

# Unmanaged Industrial Ethernet Switches

## 5 & 8 port switches

Models SEG205, SEG205-T, SEG205-SFP-T, SEG208, SEG208-T

B+B SMARTWORX

Powered by

ADVANTECH

e\WORX



Gigabit



### Features & Benefits

- IP30 rated metal enclosure
- Slim design with DIN rail and wall mounting (included)
- 10/100/1000 Mbps auto-negotiation
- Full/half duplex flow control to ensure compatibility with legacy devices
- MDI/MDI-X auto crossover
- Broadcast storm protection
- Store and Forward switching
- Redundant power inputs 12 - 48 VDC (10.8 - 52.8 VDC) with power fail relay
- Wide operating temperature support -40 ~ 75°C (-T models)

### Copper Models

- 5 or 8 Gigabit Ethernet ports with Auto MDI/MDI-X

### Fiber Models

- (4) 10/100/1000 Mbps RJ45 with (1) 10/100/1000 SFP (SEG205-SFP-T)

With no setup required, Advantech B+B SmartWorx Unmanaged Gigabit Ethernet Switches are cost-effective, best-in-class, UL Certified plug-and-play devices. These switches are designed for use in demanding industrial environments, offering unmatched performance, reliability, and value. Robust IP30 rated metal enclosure is designed to meet challenging industrial applications to provide efficient heat dissipation.

Models are available in standard 10/100/1000Mbps speed for twisted pair ports and 1000Mbps for fiber optic connections (SEG205-SFP-T) while supporting full data transmission. The SEG205 and SEG208 series switches offer store and forward technology, as well as MDI/MDIX auto sensing to ensure connectivity on the copper ports. Status LEDs indicate active link, speed and collision status.

Power is a 12-48 VDC redundant input design and is secured with a double protection mechanism: Polarity Reverse and Overload Protection. Polarity Reverse prevents damage to the switch in the event of incorrect power wiring. Overload Protection is a resettable fuse that prevents power overloads causing damage to the switch - once normal power is resumed the switch will restart automatically. Power-fail LEDs will activate to notify administrators of a failed condition as well as a power fault relay, to provide easy troubleshooting.

### Specifications

#### COMMUNICATIONS

Standards	IEEE 802.3, IEEE 802.3ab, 802.3u, 802.3x
LAN	100Base-TX, 10/1000Base-T. Optional 100Base-FX, 1000Base-SX/LX/LHX
Transmission Distance	Ethernet: 100m (4-wire Cat.5e, Cat.6 RJ-45 cable suggested for Gigabit port) Single-mode Fiber: 110km (depends on SFP)
Transmission Speed	up to 1000 Mbps

#### SWITCH PROPERTIES

MAC Table Size	2k
Packet Buffer Size	448 Kbits
Switching Technique	Store and Forward

#### INTERFACE

Connectors	5 x RJ45 (SEG205, SEG205-T, SEG205-SFP-T) 8 x RJ45 (SEG208, SEG208-T) 4 x RJ45 ports, 1 x LC type fiber connector (SEG205-SFP-T) 6-pin removable screw terminal - power & relay (all models)
Ethernet	Auto Sensing, 10/100BaseTX, Duplex and MDIX.
LED Indicators	P1, P2, P-Fail 10/100T (X): Link/Activity, Duplex/Collision

#### POWER

Power Consumption	SEG205, SEG205-T : 2.5W SEG205-SFP-T : 2.5W SEG208, SEG208-T : 5.8W
Power Input	12-48 VDC (10.8 - 52.8 VDC) redundant dual inputs
Fault Output	1 Relay Output
Reverse Polarity Protection	Present
Overload Current	Present

#### PHYSICAL

Dimensions (WxHxD)	SEG205, SEG205-T: 30 x 120 x 95 mm (1.18 x 4.72 x 3.74 in) SEG208, SEG208-T: 30 x 140 x 95 mm (1.18 x 5.51 x 3.74 in) SEG205-SFP-T: 30 x 120 x 95 mm (1.18 x 4.72 x 3.74 in)
Enclosure	IP30, metal shell with solid mounting kits
Mounting	DIN-Rail, Wall Mount
Weight	Net 1.83 lb (0.83 kg)

#### ENVIRONMENT

Operating Temperature	SEG205, SEG208: -10 ~ +60°C (-14 ~ +140°F) SEG205-T, SEG205-SFP-T, SEG208-T: -40 ~ +75°C (-40 ~ +167°F)
Storage Temperature	-40 ~ +85°C (-40 ~ +185°F)
Operating Humidity	10 ~ 95% (non-condensing)
Storage Humidity	10 ~ 95% (non-condensing)

MTBF	SEG205, SEG205-T: 412,590 hours SEG208, SEG208-T: 388,566 hours SEG205-SFP-T: 674,572 hours
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#### CERTIFICATIONS

Safety	UL/cUL 60950-1, CAN/CSA-C22.2 No.60950
EMI	USA:FCC Part 15 CISPR 22
EMS	EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6

# Unmanaged Industrial Ethernet Switches

## 5 & 8 port switches

Models SEG205, SEG205-T, SEG205-SFP-T, SEG208, SEG208-T

### Product Ordering Information

MODEL	DESCRIPTION	OPERATING TEMPERATURE	RJ45	FIBER	
			10/100/1000 MBPS	100/1000BASE-SFP	CONNECTOR
SEG205	5-port 10/100/1000 Unmanaged Ethernet Switch	-10 ~ 60°C	5	-	-
SEG205-T	5-port 10/100/1000 Unmanaged Ethernet Switch, Wide Temperature	-40 ~ 75°C	5	-	-
SEG208	8-port 10/100/1000 Unmanaged Ethernet Switch	-10 ~ 60°C	8	-	-
SEG208-T	8-port 10/100/1000 Unmanaged Ethernet Switch, Wide Temperature	-40 ~ 75°C	8	-	-
SEG205-SFP-T	5-port Unmanaged Ethernet Switch, w/ 1-port SFP Fiber	-40 ~ 75°C	4	1	LC (SFP)

### Accessories - optional

MODEL	DESCRIPTION
MDR-10-12	DIN Rail Power Supply, 12VDC, 10 Watt
C5UMB3FBG	3 ft. (1 M), Gray, Category 5e UTP Patch Cord
C5UMB7FBG	7 ft. (2 M), Gray, Category 5e UTP Patch Cord

### Package Checklist

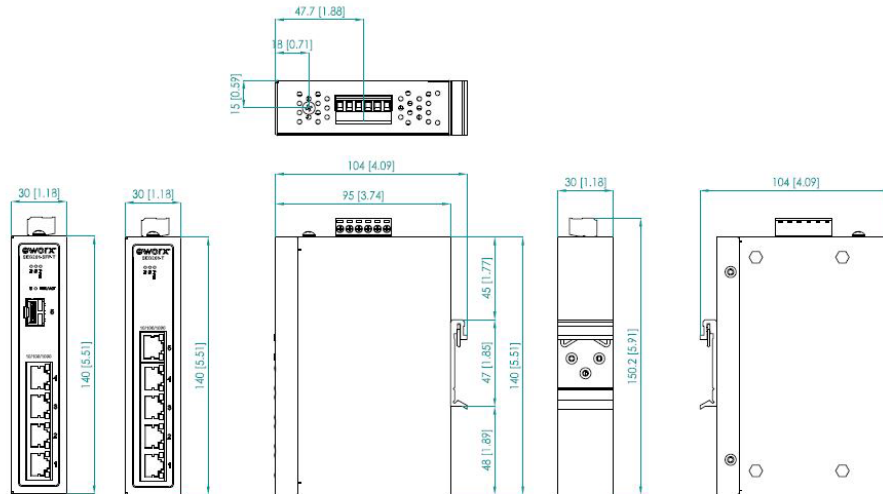
Ethernet Switch, Quick Start Guide, DIN-Rail mount bracket (installed), Wall mount bracket.

### Warranty

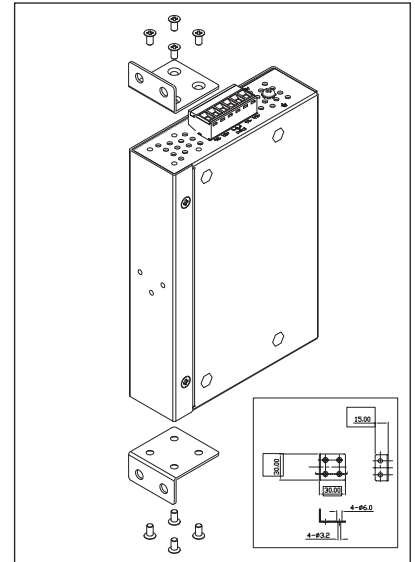
Limited lifetime warranty for Advantech B+B designed and/or manufactured products.

### Mechanical Diagram - SEG205x & SEG205x Fiber

Units = mm

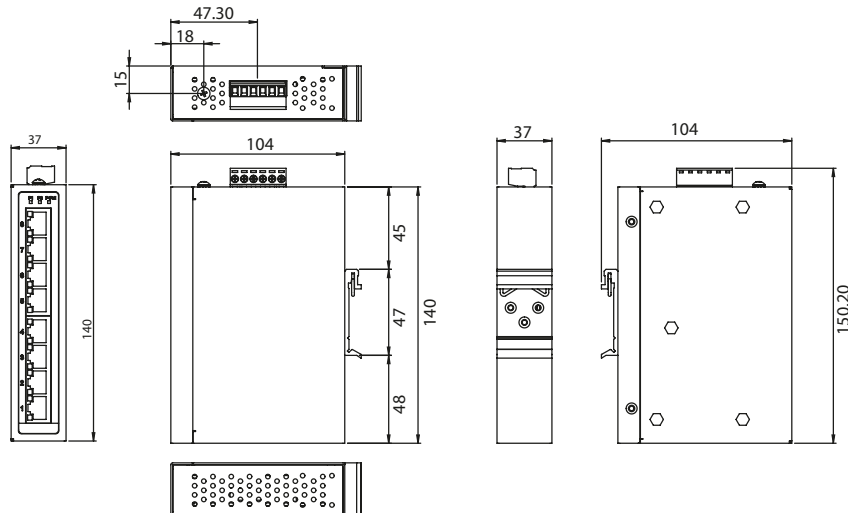


### Wall Mount Kit Option Detail



### Mechanical Diagram - SEG208x

Units = mm



# Small Form Pluggable (SFP) Modules

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

Fiber SFP (155 Mbps, 1.25 Gbps)

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



SFPs 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 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 ports to take advantage of the inherent flexibility and to eliminate the guesswork and uncertainty of expensive equipment purchases. Remember to select an SFP to match the speed of your designated port. All modules from B+B SmartWorx carry a limited lifetime warranty.

## Standard Diagnostics

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

## DDMI/Extended Diagnostics

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

## Fiber SFP 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

### 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, CWDM: 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

## Copper SFP Models

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

## IE-SFP Modules: 100 to 155 Mbps, DDMI (OC-3)

MODEL NUMBER	PORT DESCRIPTION	FIBER	DISTANCE	POWER BUDGET
<i>W/ DDMI</i>				<i>(db)</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

## IE-SFP Modules: 1.25 Gbps GB Ethernet, DDMI (OC-24)

MODEL NUMBER	PORT DESCRIPTION	FIBER	DISTANCE	POWER BUDGET
<i>W/ DDMI</i>				<i>(db)</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
808-38208	SM1550/XXLONG	LC	120 km	30

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

MODEL NUMBER	DESCRIPTION	FIBER	DISTANCE	POWER BUDGET (db)	
<i>155 Mbps</i>		<i>1.25 Gbps</i>		<i>155 Mbps</i>	<i>1.25 Gbps</i>
808-38141	808-38241 CWDM-SM1270	LC	80 km	40 km	29 22
808-38142	808-38242 CWDM-SM1290	LC	80 km	40 km	29 22
808-38143	808-38243 CWDM-SM1310	LC	80 km	40 km	29 22
808-38144	808-38244 CWDM-SM1330	LC	80 km	40 km	29 22
808-38145	808-38245 CWDM-SM1350	LC	80 km	40 km	29 22
808-38146	808-38246 CWDM-SM1370	LC	80 km	40 km	29 22
808-38147	808-38247 CWDM-SM1390	LC	80 km	40 km	29 22
808-38148	808-38248 CWDM-SM1410	LC	80 km	40 km	29 22
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

### NOTES: Fiber SFP Form Factors & Distances

Fiber SFP (OC-3, OC-24) form factors have virtually identical dimensions and are not typically interchangeable; this will depend on the device type.

For each fiber product listed in the tables, 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 specialists at (813) 433-5100 (USA).