

Product Specifications

12-Port 10/100 Managed Layer 2+ Industrial Switch



KEY FEATURES

- NEMA TS1/2 Environmental requirements compliant for traffic control equipment
- IEEE 802.1w RSTP, IEEE 802.1S MSTP, and IEEE 802.1D STP standard supported
- Recover-Ring™ capability - recovery time < 15 ms
- Two hardened SFP dual media ports
- Port mirroring for enhanced network monitoring
- Bandwidth rate control
- IP multicast filtering through IGMP snooping V1, V2 & V3
- IEEE 802.1p QoS with four priority queues
- IEC61000-6-2 EMC Generic Standard Immunity compliant for industrial environment
- MAC-based trunking with automatic link failover for bandwidth aggregation
- Supports port-based VLAN and IEEE 802.1Q VLAN tagging and GVRP
- IEEE 802.1x access control improves network security
- Redundant 24 V DC terminal block power inputs

The Signamax 12-Port 10/100 Managed Layer 2+ Industrial Switch is designed to operate in rugged environments with extreme temperature conditions. It is equipped with 12-10/100BaseT/TX ports and 2-10/100/1000BaseT/TX Dual Media ports in a compact package that offers a variety of mounting options. This hardened managed switch functions at temperatures ranging from -40°F to 167°F (-40°C to 75°C), meeting NEMA TS1 and TS2 specifications for Traffic Control Equipment, and is tested for functional operation at even greater extremes: -40° F to 185° F (-40° C to 85° C).

The fully managed switch offers an easy implementation of high-capacity networks supporting critical Traffic Control and Public Safety applications over Gigabit Ethernet copper and fiber backbones. Individual administrators or Network Operations Centers also have the option to perform remote monitoring and configuration using the Web browser or Telnet interfaces, or from overlay management systems such as HP OpenView™ or IBM/Tivoli NetView™ via SNMP and RMON.

ORDERING INFORMATION

PART NO.	DESCRIPTION
065-7714HSFPTB	12-Port 10/100BaseT/TX Managed Industrial Switch plus 2-10/100/1000Base Dual Media Ports
065-7714HDINMT	DIN-Rail Mounting Hardware for 065-7714HSFPTB Switch
065-7714HPANELMT	Panel Mounting Hardware for 065-7714HSFPTB Switch
065-7714HRACKMT	19 Inch Rack Mounting Hardware for 065-7714HSFPTB Switch
Note: Optional Mounting Hardware Kits and Hardened SFP Gigabit Ethernet Modules Sold Separately	

SPECIFICATIONS

Applicable Standards

- IEEE 802.3 10BaseT
- IEEE 802.3u 100BaseTX
- IEEE 802.3ab 1000BaseT
- IEEE 802.3z 1000BaseSX/LX
- IEEE 802.1p Priority (Quality of Service [QoS])
- IEEE 802.1D Spanning Tree Protocol
- IEEE 802.1s Multiple Spanning Tree Protocol
- IEEE 802.1w Rapid Spanning Tree Protocol
- IEEE 802.1Q Tagged VLAN
- IEEE 802.3x Flow Control
- IEEE 802.1x Access Control

Ports

- 12 - RJ-45 10/100BaseT/TX Auto-Negotiation, Auto-MDI/MDIX port plus
- 2 - Dual Media 10/100/1000BaseT/TX ports with 1000Base SFP ports.
- Multicast/Broadcast/Unknown-Unicast Storm suppression enabled.

LED Status Indicators

- Per Switch:** Power Status 1, 2, & 3
- Per Port:** Link/Activity, 10/100 or 10/100/1000 speed

Performance

- Latency:** <4.5 μ s (LIFO).
- Throughput, per port:** 1.48810 million pps (64-byte packets)
- Switch Fabric Speed:** 8.0 Gbps (non-blocking, wire speed performance)
- MAC Address Capacity:** 8K; Per-port programmable MAC address locking
- Up to 24 Static Secure MAC addresses per port
- Frame Buffer:** 2 MB
- Port Mirroring:** Inbound and Outbound, assignable to any port.

Network Security

- IEEE 802.1x Access Control.

Internetworking Protocols Supported

- MAC-based Trunking:** 2 Fast Ethernet +1 Gigabit Ethernet trunking groups; up to 4 ports for each group
- GARP VLAN Registration Protocol / Generic Attribute Registration Protocol:** IEEE 802.1Q with GVRP/ GARP
- Multicasting:** Supports IP Multicast Filtering via IGMP Snooping V1, V2 & V3
- Spanning Tree Protocol / Rapid Spanning Tree / Multiple Spanning Tree Protocol:** IEEE 802.1d/1w/1s
- Recover-Ring™:** Supports recovery of ring-based network architecture in <15 ms. Proprietary

VLAN Capabilities

- Port-based VLAN; IEEE 802.1Q Tag-based VLAN; up to 4K active VLANs possible

QoS Capabilities

- Supports 802.1p QoS with four level priority queue.
- Supports two scheduling types, Strict Priority and Weighted Round Robin (WRR) with user-variable weighting.
- Supports bandwidth rate limiting
- Ingress and Egress rate limits:
 - Ports 1-12: 64 Kbps up to 100 Mbps
 - Ports 13 & 14: 64 Kbps up to 1000 Mbps

Management

- Access Methods:** Console port access via RS-232C/DB-9 local console serial port, Telnet remote access, SNMP agent, or Web browser.

- Software Upgrade Capability:** Via TFTP

- SNMP v1, v2c, and v3 Network Management**

- RFC 1213 MIB (MIB-2)**

- RFC 1757 RMON MIB**

- Statistics Group 1
- History Group 2
- Alarm Group 3
- Event Group 9

- RFC 1493 Bridge MIB**

- VLAN MIB (IEEE802.1Q/RFC2674)**

- Private MIB**

Electrical Characteristics

- DC Input Range:** 12 to 48 V DC Connected via Redundant Terminal Block

Environmental Requirements

- Operating Temperature:** -40°F to 167°F (-40°C to 75°C)

- Tested to:** -40°F to 185°F (-40°C to 85°C)

- Storage Temperature:** -40°F to 185°F (-40°C to 85°C)

- Operating Humidity:** 5% to 95% (non-condensing)

Physical Characteristics

- Dimensions:** 9.25" W x 4.92" D x 1.97" H (235 mm x 125 mm x 50 mm)

- Housing:** IP30 protection, metal case.

- Weight:** 3.74 lb (1.7 kg)

Certifications

- CE**

- NEMA TS1/2** Environmental requirements for traffic control equipment

- Safety:** UL508, EN60950-1, IEC 60950-1

- EMI:** FCC; EN61000-6-3; EN55022; EN61000-3-2; EN61000-3-3

- EMS:** ESD Standards (EN61000-4-2); Radiated RFI Standards (IEC 61000-4-3); Burst Standards (IEC 61000-4-4); Surge Standards (IEC 61000-4-5); Induced RFI Standards (IEC 61000-4-6); Magnetic Field Standards (IEC 61000-4-8); Voltage Dip Standards (IEC 61000-4-11)

- Environmental Test Compliance:** Vibration Resistance (IEC 60068-2-6 Fc); Operation/Storage/Transport Shock (IEC 60068-2-27 Ea); Free Fall (IEC 60068-2-32 Ed)

Warranty

- Five Years