

EDS-510A Series

7+3G-Port Gigabit Managed Ethernet Switch



Highlights

- > 2 Gigabit Ethernet ports for Redundant Ring and 1 Gigabit Ethernet port for Uplink solution
- > Turbo Ring (recovery time < 20 ms), RSTP/STP (IEEE802.1W/D) for Ethernet redundancy
- > QoS, IGMP snooping/GMRP, VLAN, LACP, SNMP V1/V2c/V3, RMON supported
- > IEEE802.1X and https/SSL enhance network security
- > ABC-01 (Automatic Backup Configurator) for system configuration backup



Features

Industrial Networking Capability

- 2 Gigabit Ethernet ports for Turbo Ring redundancy and RSTP/STP (IEEE802.1W/D), 1 Gigabit Ethernet port for Uplink
- IGMP Snooping and GMRP for filtering multicast traffic from industrial Ethernet Protocols
- Port-based IEEE802.1Q VLAN and GVRP protocol to ease network planning
- QoS-IEEE802.1p/1Q and TOS/DiffServ to increase determinism
- 802.3ad, LACP for optimum bandwidth utilization
- IEEE802.1X and https/SSL to enhance network security
- SNMP V1/V2c/V3 for different levels of network management
- RMON for efficient network monitoring and proactive capability

Designed for Industrial Applications

- Bandwidth management prevents unpredictable network status
- ABC-01 (Automatic Backup Configurator) for system configuration backup
- Port Lock for access from unauthorized MAC address

- Port mirroring for online debugging
- Automatic warning through e-mail and relay output
- Digital inputs to integrate sensors and alarms with IP networks
- Automatic recovery of connected device's IP addresses
- Line-swap fast recovery
- Regular (0 to 60°C) and extended (-40 to 75°C) operating temperature models available
- IP30, rugged high-strength case
- Long-haul transmit distance of 40 km or 80 km
- DIN-Rail or panel mounting capability
- Ping commands to identify network segment integrity
- Redundant dual 12-45 VDC power inputs and over current protection

Recommended Software and Accessories

- ABC-01 RS-232 RJ45-based Automatic Backup Configurator
- EDS-SNMP OPC Server Pro
- DR series DIN-Rail 24 VDC power supplies

Introduction

The EDS-510A Gigabit Managed Redundant Ethernet Switch is equipped with up to 3 gigabit Ethernet ports, making it ideal for building a Gigabit Turbo Ring, but leaving a spare gigabit port for Uplink use. The Ethernet Redundant Turbo Ring (recovery time < 20 ms) can increase system reliability and the availability of your network

backbone. The EDS-510A Ethernet switch also supports intelligent network management functions, including QoS, IGMP Snooping/GMRP, VLAN, Port Trunking, SNMP V1/V2c/V3, IEEE 802.1X, and https/SSL for optimal network planning.

Specifications

Technology

Standards: IEEE802.3, 802.3u, 802.3x, 802.1D, 802.1W, 802.1Q, 802.1p, 802.1X, 802.3ad, 802.3z

Protocols: IGMP V1/V2/V3 device, GMRP, GVRP, SNMP V1/V2c/V3, DHCP Server/Client, DHCP Option 82, BootP, TFTP, SNTP, SMTP, RARP, RMON

MIB: MIB-II, Ethernet-Like MIB, P-BRIDGE MIB, Q-BRIDGE MIB, Bridge MIB, RSTP MIB, RMON MIB Group 1, 2, 3, 9

Flow Control: IEEE802.3x flow control, back pressure flow control

Interface

RJ45 Ports: 10/100BaseT(X) or 10/100/1000BaseT(X) auto negotiation speed

Fiber Ports: Optional 1000BaseSX/LX/LHX/ZX (LC connector)

Console: RS-232 (RJ45)

LED Indicators: PWR1, PWR2, FAULT, 10/100M (TP port), 1000M (Gigabit port), MASTER, COUPLER

Alarm Contact: Two relay outputs with current carrying capacity of 1A @ 24 VDC

Digital Inputs: Two inputs with the same ground, but electrically isolated from the electronics

- +13 to +30V for state "1"
- -30 to +3V for state "0"
- Max. input current: 8 mA

Optical Fiber

1000BaseSX/LX/LHX/ZX

Distance:

Multi mode:

- 1000BaseSX 0 to 500 m, 850 nm (50/125 μ m, 400 MHz*km)
0 to 275 m, 850 nm (62.5/125 μ m, 200 MHz*km)
- 1000BaseLX 0 to 1100 m, 1310 nm (50/125 μ m, 800 MHz*km)
0 to 550 m, 1310 nm (62.5/125 μ m, 500 MHz*km)

Single mode:

- 1000BaseLX 0 to 10 km, 1310 nm (9/125 μ m, 3.5 PS/(nm*km))
- 1000BaseLHX 0 to 40 km, 1310 nm (9/125 μ m, 3.5 PS/(nm*km))
- 1000BaseZX 0 to 80 km, 1550 nm (9/125 μ m, 19 PS/(nm*km))

Min. TX Output: SFP-1GSXLC -9.5 dBm
SFP-1GLXLC -9.5 dBm
SFP-1GLHXLC -4 dBm
SFP-1GZXLC 0 dBm

Max. TX Output: SFP-1GSXLC -4 dBm
SFP-1GLXLC -3 dBm
SFP-1GLHXLC +1 dBm
SFP-1GZXLC +5 dBm

RX Sensitivity: SFP-1GSXLC 0 to -18 dBm
SFP-1GLXLC -3 to -20 dBm
SFP-1GLHXLC -3 to -24 dBm
SFP-1GZXLC -3 to -24 dBm

Power

Input Voltage: 24 VDC (12 to 45 VDC), redundant dual inputs

Connection: Two removable 6-pin terminal blocks

Overload Current Protection: Present

Reverse Polarity Protection: Present

Mechanical

Casing: IP30 protection

Dimensions (W x H x D): 80.5 x 135 x 105 mm
3.17 x 5.31 x 4.13 in.

Weight: 1170 g

Installation: DIN-Rail, Wall Mounting (optional kit)

Environmental

Operating Temperature: 0 to 60°C (32 to 140°F)
-40 to 75°C (-40 to 167°F) for T models

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

Ambient Relative Humidity: 5 to 95% (non-condensing)

Regulatory Approvals

Safety: UL508, UL60950-1, CSA C22.2 No. 60950-1, EN60950-1

Hazardous location:

UL/cUL Class I, Division 2, Groups A, B, C, and D (Pending)
ATEX Class I, Zone 2, EEx nC IIC (Pending)

Maritime: DNV, GL

EMI: FCC Part 15, CISPR (EN55022) class A

EMS: EN61000-4-2 (ESD), level 3
EN61000-4-3 (RS), level 3
EN61000-4-4 (EFT), level 2
EN61000-4-5 (Surge), level 3
EN61000-4-6 (CS), level 3
EN61000-4-8
EN61000-4-11

Shock: IEC60068-2-27

Freefall: IEC60068-2-32

Vibration: IEC60068-2-6

MTBF: 204,000 hrs

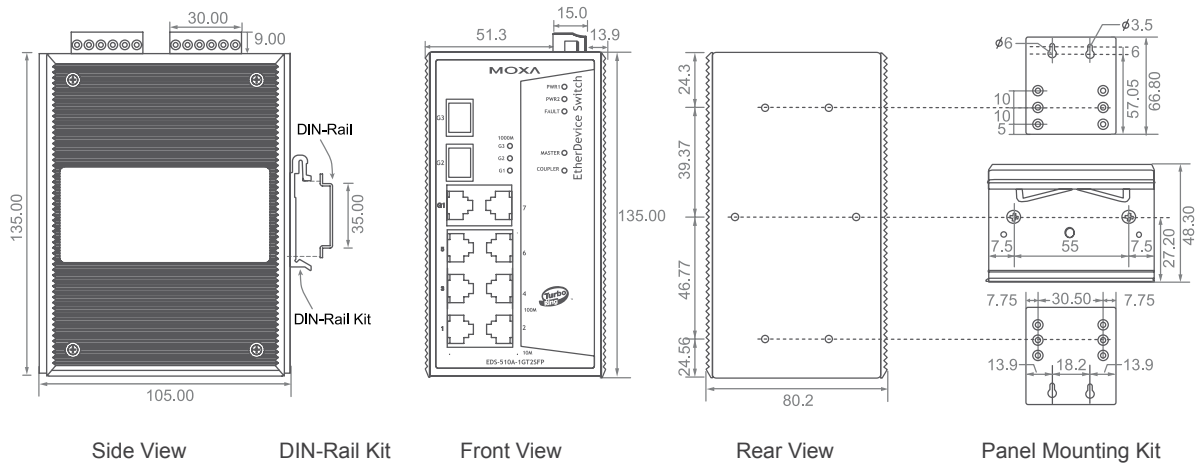
Database: MIL-HDBK-217F, GB 25°C

*Please check MOXA's website for the most up-to-date certification status.

Warranty

5 years

Dimensions (unit = mm)



Ordering Information

EDS-510A-**ABBBCDDD-E**

Ordering Code Definition	Number of Gigabit Ports	Copper/Fiber ports	Number of Rest Gigabit Ports	Fiber ports	Operating Temperature
	3: Three ports 1: One port	GT: 10/100/1000BaseT(X) port SFP: SFP (mini-GBIC) ports, LC Connector	2: Two Ports	SFP: SFP (mini-GBIC) ports, LC Connector	T: Operating Temp. -40 to 75°C (Standard Models: 0 to 60°C)
Available Models	Standard: <ul style="list-style-type: none"> EDS-510A-3GT EDS-510A-1GT2SFP EDS-510A-3SFP 				Wide Temperature: <ul style="list-style-type: none"> EDS-510A-3GT-T EDS-510A-1GT2SFP-T EDS-510A-3SFP-T
Optional Accessories	<ul style="list-style-type: none"> ABC-01: Industrial RS-232, RJ45-based, Automatic Backup Configurator DR-4524: 45W/2A DIN-Rail 24 VDC Power Supply, 85 to 264 VAC input DR-75-24: 75W/3.2A DIN-Rail 24 VDC Power Supply, 85 to 264 VAC input DR-120-24: 120W/5A DIN-Rail 24 VDC Power Supply, 88 to 132 VAC/176 to 264 VAC input by switch WK-46: Wall Mounting Kit 				

Gigabit Ethernet Modules, SFP-1G Series

SFP-**AGBBBCC-D**

Ordering Code Definition	Number of Gigabit Ports	Fiber ports	FO Connector	Operating Temperature
	1: One Fiber port	SX: 1000BaseSX port, 0.5 km LX: 1000BaseLX port, 10 km LHX: 1000BaseLHX port, 40 km ZX: 1000BaseZX port, 80 km	LC: LC Connector	T: Operating Temp. -40 to 75°C (Standard Models: 0 to 60°C)
Available Models	Standard: <ul style="list-style-type: none"> SFP-1GSXLC SFP-1GLXLC 	Long-Haul (40 km): <ul style="list-style-type: none"> SFP-1GLHXL 	Long-Haul (80 km): <ul style="list-style-type: none"> SFP-1GZXL 	Wide Temperature: <ul style="list-style-type: none"> SFP-1GSXLC-T (-20 to 75°C) SFP-1GLXLC-T SFP-1GLHXL-T SFP-1GZXL-T