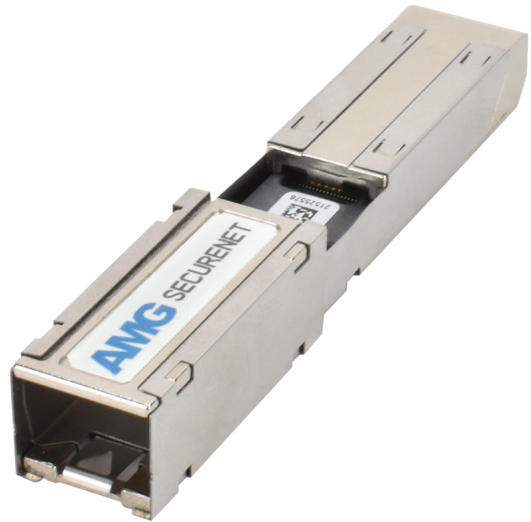# SFP-ENC-1G INDUSTRIAL GIGABIT ETHERNET SFP ENCRYPTION MODULES

SECURE NET

Secure-Net™ Encryption Solutions

AMG's industrial Secure-Net™ encryption SFP carrier provides full 100Mb or 1Gb line rate encryption of Ethernet traffic passing through standard MSA compliant 100Mb or 1Gb SFP modules.

SFP	Encryption	Temp	NDAA/TAA
100/1000 Compliant	128-bit	-20~+85°C	Compliant

[SFP-ENC-1G]

/ **OVERVIEW**

The AMG Secure-Net™ SFP carrier is a plug-and-play SFP based IP-level network security device that encrypts traffic over any IP network.

The unit operates as an SFP carrier, capable of hosting most standard MSA compliant 100Mb or 1Gb SFP modules. The Secure-Net™ SFP carrier transparently envelopes a large variety of SFPs, enabling full reuse of existing equipment and easy deployment over multiple infrastructure types, including both fiber & copper lines.

The SFP carrier is easily installed into standard MSA compatible SFP ports of AMG switches and media converters as well as 3rd party devices such as switches, routers and NVR's, eliminating the use of external power and reducing space and cabling expenses.

The Secure-Net™ SFP carrier supports end-to-end static IPsec in transport mode for highly secured network links in both point-to-point as well as multipoint deployments.

To provide the highest levels of security the Secure-Net™ SFP carrier configuration can only be changed using an external programmer and cannot be changed via the host device or using in-band management.

/ **FEATURES**

— Compatible with most MSA compliant 100 or 1000BASE-FX SFP Ports*

— Supports speeds of 100Mbps or 1Gb depending on the installed SFP module and SFP port

— Plug-and-play solution for easy, rapid deployment

— Full wire speed encryption (up to 1Gbps)

— 128-bit AES-GCM-ESP encryption

— End-to-end static transport mode IPsec encryption

— Complete out-of-band management ensures the highest levels of security with no access to the configuration of the Secure-Net™ device from within the network or from its local host device

— Industry standard Small Form-Factor Pluggable (MSA compliant)

— Lower total cost of ownership compared to existing alternative solutions

— 1 Year AMG Warranty (can be extended for additional charge)

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Specifications.

Standards.

IEEE802.3u	100Base-FX
IEEE802.3z	1000Base-X
INF-8074	SFP Transceiver
MSA	Multi-Source Agreement
RFC-4106	GCM in IPsec
RFC-4303	IP Encapsulating Security Payload
Jumbo Frames	9.6Kbytes

Interface.

SFP	MSA Compliant Edge Connectors

Management.

Type	Out-of-Band (requires SFP-ENC-PROG)
Management Access	CLI Only
Firmware Upgrade	CLI via Boot Menu

Security.

Encryption	AES-GCM-128
Traffic Type	IPv4 Only
Encryption Type	IPsec
IPsec Encapsulation:	RFC-4106 (Galois/Counter Mode (GCM) in IPsec Encapsulating Security Payload (ESP))
	RFC-4303 (IP Encapsulating Security Payload (ESP))
	Transport Mode IPsec
	Static IPsec
Traffic Handling	Encrypt/Pass/Drop Function Configurable For Each Frame Type

Power.

Power Inputs	From SFP Host Port
Operating Voltage	$3.3V_{DC}$
Power Consumption	1.2W Max (without SFP Module)

Packaging.

Shipping Weight	0.04kg / 0.09lb
Dimensions:	(W x D x H)
	45 × 115 × 20 mm
	1.77 × 4.53 × 0.79 in

Mechanical.

Housing	Aluminium
Dimensions:	(W x D x H)
	15 × 81 × 14 mm
	0.59 × 3.19 × 0.55 in
Protruding Distance: without SFP Module	33 mm 1.30 in
IP Rating	IP20
Installation	SFP Slot
Weight	0.03kg / 0.07lb

Environmental.

Operating Temp: SFP Case	(Celsius / Fahrenheit) -20 to +85°C / -4 to +185°F
Storage Temp.	-40 to +85°C / -40 to +185°F
Humidity	5% to 90% (non-condensing)
MTBF	10,869,565 hours
MTBF Standard	Telcordia SR-332 GB 25°C
Heat Dissipation	4 BTU/h
Cooling	Passive Cooling
Noise Level	0 dBA

Regulatory.

EMI	EN 55032 Class B
	EN 55024 Class B
	FCC Part 15B Class B
	EN 61000-3-2
	EN 61000-3-3
Safety	EN 60950-1
Environmental	Reach
	RoHS
	WEEE
Supply Chain	NDAA & TAA Compliant

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Application Diagram.

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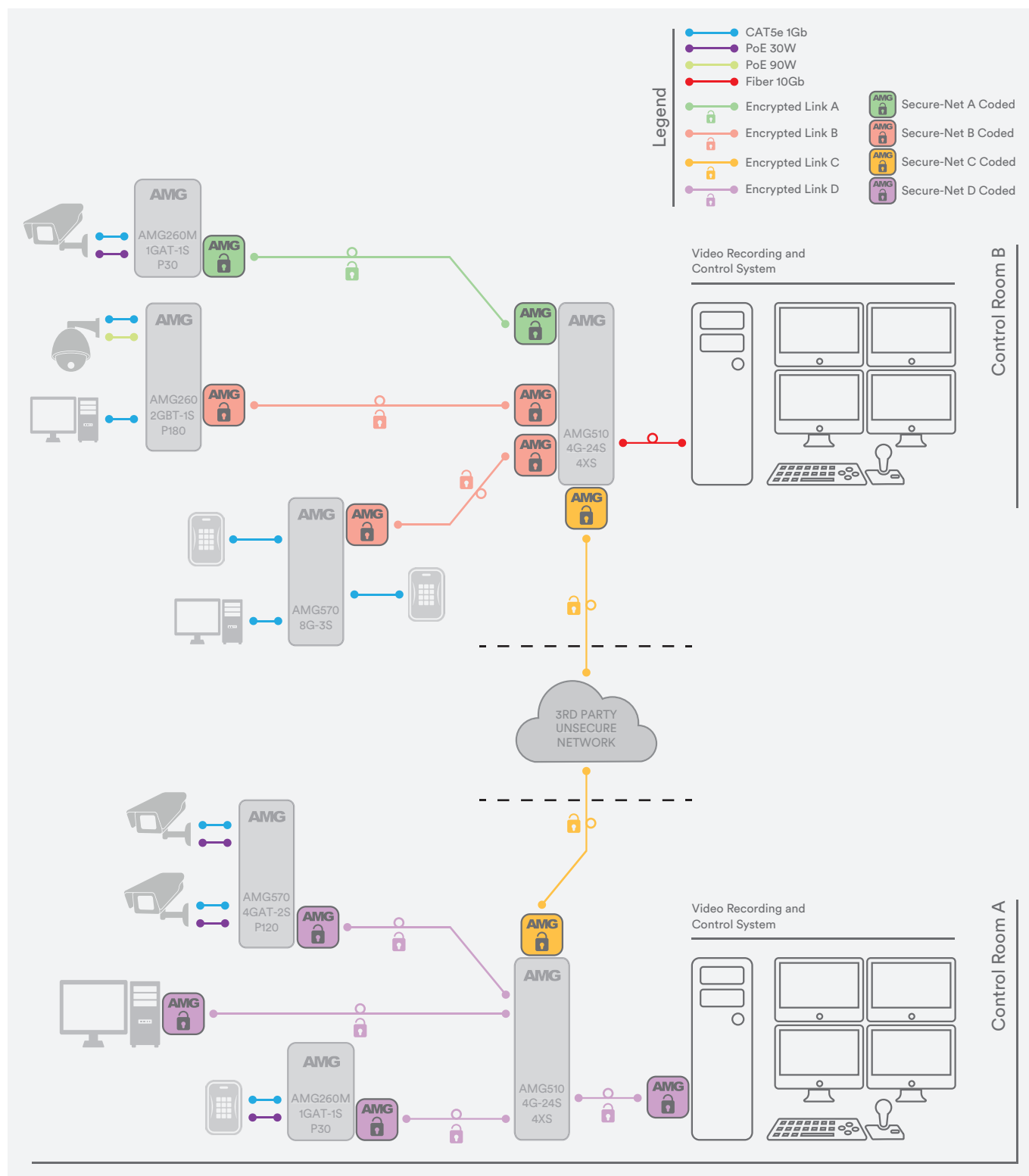
Part Numbers.

Industrial Gigabit Ethernet SFP Encryption Modules

SFP-ENC-1G	Gigabit Ethernet SFP Encryption Carrier, 100/1000FX MSA Compliant, Single*^
SFP-ENC-1G-P	Gigabit Ethernet SFP Encryption Carrier, 100/1000FX MSA Compliant, Pre-Configured Pair*

*Please check with the AMG Technical Services team before ordering to ensure compatibility with your chosen SFP capable switch or media converter. Check the AMG website for a full list of compatible AMG switches and media converter models.

^ Single units are designed for expansion to existing systems or for direct on-site programming. Single units can be pre-programmed by AMG at the factory or can be programmed on site using the sold separately USB programmer. Please contact AMG Technical Services for assistance before ordering the single units or the USB programmer.

Recommended Accessories.

SFP-100M Series Modules	100Mb Optical/Copper Modules see separate list, need to be ordered separately
SFP-1G Series Modules	1Gb Optical/Copper Modules see separate list, need to be ordered separately

Optional Accessories.

SFP-ENC-PROG	SFP Encryption Module USB Programmer, needs to be ordered separately. Contact AMG support before ordering.

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