

Model: SMS-16GE2S
Series: SAPPHIRE



Gigabit Managed Switch – 16*10/100/1000Tx + 2*100/1000 SFP Slots



Perfect, Slim-type Managed Switch with More Practicability and Convenience

AADONA SMS-16GE2S is an Industrial 18-Port Full Gigabit Managed Ethernet Switch specially designed to transmit reliable but high-speed data in heavy industrial demanding environments. It provides 16-Port 10/100/1000BASE-T copper interfaces and 2 extra 100/1000Base-X SFP fiber optic interfaces delivered in an IP30 rugged strong case with redundant power system. Besides support for Gigabit switch fabric to handle extremely large amounts of video, voice and important data in a secure topology, the SMS-16GE2S provides user-friendly but advanced IPv6/IPv4 management interfaces and abundant L2/L4 switching functions. It is the best investment for industrial businesses expanding or upgrading their network infrastructure.

Environmentally Hardened Design

With IP30 industrial case protection, the SMS-16GE2S provides a high level of immunity against electromagnetic interference and heavy electrical surges which are usually found on plant floors or in curb-side traffic control cabinets. It also possesses an integrated power supply source with wide range of voltages (12 to 48V DC) for worldwide high availability applications requiring dual or backup power inputs. Being able to operate under the temperature range from -40 to 75 degrees C, the SMS-16GE2S can be placed in almost any difficult environment.

Redundant Ring, Fast Recovery for Critical Network Applications

The SMS-16GE2S supports redundant ring technology and features strong, rapid self-recovery capability to prevent interruptions and external intrusions. It incorporates advanced ERPS (Ethernet Ring Protection Switching) technology, Spanning Tree Protocol (802.1s MSTP), and redundant power input system into customer's industrial automation network to enhance system reliability and uptime in harsh factory environments. In a certain simple Ring network, the recovery time of data link can be as fast as 50ms.

Robust Layer 2 Features

The SMS-16GE2S can be programmed for advanced switch management functions such as dynamic port link aggregation, 802.1Q VLAN and Q-in-Q VLAN, Multiple Spanning Tree Protocol (MSTP) and IGMP snooping. Via the link aggregation, the SMS-16GE2S allows the operation of a high-speed trunk to combine with multiple ports, and supports fail-over as well. Also, the Link Layer Discovery Protocol (LLDP) is the Layer 2 protocol included to help discover basic information about neighboring devices on the local broadcast domain.

Efficient Traffic Control

The SMS-16GE2S is loaded with robust QoS features and powerful traffic management to enhance services to business-class data, voice and video solutions. The functionality includes broadcast/multicast storm control, per port bandwidth control, IP QoS priority and remarking. It guarantees the best performance for VoIP and video stream transmission and empowers the enterprises to take full advantage of the limited network resources.

Powerful Security

AADONA SMS-16GE2S offers comprehensive IPv4/IPv6 Layer 2 to Layer 4 Access Control List (ACL) for enforcing security to the edge. It can be used to restrict network access by denying packets based on source and destination IP address, TCP/UDP ports or defined typical network applications. Its protection mechanism also comprises 802.1X port-based user and device authentication, which can be deployed with RADIUS to ensure the port level security and block illegal users.

Advanced Network Security

The SMS-16GE2S also provides DHCP snooping, IP source guard and dynamic ARP inspection functions to prevent IP snooping from attack and discarded ARP packets with invalid MAC address. The network administrators can now construct highly-secure corporate networks with considerably less time and effort than before.

Friendly and Secure Management

For efficient management, the SMS-16GE2S is equipped with web, Telnet and SNMP management interfaces. With the built-in web-based management interface, the SMS-16GE2S offers an easy-to-use, platform-independent management and configuration facility. By supporting the standard SNMP, the switch can be managed via any standard management software. For text-based management, the switch can be accessed via Telnet. Moreover, the SMS-16GE2S offers secure remote management by supporting SSH, SSL and SNMP v3 connections which encrypt the packet content at each session.

Flexible and Extendable Solution

The 2 mini-GBIC slots built in the SMS-16GE2S support dual-speed as it features 100BASE-FX and 1000BASE-SX/LX SFP (Small Form-factor Pluggable) fiber-optic modules, meaning the administrator now can flexibly choose the suitable SFP transceiver according to the transmission distance or the transmission speed required to extend the network efficiently.

- 16-Port 10/100/1000TX Gigabit Ethernet
 - 2-Port 100/1000 SFP Slot
 - Configuration: WEB GUI, Serial Console, CLI Command
 - Network Redundancy Support: G.8032 ERPS, RSTP, MSTP
 - Supports IGMP V1/V2, Up to 256 Groups
 - Supports Storm Protection for Broadcast, Multicast and Unicast Frames
 - Supports IEEE802.1P QOS and COS/TOS
 - Supports IEEE802.1Q VLAN, SNMP V1/V2C/V3
 - System Warning Setting for Automatic Warning Through E-MAIL
 - Redundant Power Input Design, 12-48VDC
 - IP30 Rugged Metal Case Design
 - Din-Rail Mounting, Wall Mounting
 - Operating Temperature Range - STD: -10°C ~ 65°C, EOT: -40°C ~ 75°C
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APPLICATION

Industrial area manageable switch for data collection and forwarding

The SMS-16GE2S offers high performance & high reliability to make sure the continuous Industrial operation in Harsh Environments such as control cabinet of transportation, Factory floors, Outdoor space and the places where the temperature is extremely low or high. With a non-blocking design and desktop size, the installation of AADONA SMS-16GE2S 18-Port Gigabit Managed Industrial Ethernet Switch is as easy as that of a fast ethernet network and it is helpful to build a gigabit high-bandwidth switched Network quickly.

To further expand the current network, The SMS-16GE2S provides advanced web and SNMP management interface to meet this kind of demand with its built-in web-based management, the SMS-16GE2S offers an easy-to-use, platform-independent management and configuration facility. The SMS-16GE2S supports standard simple network management protocol (SNMP) that enables the managed switch to be monitored via any standard-based management software with the SMS-16GE2S, which complies with all the requirements of Industrial applications, customers may enjoy high reliability, recovery capability and safe Ethernet network operation.

BASIC

Product Description	18-Port Industrial Gigabit Managed Ethernet Switch - 16*10/100/1000Tx + 2*100/1000 SFP Slots, 12-48VDC Power Input
Model Name	SMS-16GE2S
Product Family	Sapphire
Total No Of Ports	16+2 = 18
Warranty	5 Year Warranty Pack

TECHNOLOGY

Standards	IEEE 802.3 10BaseT Ethernet IEEE 802.3u 100BaseTX Fast Ethernet IEEE 802.3ab 1000BaseT IEEE 802.3z 1000Base-X Gigabit Fiber IEEE 802.3x Flow Control IEEE 802.1d STP (Spanning Tree Protocol) IEEE 802.1w RSTP (Rapid Spanning Tree Protocol) IEEE 802.1s MSTP (Multiple Spanning Tree Protocol) ITU-T G.8032 / Y.1344 ERPS (Ethernet Ring Protection Switch) IEEE 802.1Q Virtual Local Area Network (VLAN) IEEE 802.1p QoS/CoS Protocol for Traffic Prioritization IEEE 802.1X Network Authentication IEEE 802.1AB Link Layer Discovery Protocol (LLDP) IEEE 802.3ad Link Aggregation (LACP)
Processing Type	Store and Forward
Protocol	CSMA/CD, IGMP v1/v2, SNMP v1/v2c/v3, TFTP, SNTP, SMTP, RARP, RMON, Syslog
Flow Control	IEEE 802.3x flow control, back pressure flow control

SWITCH PROPERTIES

Switching Fabric 36Gbps

Queues 8

Max. Number of VLANs 4095

VLAN ID Range VID 1 to 4095

Memory Buffer 4Mbits

Jumbo Frame 9.6Kbytes

MAC Table size 8K Mac Addresses

IGMP Group Up to 1024 groups

NETWORK MANAGEMENT

Network Redundancy STP/RSTP/MSTP, Port Trunk with LACP, ERPS(< 50ms)

Configuration Web-based, Telnet, Console, Cisco-like CLI, TFTP, SSH, SSL, SNMP v1/v2c/v3, RMON, USB

Software Features Storm Protection for Broadcast, Multicast, and Unicast frames QoS - CoS, ToS/Diffserv mapping, SPQ/WRR queuing 802.1Q Virtual Local Area Network(VLAN) IGMP Snooping, IGMP query DHCP Client/Server/Relay with Option 82 Internet Protocol Version 6 (IPv6) Link Layer Discovery Protocol (LLDP) Port Status, Statistics, Monitoring, Security Port Mirror, LLDP, uPnP, Modbus/TCP

Security Features Static MAC address 802.1X authentication, RADIUS SNMP v3 encrypted authentication and access

INTERFACE

RJ45 Ports 16*10/100/1000BaseT(X), auto-negotiation speed, Full/Half duplex mode, and auto MDI/MDI-X connection

Fiber Ports 2*100/1000Base-(F)X SFP slot

LED Indicators	Power 1, Power 2, Master, Ring, Status, Fault Ethernet Ports: Speed/Link/Active SFP: Link/Active
RS232 Serial Console	1*RS232 in RJ45 connector with console cable; baud rate 115,200bps,8,N,1
Configuration Backup	1*USB 2.0 for firmware update, configuration backup/restore/boot up and Syslog
Network Cable	10BaseT: 2-pair UTP/STP Cat. 3, 4, 5 cable EIA/TIA-568 100-ohm (100m) 100BaseTX: 2-pair UTP/STP Cat. 5 cable EIA/TIA-568 100-ohm (100m) 1000BaseTX: UTP/STP Cat.5/5E cable; EIA/TIA-568 100-ohm (100m)

POWER REQUIREMENTS

Power Supply	External Din-Rail Industrial Power Supply Unit (Not included & to be purchased separately)
Input Voltage	12-48VDC, Redundant Input
Overload Current Protection	Present(Slow-Blow Fuse)
Power Connection	2 removable 4-contact terminal block
Reverse Polarity Protection	Present
Power Consumption	16.1 Watts for System
Relay Contact	24 VDC, 1A resistive

PROTECTION

CPU Watch Dog	Present
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MECHANICAL CHARACTERISTICS

Housing	Metal, IP30 protection
Dimensions	67(W) x 142(H) x 99(D) mm

Mounting	DIN-Rail Mounting, Wall Mounting
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ENVIRONMENTAL LIMITS

Operating Temperature	STD: -10°C ~ 65°C; EOT: -40°C ~ 75°C
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Storage Temperature	-40°C ~ 85°C
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Ambient Relative Humidity	5 to 95%, (non-condensing)
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REGULATORY APPROVALS

Safety and Certifications	CE, EN, LVD, RoHS EN61000-4-5 (for RJ45 Port, Surge 6KV) EN 55032:2015 EN 55024:2010 + A1:2015 EN 61000-3-2:2014 EN 61000-3-3:2013 EN 60950 – 1:2006 ISO Standard: ISO 9001:2015 ISO 14001:2015 ISO 27001:2013
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*ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

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