </ul>
INSTALLATION:	<ul style="list-style-type: none"> <li>19" standard mounting ears.</li> </ul>
COOLING:	<ul style="list-style-type: none"> <li>No Moving Parts. Passive Cooling.</li> </ul>
OPERATING TEMP:	<ul style="list-style-type: none"> <li>-45°C to +85°C (-49°F to +185°F) Cold Start-Up</li> </ul>
STORAGE TEMP:	<ul style="list-style-type: none"> <li>-45°C to +85°C (-49°F to +185°F)</li> </ul>

**A**



**B**





**ORDERING INFORMATION** Options for MILTECH 9022/ 9022AC\*

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

A	Number of 10G Fiber Ports
0	None
1	1 x 10G Fiber Port
2	2 x 10G Fiber Port
3	3 x 10G Fiber Port

B	Number of 1G Fiber Ports
0	None
1	1 x 1G Fiber Port
2	2 x 1G Fiber Port
3	3 x 1G Fiber Port
4	4 x 1G Fiber Port

C	Fiber Ports
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	ARINC 801 - 2 pins
4	ARINC 801 - 4 pins

E	Reserved for future configurations

\*Ordering Information for AC power supply version use 1-9022AC

**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