

# AMG560 SERIES INDUSTRIAL 12/20 PORT MANAGED LAYER 2 SWITCHES



## Industrial Ethernet Solutions

AMG's fully managed layer 2 Ethernet switches provide 100Mbps, Gigabit and 10 Gigabit Ethernet switching for industrial edge network applications. Available with either 8 or 16x RJ45 Gigabit ports and with 8x Gigabit SFP ports and either 4x Gigabit only or 4x 1/10 Gigabit SFP+ ports.



Gigabit up to x16	100/1000 up to x8	Gigabit up to x4	1/10 Gb up to x4	Managed Full	Secure 802.1x	USB x1	Temp -40°C~+75°C	Mounting DIN/Surface	PSU x2 Dual

[ AMG560 Series ]

### OVERVIEW

AMG560 series layer 2 managed industrial Ethernet switches are designed in a DIN rail or wall mount housing and have 12 or 20 Ethernet ports in total (depending on model). 8 or 16 Gigabit Ethernet RJ45 ports, 8 100Mb/ Gigabit SFP ports plus an additional 4 Gigabit only or multi-rate SFP/SFP+ ports providing up to 10Gb speeds for data uplink and backbone connectivity. Fibre connectivity is determined by separate SFP device selection, providing application and site flexibility.

The AMG560 series support a wide range of management functions as well as Rapid Spanning Tree, Multiple Spanning Tree and Ethernet Ring Protection Switching (ERPS) protocols for network redundancy. IGMP functionality is supported to handle the multicast traffic which is commonly used in IP CCTV deployments.

A USB port is provided for easy configuration upload/download as well as automatic firmware upgrade, configuration settings on boot up and log file storage.

SFPs and PSUs need to be ordered separately.

### FEATURES

- Compact size - ideal for confined spaces, including camera poles and roadside cabinets
- -40°C to +75°C temperature maintains performance in extreme conditions
- DIN rail or wall mountable - quick to install and remove for maintenance
- Compliant with all IEEE 802.3 speeds (i/u/ab/z/ae)
- Dual Speed SFP or SFP+ ports (up to 10Gb Speed)
- Supports RSTP, MSTP, ERPS, SNMP v1-3 and IGMP v1-3
- Port trunk functionality available with LACP
- IEEE 802.1x port security enabled
- Supports up to 16K bytes jumbo frames
- Digital input & relay output
- USB port for configuration free replacement
- AMG Lifetime Support Warranty

# Specifications.

## Standards.

IEEE 802.3i	10Base-T
IEEE 802.3u	100Base-TX & 100Base-FX
IEEE 802.3ab	1000Base-T
IEEE 802.3z	1000Base-X
IEEE 802.3ae	10GBase-R
IEEE 802.3x	Flow Control
IEEE 802.3ad	Port Trunk with LACP
IEEE 802.1D	Spanning Tree (STP)
IEEE 802.1w	Rapid Spanning Tree (RSTP)
IEEE 802.1s	Multiple Spanning Tree (MSTP)
IEEE 802.1p	QoS Priority Marking
IEEE 802.1Q	VLANs
IEEE 802.1X	Port Security
IEEE 802.3AB	LLDP
RFC1112	IGMP v1
RFC2236	IGMP v2
RFC3376	IGMP v3
RFC2030	Simple Network Time Protocol (SNTP)
RFC2131	Dynamic Host Configuration Protocol (DHCP)
ITU-T G.8032	Ethernet Ring Protection Switching (ERPS)

## Hardware Features.

Architecture	Store-and-Forward
Switch Latency	<7µs
Switch Fabric	24Gbps (12 Port 1GB Models) 40Gbps (20 Port 1GB Models) 96Gbps (12 Port 10GB Models) 112Gbps (20 Port 10GB Models)
Address Table	16K MAC entries
Buffer Memory	12M bits
Jumbo Frames	16K bytes
VLAN's	4K
IGMP Groups	1023
Throughput	16.86Mpps (12 Port 1GB Models) 29.76Mpps (20 Port 1GB Models) 71.42Mpps (12 Port 10GB Models) 83.32Mpps (20 Port 10GB Models)
Priority Queues	8
Bandwidth Control	Ingress Packet Filter and Egress Rate Limit The packet filter rate can be set from 100K to 250Mbps

## Software Features.

Redundancy	STP RSTP MSTP ERPS (G.8032)
VLAN	802.1Q Port Based VLAN Q-in-Q
LACP	Link Aggregation Control Protocol
SFP Monitoring	DDM
IGMP Snooping	v1/v2/v3
IGMP Querier	

## QoS.

Class of Service	802.1p QoS & DSCP
Rate Limiting	Ingress / Egress
Priority Queue	WRR / Strict Priority

## Security.

Port Security	MAC-based
Storm Control	Rate Limiting
802.1x	RADIUS Authentication
TACACS+	
HTTPS/SSL	
SSH v2.0	
DHCP Snooping	

## Management.

DHCP	Client / Server / Relay Option 66/67/82
Event/Error Log	Syslog Client SMTP E-Mail USB
Management Access	SNMP Web GUI Telnet / SSH v2.0 CLI
SNMP	v1/v2c/v3
RMON	1/2/3/9 Groups
Port Mirroring	
Software Update	HTTP/HTTPS/USB
Config Export /Import	
SNTP	Client
LLDP	Link Layer Discovery Protocol
Time Zone & Daylight Savings	
Industrial Profiles	Modbus TCP & Ethernet/IP
IPv4 & IPv6	

# Specifications.

## USB.

Firmware Update  
Configuration Backup / Restore  
Boot Up & System Log

## Alarms/Contact Closures.

Inputs	1x Digital Input (Isolated)
Input Current	8mA Max
State 1	+13 to +30V
State 0	-30 to +3V

Outputs	1x Relay Output
Type	Form A
Output Rating	24V <sub>DC</sub> @ 1A

## Interface.

LED Indicators	2x Power Fault Ring State Ring Master SFP Link/Activity RJ45 Link/Activity
RJ45 Ports	8 or 16x 10/100/1000T(X) RJ45 with Auto MDI/MDI-X and 1.5 kV Isolation Protection
SFP Slot	8x 100/1000FX SFP and/or 4x 1000FX SFP
SFP+ Slot	4 x 1/2.5/10G SFP+
Power	1x 4 pin removable terminal
DI/Relay	1x 4 pin removable terminal
Serial Console	1x RJ45
Config/Firmware	USB Type A
Reset	Ultra-small Tactile Switch

## Power.

Power Inputs	2
Operating Voltage	12-48V <sub>DC</sub>
Power Consumption:	14 Watts Max (12 Port 1Gb Model) 19 Watts Max (20 Port 1Gb Model) 16 Watts Max (12 Port 10Gb Model) 19 Watts Max (20 Port 10Gb Model)
Protection	Reverse Polarity, Overload Current

## Mechanical.

Housing	Aluminium
Dimensions:	(W x D x H)
12 Port Models	72 x 113 x 145 mm 2.83 x 4.45 x 5.71 in
20 Port Models	91 x 118 x 145 mm 3.58 x 4.65 x 5.71 in
IP Rating	IP30
Installation	Wall Mount or DIN-Rail
Weight	0.87kg / 1.92lb (12 Port Models) 0.97kg / 2.14lb (20 Port Models)

## Environmental.

Operating Temp.	-40°C to +75°C
Storage Tempe.	-40°C to +85°C
Humidity	5% to 95% (non-condensing)
MTBF	>250,000 hours
MTBF Standard	Telcordia (Bellcore) GB
Heat Dissipation	48 BTU/h (12 Port 1Gb Model) 65 BTU/h (20 Port 1Gb Model) 55 BTU/h (12 Port 10Gb Model) 65 BTU/h (20 Port 10Gb Model)
Cooling	Passive

## Regulatory.

Safety	CE/EN60950-1
EMI	EN55032 Class A FCC Part 15B Class A
EMS	EN61000-4-2 (ESD) EN61000-4-3 (RS) EN61000-4-4 (EFT) EN61000-4-5 (Surge) EN61000-4-6 (CS) EN61000-4-8 (PFMF)
EMC	EN61000-6-2 EN61000-6-4
Shock	IEC60068-2-27
Free Fall	IEC60068-2-32
Vibration	IEC60068-2-6
Environmental	Reach RoHS WEEE

Designed to meet NEMA TS2 & EN 50121-4

# Part Numbers.

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## 1Gb Industrial Layer 2 Managed Switches

AMG560-8G-4S	8 × 10/100/1000TX & 4 × 1000M SFP
AMG560-16G-4S	16 × 10/100/1000TX & 4 × 1000M SFP
AMG560-8G-12S	8 × 10/100/1000TX, 8 × 100/1000M SFP & 4 × 1000M SFP

## 10Gb Industrial Layer 2 Managed Switches

AMG560-8G-4XS	8 × 10/100/1000TX & 4 × 1000M/2.5G/10G SFP+
AMG560-16G-4XS	16 × 10/100/1000TX & 4 × 1000M/2.5G/10G SFP+
AMG560-8G-8S-4XS	8 × 10/100/1000TX, 8 × 100/1000M SFP & 4 × 1000M/2.5G/10G SFP+

## Recommended PSUs.

AMGPSU-I12-P24      DIN-Rail Mounting Industrial Grade PSU, -40 to +70°C, 12VDC, 24W

## Notes.

Optional Accessories:      SFP modules - Optical/Copper see separate list, need to be ordered separately

In a continuing effort to improve and advance technology, product specifications are subject to change without notice. Please visit [www.amgsystems.com](http://www.amgsystems.com) for the latest product specifications.