



# ToughSwitch<sup>®</sup>

## Ruggedized Ethernet Switch



- Meets MIL-STD requirements for shock and vibration
- Eight real-time 10/100BaseT Ethernet ports
- Fully compliant with IEEE 802.3 and 802.3u Fast Ethernet operation
- Port activity and power indicators
- Auto-detecting 10/100 Mbps operation

The **ToughSwitch**<sup>®</sup> is a dedicated, ruggedized Ethernet switch designed to meet MIL-STD requirements for shock and vibration. Eight dedicated 10/100BaseT Ethernet ports – including an uplink port for network expansion making the **ToughSwitch** ideal for use in any network or environment. From the rigors of commercial or military aviation to the harsh environment of the battlefield, the **ToughSwitch** is up to the task.

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## High Performance Switching

The ToughSwitch is designed to minimize collisions and network loading. It automatically determines and remembers where an Ethernet device is located and routes messages only through the appropriate port. The ToughSwitch also buffers messages and transmits them in a rapid-fire sequence using a real-time switching technique called "store and forward".

## Rugged, MIL-STD Design

ToughSwitch Ethernet switches eliminate the problems with installing industrial grade devices in extremely harsh environments. Their rugged packaging and protected circuitry keep them working under the most extreme conditions that may cause industrial grade switches to fail. The ToughSwitch exceeds MIL-STD requirements and strict environmental standards for shock, vibration and temperature.

## ToughSwitch® Designed to meet MIL-STD

CHARACTERISTIC	SPECIFICATION
<b>ETHERNET INTERFACE</b>	
Ports*	Eight 10BaseT/100BaseT ports
Auto-negotiation	Supports 802.3X auto-negotiation between 10BaseT and 100BaseT on each port
Fast Ethernet	Fully compliant with IEEE 802.3 (10BaseT) and 802.3u (100BaseT) operation
Prioritization	Supports 802.1p layer 2
Duplex	Supports auto-sensing of full or half duplex on each port
Expansion	Supports one uplink port for network expansion
Indicators	Provides port activity indicator for each port plus power indicator
Connectors	D38999/20WJ8PA (uplink port & ports 2-4), D38999/20WJ8PN (ports 5-8), D38999/20WG75PN
<b>PHYSICAL</b>	
Weight	2.9 lbs
Height (Length)	6.5"
Width	7.0"
Depth	2.25"
<b>PHYSICAL</b>	
Weight (with paper)	8.9 pounds
Dimensions	9.75" W x 5.7" H x 7.89" D
<b>ENVIRONMENTAL</b>	
Altitude (operating)	-1,800 to 50,000 ft, Ref: MIL-STD-810C
Altitude (non-operating)	-1,800 to 50,000 ft, Ref: MIL-STD-810C
Decompression (operating)	8,000 ft to 50,000 ft in 15 seconds
<b>CHARACTERISTIC</b>	
Over pressure	-15,000 ft for 10 min

Temperature (operating)	-40 to 71 deg C, Ref: MIL-STD-810C
Temperature (non-operating)	-54 to 85 deg C, Ref: MIL-STD-810C
Temperature Shock	Meets MIL-STD-810C
Humidity	5% to 95%
<b>MECHANICAL</b>	
Shock (operating)	20 g, 11 msec sawtooth, Ref: MIL-STD-810C
Shock (crash safety)	40 g, 11 msec sawtooth, Ref: MIL-STD-810C
Random Vibration (operating)	0.01 g2/Hz to 500 Hz, -6 dB/oct to 2000 Hz, Ref: MIL-STD-810C
Random Vibration (non-operating)	0.04 g2/Hz to 500 Hz, -6 dB/oct to 2000 Hz, Ref: MIL-STD-810C
<b>EMC</b>	
Conducted Emissions	MIL-STD-461
Radiated Emissions	MIL-STD-461
Conducted Susceptibility	MIL-STD-461
Radiated Susceptibility	MIL-STD-461
<b>ELECTRICAL</b>	
Input Voltage	10-30 VDC
Power Consumption (typical)	4 watts
Maximum Power	6 watts
Connector	MS3470W10-6P
<b>MISCELLANEOUS</b>	
MTBF	30,000 hours

\*Other configurations available.



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