

# MILTECH™ 9113

## Managed Military Grade Embedded Ethernet Switch 12 x 10/100/1000TX Ports + 2 x Gigabit Fiber Ports

The MILTECH 9113 is specifically designed for complex traffic applications featuring IEEE-1588 capabilities suitable for rugged military mobile tactical platforms, which require network-centric interfaces.

With 12 triple-speed (10/100/1000Mbps) ports + 2 Interfaces SGMII the MILTECH 9113 features both L2/L3 network switching and static routing capabilities, including virtual LANS (VLANS), traffic prioritization/ QoS, IPv4/IPv6 support, and bandwidth aggregation. It supports all the latest networking protocols for redundancy, security, multicast, and management.

With the industry's smallest footprint, the MILTECH 9113 measures only 70 x 97mm to offer performance and a combination of size, weight, and power (SWaP) in the industry, saving valuable real estate for devices that make mobile platforms highly effective.

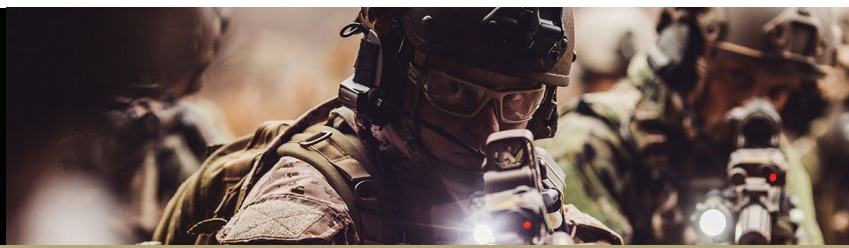
Conformally coated and with board-to-board connectors, it can easily be integrated as a module-based network building block in any military-grade communications platform. The MILTECH 9113 board-level communication solution will withstand working temperatures of -45°C to +85°C and will comply with MIL-STD-810 & MIL-STD-461.



### SPECIFICATIONS

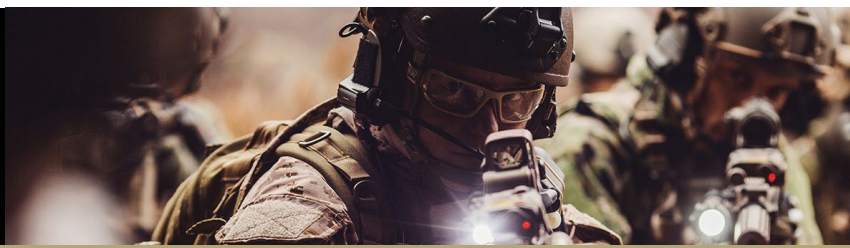
**ETHERNET PORTS:**

- 12 Gigabit Copper Ethernet integrated PHYs & magnetics.
- 2xSGMII interface for direct connection to 2 x 1G Fiber interfaces or carrier PHY device (with dedicated firmware) for additional two copper ports.



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<p>NETWORKING:</p>	<ul style="list-style-type: none"> <li>• Energy efficient Ethernet, IEEE 802.3az</li> <li>• Wire-speed hardware-based 14 ports Gigabit Ethernet Switch – L2 &amp; L3 capabilities</li> <li>• L3-Static Routing capabilities.</li> <li>• 1588V2 PTP with two-step clock.</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</li> <li>• Link Aggregation 802.3ad</li> <li>• WEB, CLI, Telnet , SNMP V2/V3 management</li> <li>• QoS Multi-Layer Classifier: 802.1p, EtherType, VLAN-ID, IPv4/6 DSCP/ToS, and UDP/TCP ports &amp; ranges traffic classification</li> <li>• DSCP remarking for both IPv4 and IPv6 frames</li> <li>• Multiple ACLs per port for optimal usage of Content Aware Policers</li> <li>• Storm controllers for flooded broadcast, multicast and unicast</li> <li>• Spanning Tree (802.1d), RSTP (802.1w) and multiple Spanning Tree (802.1S) for fast recovery rings</li> <li>• Up to 4K egress VLAN tag operations</li> </ul>
<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</li> </ul>
<p>NETWORKING: Quality of Service</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</li> <li>• Private VLAN support per VLAN (Isolated and Promiscuous ports)</li> <li>• Advanced ACL through hardware based match patterns</li> <li>• Content Aware Policers for generic MAC, ARP, IPv4, IPv6 protocols</li> <li>• Content Aware Policers actions are permit/deny, police, count</li> <li>• Multiple ACLs per port for optimal usage of Content Aware Policers</li> <li>• Storm controllers for flooded broadcast, multicast and unicast</li> </ul>
<p>CONNECTORS:</p>	<ul style="list-style-type: none"> <li>• Module: Samtec P/N: ERM8-075-02.0-S-DV-TR</li> <li>• Mating connector: Samtec P/N: ERF8-075-05.0-S-DV-K-TR</li> </ul>
<p>STANDARDS:</p>	<ul style="list-style-type: none"> <li>• MIL-STD-461E   MIL-STD-810F GM   IP67. When incorporated in a suitable enclosure</li> </ul>
<p>PERFORMANCE:</p>	<ul style="list-style-type: none"> <li>• 8K MAC address</li> </ul>
<p>POWER:</p>	<ul style="list-style-type: none"> <li>• Model 9113-000 input power: 6VDC to 36VDC, maximal power consumption 9.3W</li> <li>• Model 9113-001 input power: 3.3VDC ±3%, maximal power consumption 8.5W</li> </ul>
<p>ELECTROMAGNETIC:</p>	<ul style="list-style-type: none"> <li>• MIL-STD-461E Electromagnetic compatibility</li> <li>• CE-102, CS-114, CS-115, CS-116, RE-102, RS-103. When incorporated in a suitable enclosure</li> </ul>

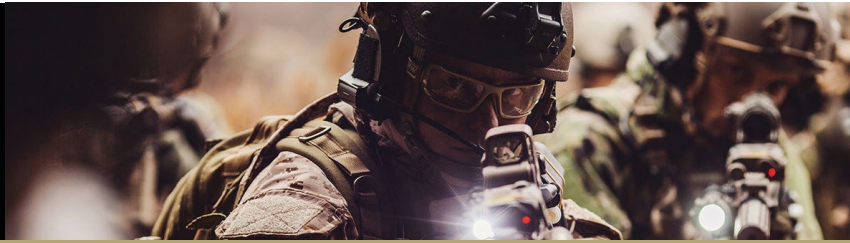


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PHYSICAL:	<ul style="list-style-type: none"> <li>• Dimensions: 97mm (L) * 70mm (W) * 19.8 (H) / 3.82" (L) * 2.75" (W) * 0.78" (H)</li> <li>• Approx Weight: 90gr</li> <li>• Mounting Holes: 6 x Spacer with Thread, #4-40 NC</li> </ul>
MANAGEMENT:	<ul style="list-style-type: none"> <li>• Ethernet Switch console via the carrier interface connector (RS232)</li> <li>• Ethernet Ports Status (Link/Activity) via carrier interface connector serial-bit-stream (optional direct single LED indications for 12 copper ports)</li> </ul>
OPERATING TEMPERATURE:	<ul style="list-style-type: none"> <li>• -40C to 85C, convection cooled</li> </ul>
STORAGE TEMPERATURE:	<ul style="list-style-type: none"> <li>• -45C to 85C</li> </ul>

## ORDERING INFORMATION

PART NUMBER	DESCRIPTION
1-9113-000	14 Ports Gigabit Ethernet Switch with Wide Range( 6VDC-36VDC input range)
1-9113-001	14 Ports Gigabit Ethernet Switch Wide Range + Cooling block
1-9113-002	14 Ports Gigabit Ethernet Switch, input power 3.3VDC ±3%
1-CP9113-000	Cooling Plate Kit for M9113
1-9113EVB-000	M9113 Evaluation Board



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