

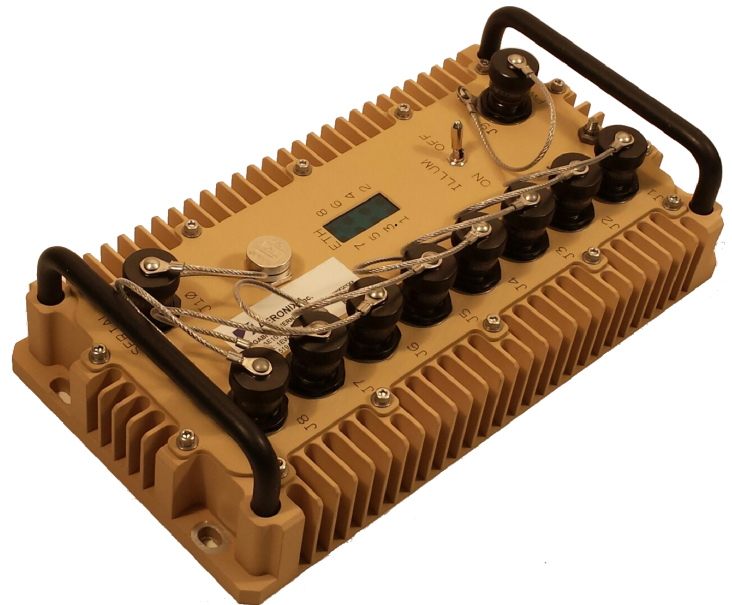
# Gigabit Ethernet Router (GER) GV8R

Part Number: AE102190-001

8-Port Rugged Ethernet Router

## FEATURES

Ethernet Ports	<ul style="list-style-type: none"> <li>8x managed tri-speed 10/100/1000 BASE-T</li> </ul>
Networking	<ul style="list-style-type: none"> <li>16K MAC Switching Engine</li> <li>Auto MDI/MDX and polarity correction</li> <li>802.1p Quality of Service / DiffServ</li> <li>802.1q VLANs, RSTP</li> <li>802.3 Link Aggregation LACP, Redundancy</li> <li>IGMP Snooping</li> <li>Port Mirroring</li> <li>Stateful Firewall - IPv4</li> <li>Intrusion Detection Prevention - IPv4</li> <li>Network Address Translation (NAT) - IPv4</li> <li>IPSEC - IPv4</li> <li>Dynamic Routing: OSPF v2/v3, RIP v1/v2/ng, IPv6</li> </ul>
Control and Status	<ul style="list-style-type: none"> <li>Serial Port Command Line Interface</li> <li>In Band SSH, HTTPS GUI, SNMP v2/3 MIBs</li> <li>Default and custom non-volatile configurations</li> <li>Built-In Test: Startup, Periodic, Commanded</li> </ul>
Power	<ul style="list-style-type: none"> <li>MIL-STD-1275D Power/Voltage</li> <li>Voltage Input: 12Vdc - 33Vdc (28Vdc nominal)</li> <li>Power Consumption: 14 W maximum</li> </ul>
Connectors / Indicators	<ul style="list-style-type: none"> <li>Power and LAN Connector: MIL-C-38999</li> <li>LED Indicators: 1 per port, link connection and activity, dimmable</li> </ul>
Mechanical	<ul style="list-style-type: none"> <li>Housing: Machined rugged aluminum</li> <li>Weight: 4.5 lbs</li> <li>Dimensions: 6.0" W x 11.0" L x 3.0" H</li> <li>Installation: 2x 0.28x0.38, 2x 0.25x0.58 holes</li> </ul>
Standards Compliance and Compatibility	<ul style="list-style-type: none"> <li>IEEE 802.3ab/ac/ad, IEEE 802.1p, IEEE 802.1q, MIL-STD-1275D, MIL-STD-704A, MIL-STD-810F, MIL-HDBK-5400, MIL-HDBK-217, NEMA-250-2003, Victory 1.6.2</li> </ul>
Cooling	<ul style="list-style-type: none"> <li>No forced air or conductive cooling needed</li> </ul>
Environmental	<ul style="list-style-type: none"> <li>MIL-STD-810F</li> </ul>
EMI / EMC	<ul style="list-style-type: none"> <li>MIL-STD-461F Electromagnetic interference</li> </ul>
Temperature Range	<ul style="list-style-type: none"> <li>Operating: -32C to +60C</li> <li>Storage: -51C to +71C</li> </ul>
Altitude	<ul style="list-style-type: none"> <li>Operating up to: 15,000 ft @ -32C</li> </ul>
MTBF	<ul style="list-style-type: none"> <li>&gt;125,000 hours @ 40C, Ground Mobile Environment (calculated)</li> </ul>
Customizable	<ul style="list-style-type: none"> <li>Aeronix offers an extensive line of Engineering Services including the creation and implementation of custom configurations for the GV8R Packaging, Connectors, Number of Channels, and/or other customer unique requirements.</li> </ul>



The Aeronix Gigabit Ethernet Router (GER) GV8R provides eight Tri-speed Ethernet ports for use in commercial, industrial, and military applications that require ultra-high data transfer rates in a self contained ruggedized package. The rugged design requires no forced air or conductive cooling, allowing operation in a broad range of harsh environments including operation in uninhabited aircraft bays.

The GV8R is a GV8m with added software functionality. The GV8R design has a low maximum power consumption while providing extensive Layer 2 and Layer 3 management capabilities. Layer 3 functions like IPSEC, RIP and OSPF can be utilized to add security to packets, and dynamic routing for more efficient communication using least cost routes. Stateful firewalls can be set up to block traffic of specific types on specific ports.

Each of the eight IEEE 802.3ab ports can individually auto-detect data rates of 10, 100, or 1000 BASE-T, or can be managed externally. The PHY's in the GV8R offer extensive built in test utilizing Time Domain Reflectometry to detect problems in the platform wiring during Startup BIT.

Incorporating the Aeronix GV8R into your design allows the use of high speed Ethernet connectivity between any or all of your devices while virtually eliminating data-rate bottlenecks. This allows platforms to share data between sensors and processors at speeds significantly higher than MIL-STD-1553 connections.



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# Gigabit Ethernet Router (GER) GV8R

Part Number: AE102190-001

8-Port Rugged Ethernet Router

## Aeronix Gigabit Ethernet Router Ground Vehicle (GES-GV8R) Qualifications

Characteristic	Detail		
Ports	8x 1000Mbps full duplex, 10Mbps or 100Mbps full or half duplex		
Dimensions	6.0"W x 11.0"L x 3.0"H		
Weight	4.5 lb (2.41kg)		
Processor	Freescale P1010, Prester-DX4122		
Connectors	MIL-C-38999		
Test	Detail	Military Specification	Comment/Tailoring
Environmental			
Altitude	Storage	MIL-STD-810F Method 500.4 Procedure I	Procedure I: -60°C @ 50,000 feet
	Operational	MIL-STD-810F Method 500.4 Procedure II	Procedure II: -32°C @ 15,000 feet
High Temperature	Storage	MIL-STD-810F Method 501.4 Procedure I	Procedure I: +71°C
	Operational	MIL-STD-810F Method 501.4 Procedure II	Procedure II: +60°C
Low Temperature	Storage	MIL-STD-810F Method 502.4 Procedure I	Procedure I: -51°C
	Operational	MIL-STD-810F Method 502.4 Procedure II	Procedure II: -32°C
Temperature Shock		MIL-STD-810F Method 503.4 Procedure I	-51°C - +71°C
Water Ingress		NEMA-250-2003 P 5.7	Hose Down
Humidity		MIL-STD-810F Method 507.4 Procedure II	Operating and non-operating effects of humidity, including conditions wherein condensation takes place in and on the equipment
Fungus		MIL-STD-810F Method 508.5	Designed with certified fungus inert materials
Salt Fog		MIL-STD-810F Method 509.4	Operating and non-operating exposure to salt-sea atmosphere
Dust		MIL-STD-810F Method 510.4 Procedure I	Blowing Dust
Explosive Atmosphere		MIL-STD-810F Method 511.4 Procedure I	Operation
Vibration	General Vibration	MIL-STD-810F Method 514.5 Procedure I	Category 20 (Annex A Par 2.3.9) type A (Wheeled Vehicle) 4Hz to 2000 Hz
Vibration	Loose Cargo	MIL-STD-810F Method 514.5 Procedure II	Category 2 (Anex A p2.3.9) Loose Cargo Type A Wheeled Vehicle
Shock	Transit Drop	MIL-STD-810F Method 516.5 Procedure IV	
	Bench Handling	MIL-STD-810F Method 516.5, Procedure VI	
	Operational	MIL-STD-810F Method 516.5 Procedure I, II	Functional 20G, Crash hazard 40G
MTBF		MIL-HDBK-217 FN2	125,000 hours @ +40°C, Ground Mobile
Electromagnetic Compatibility			
CE102	Conducted Emissions	MIL-STD-461F	Power leads, 10 kHz to 10MHz
CS101	Conducted Susceptibility	MIL-STD-461F	Power leads, 30Hz to 150 kHz
CS114			Bulk cable injection, 10 kHz to 200MHz
CS115			Bulk cable injection, impulse excitation
CS116			Damped sinusoidal transients, cables and power leads, 10kHz to 100MHz
RE102	Radiated Emissions	MIL-STD-461F	Electric field, 2MHz to 18GHz
RS103	Radiated Susceptibility	MIL-STD-461F	50 V/m from 2MHz to 18GHz
DC Bonding		MIL STD 464A Section 5.10.3b	DC resistance measured from external connector to the bonding facility of 10milliOhm
ESD	Electrostatic Discharge	MIL-STD-464C	8 KV Direct, 15KV air
Primary Power			
Power Input	+28VDC in	MIL-STD-1275D	28 VDC Ripple, Surge & Spike 14 watts
Power Consumption			14 Watts maximum



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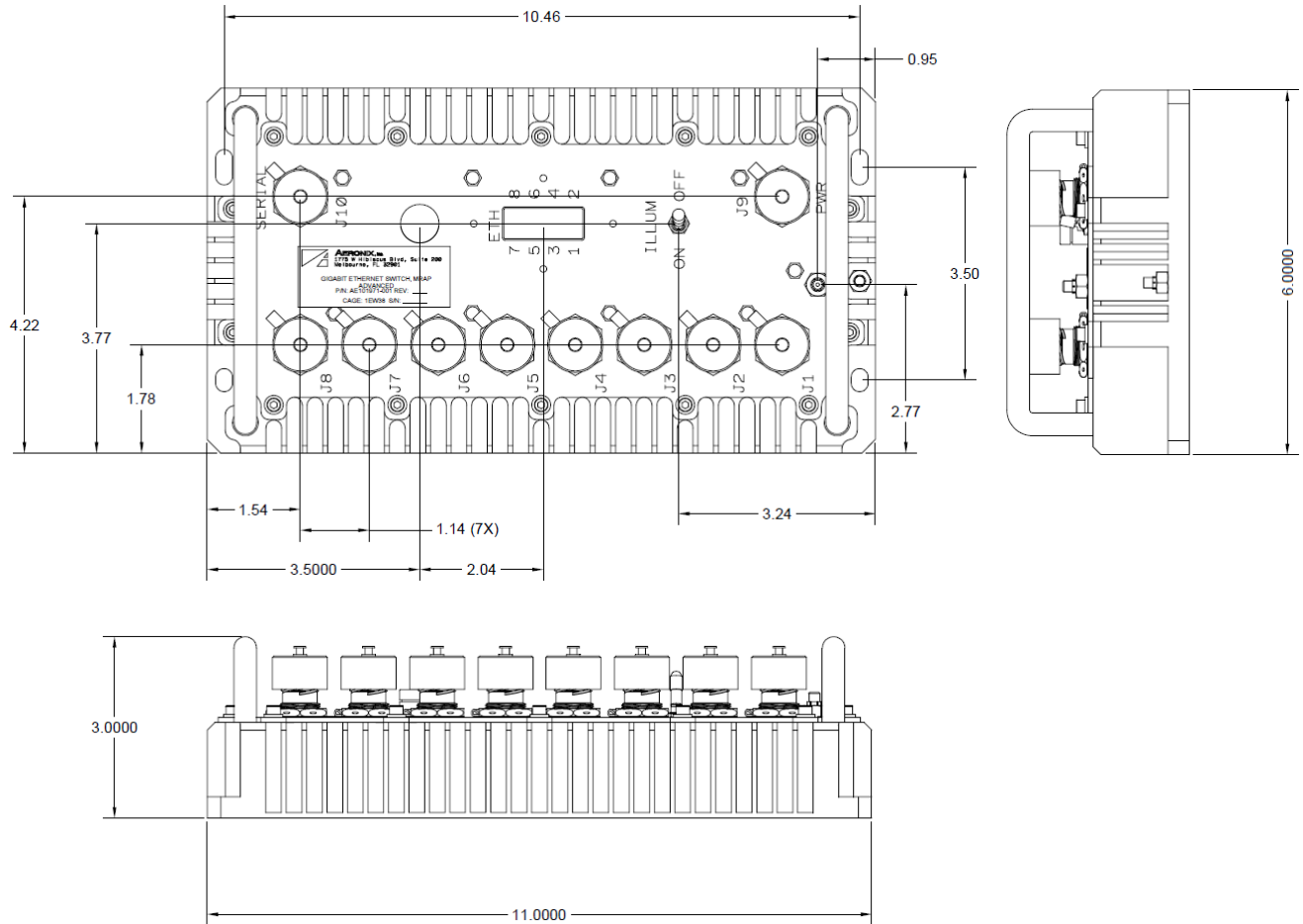
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8-Port Rugged Ethernet Router



3D model file available upon request

## ORDERING INFORMATION

PART NUMBER	DESCRIPTION
AE102190-001	<ul style="list-style-type: none"> <li>Military Rugged, Ethernet Router, Ground Vehicle Qualified, 8x 10/100/1000 BASE-T with MIL-C-38999 Connectors</li> </ul>



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