

# Small Form Pluggable Modules

Copper SFP (10/100/1000 and 1000 Mbps)

Fiber SFP, SFP+ & XFP (155 Mbps, 1.25 Gbps, 2.4 Gbps, 10 Gbps)

**B+B SMARTWORX**

Powered by

**ADVANTECH**

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Copper

Fiber LC

## FEATURES & BENEFITS

- Future-proof network equipment
- Available in SM, MM fiber types
- Maximize network hardware
- Troubleshooting diagnostics
- Plug-and-play operation

SFPs, SFP+s and XFPs are compact transceivers that function as modular connectors. Available for copper (RJ-45) and all common fiber modes, wavelengths and data rates, these modules allow network operators to connect different interface types to the same network equipment via an SFP, SFP+, XFP port. The cost of cable upgrades is greatly reduced, preserving the networking equipment investment – all for the price of a relatively inexpensive module.

More and more network equipment is being designed with SFP/SFP+/XFP ports to take advantage of the inherent flexibility and to eliminate the guesswork and uncertainty of expensive equipment purchases. Remember to select an SFP, SFP+ or XFP to match the speed of your designated port. All modules from Advantech B+B SmartWorx carry a limited lifetime warranty.

### Standard Diagnostics

- SFP/XFP Type
- Fiber Link Length
- Wavelength
- Bit Rate
- Date Code

### DDMI/Extended Diagnostics

- Temperature
- Voltage
- Bias Current
- TX Power
- RX Power

## COPPER SFP MODULES

### Applications

- Gigabit Ethernet over CAT 5e or greater cable
- Switch/Router to Switch/Router Link

### Features

- Up to 1.25 Gbps bi-directional data links
- Hot-pluggable SFP footprint
- Temperature range (0 to +85 °C)
- Fully metallic enclosure for low EMI
- Low power dissipation
- Compact RJ-45 connector assembly
- Detailed product information in EEPROM
- 10/100/1000 BASE-T operation in host systems with SGMII interface

### Standards Compliant

- SFP MSA Compliant
- IEEE Std 802.3TM-2002
- FCC 47 CFR Part 15, Class B
- RoHS compliant

### Voltage/Temperature

- Input Voltage: 3.3V
- Operating Temperature: 0 to +85 °C
- Storage Temperature: -40 to +100 °C

### Two Versions Available

- 10/100/1000 Mbps, SGMII interface
- 1000 Mbps only, SERDES interface

## FIBER SFP, SFP+ & XFP MODULES

### Robust Industrial Performance

- Extended operating temperature range
- Hot swappable

### Feature Friendly

- Available in a wide range of fiber types, wavelengths and transmission rates to meet almost any networking need
- Includes single-strand fiber versions

### Extended Diagnostics

- Powerful troubleshooting Digital Diagnostics Monitoring Interface (DDMI)

### Standard Compliances

- MSA compliant: available in dual- or single-strand, SC or LC connector
- Eye Safety meets Laser Class 1 compliance with IEC 60825-1
- Complies with Telecordia GR-468-CORE
- RoHS compliant

### Voltage/Temperature

- Input Voltage: 3.3V
- Operating Temperature: -40 to +85 °C
- Operating Temperature, 10 Gbps IE-SFP+: -10 to +70 °C
- Operating Temperature, CWDM & 10 Gbps IE-XFP: 0 to +70 °C
- Storage Temperature: -40 to +85 °C

### Data Rates

#### 155 Mbps

- ITU-T G.957, G.958 and IEEE 802.3u
- Applications: Fast Ethernet, OC-3/STM-1 and other optical links 1.25 Gbps
- Compliant with specifications for IEEE 802.3z
- Applications: Gigabit Ethernet and other optical links

#### 2.4 Gbps

- Applications: Gigabit Ethernet, OC-48 and other optical links

#### 10 Gbps

- Applications: Ten Gigabit Ethernet, OC-192 and other optical links

All product specifications are subject to change without notice.

IE SFP-XFP Modules\_3917ds

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## COPPER SFP ORDERING INFORMATION

PART NUMBER	PORT DESCRIPTION	CONNECTOR	DISTANCE
808-39001	10 - 1250, TX	RJ45	100 m
808-39010	1250, TX	RJ45	100 m

## FIBER SFP ORDERING INFORMATION

Note: For each fiber product listed in the ordering tables below, DISTANCE represents an approximate fiber distance based on industry-standard fiber attenuation specifications. Actual distances will vary for each installation. For complete power budgets and additional information on calculating specific distances, contact B+B SmartWorx Technical Support at (815) 433-5100 (USA).

### IE-SFP Modules: 100 to 155 Mbps (OC-3)<sup>2</sup>

PART NUMBER	PORT DESCRIPTION	FIBER	DISTANCE	POWER BUDGET
				(db)
<i>W/ DDMI</i>				
808-38101	MM850	LC	2 km	14.5
808-38102	MM1300	LC	2 km	11
808-38103	SM1310	LC	20 km	21
808-38104	SM1310/PLUS	LC	40 km	31
808-38105	SM1550/LONG	LC	80 km	31
<i>Single-Strand Fiber</i>				
808-38121	SSFX-SM1310/1550	SC	20 km	20
808-38122	SSFX-SM1550/1310	SC	20 km	20
808-38123	SSFX-SM1310/1550/PLUS	SC	40 km	29
808-38124	SSFX-SM1550/1310/PLUS	SC	40 km	29
808-38125	SSFX-SM1310/1550/PLUS	SC	40 km	29
808-38126	SSFX-SM1310/1550/LONG	SC	40 km	29
808-38521	SSFX-SM1310/1550	LC	20 km	20
808-38522	SSFX-SM1550/1310	LC	20 km	20
808-38529	SSFX-SM1310/1550/LONG	LC	60 km	29
808-38530	SSFX-SM1550/1310/LONG	LC	60 km	29

### IE-SFP Modules: 2.4 Gbps Gigabit Ethernet (OC-48)<sup>2</sup>

PART NUMBER	PORT DESCRIPTION	FIBER	DISTANCE	POWER BUDGET
				(db)
<i>W/ DDMI</i>				
808-38301	MM850	LC	300 m	7.5
808-38302	SM1310	LC	2 km	8.5

### IE-SFP+ Modules: 10 Gbps Ethernet (OC-192) with DDMI<sup>1,2</sup>

PART NUMBER	PORT DESCRIPTION	FIBER	DISTANCE	POWER BUDGET(db)
808-38600	IE-SFP+SR/10G-ED, MM850	LC	33 m	2.8
808-38601	IE-SFP+LR/10G-ED, SM1310	LC	10 km	8.4

### IE-XFP Modules: 10 Gbps Ethernet (OC-192) with DDMI<sup>1</sup>

PART NUMBER	PORT DESCRIPTION	FIBER	DISTANCE	POWER BUDGET(db)
808-38610	IE-XFP SR/10G-ED, MM850	LC	33 m	2.8
808-38611	IE-XFP LR/10G-ED, SM1310	LC	10 km	8.4
808-38612	IE-XFP ER/10G-ED, SM1550	LC	40 km	15
808-38613	IE-XFP ZR/10G-ED, SM1550/PLUS	LC	80 km	23

### IE-SFP Modules: 1.25 Gbps Gigabit Ethernet (OC-24)<sup>2</sup>

PART NUMBER	PORT DESCRIPTION	FIBER	DISTANCE	POWER BUDGET
				(db)
<i>W/ DDMI</i>				
808-38201	MM850	LC	220/550 m	7.5
808-38206	MM1300	LC	2 km	10
808-38200	SM1310	LC	20 km	14
808-38203	SM1310/PLUS	LC	30 km	17
808-38204	SM1550/LONG	LC	40 km	18
808-38205	SM1550/XLONG	LC	70 km	21
<i>Single-Strand Fiber</i>				
808-38227	SSBX-SM1310/1490	SC	10 km	12.5
808-38228	SSBX-SM1490/1310	SC	10 km	12.5
808-38221	SSLX-SM1310/1550	SC	20 km	15
808-38222	SSLX-SM1550/1310	SC	20 km	15
808-38223	SSLX-SM1310/1550/PLUS	SC	40 km	20
808-38224	SSLX-SM1550/1310/PLUS	SC	40 km	20
<i>Single-Strand Fiber - LC</i>				
808-38721	SSLX-SM1310/1550	LC	20 km	15
808-38722	SSLX-SM1550/1310	LC	20 km	15
808-38723	SSLX-SM1310/PLUS	LC	40 km	20
808-38724	SSLX-SM1550/PLUS	LC	40 km	20
808-38725	SSLX-SM1490/LONG	LC	70 km	21
808-38726	SSLX-SM1550/LONG	LC	70 km	21

### IE-SFP Modules: CWDM (155 Mbps/1.25 Gbps) with DDMI

PART NUMBER	DESCRIPTION	FIBER	DISTANCE	POWER BUDGET (db)		
155 Mbps		1.25 Gbps		155 Mbps		
				1.25 Gbps		
				155 Mbps		
				1.25 Gbps		
808-38149	808-38249 CWDM-SM1430	LC	80 km	70 km	29	22
808-38150	808-38250 CWDM-SM1450	LC	80 km	70 km	29	22
808-38151	808-38251 CWDM-SM1470	LC	80 km	70 km	29	22
808-38152	808-38252 CWDM-SM1490	LC	80 km	70 km	29	22
808-38153	808-38253 CWDM-SM1510	LC	80 km	70 km	29	22
808-38154	808-38254 CWDM-SM1530	LC	80 km	70 km	29	22
808-38155	808-38255 CWDM-SM1550	LC	80 km	70 km	29	22
808-38156	808-38256 CWDM-SM1570	LC	80 km	70 km	29	22
808-38157	808-38257 CWDM-SM1590	LC	80 km	70 km	29	22
808-38158	808-38258 CWDM-SM1610	LC	80 km	70 km	29	22

<sup>1</sup> 10 Gbps XFP (OC-192) and 10 Gbps SFP+ (OC-192) form factors have varying dimensions and are not typically interchangeable; this will depend on the device type.

<sup>2</sup> 10 Gbps SFP+ (OC-192) and Fiber SFPs (OC-3, OC-24 and OC-48) form factors have virtually identical dimensions and are not typically interchangeable; this will depend on the device type.