

# ESWP205-1SFP-T

Unmanaged Five Port Ethernet Switch

User Manual





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## RADIO FREQUENCY INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class A computing device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which the user will be required to correct the interference at his own expense.

Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

The use of non-shielded I/O cables may not guarantee compliance with FCC RFI limits. This digital apparatus does not exceed the Class A limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de classe A prescrites dans le Règlement sur le brouillage radioélectrique publié par le ministère des Communications du Canada.

## WARRANTY

Effective for products of B+B SmartWorx shipped on or after May 1, 2013, B+B SmartWorx warrants that each such product shall be free from defects in material and workmanship for its lifetime. This limited lifetime warranty is applicable solely to the original user and is not transferable. This warranty is expressly conditioned upon proper storage, installation, connection, operation and maintenance of products in accordance with their written specifications.

Pursuant to the warranty, within the warranty period, B+B SmartWorx, at its option will:

1. Replace the product with a functional equivalent;
2. Repair the product;
3. Provide a partial refund of purchase price based on a depreciated value.

Products of other manufacturers sold by B+B SmartWorx are not subject to any warranty or indemnity offered by B+B SmartWorx, but may be subject to the warranties of the other manufacturers. Power supplies are limited to a six year warranty.

Notwithstanding the foregoing, under no circumstances shall B+B SmartWorx have any warranty obligations or any other liability for: (i) any defects resulting from wear and tear, accident, improper use by the buyer or use by any third party except in accordance with the written instructions or advice of the B+B SmartWorx or the manufacturer of the products, including without limitation surge and over voltage conditions that exceed specified ratings, (ii) any products which have been adjusted, modified or repaired by any party other than B+B SmartWorx or (iii) any descriptions, illustrations, figures as to performance, drawings and particulars of weights and dimensions contained in the B+B SmartWorx catalogs, price lists, marketing materials or elsewhere since they are merely intended to represent a general idea of the products and do not form part of this price quote and do not constitute a warranty of any kind, whether express or implied, as to any of the B+B SmartWorx products.

THE REPAIR OR REPLACEMENT OF THE DEFECTIVE ITEMS IN ACCORDANCE WITH THE EXPRESS WARRANTY SET FORTH ABOVE IS B+B SMARTWORX SOLE OBLIGATION UNDER THIS WARRANTY. THE WARRANTY CONTAINED IN THIS SECTION SHALL EXTEND TO THE ORIGINAL USER ONLY, IS IN LIEU OF ANY AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, AND ALL SUCH WARRANTIES AND INDEMNITIES ARE EXPRESSLY DISCLAIMED, INCLUDING WITHOUT LIMITATION (I) THE IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND OF MERCHANTABILITY AND (II) ANY WARRANTY THAT THE PRODUCTS ARE DO NOT INFRINGE OR VIOLATE THE INTELLECTUAL PROPERTY RIGHTS OF ANY THIRD PARTY. IN NO EVENT SHALL B+B SMARTWORX BE LIABLE FOR LOSS OF BUSINESS, LOSS OF USE OR OF DATA INTERRUPTION OF BUSINESS, LOST PROFITS OR GOODWILL OR OTHER SPECIAL, INCIDENTAL, EXEMPLARY OR CONSEQUENTIAL DAMAGES B+B SMARTWORX SHALL DISREGARD AND NOT BE BOUND BY ANY REPRESENTATIONS, WARRANTIES OR INDEMNITIES MADE BY ANY OTHER PERSON, INCLUDING WITHOUT LIMITATION EMPLOYEES, DISTRIBUTORS, RESELLERS OR DEALERS OF B+B SMARTWORX WHICH ARE INCONSISTENT WITH THE WARRANTY, SET FORTH ABOVE.

## CONTENTS OF PACKAGE

The package includes:

- B+B Ethernet switch with attached din rail clip
- Printed Quick Start Guide
- 4-panel mounting clips with screws

You may download the user manual at any time from the B+B SmartWorx web site:

[www.imcnetworks.com](http://www.imcnetworks.com)

## PRODUCT DESCRIPTION

The ESWP205-1SFP-T is a plug-and-play, POE+, unmanaged, industrial Ethernet Switches with IP30 protection. It provides four 10/100Mbps copper ports and one fiber SFP with 100Mbps speed. The fiber SFP port can accommodate both Single-mode and Multi-mode fiber. This switch supports IEEE 802.3 for 10Base-T, IEEE 802.3u for 100BaseTX and 100BaseFX. It is both DIN Rail mountable and panel mountable.

The ESWP205-1SFP-T supports IEEE802.3x for flow control, full and half duplex, and provides Auto Cross for the copper ports. Each 10/100 port supports auto negotiation and is 802.af/at compliant for POE/ POE+. The maximum MTU is 1536 packets.

The ESWP205-1SFP-T accepts 24-52VDC input voltage with dual power input using terminal blocks. The acceptable operating temperature range is -40°C to 85°C (Wide Temperature Type) with an ambient relative humidity rating of 5 to 95% (Non- condensing).

## FEATURES

- 10Base-T, 100BaseTX, 100BaseFX
- Unmanaged, Plug and Play
- Full and Half Duplex
- Auto Cross feature for the RJ-45 copper port
- Four 10/100 copper POE+ ports
- One SFP port, available for copper and fiber SFPs
- Each POE+ port supports a maximum of 30W power for PD device
- IP30 metal enclosure
- Din-rail mount, panel mount
- Redundant dual VDC power inputs
- Max Power Consumption 140W
- UL standard for safety of industrial control equipment (EN60950)
- Shock, vibration, and freefall
- MAC address capability: 1K
- Broadcast Storm Protection: disabled
- Operation Temperature:-40°C to 85°C



## HARDWARE

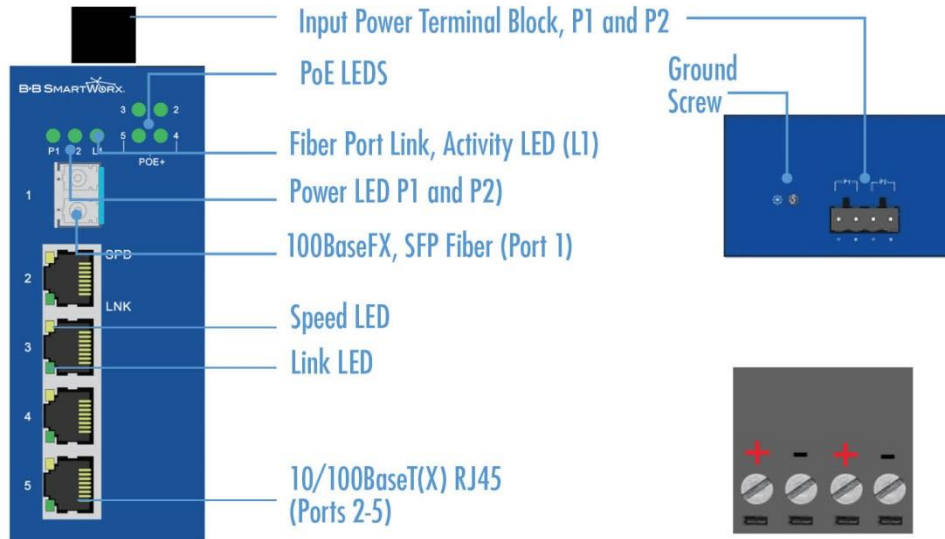


Figure 1. Product Description

## LED DESCRIPTION

LED	Status	Description
PWR (P1, P2)	Green On	Power Applied
	Green Off	No power
10/100 Copper SPD LED	Green On	100Mbps
	Green Off	10Mbps
10/100 Copper LNK LED	Green On	Link
	Green Flashing	Activity
	Green Off	Not connected to network
SFP LED (L1)	Green On	100Mbps
	Green Flashing	Activity
	Green Off	Not connected to network
PoE+	Green On	PWR Supplied
	Green Flashing	Port over load/short circuit or fail at startup
	Green Off	PWR Not Supplied

Table 1. LEDs

## DIN RAIL MOUNTING

The DIN Rail mounting clips are connected to the switch when shipped and ready to be mounted on a 35mm size DIN Rail.

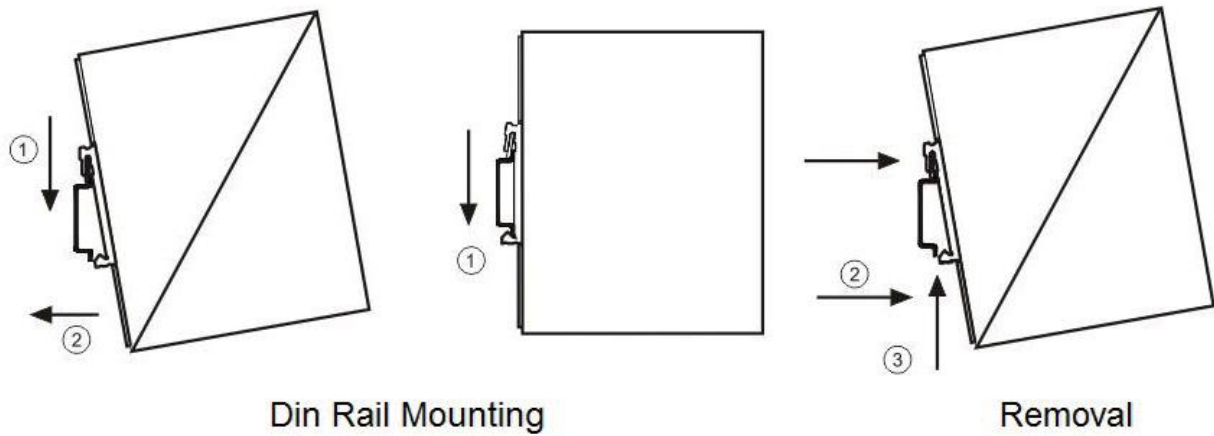


Figure 2. Din Rail Mounting

## PANEL MOUNTING



Figure 3. Panel Mounting

## RJ45 ETHERNET CONNECTION

All copper ports on the switch support the Auto Cross feature, which allows the end user to use a Straight-through or cross over cable.

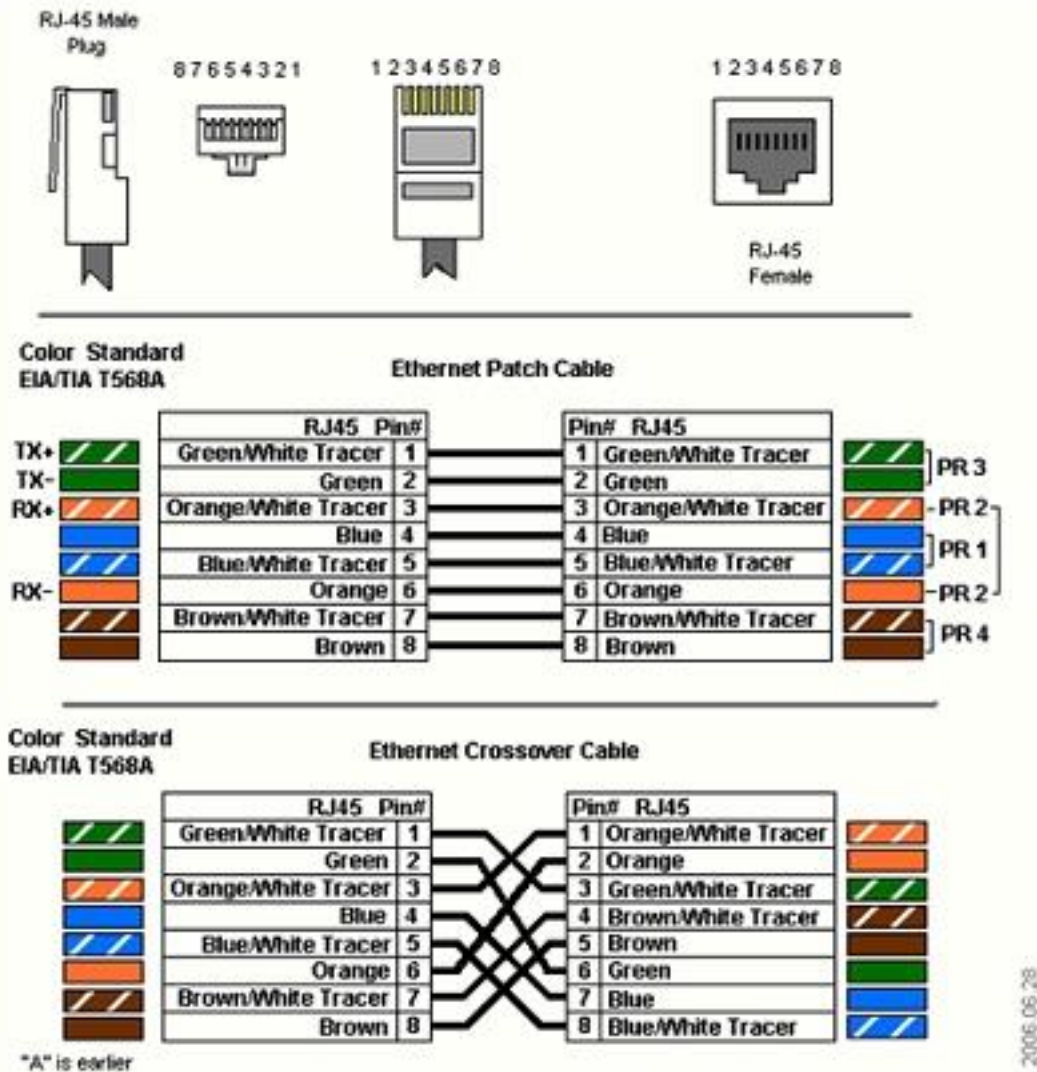


Figure 4. RJ-45 Connections

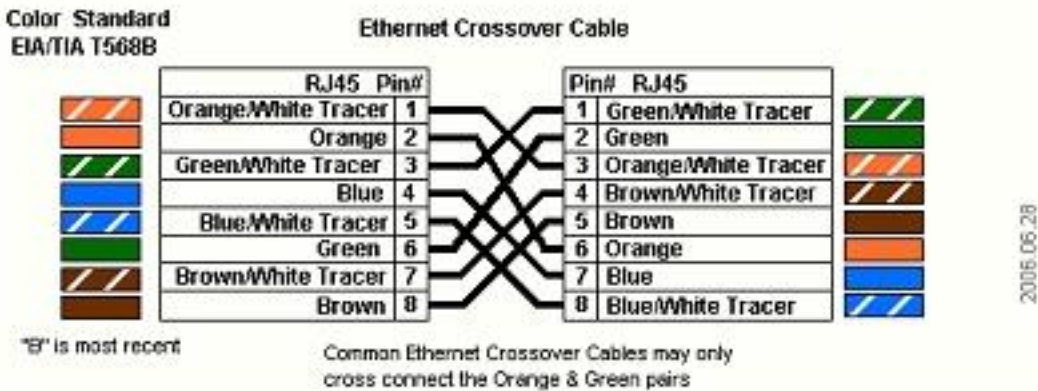
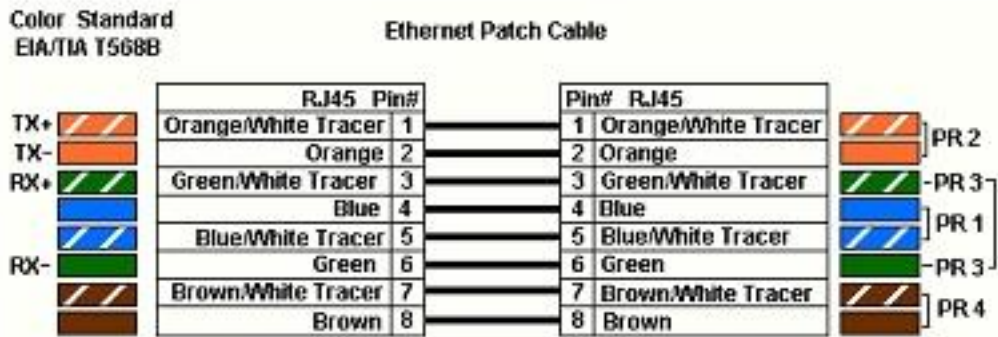


Figure 5. RJ-45 Connections 2

## PIN ASSIGNMENTS

PIN#	Signal Direction 10/100M	Description
1	Out*	PoE & PoE+ (ALT-B)
2	Out*	
3	IN*	
4		V+
5		V+
6	IN*	
7		V-
8		V-

Table 2. Pin Assignments

## SFP INSTALLATION AND CONNECTION

To connect the transceiver and fiber cable, follow the steps below. The SFP port is not proprietary. Any MSA-compliant 100Mbps fiber SFP can be installed in the port. (Note: SFP modules typically offered in an LC fiber connector)

First, insert the SFP transceiver into the SFP module cage. Notice that the triangle mark is at the bottom of the module.



Figure 6. Triangle Mark

Next, insert the fiber cable into the transceiver.



Figure 7. LC Connector to the Transceiver

Last, remove the SFP. Gently pull out of the cage manually.

## POWER INPUT CONNECTIONS

ESWP205-1SFP-T accepts 24V~52VDC input voltage using terminal blocks.



Figure 8. Power Input Connections

## SPECIFICATIONS

interface	
RJ-45 Ports	4 x 10/100/1000BaseT, Auto MDI/MDI-X
PoE Pinout	Alternative B
SFP	SFP form factor for MSA-compliant Fast Ethernet Fiber
LED Indicators	P1 (Power 1), P2 (Power 2), L1 LINK/ACT (SFP Port) LEDs RJ-45 Ports have 2 LEDs to indicate LINK/activity PoE+ 2 ~4 - Indicate PD status
Power	
Input Voltage	Dual 24 to 52 VDC Inputs
Power Connection	Removable Terminal Block
Wire Size	12 to 24 AWG
Power Budget	140 Watts
Environmental	
Operating Temperature	- 40 to 85°C (-40 to 185°F)
Storage Temperature	- 40 to 85°C (-40 to 185°F)
Operating Humidity	5 to 99%
Mechanical	
Enclosure	Slim IP30 Metal Enclosure
Mounting	DIN Rail or Panel Mount Attachments
Dimensions	11.0 x 7.6 x 4.5 cm (4.33 x 2.99 x 1.77 in)
Weight	452g
Network Specifications	
Transfer Rate	14,880 pps Ethernet Port 148,800 pps Fast Ethernet Port
Buffer	64 Kbits
MAC Table	1K
Jumbo Frame	Up to 1536 bytes
Other	Broadcast Storm Control: Disabled CSMA/CD

Table 3. Specifications

## CERTIFICATIONS

IEEE Standards	
Safety	IEC/UL/EN60950-1
EMI	CE, FCC Part 15, EN55022: Class A CE EN61000-6-4 (Industrial)
EMS	CE EN61000-4-2 (ESD) CE EN61000-4-3 (RS) CE EN61000-4-4 (EFT)

	CE EN61000-4-5 (Surge) CE EN61000-4-6 (CS) CE EN61000-4-8 CE EN61000-4-11 CE EN61000-6-2 (Industrial)	
Free Fall	IEC60068-2-32	
Shock	IEC60068-2-27	
Vibration	IEC60068-2-6	
RoHS, REACH, WEEE		
IEEE Standards		
IEEE 802.3	802.3. 10Base-T Ethernet	
IEEE 802.3u	100Base-TX and 100Base-FX Fast Ethernet	
IEEE 802.3af/at	Power-over-Ethernet	
IEEE 802.3x	Power ports	+/- 2kV
EMC (Level 3)	Flow Control and Back Pressure	
UL/CUL		
Listed to Safety of Information Technology Equipment, including Electrical Business Equipment. (Pending)		
CE		
The products described here in comply with the Council Directive on Electromagnetic Compatibility (2004/108/EC) and the Council Directive on Electrical Equipment Designed for use within Certain Voltage Limits (2006/95/EC). Will be certified for Information Technology Equipment including Electrical Business Equipment (Pending).		

Table 4. Certifications



The products described here in comply with the Council Directive on Electromagnetic Compatibility (2004/108/EC) and the Council Directive on Electrical Equipment Designed for use within Certain Voltage Limits (2006/95/EC). Will be certified for Information Technology Equipment including Electrical Business Equipment (Pending).

European Directive 2002/96/EC (WEEE) requires that any equipment that bears this symbol on product or packaging must not be disposed of with unsorted municipal waste. This symbol Indicates that the equipment should be disposed of separately from regular household waste. It is The consumer's responsibility to dispose of this and all equipment so marked through designated Collection facilities appointed by government or local authorities. Following these steps through Proper disposal and recycling will help prevent potential negative consequences to the environment And human health. For more detailed information about proper disposal, please contact local authorities, waste disposal services, or the point of purchase for this equipment.

**Class 1 Laser product, Luokan 1 Laserlaite,  
Laser Klasse 1, Appareil A' Laser de Classe 1**



**ISO 9001:2008  
REGISTERED**



## DIMENSIONAL DRAWING

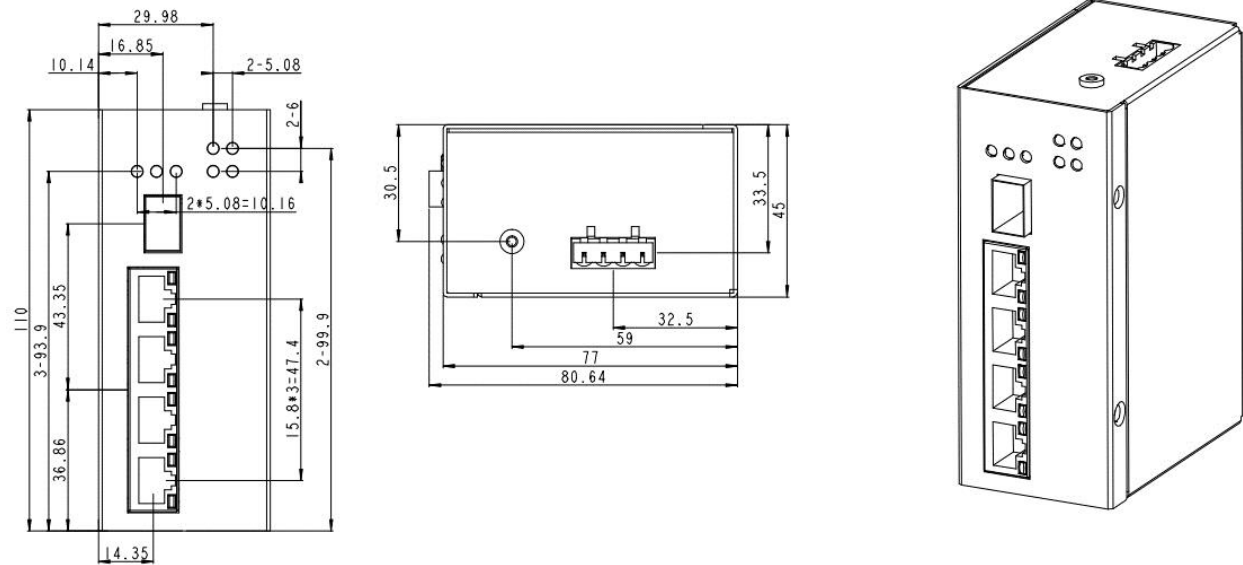


Figure 9: Dimensional drawing

## B+B SMARTWORX TECHNICAL SUPPORT

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**Web:** [www.imcnetworks.com](http://www.imcnetworks.com)