Managed Ethernet Switch
10 port, PoE+, Gigabit, Modbus/TCP
Model SEGP510-2SFP-T

B+B SMARTWORX

Powered by **ADVANTECH**

SEGP510-2SFP-T

eworx™

ECO Friendly

IXM™ Network Deployment **X-RING™** Failure Recovery <20ms **Modbus** **R6 READY** CE FC cULus LISTED

Features & Benefits

- 8-port 10/100/1000 Mbps + 2-port Gigabit Combo(RJ45 or SFP) Uplink
- Full suite of Layer 2 functionality and advanced diagnostic tools
- IEEE802.3af/at PoE/PoE+ standard compliant, up to 120W as total PoE power budget
- Smart PoE Management, allowing to reboot PD (Powered Device) device remotely.
- Energy Efficient Ethernet (EEE), IEEE 802.3az for low energy consumption
- Jumbo Frame support, up to 9,216 bytes
- IXM™ function enables the cross management for fast deployment
- X-Ring™ function offers self-healing recovery time less than 20 ms
- Redundant Power Inputs (16.8-57.6 VDC)
- Wide Temperature Range -40 to 75℃
- EMS Level 3 Radiated/Conducted noise protection
- Designed for UL508 (Industrial Control Panel), NEMA TS2 (Traffic Control), EN50121-4 (Rail Signal Control)

Introduction

The SEGP510-2SFP-T is a fully managed PoE+ Gigabit Ethernet switch with industrial, ruggedized features designed to work in harsh environment applications. This switch offers all the features expected in a managed switch such as VLAN, IGMP Snooping, Network Redundancy, Link Aggregation, SNMP V1,V2c,V3, Web and Telnet support. Smart PoE Management features allow advanced PoE settings and monitoring. Comprehensive network security features such as SSH, HTTPS/SSL, TLS, TTLS, PEAP and Radius are also offered.

Embedded into each switch is the industry leading eWorx IXM™ cross management technology. IXM™ allows the installer to auto synchronize firmware updates and push configuration settings to either individual or groups of switches. IXM™ provides maintenance and provisioning functionality to both the SE500 and SE300 family switches without the need of extra software or trained personal. IXM(TM) speeds up switch deployment and ensures network stability.

The eWorx SE500 series switchesfeatures a powerful suite of diagnostic, monitoring and network performance capabilities: Cable diagnostics, IPv4/IPv6 ping, fiber SFP monitoring (DDMI), port utilization, traffic statistics, QoS and rate limiting - all available from the Web GUI. These advanced features offer quick and easy troubleshooting.

Specifications

COMMUNICATIONS	
Standards	IEEE 802.3, 802.3u, 802.3x, 802.3ab, 802.3z, 802.1p, 802.3az, 802.1w, 802.1s, 802.1Q, 802.1X, 802.1ad, 802.3af, 802.3at
LAN	10/100/1000Base-T(X), Optional 100Base-FX, 1000Base-SX/LX/LHX/XD/ZX/EZX
Transmission Distance	Ethernet: 100m (4-wire Cat.5e, Cat.6 RJ-45 cable suggested for GB port) SFP: 110km (depends on SFP)
Transmission Speed	Ethernet: 10/100 /1000 Mbps Auto-Negotiation Gigabit Copper: 10/100/1000Mbps, Auto-Negotiation Gigabit Fiber: Up to 1000Mbps

INTERFACE	
Connectors	8 x RJ45 + 2 x (RJ45/SFP) combo ports 1 x RS-232 Console port (RJ45 connector) 1 x Reset bottom 6-pin removable screw terminal (power & relay)
Ethernet	Auto Sensing, 10/100BaseTX, 10/100/1000BaseTX, Duplex and MDIX
LED Indicators	PWR1, PWR2, SYS, Alarm and R.M. 10/100/1000 T(X): Link/Activity, Speed, PoE Gigabit Copper: Link/Activity, Speed SFP: Link/Activity

Outstanding L2 Managed Feature Design

IEEE802.3az – Energy-Efficient Ethernet (EEE) is a set of enhancements to the twisted-pair and backplane Ethernet family of computer networking standards that allows for less power consumption during periods of low data activity.

IXM™ – Offers auto synchronization function of both firmware and configuration settings to make middle/large-scale deployment of multiple switches fast and easy. A built- in Web GUI feature, no need for extra software to be installed on a computer.

X-Ring™ – Sub-20ms self-healing/ring recovery technology. X-Ring™ supports different topology options and allows different ring healing methods to coexist in one switch - Couple Ring, Dual Homing and Multi-couple Ring - reduce redundant network cabling and planning costs and ensure high reliability of your industrial network applications.

Multiple Account Access – This feature allows the network manager to create user accounts with differing permissions. User ID's can be created with a wide variety of access - from simple device monitoring to full maintenance accessibility, thus ensuring security and offering flexibility for field deployment.

IPv6 – A future-proof feature, IPv6 (Internet Protocol version 6) is a set of specifications from the Internet Engineering Task Force (IETF) that is an upgrade of existing IP version 4 (IPv4). The basics of IPv6 are similar to those of IPv4 - devices can use IPv6 as source and destination addresses to pass packets over a network.

IGMP Snooping – The Internet Group Management Protocol is a feature that allows the managed switch to forward and filter multicast traffic intelligently, designed for the video streaming and automation control network applications.

DDM – Digital-diagnostic-monitoring (also known as "digital optical monitoring" or DOM) provides a user with critical information concerning the status of transmitted and received signals. This approach allows for better fault isolation and error detection.

Cable Diagnostics – This feature will enable you to verify the length of a cable right from the switch to the other end. This is essential in diagnosing faults as a break in the cable can be easily identified on a single wire within the cable, as well as shorts and crossed-pairs.

Dual Image – Considering possible failures during FW upgrades, such as power failure or human error, dual image provides a backup image in case the system can't boot up through the primary image. The system automatically switches to the backup image to reduce downtime.

Embedded Watchdog Timer – This feature, embedded into our managed switches, when the user cannot easily access the field switch or would be unable to react to faults in a timely manner. It's used to detect and recover from switch malfunctions.

Ease of Use – 10/100BaseTX or 10/100/1000Mbps ports are auto sensing and auto configuring. Each copper port is automatically negotiated for maximum speed and performance by default, but can also be configured individually via the user interface. A powerful inside processor allows wire speed capability on all.

Smart PoE Management – The PoE management features allow the user to reset a PD (Powered Device), adjust the power budget per port, and monitor of PoE status.

Managed Ethernet Switch
10 port, PoE+, Gigabit, Modbus/TCP
Model SEGP510-2SFP-T

Software Specifications

SWITCH PROPERTIES	
MAC Table Size	8K
Packet Buffer Size	4.1Mbit
Switching Capacity	5.6Gbps
Jumbo Frame	9,216 bytes
Priority Queues	8
Max. Number of Available VLANs	256
VLAN ID Range	VID 1 to 4094
IGMP Groups	256

SOFTWARE	
Management	Web interface, Serial interface (Console), WebAccess NMS™, Multiple user accounts, LLDP, SNMP v1/v2c/v3, Traps, SMTP, RMON, Smart PoE management, SNTP, Standard MIB, Private MIB
Configuration	HTTP/TFTP, Command line interface (CLI), IPv4/IPv6, TELNET, DHCP server/ client, DHCP option 66/67/82, Flow control, Ingress/Egress Rate limit, Jumbo frame
Security	802.1x, IP Security (Trusted Host), DoS prevention, HTTPS/ SSL, SSH, PEAP, RADIUS, Multiple account setting, Storm control, Port-IP Binding, SNMPv3 (Encryption)
Redundancy	X-Ring™ (Self-Recovery time < 20 ms), STP/RSTP/MSTP, LACP(Link Aggregation Control Protocol)
Monitoring	Port statistics & utilization, LLDP/IGMP/MLD statics, Loop detection, Power status
Filter	Multicast (IGMP Snooping/Querier), Unknown multicast filtering, 802.1Q VLAN, Port-based VLAN, GVRP, GARP, Q in Q, QoS (IEEE 802.1p) with 8 classes and TOS/DiffServ, Flow control
Industrial Protocol	Modbus/TCP
Diagnostics	Cable Diagnostic, IPv4/IPv6 Ping Test, Syslog, Port Mirror, DDM (Digital-Diagnostic-Monitoring), Port Mirroring 1:1 and N:1
Enhanced Provisioning	IXM™ Cross management platform for fast deployment, Configuration backup manager, Import/ Export configuration files, Firmware upgrades
Miscellaneous	Remote reboot/reset device, Dual Image, Embedded watchdog timer, Multiple account setting (Admin/User)

Hardware Specifications

POWER	
Power Consumption	12.1W @ 48VDC (System)
Power Input	24~48 VDC (16.8~57.6 VDC) redundant dual inputs
Fault Output	1 Relay Output
Reverse Polarity Protection	Present
Overload Current	Present

POE (POWER OVER ETHERNET)	
PoE Standard	IEEE802.3af/at (Alternative A)
PoE Pins	With data pairs, 1, 2 and 3, 6
PoE Power Budget	Switch - 120W maximum Port - 30W, maximum

PHYSICAL	
Dimensions (WxHxD)	74 x 152 x 105 mm (2.91 x 5.98 x 4.13 inches)
Protection Class	IP30
Weight	Net: 1.3 kg, Gross: 1.8 kg
Enclosure	Metal Shell
Mounting	DIN Rail, Wall

ENVIRONMENT	
Operating Temperature	-40 to +75°C (-40 to +167°F)
Storage Temperature	-40 to +85°C (-40 to +185°F)
Operating Humidity	10 to 95% (non-condensing)
Storage Humidity	10 to 95% (non-condensing)
MTBF	858,835 hours

CERTIFICATIONS	
Safety	UL508
Traffic Control	NEMA TS2
Rail Signal Control	EN50121-4
EMI	FCC Part 15 Subpart B Class A, EN 55011/55022, Class A
EMS	EN 61000-4-2 (Level 3), EN 61000-4-3 (Level 3) EN 61000-4-4 (Level 3), EN 61000-4-5 (Level 3) EN 61000-4-6 (Level 3), EN 61000-4-8 (Level 3)
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6

Product Ordering Information

MODEL #	DESCRIPTION	OPERATING TEMPERATURE	RJ45		FIBER				
			10/100 MBPS	GIGABIT	100FX	100/1000BASE-SFP	COMBO PORT, 10/100/1000BASE-T(X) OR 100/1000BASE-SFP	TYPE	CONNECTOR
SEGP510-2SFP-T	8-port GbE + 2 GbE Combo Full Gigabit Managed PoE+ Ethernet Switch	-40~75℃	-	8 (PoE+)	-	-	2	-	LC (SFP)

Accessories - optional

MODEL #	DESCRIPTION
SDR-240-24	DIN Rail Power Supply, 24VDC - 240 Watt
C5UMB3FBG	3 ft. (1 M), Gray, Category 5e UTP Patch Cord
C5UMB7FBG	7 ft. (2 M), Gray, Category 5e UTP Patch Cord
808-38102	IE-SFP 100 to 155 Mbps (OC-3), MM850-LC, 2km
808-38104	IE-SFP 100 to 155 Mbps (OC-3), SM1310/PLUS-LC, 40km
808-38200	IE-SFP 1250 Mbps to 1.25 Gbps (OC-24), SM1310-LC, 20km
808-38201	IE-SFP 1250 Mbps to 1.25 Gbps (OC-24), MM850-LC, 2250/550m
808-38203	IE-SFP 1250 Mbps to 1.25 Gbps (OC-24), SM1310/PLUS-LC, 30km

Package Checklist

Ethernet Switch, RJ45 to DB9 console port cable, Protective Caps for unused ports, Quick Start Guide, DIN-Rail mount bracket (installed), wall mount bracket

Warranty

Limited lifetime warranty for Advantech B+B designed and/or manufactured products.

ADVANTECH **B+B SmartWorx**
orders@advantech-bb.com
support@advantech-bb.com
Corporate Headquarters: 707 Dayton Road, PO Box 1040 Ottawa, IL 61350 USA 815-433-5100 Fax 433-5104
European Office: Westlink Commercial Park, Oranmore Co. Galway Ireland +353 91 792444 Fax +353 91 792445

ADVANTECH B+B SMARTWORX orders@advantech-bb.com support@advantech-bb.com

Corporate Headquarters: 707 Dayton Road, PO Box 1040 Ottawa, IL 61350 USA 815-433-5100 Fax 433-5104
European Office: Westlink Commercial Park, Oranmore Co. Galway Ireland +353 91 792444 Fax +353 91 792445