

# MILTECH™ 918 TSN

## 8 x 1G Ethernet L2/L3 switch with Full TSN and Input/Output clocks

MILTECH 918 TSN is a member of the compact yet fully-featured ethernet switches, aimed at providing advanced timing solutions for military applications on top of a standard Ethernet switch (such as MILTECH918).

Providing 8 x 10/100/1000BT ports, 1PPS, and 10MHz (In and Out), this switch is designed to support networking and precise timing applications such as manned/autonomous vehicles, Avionics, UAVs, and mobile equipment in battlefield environments.

The tight integration of hardware and software enables the most advanced timing protocols in the industry, including SyncE, IEEE 1588v2, PTP with one/two-step clock, P2P transparent/boundary clock over Ethernet, multiple timing domains, PTP time interface, and NTPv4.

MILTECH 918TSN offers a comprehensive set of enterprise-grade security and networking features, including switching protocols, VLANs, traffic prioritization (QoS), bandwidth aggregation, and many more. In addition, MILTECH 918TSN offers management and monitoring capabilities over multiple protocols such as SNMP, Web, and more.

MILTECH 918TSN is ideal for deployment in the most challenging military environments. Equipped with MIL circular connectors that meets the NGVA standards and durable enclosure, the MILTECH 918TSN is designed to withstand harsh conditions with ease.

MILTECH 918TSN design to meet the IP67, MIL-STD-810: thermal, shock, vibration, altitude, humidity and MIL-STD-461 EMI/EMC.

Wide range of DC input (18-48VDC) and MIL-STD-1275/704 power supply allows easy integration in existing and new solutions.

The compact yet durable design, flat mounting surface and RoHS / REACH Compliance, makes the MILTECH 918TSN suitable for almost any application.





## SPECIFICATIONS

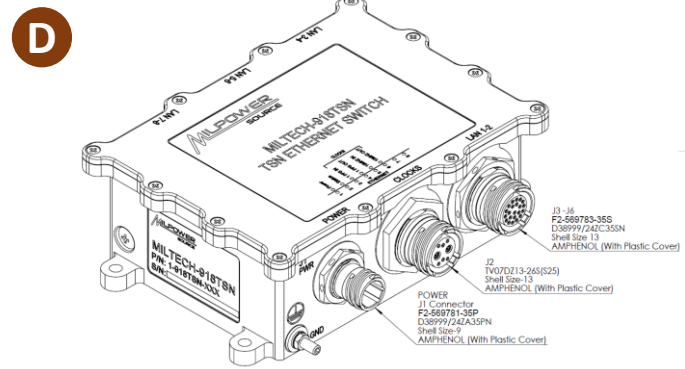
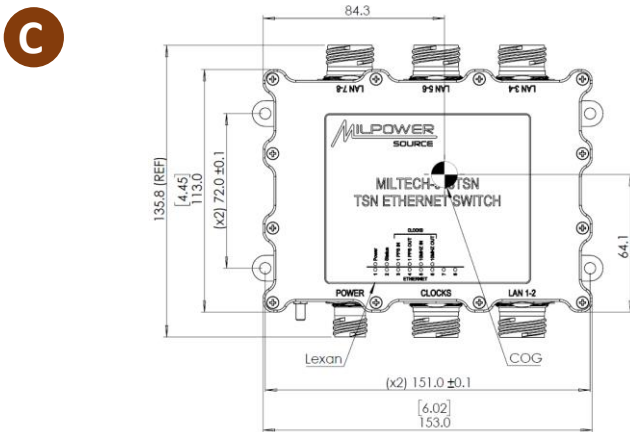
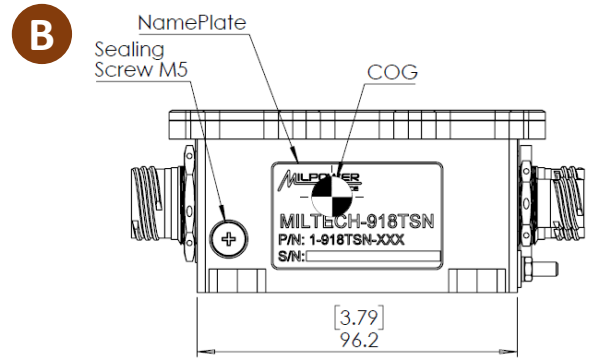
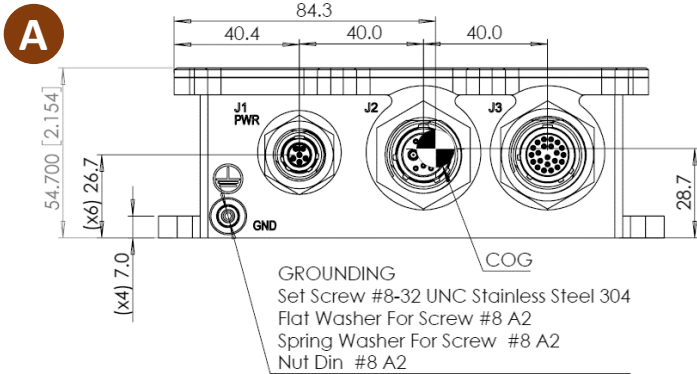
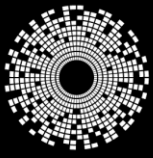
ETHERNET PORTS:	<ul style="list-style-type: none"> <li>• 8 x 10/100/1000BT ports</li> </ul>
CLOCK PORTS:	<ul style="list-style-type: none"> <li>• 1x 1PPS (In and Out): RS422/TTL, 3.3v/5v</li> <li>• 1x 10MHz (In and Out): Sine/Square (different PN) , 3.3v/5v</li> </ul> <p>Input clocks are programmable, and can be changed on the fly using CLI command</p>
TSN / TIMING: Capabilities:	<ul style="list-style-type: none"> <li>• SyncE with SSM support</li> <li>• SyncE combined with 1588</li> <li>• PTP Profiles</li> <li>• 1588v2 PTP with one / two step clock</li> <li>• NTPv4 Client</li> <li>• Boundary Clock</li> <li>• DPLL configuration for different clocks inputs /outputs</li> <li>• TC internal Master/Slave w. PDV filtering</li> <li>• Redundant masters and multiple timing domains</li> <li>• Peer-to-peer transparent clock over Ethernet/IPv4</li> <li>• End-to-end transparent clock over Ethernet/IPv4 and IPv6</li> <li>• Unicast/Multicast</li> <li>• IEEE-802.1Qbv (TAS) Time-aware Scheduler</li> <li>• IEEE-802.1Qbu &amp; 802.3br Frame Preemption</li> <li>• IEEE-802.1Qci ingress gating/policing/checking</li> <li>• IEEE-802.1CB (FRER)</li> <li>• IEEE802.1AS-2011/IEEE802.1AS rev D4.2</li> <li>• G.781 compliant clock selection algorithm for the platform as a PTP slave</li> </ul>
NETWORKING: L2/L3 capabilities	<ul style="list-style-type: none"> <li>• Software-based IPv4/6 L3 static routing</li> <li>• MAC: Static / Auto learning</li> <li>• VLAN (MAC based, IP based, Protocol based, Subnet based)</li> <li>• Bidirectional / unidirectional VLAN translation</li> <li>• iPVLAN / VLAN trunking</li> <li>• Multiple VLAN Registration Protocol</li> <li>• Spanning Tree Protocol / Rapid Spanning Tree Protocol / Multiple Spanning Tree Protocol</li> <li>• Loop guard and loop free operation</li> <li>• Media redundancy protocol / interconnect</li> <li>• Ring protection V1/V2</li> <li>• Link aggregation</li> <li>• sFlow</li> </ul>
NETWORKING: Security	<ul style="list-style-type: none"> <li>• MACSec Support using PCH/MCH Headers</li> <li>• ACLs for filtering/policing</li> <li>• Port isolation, control and security and port based 802.1X</li> <li>• Spoofing and inspection: DHCP, IGMPv2/v3, MLDv1/v3, ARP</li> <li>• Port mirroring / Remote mirroring / Flow mirroring</li> <li>• IEEE 802.1Qbb (Flow control)</li> <li>• DHCPv6 Shield</li> <li>• VLAN assignment</li> <li>• QoS assignment (auto, manual)</li> <li>• MAC address limit and authentication</li> <li>• IP/MAC binding (dynamic, static)</li> <li>• IP source guard</li> <li>• RADIUS authentication, authorization and accounting</li> <li>• TACACS+ authentication, authorization, accounting</li> </ul>





## SPECIFICATIONS

<p><b>NETWORKING:</b> Additional capabilities</p>	<ul style="list-style-type: none"> <li>• Ingress policing</li> <li>• Rate limit</li> <li>• Egress queuing/shaping</li> <li>• Jumbo frame size support</li> </ul>
<p><b>NETWORKING:</b> Management</p>	<ul style="list-style-type: none"> <li>• Management interfaces: Web UI, CLI, Telnet, HTTPS, SSH</li> <li>• Monitoring: SNMP, RMON</li> <li>• Services: DHCP client and server, DNS client, FTP/Secure FTP Client</li> <li>• Operation: Management access filtering, System syslog, IPv4/IPv6 ping and traceroute</li> <li>• Remote update</li> <li>• Secured boot</li> </ul>
<p><b>CHASSIS:</b></p>	<ul style="list-style-type: none"> <li>• Low profile rugged machined aluminum</li> <li>• Conductively cooled</li> <li>• Ingress protection against sand, dust and moisture</li> <li>• Material: AL6061-T651 per AMS QQ-250/11</li> <li>• Anodize Coating, MIL-A-8625, Type II, Class 2, Black color</li> </ul>
<p><b>STANDARDS:</b></p>	<ul style="list-style-type: none"> <li>• Designed to meet MIL-STD-461, MIL-STD-810, MIL-STD-1275, MIL-STD-704, IP67</li> <li>• RoHS and REACH Compliance</li> <li>• NGVA Aligned (Nato Generic Vehicle Architecture)</li> </ul>
<p><b>LED INDICATION</b></p>	<ul style="list-style-type: none"> <li>• Power</li> <li>• Status (Built-In Self-Test)</li> <li>• Per port indications: Link/Activity</li> <li>• 1PPS In and Out</li> <li>• 10MHz In and Out</li> </ul> <p>Dark mode enable/disable by software</p>
<p><b>POWER:</b></p>	<ul style="list-style-type: none"> <li>• Power Input: 28VDC Nominal (18-48V)</li> <li>• Power Consumption: 22W Max</li> <li>• Chassis grounding</li> <li>• MILSTD-1275, MILSTD-704</li> </ul>
<p><b>ELECTROMAGNETIC:</b></p>	<ul style="list-style-type: none"> <li>• MIL-STD-461F Electromagnetic compatibility CE-101, CE-102, CS-101, CS-114, CS-115, CS-116, RE-101, RS-102, RS101, RS103</li> </ul>
<p><b>ENVIRONMENTAL:</b></p>	<ul style="list-style-type: none"> <li>• IP67</li> <li>• MILSTD-810: Random vibration, Bench Handling, Air Pressure, Blowing Rain, Immersion, High/Low Temp, Humidity, Salt Atmosphere, Blowing Dust, Loose Cargo Vibration</li> </ul>
<p><b>PHYSICAL:</b></p>	<ul style="list-style-type: none"> <li>• Dimensions: 153.0mm(L) x 113.0mm(W) x 54.7mm(H), excluding connectors</li> <li>• Dimensions: 6.05"(L) x 4.45" (W) x 2.154"(H), excluding connectors</li> <li>• Weight: 0.8KG (1.764lbs)</li> </ul>
<p><b>COOLING:</b></p>	<ul style="list-style-type: none"> <li>• No Moving Parts. Passive Cooling.</li> </ul>
<p><b>TEMPERATURE:</b></p>	<ul style="list-style-type: none"> <li>• Operational: -40°C to +71°C (-40°F to +160°F)</li> <li>• Storage: -55°C to +80°C (-67°F to +176°F)</li> </ul>
<p><b>CONNECTORS:</b></p>	<ul style="list-style-type: none"> <li>• J1 Power: D38999/24ZA35PN</li> <li>• J2 Clocks: TV07DZ13-26S(S25)</li> <li>• J3-8 ETH: D38999/24ZC35SN</li> <li>• Chassis ground: #8-32 UNC stainless steel screw</li> </ul> <p>Pinout per NGVA standard</p>



## ORDERING INFORMATION

PART NUMBER	DESCRIPTION
1-918TSN-000	8 Port, 1G switch with TSN (IEEE 802.1Q) and Input/Output clocks, Square 10MHZ waveform
1-918TSN-001	8 Port, 1G switch with TSN (IEEE 802.1Q) and Input/Output clocks, Sine 10MHZ waveform
2-CBL918TSNPWR	J1 Power harness for MILTECH918TSN
2-CBL918TSNCLK	J2 Clocks harness for MILTECH918TSN
2-CBL918TSNLANMGM	J3 LAN + MGMT harness for MILTECH918TSN
2-CBL918TSNLANPROG	J4 LAN + ProgEn harness for MILTECH918TSN
2-CBL918TSNLAN	J4-5 LAN harness for MILTECH918TSN