

SA-M7416 SERIES

SWITCH



FEATURES

- 16x10/100/1000BASE-T Gigabit Ethernet RJ45
- 4x100/1000BASE-X SFP Slots
- Optionally support IEEE 802.3 af/at/bt Power Over Ethernet Standard
- Full gigabit L2+ management, easy to manage the network by CLI/WebGUI/NMS.
- Build up a redundant industrial network with STP/RSTP/M-STP/ERPSv2
- Port-based VLAN, IEEE 802.1Q VLAN, and GVRP to ease network planning
- Traffic Classification Based on IEEE 802.1p, COS, WRR, and Strict Mode
- SNMPv1/v2c/v3 for different levels of network management
- Wide operating temperature range -40 to 75°C (-40 to 167°F)
- All-aluminum Case, Compact and Fanless Design

DESCRIPTION

Experience unparalleled performance with the Layer 2+ Plus Managed Industrial Ethernet Switch, designed specifically for demanding industrial environments. Engineered for exceptional stability and reliability, this switch ensures seamless Ethernet transmission in factories, outdoor settings, and harsh conditions. Its robust construction withstands the rigors of industrial applications while delivering advanced management features that facilitate optimal network control. Elevate your operational efficiency and safeguard your critical data communications with a solution that has consistently proven its mettle across various sectors. Invest in enduring quality - choose the Layer 2+ Plus Managed Industrial Ethernet Switch for your networking needs.

Engineered for reliability in the most demanding industrial environments, the Layer 2+ Plus Managed Industrial Ethernet Switch seamlessly integrates dual power input design to ensure uninterrupted connectivity. Enclosed in a rugged IP40-rated housing that can be easily mounted on DIN rails or walls, it excels in harsh settings where durability and uptime are critical. With its exceptional operating temperature range of -40 to 75°C, this switch is built to withstand extreme conditions.

Hardware Specifications

Product	SA-M7416A	SA-M7416R	SA-M7416T
Copper Ports	16x10/100/1000BASE-T RJ45 Auto-MDI/MDI-X (Port 1-16)		
Fiber Ports	4x100/1000BASE-X SFP Slots (Port 17-20) (Support SMF, MMF)		
Console	1x RJ45-to-RS232 Serial Port (115200)		
Connector	1 removable 6-contact terminal blocks Pin 1/3 for Power 1, Pin 4/6 for Power 2		
Alarm	One relay output for power failure, Alarm relay current carry ability: 1A@24V DC		
RAM	128Mbyte		
FLASH	32MByte		
Reset Button	<5 sec: System Reboot; >10 sec: Factory Default		
Surge Protection	±6kV DC, ±4kV RJ45	±6kV DC, ±6kV RJ45	
Enclosure	IP40 aluminum case		
Installation	DIN-Rail and Wall-mount		
Dimension	160 x 132 x 70mm		
Weight	1000g (Bare weight), 1300g(With package)		
Switching			
Switch Architecture	Store-and-Forward		
Switch Fabric	56Gbps/non-blocking		
Forwarding Rate	29.76Mpps(64-byte packet size)		
Packet Buffer Size	4 Mbits		
Maximum Packet Length	10K bytes		
MAC Address Table	8K entries, automatic source address learning and aging		
Flow Control	IEEE 802.3x pause frame for full duplex, Back pressure for half duplex		
PoE & Power Supply			
PoE Ports	\	Port 1 to 16 IEEE802.3 af/at	Port 1 to 16 IEEE802.3af/at/bt
PoE Power Supply Type	\	End-span	End-span
Power Supply Pin	\	1/2(+), 3/6(-)	1/2(+), 3/6(-) or 4/5(+), 7/8(-)
Max Power Per Port	\	30W	90W
Input Voltage	DC9-56V	DC48-56V	DC52-56V
Power Consumption	15 Watts Max (without PoE load)		
PoE Power Budget	\	240W maximum (Depending on power input)	240W maximum (Depending on power input)
Environmental			
Operating Temperature	-40°C~75°C (-40 to 167°F)		
Storage Temperature	-40°C~85°C (-40 to 185°F)		
Operating Humidity	5%~95% (non-condensing)		
MTBF	907,476 hours @ Telcordia SR-332 Standard		
Heat Dissipation	65 BTU/h (non-PoE mode) 1054 BTU/h (with 240W PoE load)		
Cooling	Passive Cooling, Fanless Design		
Noise Level	0 dBA		

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Software Features

Standards	IEEE 802.3 for 10BaseT, IEEE 802.3u for 100BaseT(X) and 100BaseFX, IEEE 802.3ab for 1000BaseT(X), IEEE 802.3z for 1000BaseSX/LX/LHX/ZX, IEEE 802.3x for flow control, IEEE 802.1D-2004 for Spanning Tree Protocol, IEEE 802.1w for Rapid Spanning Tree Protocol, IEEE 802.1p for Class of Service, IEEE 802.1Q for VLAN Tagging
Port Configuration	Port(Admin Status) disable/enable Copper Port: Auto-negotiation 10/100/1000Mbps full and half duplex mode selection Fiber Port: 100M/1000M speed selection Flow Control disable/enable Power saving(EEE) disable/enable Each port description
Port Status	Display each ports' speed duplex mode, link status, flow control status, auto negotiation status, Fiber Port Information, Port Traffic
Port Mirroring	Source Ingress/ Egress Port/ Both, Many-to-1 monitor
VLAN	Up to 4K VLAN groups, out of 4094 VLAN IDs IEEE 802.1Q tag-based VLAN IEEE 802.1AD Q-in-Q tunneling(Double VLAN) GVRP(Generic VLAN Registration Protocol)
Link Aggregation	IEEE 802.3ad LACP/Static trunk Supports 6 trunk groups with 4 ports per trunk
Spanning Tree Protocol	IEEE 802.1D Spanning Tree Protocol IEEE 802.1w Rapid Spanning Tree Protocol IEEE 802.1s Multiple Spanning Tree Protocol
Multicast	Dynamic/Static Multicast groups IGMP Snooping v1,2,3 Port-based IGMP Snooping Fast Leave GMP Querier
Rate Limitation	Per Port Rate Limitation Ingress: 16-1000000 kbps/Egress: 16-1000000 kbps
Ring	ITU-T G.8032 ERPS, Recovery time < 10ms
QoS	Traffic classification based, strict priority and WRR 8-level priority for switching -Port number -802.1p priority -802.1Q VLAN tag -DSCP/TOS field in IP Packet
ACL	IP-based ACL/MAC-based ACL ACL based on: -MAC Address -IP Address -Ethertype -Protocol Type -VLAN ID -DSCP -802.1p Priority
Security	Port Security Static MAC address IEEE 802.1x port-based network access control RADIUS authentication DHCP Snooping, DHCP option 82
PoE Management Functions	
PoE System Management	PoE Port status monitoring Total PoE power budget control PoE usage threshold and temperature threshold PoE port Priority PoE mode(PoE/PoE+/PoE++) PD reboot(Zero Traffic Duration)
PoE Schedule	Absolute/Periodic Mode

Software Features

Layer 3 Functions

IP Interfaces	Max. 8 VLAN interfaces
Routing Table	Max.32 routing entries
Routing	IPv4 software static routing

Management

Basic Management Interface	Console; Telnet; Web browser; SNMPv1/v2c
Secure Management Interface	SSHv2, TLSv1.2, SNMPv3
System Management	Firmware Upgrade by HTTP protocol through Ethernet network Configuration upload/download through HTTP Remote syslog, System log LLDP protocol, SNTp PREVIEW NMS Alarm (Relay, Led, Temperature, Trap, Power)

LED	State	Description
PWR (P1&P2)	ON	Power is being supplied
	OFF	Power is not being Supplied.
Link/ACT (1-20)	ON	Port connection is active
	Blinking	Data transmitted
	OFF	Port connection is not active

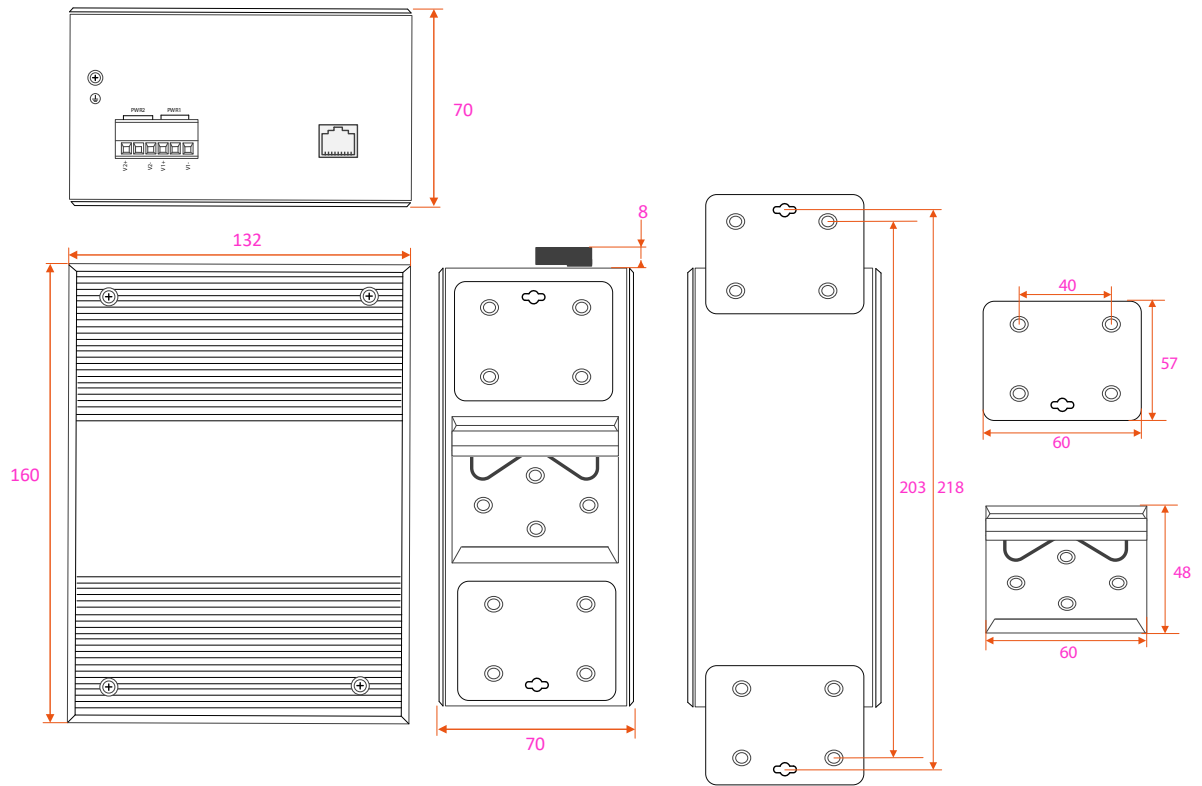
Package Contents

Device	1 x Industrial Ethernet Switch
Cable	1 x DB9 female to RJ45
Installation Kit	1 x DIN-Rail Clip 2 x Wall-Mount Kits

Order Information

Model Number	10/100/1000Base-T RJ45	100/1000Base-X SFP Port	PoE Standard	Input Voltage	Operating Temp.
SA-M7416	16	4	\	2xDC9-56V	-40 to +75°C
SA-M7416A	16	4	\	1xAC220V	-40 to +75°C
SA-M7416R	16	4	Port 1-16 802.3 af/at	2xDC9-56V	-40 to +75°C
SA-M7416T	16	4	Port 1-16 802.3af/at/bt	2xDC9-56V	-40 to +75°C

Dimensions Unit: mm



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Performance specifications are typical. Due to constant research, specifications are subject to change without notice. For the most up-to-date specifications, please contact an authorized Starview representative.

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