

# EDS-516Aシリーズ

## 16ポートマネージド・イーサネット・スイッチ



### 機能と特長

- Turbo RingおよびTurbo Chain（リカバリ時間はスイッチ250台で20ミリ秒未満）をサポートし、STP/RSTP/MSTPでネットワーク冗長性を実現
- TACACS+、SNMPv3、IEEE 802.1x、HTTPS、およびSSHで、ネットワークセキュリティを強化
- Webブラウザ、CLI、Telnet/シリアルコンソール、Windowsユーティリティ、ABC-01による簡単なネットワーク管理
- 簡単に視覚化された産業用ネットワーク管理を行うためのMXstudioに対応

### 認証



### 製品紹介

16ポートマネージドイーサネットスイッチEDS-516Aは、先進的なTurbo RingとTurbo Chainの技術（リカバリ時間は20ミリ秒未満）、RSTP/STP、MSTPを搭載しており、産業用イーサネットネットワークの信頼性と利用可能性を高めています。-40~75°Cの広い動作温度範囲のモデルも利用可能であり、スイッチは、先進的な管理およびセキュリティ機能をサポートし、EDS-516Aスイッチをあらゆる厳しい産業環境に適したものにします。

### その他の機能とメリット

- 主なマネージド機能をすばやく設定するためのコマンドラインインターフェース（CLI）
- 各ポリシーに応じてIPアドレスを割り当てるDHCP Option 82
- デバイスの管理および監視用のEtherNet/IPおよびModbus TCPプロトコルをサポート
- トランスペアレントデータ伝送のためのPROFINETプロトコルとの互換性
- 不正アクセスをブロックするためのMACアドレスによるポートロック機能
- マルチキャストトラフィックをフィルタリングするIGMPスヌーピングおよびGMRP
- ポートベースのVLAN、IEEE 802.1Q VLAN、GVRPでネットワークブランチングを簡素化
- 可用性を向上させるQoS（IEEE 802.1p/1QおよびTOS/DiffServ）
- 最適な帯域幅利用のためのポートランキング
- プロアクティブで効率の高いネットワーク監視のためのRMON
- 異なるレベルのネットワーク管理を実現するSNMPv1/v2c/v3
- 想定外のネットワーク状況を防ぐ帯域幅管理
- メールとリレー出力を通じた例外検出による自動警告

### 仕様

#### Input/Output Interface

Alarm Contact Channels	Resistive load: 1 A @ 24 VDC
Digital Inputs	+13 to +30 V for state 1 -30 to +3 V for state 0 Max. input current: 8 mA

## Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	EDS-516A Series: 16 EDS-516A-MM-SC/MM-ST Series: 14  All models support: Auto negotiation speed Full/Half duplex mode Auto MDI/MDI-X connection																																																											
100BaseFX Ports (multi-mode SC connector)	EDS-516A-MM-SC Series: 2																																																											
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Optical Fiber	<table border="1"> <thead> <tr> <th colspan="2" rowspan="2"></th> <th colspan="4">100BaseFX</th> </tr> <tr> <th colspan="2">Multi-Mode</th> <th>Single-Mode (40 km)</th> <th>Single-Mode (80 km)</th> </tr> </thead> <tbody> <tr> <th rowspan="2">Fiber Cable Type</th> <th rowspan="2">OM1</th> <td>50/125 <math>\mu</math>m</td> <td rowspan="2">G.652</td> <td rowspan="2">G.652</td> </tr> <tr> <td>800 MHz x km</td> </tr> <tr> <td colspan="2">Typical Distance</td> <td>4 km</td> <td>5 km</td> <td>40 km</td> <td>80 km</td> </tr> <tr> <th rowspan="3">Wavelength</th> <td>Typical (nm)</td> <td colspan="2">1300</td> <td>1310</td> <td>1550</td> </tr> <tr> <td>TX Range (nm)</td> <td colspan="2">1260 to 1360</td> <td>1280 to 1340</td> <td>1530 to 1570</td> </tr> <tr> <td>RX Range (nm)</td> <td colspan="2">1100 to 1600</td> <td>1100 to 1600</td> <td>1100 to 1600</td> </tr> <tr> <th rowspan="4">Optical Power</th> <td>TX Range (dBm)</td> <td colspan="2">-10 to -20</td> <td>0 to -5</td> <td>0 to -5</td> </tr> <tr> <td>RX Range (dBm)</td> <td colspan="2">-3 to -32</td> <td>-3 to -34</td> <td>-3 to -34</td> </tr> <tr> <td>Link Budget (dB)</td> <td colspan="2">12</td> <td>29</td> <td>29</td> </tr> <tr> <td>Dispersion Penalty (dB)</td> <td colspan="2">3</td> <td>1</td> <td>1</td> </tr> </tbody> </table> <p>Note: When connecting a single-mode fiber transceiver, we recommend using an attenuator to prevent damage caused by excessive optical power. Note: Compute the “typical distance” of a specific fiber transceiver as follows: Link budget (dB) &gt; dispersion penalty (dB) + total link loss (dB).</p>			100BaseFX				Multi-Mode		Single-Mode (40 km)	Single-Mode (80 km)	Fiber Cable Type	OM1	50/125 $\mu$ m	G.652	G.652	800 MHz x km	Typical Distance		4 km	5 km	40 km	80 km	Wavelength	Typical (nm)	1300		1310	1550	TX Range (nm)	1260 to 1360		1280 to 1340	1530 to 1570	RX Range (nm)	1100 to 1600		1100 to 1600	1100 to 1600	Optical Power	TX Range (dBm)	-10 to -20		0 to -5	0 to -5	RX Range (dBm)	-3 to -32		-3 to -34	-3 to -34	Link Budget (dB)	12		29	29	Dispersion Penalty (dB)	3		1	1
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Standards	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) and 100BaseFX IEEE 802.1X for authentication 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 802.3x for flow control IEEE 802.3ad for Port Trunk with LACP																																																											

## Ethernet Software Features

Filter	802.1Q VLAN GMRP GVRP IGMP v1/v2 Port-based VLAN
Industrial Protocols	EtherNet/IP Modbus TCP
Management	IPv4/IPv6 SNMPv1/v2c/v3

	LLDP Port Mirror Back Pressure Flow Control BOOTP DDM DHCP Option 66/67/82 DHCP Server/Client Flow control RARP RMON SMTP SNMP Inform Syslog Telnet TFTP
MIB	MIB-II Bridge MIB Ethernet-like MIB P-BRIDGE MIB Q-BRIDGE MIB RMON MIB Groups 1, 2, 3, 9 RSTP MIB
Redundancy Protocols	STP MSTP RSTP LACP Link Aggregation Turbo Chain Turbo Ring v1/v2
Security	HTTPS/SSL RADIUS TACACS+ Port Lock SSH Broadcast storm protection
Time Management	NTP Server/Client SNTP IEEE 1588v2 PTP (software-based)

### Switch Properties

IGMP Groups	256
MAC Table Size	8 K
Max. No. of VLANs	64
Packet Buffer Size	2 Mbits
Priority Queues	4
VLAN ID Range	VID 1 to 4094

### LED Interface

LED Indicators	PWR1, PWR2, FAULT, 10/100M (TP port), 100M (fiber port), MSTR/HEAD, CPLR/TAIL
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### Serial Interface

Console Port	RS-232 (TxD, RxD, GND), 10-pin RJ45 (115200, n, 8, 1)
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### DIP Switch Configuration

Ethernet Interface	Turbo Ring, Master, Coupler, Reserve
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## Power Parameters

Connection	2 removable 6-contact terminal block(s)
Input Voltage	24 VDC Redundant dual inputs
Operating Voltage	12 to 45 VDC
Input Current	EDS-516A Series: 0.35 A @ 24 VDC EDS-516A-MM-SC/MM-ST Series: 0.44 A @ 24 VDC
Overload Current Protection	Supported
Reverse Polarity Protection	Supported

## Physical Characteristics

Housing	Metal
IP Rating	IP30
Dimensions	94 x 135 x 142.7 mm (3.7 x 5.31 x 5.62 in)
Weight	1586 g (3.50 lb)
Installation	DIN-rail mounting Wall mounting (with optional kit)

## Environmental Limits

Operating Temperature	Standard Models: 0 to 60°C (32 to 140°F) Wide Temp. Models: -40 to 75°C (-40 to 167°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

## Standards and Certifications

Safety	EN 62368-1 UL 60950-1 UL 508
EMC	EN 55032/35
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 1 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF
Hazardous Locations	ATEX Class I Division 2
Vibration	IEC 60068-2-6
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-31
Maritime	DNV

## MTBF

Time	EDS-516A models: 250,219 hrs EDS-516A-MM-ST/SC models: 247,676 hrs
Standards	Telcordia (Bellcore), GB

## Warranty

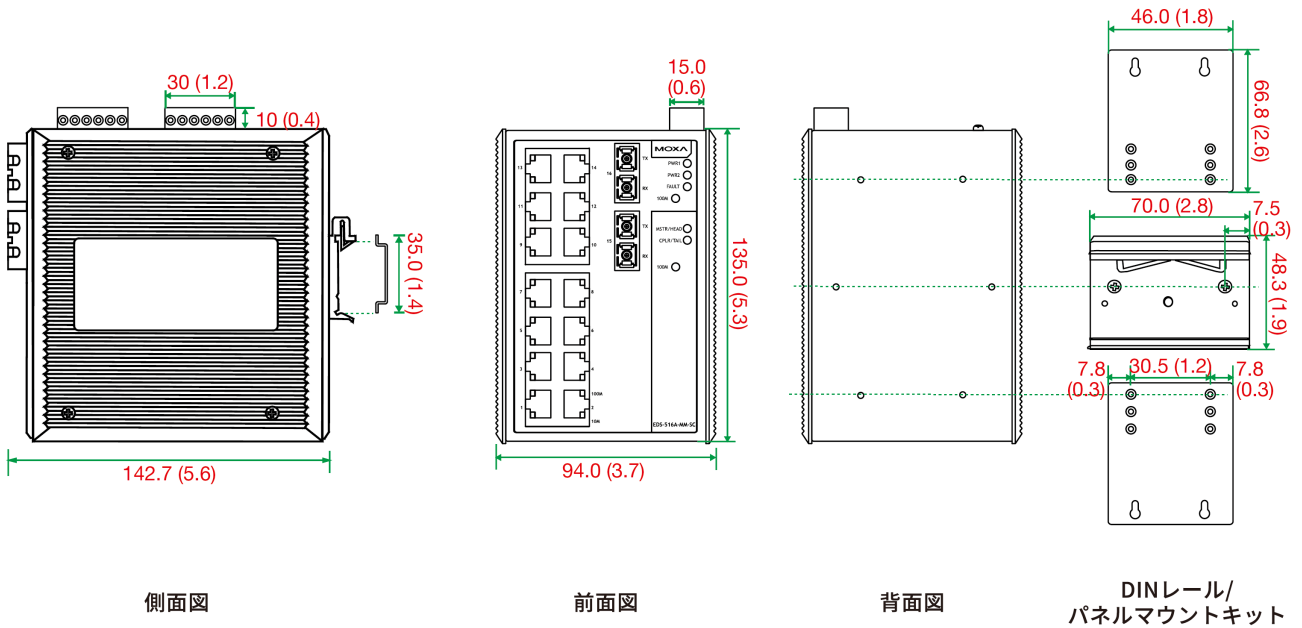
Warranty Period	5 years
Details	See <a href="http://www.moxa.com/jp/warranty">www.moxa.com/jp/warranty</a>

## Package Contents

Device	1 x EDS-516A Series switch
Cable	1 x DB9 female to RJ45 10-pin
Installation Kit	4 x cap, plastic, for RJ45 port 2 x cap, plastic, for SC fiber port (-SC models) 2 x cap, plastic, for ST fiber port (-ST models)
Documentation	1 x quick installation guide 1 x warranty card 1 x product certificates of quality inspection, Simplified Chinese 1 x product notice, Simplified Chinese

## 寸法

単位: mm (インチ)



## 注文情報

Model Name	10/100BaseT(X) Ports RJ45 Connector	100BaseFX Ports Multi-Mode, SC Connector	100BaseFX Ports Multi-Mode, ST Connector	Operating Temp.
EDS-516A	16	-	-	0 to 60°C
EDS-516A-T	16	-	-	-40 to 75°C
EDS-516A-MM-SC	14	2	-	0 to 60°C
EDS-516A-MM-SC-T	14	2	-	-40 to 75°C
EDS-516A-MM-ST	14	-	2	0 to 60°C
EDS-516A-MM-ST-T	14	-	2	-40 to 75°C

## アクセサリ（別売）

### Storage Kits

ABC-01	Configuration backup and restoration tool for managed Ethernet switches and AWK Series wireless APs/bridges/clients, 0 to 60°C operating temperature
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### Power Supplies

HDR-60-24	60 W/2.5 A DIN-rail 24 VDC power supply, universal 85 to 264 VAC or 120 to 370 VDC input voltage, -30 to 70°C operating temperature
NDR-120-24	120 W/5.0 A DIN-rail 24 VDC power supply, universal 90 to 264 VAC or 127 to 370 VDC input voltage, -20 to 70°C operating temperature
NDR-120-48	120 W/2.5 A DIN-rail 48 VDC power supply, universal 90 to 264 VAC or 127 to 370 VDC input voltage, -20 to 70°C operating temperature
NDR-240-48	240 W/5.0 A DIN-rail 48 VDC power supply, universal 90 to 264 VAC or 127 to 370 VDC input voltage, -20 to 70°C operating temperature
MDR-40-24	DIN-rail 24 VDC power supply with 40W/1.7A, 85 to 264 VAC, or 120 to 370 VDC input, -20 to 70°C operating temperature
MDR-60-24	DIN-rail 24 VDC power supply with 60W/2.5A, 85 to 264 VAC, or 120 to 370 VDC input, -20 to 70°C operating temperature

### Software

MXview-50	MXview license for 50 nodes
MXview-100	MXview license for 100 nodes
MXview-250	MXview license for 250 nodes
MXview-500	MXview license for 500 nodes
MXview-1000	MXview license for 1000 nodes
MXview-2000	MXview license for 2000 nodes
MXview Upgrade-50	MXview license expansion for 50 nodes

### Wall-Mounting Kits

WK-46	Wall-mounting kit, 2 plates, 8 screws, 46.5 x 66.8 x 1 mm
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### Rack-Mounting Kits

RK-4U	19-inch rack-mounting kit
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