







# SFP-100M SERIES INDUSTRIAL 100MB ETHERNET SFP MODULES



## Industrial Ethernet Solutions

AMG's industrial 100Mb SFP's provide transmission of 100Mb Ethernet data over Multimode or Singlemode optical fiber or copper (Cat5 or higher) cables depending on the model selected.



 Fiber Multimode	 Fiber Singlemode	 10/100 Copper	 100 FX Compliant	 DDM Diagnostics	 Temp -40~+85°C	 NDA/TAA Compliant
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[ SFP-100M Series ]

### / OVERVIEW

The AMG SFP-100M series are industrial 100Mb Ethernet SFP's offering support for multiple cable types including copper (Cat5 or higher) as well as Multimode or Singlemode optical fiber.

The units are compatible with most 100BASE-X SFP ports on Ethernet switches and media converters<sup>1</sup> and feature industry standard LC connectors for fiber models and RJ45 connectors for copper models.

The SFP modules are a perfect solution for extending the capability of SFP enabled Ethernet devices to support links from remote locations which are beyond the normal 100m (328ft) distance limit of copper Ethernet standards.

Each optical fiber model supports full Digital Diagnostic Monitoring (DDM) to provide the user with valuable information on critical operating parameters such as device temperature, Tx and Rx optical power levels, speed, optical wavelength as well as device part code, serial number and manufacturer data.

<sup>1</sup> Check the AMG website for a full list of compatible AMG switches and media converter models. If you are unsure please check with the AMG Technical Services team before ordering to ensure compatibility with your chosen SFP capable switch or media converter.

### / FEATURES

- Compatible with most 100BASE-X SFP Ports <sup>1</sup>
- Supports Ethernet speeds of up to 100Mbps
- Hot pluggable design allows for easy field replacement or upgrades
- Digital Diagnostic Monitoring (DDM) included on all optical models
- Distances up to 100m (Copper), 2Km (Multimode Fiber) or 40Km (Singlemode Fiber)
- INF-8074 and SFF-8472 compliant
- Low EMI metal housing with excellent ESD protection
- Programmed and tested in the UK
- Industry standard Small Form-Factor Pluggable (MSA compliant)
- AMG Lifetime Support Warranty

# Specifications.

## Standards.

IEEE802.3i	10Base-T
IEEE802.3u	100Base-TX & 100Base-FX
SFF-8472	Diagnostic Monitoring Interface
INF-8074	SFP Transceiver
MSA	Multi-Source Agreement

## Interface.

SFP Slot	100BASE-X SFP
Fiber Port	Multimode or Singlemode
	Single or Dual LC Connector
RJ45 Port	10/100BASE-T(X) RJ45* with Auto MDI/MDI-X

## Power.

Power Inputs	From SFP Port
Operating Voltage	3.3V <sub>DC</sub>
Power Consumption	1W Max (Fiber Models) 1.2W Max^ (Copper Models)

## Packaging.

### Single Unit Packaging

Shipping Weight	0.04kg / 0.09lb
Dimensions:	(W x D x H) 58 x 106 x 25 mm 2.28 x 4.17 x 0.98 in

### Ten Unit Packaging

Shipping Weight	0.26kg / 0.57lb
Dimensions:	(W x D x H) 192 x 152 x 20 mm 7.56 x 5.98 x 0.79 in

## Mechanical.

Housing	Aluminium
Dimensions:	(W x D x H) 57 x 14 x 12 mm 2.24 x 0.55 x 0.47 in
Fiber Models	69 x 14 x 14 mm 2.71 x 0.55 x 0.55 in
Copper Models	IP40
IP Rating	SFP Slot
Installation	0.02kg / 0.04lb
Weight	

## Environmental.

Operating Temp:	(Celsius / Fahrenheit)
SFP Case	-40 to +85°C / -40 to +185°F
Storage Temp.	-40 to +85°C / -40 to +185°F
Humidity	5% to 90% (non-condensing)
MTBF	>250,000 hours
MTBF Standard	Telcordia SR-332 GF 30°C
Heat Dissipation	3.4 BTU/h (Fiber Models) 4.1 BTU/h (Copper Models)
Cooling	Passive Cooling
Noise Level	0 dBA

## Regulatory.

EMI	EN 55022 Class B CISPR 22 VCCI Class B FCC Part 15B Class B
EMS	MIL-STD-883 (Method 3015) EN 61000-4-2 (ESD) EN 61000-4-3 (RS)
Laser Safety	FDA 21CFR 1040.10 FDA 21CFR 1040.11 EN/IEC 60825-1 EN/IEC 60825-2
Environmental	Reach RoHS WEEE
Traffic	NEMA TS2
Supply Chain	NDAA & TAA Compliant

# Part Numbers.

## Multimode - Dual Fiber

Part Number	Description	Distance	Tx Wavelength	Tx Power (dBm)	Rx Sensitivity (dBm)
SFP-MM-100M-FX2-31	SFP Multimode, 100Mb, 2 Fibers, 2Km, LC Connectors, 1310nm Tx/Rx, DDM	2Km	1310nm	-14 ~ -20 dBm	<-34dBm

## Multimode - Single Fiber

Part Number	Description	Distance	Tx Wavelength	Tx Power (dBm)	Rx Sensitivity (dBm)
SFP-MM-100M-BX2-31	SFP Multimode, 100Mb, 1 Fiber, 2Km, LC Connector, 1310nm Tx / 1550nm Rx, DDM (Mates With SFP-MM-100M-BX2-55)	2Km	1310nm	-14 ~ -20 dBm	<-32dBm
SFP-MM-100M-BX2-55	SFP Multimode, 100Mb, 1 Fiber, 2Km, LC Connector, 1550nm Tx / 1310nm Rx, DDM (Mates With SFP-MM-100M-BX2-31)	2Km	1550nm	-14 ~ -20 dBm	<-32dBm

## Singlemode - Dual Fiber

Part Number	Description	Distance	Tx Wavelength	Tx Power (dBm)	Rx Sensitivity (dBm)
SFP-SM-100M-LX20-31	SFP Singlemode, 100Mb, 2 Fibers, 20Km, LC Connectors, 1310nm Tx/Rx, DDM	20Km	1310nm	-8 ~ -15 dBm	<-34dBm
SFP-SM-100M-EX40-31	SFP Singlemode, 100Mb, 2 Fibers, 40Km, LC Connectors, 1310nm Tx/Rx, DDM	40Km	1310nm	0 ~ -8 dBm	<-34dBm

## Singlemode - Single Fiber

Part Number	Description	Distance	Tx Wavelength	Tx Power (dBm)	Rx Sensitivity (dBm)
SFP-SM-100M-BX20-31	SFP Singlemode, 100Mb, 1 Fiber, 20Km, LC Connector, 1310nm Tx / 1550nm Rx, DDM (Mates With SFP-SM-100M-BX20-55)	20Km	1310nm	-8 ~ -15 dBm	<-32dBm
SFP-SM-100M-BX20-55	SFP Singlemode, 100Mb, 1 Fiber, 20Km, LC Connector, 1550nm Tx / 1310nm Rx, DDM (Mates With SFP-SM-100M-BX20-31)	20Km	1550nm	-8 ~ -15 dBm	<-32dBm

## Copper - RJ45

Part Number	Description	Distance	Tx Wavelength	Tx Power (dBm)	Rx Sensitivity (dBm)
SFP-CU-100M	SFP Copper, 10/100BASE-T RJ45 Port*, 100BASE-X SFP Interface, 100m	100m	N/A	N/A	N/A

\* Note - 10/100Base-T(X) operation requires the host system to have an SGMII interface. With a SERDES interface that does not support SGMII, the module will operate at fixed 100Base-TX only.

^ Note - The power consumption and surge current of the copper module is higher than the specified values in the SFP MSA.

Note - Light source aging is already considered in the Tx Power and Rx Sensitivity values mentioned above. A separate consideration is not required in the optical link budget calculation.

*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.*