







# 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 fibre or copper (Cat5 or higher) cables depending on the model selected.



|  |   |  |   |  |   |  |
|--|---|--|---|--|---|--|
| <br>Fibre<br>Multimode | <br>Fibre<br>Singlemode | <br>10/100<br>Copper | <br>100 FX<br>Compliant | <br>DDM<br>Diagnostics | <br>Temp<br>-40~+85°C | <br>NDA/TAA<br>Compliant |
|--|---|--|---|--|---|--|

[ 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 fibre.

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 fibre 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 fibre 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 Fibre) or 40Km (Singlemode Fibre)
- 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  |
| Fibre Port | Multimode or Singlemode<br>Single or Dual LC Connector |
| RJ45 Port  | 10/100BASE-T(X) RJ45*<br>with Auto MDI/MDI-X           |

## Power.

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

## Packaging.

### Single Unit Packaging

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

### Ten Unit Packaging

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

## Mechanical.

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

## 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 (Fibre Models)<br>4.1 BTU/h (Copper Models) |
| Cooling          | Passive Cooling                                       |
| Noise Level      | 0 dBA   |

## Regulatory.

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

Designed to meet NEMA TS2

# Part Numbers.

## Multimode - Dual Fibre

| Part Number        | Description   | Distance | Tx Wavelength | Optical Loss (max) |
|--------------------|---|----------|---------------|--------------------|
| SFP-MM-100M-FX2-31 | SFP Multimode, 100Mb, 2 Fibres, 2Km, LC Connectors, 1310nm Tx/Rx, DDM | 2Km      | 1310nm        | 15dB               |

## Multimode - Single Fibre

| Part Number        | Description  | Distance | Tx Wavelength | Optical Loss (max) |
|--------------------|--|----------|---------------|--------------------|
| SFP-MM-100M-BX2-31 | SFP Multimode, 100Mb, 1 Fibre, 2Km, LC Connector, 1310nm Tx / 1550nm Rx, DDM (Mates With SFP-MM-100M-BX2-55) | 2Km      | 1310nm        | 15dB               |
| SFP-MM-100M-BX2-55 | SFP Multimode, 100Mb, 1 Fibre, 2Km, LC Connector, 1550nm Tx / 1310nm Rx, DDM (Mates With SFP-MM-100M-BX2-31) | 2Km      | 1550nm        | 15dB               |

## Singlemode - Dual Fibre

| Part Number         | Description   | Distance | Tx Wavelength | Optical Loss (max) |
|---------------------|---|----------|---------------|--------------------|
| SFP-SM-100M-LX20-31 | SFP Singlemode, 100Mb, 2 Fibres, 20Km, LC Connectors, 1310nm Tx/Rx, DDM | 20Km     | 1310nm        | 15dB               |
| SFP-SM-100M-EX40-31 | SFP Singlemode, 100Mb, 2 Fibres, 40Km, LC Connectors, 1310nm Tx/Rx, DDM | 40Km     | 1310nm        | 29dB               |

## Singlemode - Single Fibre

| Part Number         | Description   | Distance | Tx Wavelength | Optical Loss (max) |
|---------------------|---|----------|---------------|--------------------|
| SFP-SM-100M-BX20-31 | SFP Singlemode, 100Mb, 1 Fibre, 20Km, LC Connector, 1310nm Tx / 1550nm Rx, DDM (Mates With SFP-SM-100M-BX20-55) | 20Km     | 1310nm        | 19dB               |
| SFP-SM-100M-BX20-55 | SFP Singlemode, 100Mb, 1 Fibre, 20Km, LC Connector, 1550nm Tx / 1310nm Rx, DDM (Mates With SFP-SM-100M-BX20-31) | 20Km     | 1550nm        | 19dB               |

## Copper - RJ45

| Part Number | Description  | Distance | Tx Wavelength | Optical Loss (max) |
|-------------|--|----------|---------------|--------------------|
| SFP-CU-100M | SFP Copper, 10/100BASE-T RJ45 Port*, 100BASE-X SFP Interface, 100m | 100m     | 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.

*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.*