mercury

NanoSWITCH™ FLEX

Rugged Small Form Factor 10/16 Port GigE Ethernet Switch

Enterprise- level multi-layer switching at the edge

- Rugged layer 2/layer 3 GigE Ethernet switch
- Passively cooled 1.7" x 6" x 9.8" small form factor
- MIL-STD-1275E, -461F, and -810G
- Environmentally sealed to IP67 for water, dust, salt, fog protection

The NanoSWITCH FLEX brings enterprise-level layer 2/layer 3 switching into harsh environments on ground, in air, and at sea.

Reliable and compact

Weighing less than 3.0 lb, the NanoSWITCH FLEX delivers multilayer GigE Ethernet switch capabilities in a compact form factor. Its performance and cost-competitive pricing makes it an attractive choice for a multitude of field applications including vehicle network switching and shared processing and peripheral communication.

Featuring sealed MIL connectors, the NanoSWITCH FLEX meets IP67 standards (water, dust, salt, fog) and has an operating temperature range of -40°C to 71°C. It also meets multiple military standards including: MIL-STD-1275E, MIL-STD-461F and MIL-STD-810G.

Precision control

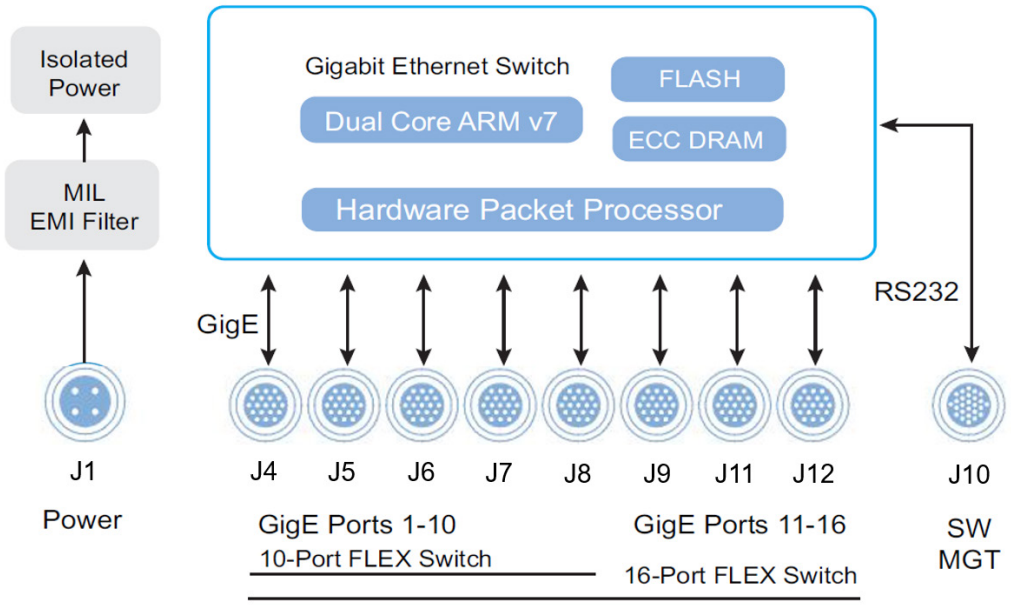
The NanoSWITCH FLEX's 10x or 16x external GigE Ethernet ports operate at rates of 10, 100 and 1000 Mbps. It supports sophisticated IPv4 and IPv6 routing such as tunneling, IP Multicast, VLANs, IETF, IEEE and DSL Forum standards. A full management suite and command line interface (CLI) is included to simplify switch control and routing operations.

An IGMP snooping feature enables the network to operate at peak efficiency by limiting the IP multicast traffic to the ports that request it, while 802.1Q VLAN support quickly segregates network traffic. VLANs provide an additional layer of security by separating sensitive data from other network workgroups.

Workload efficiency

With numerous quality-of-service (QoS) features, the NanoSWITCH FLEX ensures traffic is prioritized to deliver superior performance for real-time applications. These features include system management, voice, video, and bandwidth-intensive file uploads and downloads. Additional capabilities, such as IEEE 802.1p priority tagging, DSCP and eight hardware traffic class queues maintain quality for real-time applications.

NETWORK SWITCH FUNCTIONAL DIAGRAM



MAIN FEATURES

- 16 or 10 port GigE Ethernet switch
- Full wire-speed non-blocking forwarding
- QoS management enabled by advanced queuing
- IPv4/v6 differentiated services (DiffServ)/DSCP traffic prioritization specifications
- WEB, NSP and CLI (terminal, ssh) configuration and monitoring
- 802.1Q-based VLANs enabling and selective QnQ enabling
- Port-level security via 802.1X authentication
- 4/8/16 group LAG support with protocol (LACP)
- All types of storm control
- Port mirroring for noninvasive monitoring of switch traffic

Switch architecture

- 10x or 16x GigE Ethernet ports with auto tri-speed 10/100/1000 Mbps and MDIX
- L2/L3 enterprise non-blocking network switch for demanding SWAP-C environments
- Marvell Prestera®-DX PONCat3 L2/L3 hardware packet processor
- ECC protected DRAM
- Glenair 801-033 Mighty Mouse series connectors, environmentally sealed
- Wire-speed ingress and egress traffic policers
- Dual-core ARMv7 network management controller
- Management via Ethernet (http/telnet/SNMP) or RS232 (CLI) host management

BASIC FEATURES

- 16x or 10x tri-mode 10BASE-T/100BASE-TX/1000BASE-T
- Fully managed L2/L3 switch
- Layer-2 wire speed switching engine
- Layer-3 wire speed routing engine
- Auto medium-dependent interface (MDI) and MDI crossover (MDIX)
- Auto negotiate/manual setting
- Fully non-blocking wire –speed performance with all ports and all frame sizes
- LEDs: Power, GigE Link/Act and Speed – all blankable

Layer 2/3 feature set

- 16K L2 forwarding entries
- 802.1w rapid spanning tree
- 802.1s spanning tree protocol
- 802.3ad link aggregation/LACP
- 4-16 LAGs
- 802.1Q VLANs (256-4K VLANs)
- 802.1AB link layer discovery protocol
- Port mirroring
- Jumbo frames (10KB)
- 802.3x PAUSE
- Static MAC addresses
- IGMPv1, 2, 3 snooping
- MLDv1, 2 snooping

Network management

- 10/100/1000 management ports
- RS-232 serial console port
- Syslog
- RADIUS
- Tacacs
- AAA
- Simple network time protocol (SNTP)
- Web management
- File download via HTTP
- SNMP v1/2/3

Security features

- 802.1X port-based network access control (PNAC)
- MD5 encryption
- Port security MAC-based filtering
- Management access control
- NAP full support
- TPM for SBC

Quality of services (QOS)

- QoS priority levels with 8 hardware queues
- Scheduling priority queuing and weighted round-robin (WRR)
- Shaping per port and per queue
- Rate limiting for different packet types
- Class of service: port based, 802.1p VLAN priority or IPv4/v6 IP DSCP

Power

- 28 V nominal isolated power input to MIL-STD-1275E
- +/- 250 V transient, 100 V surge, 12 V starting surge capable
- Voltage ripple filtering
- 28 W maximum (20-26 W Typical)
- Status LED blanking control
- MIL-STD-1275E compatible power supply with MIL-STD-461F EMI filtering

MIL-STD-810G Environmental Compliance

- IP67 environmentally sealed (water, dust, salt, fog)
- Sealed MIL connectors
- Altitude: 15,000 ft
- Immersion: 1 m
- Storage temperature: -50°C to 105°C
- Operating temperature: -40°C to 71°C
- Shock: 50 g, 25 ms half sine, all directions
- Vibration: 5 G RMS 8 Hz to 2 KHz, composite wheeled, cargo jet, helicopter profiles

IEEE Compliance

- 802.1D bridging and spanning tree
- 802.1p QOS/COS
- 802.1Q VLAN tagging
- 802.1w rapid spanning tree
- 802.1s spanning tree protocol
- 802.1AB link layer discovery protocol
- 802.3ad link aggregation with LACP
- 802.3x flow control
- 802.3ab 1000BASE-T
- 802.3z GigE Ethernet

Management MIBS

- Fully MIB managed device
- RFC 1213 - MIB-II
- Ether-like MIB
- SNMP-FRAMEWORK-MIB
- RFC 1493 - BRIDGE-MIB
- IF-MIB
- RMON-MIB

Victory services

- Switch VT50900

Physical

- Dimensions 44 mm x 151 mm x 249 mm
- Weight < 3.0 lb

Compliance

- Power

  MIL-STD-1275E - Ground vehicle power

- Emissions/Immunity

  MIL-STD-461F - Certified to Army/Navy Ground

  US: FCC Part 15 Subpart B; **Canada**: ICES-003

  Europe CE Mark: EN 55022, EN 55024

  Japan: VCCI; **Australia/New Zealand**: CISPR

Development cable kits

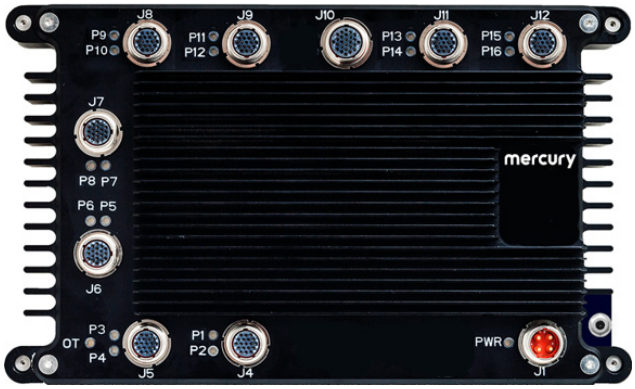
- 517-121985-L03 CABLE KIT, NanoSWITCH EVAL, 10 PORT, FLEX, RoHS
- 517-121985-L04 CABLE KIT, NanoSWITCH EVAL, 16 PORT, FLEX, RoHS

Configuration options

- NanoSWITCH - 16 Port
- NanoSWITCH - 10 Port

10-PORT

16-PORT



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