

EMG8510 Series

10-Port EN 50155 Certified Railway IP67
WATERPROOF MANAGED Gigabit PoE SWITCH

FEATURE HIGHLIGHTS

- 8 10/100/1000 BASE-T(X) ports, M12 connector
- 2 1000 Base-X SFP slots
- Up to 4 or 8 802.3af or 802.3at compliant PoE ports
- EN50155, EN50121-4, IEC60571, EN45545-2 and UL 61010-2-201 certified
- Redundant power input, DC or High Voltage DC
- Ruggedized IP67 aluminum enclosure
- Works from -40°C~75°C
- 2x Relay outputs, 5-pin M12 A-Coding
- Security features based on IEC62443-4-2

PRODUCT DESCRIPTION

Atop's EMG8510 IP67-rated Railway-compliant Ethernet switch is the best solution for providing high-speed Gigabit connectivity in bayside or carriage side Railway applications. Its rugged, aluminum enclosure can effectively protect the Switch core in any environment.

The 8-M12 Connectors Gigabit ports can supply up to 30W of PoE Power (802.3af or 802.3at) to your PoE device providing an overall maximum budget of 240W. This makes EMG8508 the ideal solution for on-board or off-board surveillance by simplifying the wiring where it's difficult, risky and expensive to introduce new elements.

Two Gigabit SFP slots provide to EMG8510 Series the capability to be connected with Fiber-Optics to the backbone without the need of Copper Ethernet repeaters and without any risk of signal degradation

The embedded redundant-power supply input provides a reliable and failure-proof safety mechanism to minimize down-times. EMG8510 comes in either redundant Low-Voltage DC power input (12~57 VDC, 47~57 VDC for PoE models) or in redundant High-Voltage DC power input (50~145 VDC). Each power module, including a Relay-output alarm, uses a S-coding M12 connector that makes EMG8508 ideal and simple for engineers setting up a Fault-Alarm System.

To prevent network intrusions, it is necessary to have a good accessing control mechanism that can identify, authenticate and authorize users. EMG8508 supports user account, password policy, and authentication interface managements functions that comply with IEC62443 standard.

Its IP67 housing protection, combined with a wide operating temperature of -40 to 75°C and wall mounting capacities make it suitable to most Railway applications in harsh environments or industrial filed applications.

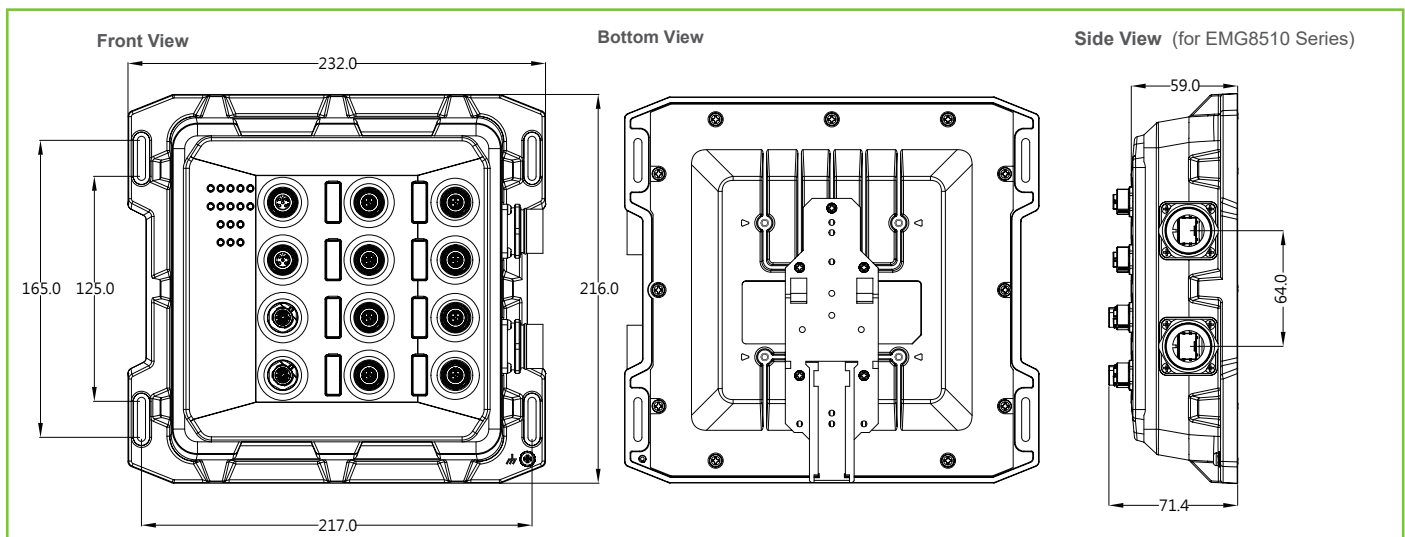
SPECIFICATIONS

| Technical Specifications | |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model Name | EMG8510 |
| Switch Properties | |
| Priority Queues | 8 |
| VLAN Table | 4096 |
| MAC-Based VLAN | 512 |
| VLAN ID Range | VID 1 to 4094 |
| Trunk Group | 4 |
| Static IGMP Groups | 128 |
| Dynamic IGMP Groups | 256 |
| MAC Table Size | 16k |
| Packet Buffer Size | 1.5 MB |
| Jumbo Frame | 9216 Byte |
| Ethernet | |
| Standards | IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) IEEE 802.3ab for 1000BaseT(X) IEEE 802.3z for 1000Base-X IEEE 802.3af / 802.3at for Power over Ethernet IEEE 802.3x for Flow Control, back pressure flow control IEEE 802.1d-2004 for Spanning Tree Protocol IEEE 802.1w for Rapid Spanning Tree Protocol IEEE 802.1s for Multiple Spanning Tree Protocol IEEE 802.1Q for VLAN Tagging IEEE 802.1p for Class of Service IEEE 802.1X for Authentication IEEE 802.3ad for Port Trunk with LACP IEEE 802.3az for Energy Efficient Ethernet |
| Protocols | IPv4, IPv6, IGMPv1/v2/v3, IGMP Snooping, GARP, GMRP, GVRP, SNMPv1/v2c/v3, SNMP Inform, ICMP, Telnet, SSH, DHCP Server/Relay/Client, DHCP Option 66/67/82, BootP, RARP, TFTP, NTP Server/Client, SMTP, SMTP (Gmail), RMON, HTTP, HTTPS, Syslog, MRP (Client), LLDP, IEEE 1588 PTP V1/V2, IEEE 1588 Hardware End-to-End Transparent Clock, 802.1x, EAP, RADIUS, TACACS+, Mirror port, QoS, ACL, Serial Console, U-Ring, ITU-T G.8032 ERPS Ring, STP, RSTP, MSTP, Compatible Ring |
| Automation Profiles | Modbus/TCP status registers |
| SNMP MIB | MIB II, IF-MIB, SNMPv2 MIB, BRIDGE-MIB, RMON MIB Group 1,2,3,9, RFC RFC 1157, RFC 1213, RFC 1215, RFC 1493, RFC 1643, RFC 1757, RFC 2011, RFC 2012, RFC 2013, RFC 2233, RFC 2571, RFC 2742, RFC 2819, RFC 2863, RFC 3411, RFC 3412, RFC 3413, RFC 3414, RFC 3415, RFC 2674 |
| Power | |
| Input Voltage | 50~145 VDC for High voltage product 12~57 VDC for Non-PoE models 45~57 VDC for 802.3af mode / 51~57 VDC for 802.3at mode |
| Input Current/Power (System) | 50 – 145 VDC, 0.27A max. , 13.5W (For High voltage Models) 12 – 57 VAC, 1.19A max. , 14.28W (For Non-PoE Models) |
| Input Current (with PoE, full loading) | 45 – 57 VDC, 3.08A max. , 138.6W (PoE 802.3af Mode, 8-ports) 51 – 57 VDC, 5.03A max. , 256.53W (PoE 802.3at Mode. 8-ports) |
| Power input | 2 x S-Coding M12 connectors (4 Pin) |

| | |
|---------------------------------|------------------------------------------------------------------------------------------------|
| Reverse Polarity Protection | Yes |
| Interfaces | |
| LED Indicators | PWR1, PWR2, Alarm, Ethernet Act/Link, SFP Link, PoE, Ring |
| Ethernet Ports | 8 10/100/1000BASE-T(X) auto negotiation speed –M12 connector |
| Console | RS232 (A-coding M12 connector) |
| Relay Output | 2 relay outputs with current carrying capacity of 1A @ 24 VDC (through A-coding M12 connector) |
| Fiber Optics Ports | Two 1000BASE-X SFP slots |
| Physical Characteristics | |
| Housing | IP67 protection according to EN 60529 |
| Dimension (W x H x D) (mm) | 216 x 232 x 72 |
| Weight | 2kg |
| Installation | Wall-mount (Optional Din-Rail Kit) |
| Environmental limits | |
| Operating Temperature | -40°C~75°C (-40°F~167°F) |
| Storage Temperature | -40°C~85°C (-40°F~185°F) |
| Ambient Relative Humidity | 5%~95%, 55°C (Non-condensing) |

*802.3af PoE output starts from 43 VDC input and 802.3at output starts from 51 VDC input.

DIMENSIONS & LAYOUT



REGULATORY APPROVALS

| Regulatory Approvals | | | | |
|----------------------|----------------------------------------------------------------------------------------------------------------|-------------------|---------------------|---|
| Safety | EN 60950-1:2006, UL/IEC(CB) 61010-2-201 | | | |
| EMC | FCC Part 15, Subpart B, Class A EN 55032, EN 55024, EN 61000-3-2, EN 61000-3-3, EN 61000-6-2, EN 61000-6-4, | | | |
| Rail Traffic | EN50155, EN50121-4, IEC60571, EN45545-2 | | | |
| Test | Item | Value | Level | |
| IEC 61000-4-2 | ESD | Contact Discharge | ±8KV | 4 |
| | | Air Discharge | ±15KV | 4 |
| IEC 61000-4-3 | RS | Enclosure Port | 10(V/m), 80-1000MHz | 3 |
| IEC 61000-4-4 | EFT | AC Power Port | ±2.0KV | 3 |
| | | DC Power Port | ±2.0KV | 3 |
| | | Signal Port | ±2.0KV | 4 |
| IEC 61000-4-5 | Surge | AC Power Port | Line-to Line±1.0KV | 3 |
| | | AC Power Port | Line-to Earth±2.0KV | 3 |
| | | DC Power Port | Line-to Line±1.0KV | 3 |
| | | DC Power Port | Line-to Earth±2.0KV | 3 |
| | | Signal Port | Line-to Earth±2.0KV | 3 |
| IEC 61000-4-6 | CS | 0.15-80MHz | 10V rms | 3 |
| IEC 61000-4-8 | PFMF | (Enclosure) | AC 50Hz 10A/m | 3 |
| IEC 61000-4-11 | DIP | AC Power Port | - | - |
| Shock | MIL-STD-810G Method 516.5 | | | |
| Drop | MIL-STD-810F Method 516.5 | | | |
| Vibration | MIL-STD-810F Method 514.5 C-1 & C-2 | | | |
| RoHS | Yes | | | |
| MTBF | 18.53 years (mean avg. per model; MIL-HDBK-217F-based prediction) | | | |
| Warranty | 5 years | | | |

ORDERING INFORMATION

Ordering information

| Model name | Part Number | M12 Ports | SFP Slots | PoE Ports |
|-------------------|-----------------|-----------|-----------|-----------|
| EMG8510-2SFP | 1P1EMG85100001G | 8 | 2 | - |
| EMG8510-4PoE-2SFP | 1P1EMG85100002G | 8 | 2 | 4 |
| EMG8510-8PoE-2SFP | 1P1EMG85100003G | 8 | 2 | 8 |
| EMG8510-2SFP-HV | 1P1EMG85100004G | 8 | 2 | - |

Optional Accessories

| Model name | Part Number | Description |
|-------------------------|-----------------|-------------------------------------------------------------------------------------------|
| DIN-Rail Kit | 70100000000062G | DIN Rail accessories with screw |
| VESA Kit | 70100000000063G | VESA accessories with screw |
| SDR-75-24 | 50500752240001G | DIN RAIL POWER SUPPLY / T;AC 88~264V to 24VDC 3.2A;75W |
| SDR-240-48 | 50502401480001G | DIN RAIL POWER SUPPLY / T;AC 100~240V to 48V~55V DC 5A;240W |
| SDR-480-48 | 50504801480001G | DIN RAIL POWER SUPPLY / T;AC 100~240V to 48V~55V DC 10A;480W |
| M12 Sealing Cap (Plast) | 3990079G | Plastic sealing cap for unoccupied M12 plugs (1560251) |
| M12 Sealing Cap (metal) | 59908571G | Metal sealing cap for unoccupied M12 plugs (1430488) |
| M12 screw plug (Plast) | 3990078G | Plastic Screw Locking for unoccupied M12 sockets (1553129) |
| M12 screw plug(metal) | 59908561G | Metal Screw Locking for unoccupied M12 sockets (1503302) |
| AFBR-5715ALZ | 50710361G | SFP Transceiver for EMG8510, 1250Mbps, 850nm, Multi-mode, 550m, 3.3V, -40~85°C with DMI |
| AFCT-5715ALZ | 50710351G | SFP Transceiver for EMG8510, 1250Mbps, 1310nm, Single-mode, 10km, 3.3V, -40~85°C with DMI |

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