Quick Start Guide

Elinx ESW100 Series

5 and 8 port Unmanaged Ethernet Switch

ESW100 Series

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International Headquarters:
707 Dayton Road
Ottawa, IL 61350 USA

Phone (815) 433-5100

Website: **www.bb-elec.com**
Sales e-mail: orders@bb-elec.com
Technical Support: support@bb.elec.com –

European Headquarters

B&B Electronics

Westlink Commercial Park

Oranmore, Co. Galway, Ireland

Phone +353 91-792444
Website: **www.bb-europe.com**
Sales e-mail: sales@bb-europe.com
Technical Support: support@bb-europe.com

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Chapter 1 – Introduction

Description

The ESW105/108 series are plug-and-play, Class 1 Div 2, Heavy Industrial Ethernet Switches with an ultra compact IP30 DIN rail case. Switch configurations support 5 and 8 ports, all copper or with one LC fiber.

They will support IEEE 802.3 for 10BaseT (10 Mbps), IEEE 802.3u for 100BaseTX and 100BaseFX (100 Mbps), and IEEE 802.3x, 10/100 Mbps, full and half duplex, MDI/MDX auto sensing.

The ESW105/108 series uses dual power inputs that accept 12 to 36 VDC or 10 to 24 VAC with removable terminal blocks. The acceptable operating temperature range is -10C to 60C with an ambient relative humidity rating of 10 to 95% (Non-condensing).

The ESW105/108 series has 7 different mounting options. One being din rail and 6 different panel mounted options. Panel mount adapters are shipped with switches.

Package Checklist

The ESW105/108 will ship with the following items.

- B&B Ethernet switch with attached din rail clip
- Quick Start Guide
- 4 - Panel mount clips with screws

ESW105/108 features

- 10BaseT, 100BaseTX, 100BaseFX
- 10/100 Mbps, full and half duplex, MDI/MDX auto sensing.
- Full / Half Duplex Back Pressure Flow Control
- Store and forward architecture
- Broadcast Storm control
- RJ45 shielded connectors
- Single, multi mode, LC fiber connectors
- Ultra compact enclosure, less than 1 inch wide
- IP30 metal enclosure
- Din rail and panel mountable
- UL/cUL Class I Div 2 Groups A,B,C, and D
- Heavy Industrial Level 3, EN61000-6-2 certified
- Shock, Vibration, and Free Fall
- 2k address table
- -10C to 60C operating temperature

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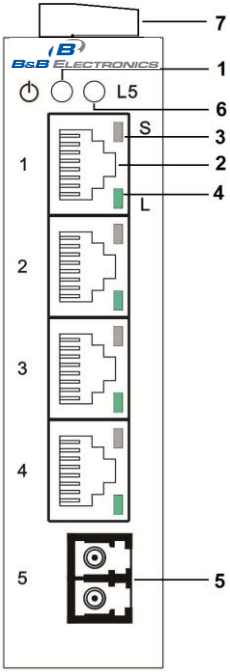
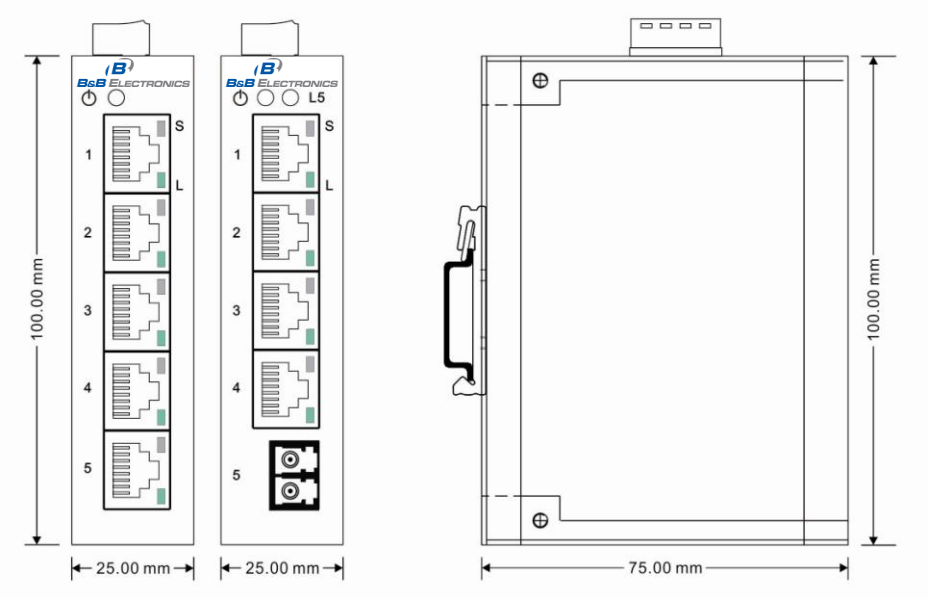
ESW105/108 Overview

Front Panel



1. Power LED (P1 and P2)
2. 10/100BaseT(X) RJ45 Port
3. Speed LED
4. Link LED
5. 100BaseFX, LC Fiber Port
6. Fiber Port Link, Activity LED
7. Power Terminal Block, P1 and P2

Dimensional Drawing ESW105 Series



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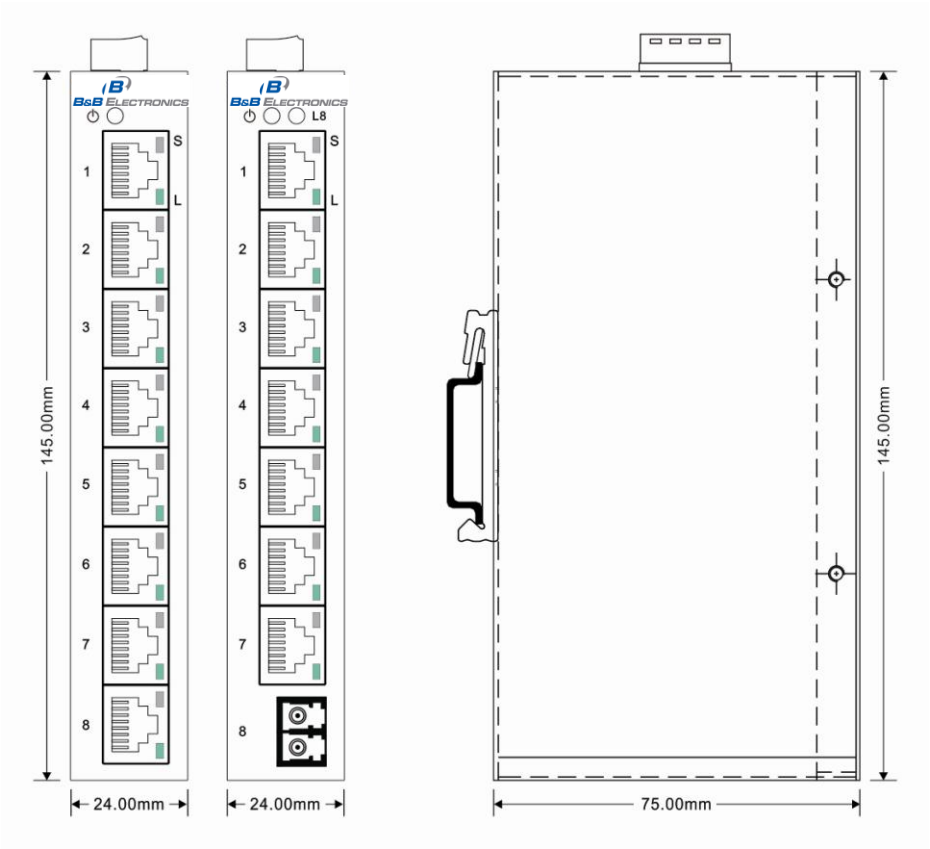
Dimensional Drawing ESW108 Series

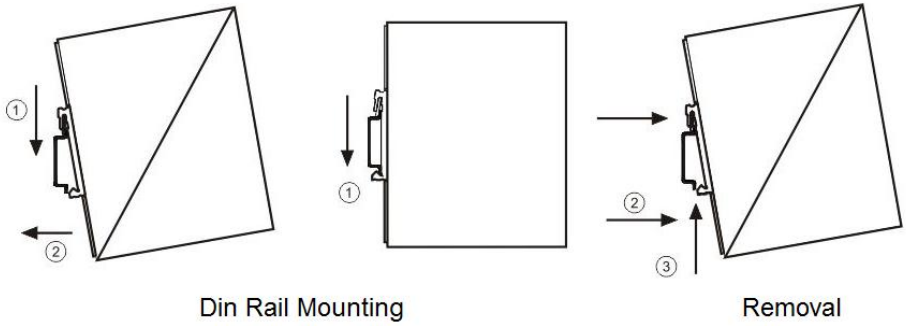


LED Indicators

LED	Status	Description
PWR	Green ON	Power Applied
	Off	No power
10/100 Copper **Upper** LED	Green ON	100Mbps
	Off	10Mbps
10/100 Copper Lower LED	Green ON	Link
	Blinking	Activity
	Off	Not connected to network
Fiber LED	Green ON	Link
	Blinking	Activity
	Off	Not connected to network

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.



Din Rail Mounting Removal

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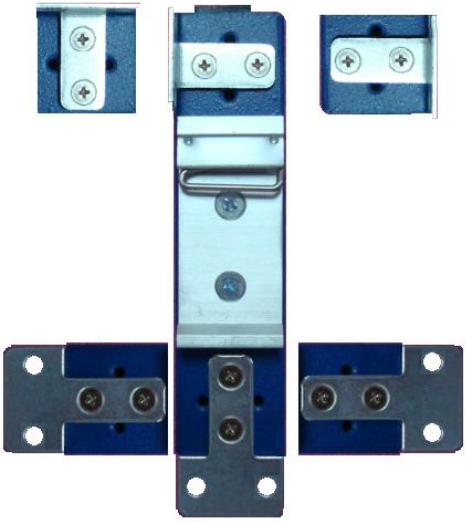
Panel Mounting

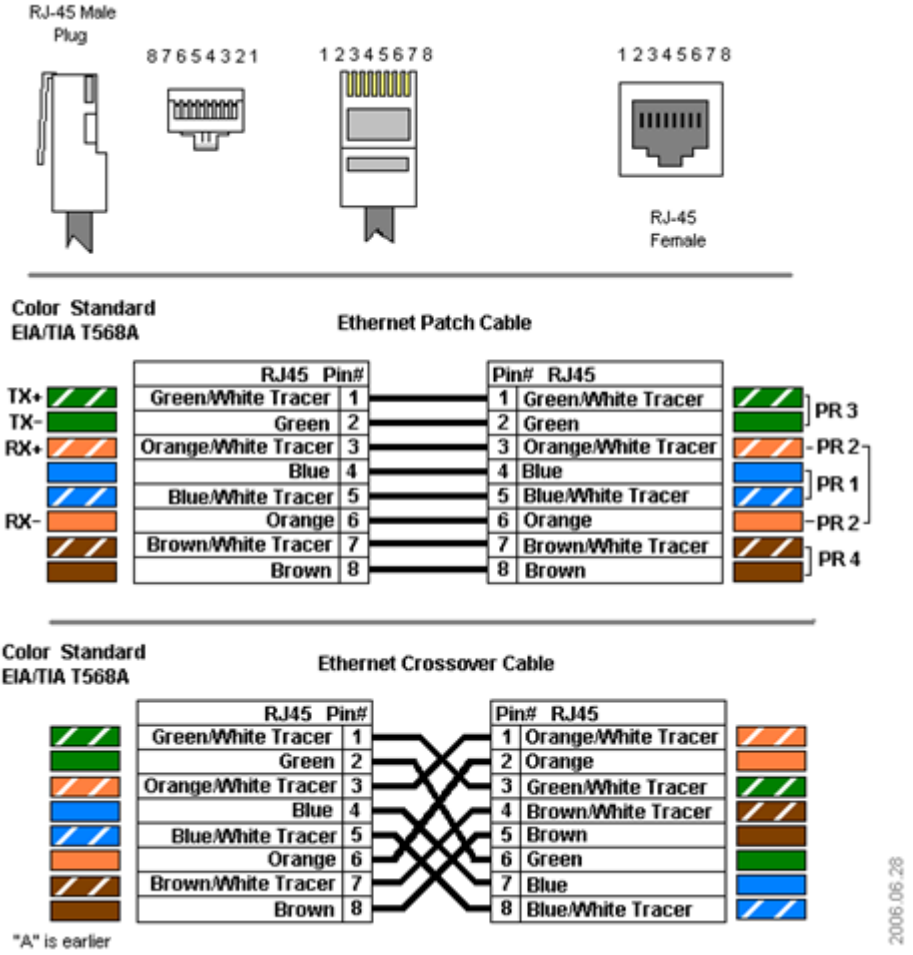
The switch ships with 4 panel mount clips giving the user 6 different ways to panel mount the unit.



RJ45 Ethernet Connections

The ESW100 series RJ45 connectors will support 10BaseT and 100BaseTX communications. Each RJ45 port supports full or half duplex and MDI/MDX auto sensing.

Below are the EIA/TIA T568A / B color standard and RJ45 pin out along with standard and crossover cable connections.



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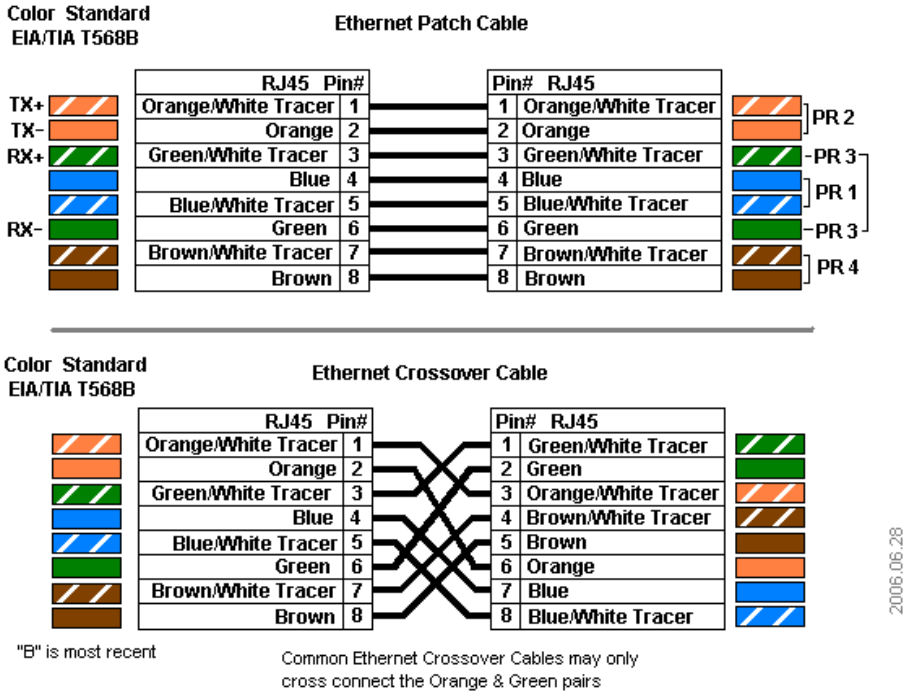
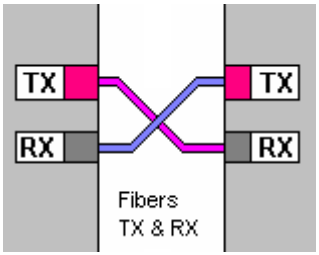


100BaseFX Ethernet LC Fiber Port

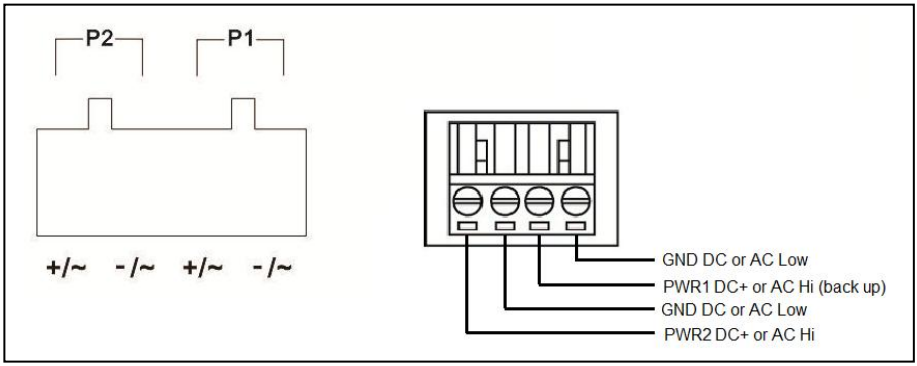
The use of fiber optics has become prevalent in Industrial Ethernet data communications systems. Extending distance, high data rate capabilities, noise rejection and electrical isolation are just a few of the important characteristics that make fiber optic technology ideal for use in industrial applications.

Each fiber port has a TX (transmit) and RX (receive) connection fixed at 100Mbps speed. The fiber ports will support multi mode or single mode fiber dependant on the model number ordered.



Power Input Connections

The ESW105/108 series accepts 12 to 36 VDC or 10 to 24 VAC input voltage using removable terminal blocks.



UL Installation Information

Electrical Ratings

INPUT: ESW105, ESW105-XX	ESW108, ESW108-XX
Power: 24VDC@4.7W 12 – 36 VDC@6.5W max. 10 – 24VAC@6.5W max 47 – 63Hz	Power: 24 VDC@5.75W 12 – 36VDC@10.5W max 10 – 24VAC@10.5W max 47 – 63Hz

OUTPUT: All Models – Low Voltage, Limited Energy communications protocol.

Wiring Terminals:

- One Conductor Per Terminal
- Use Copper wire only
- Wire Range: 25 to 12 AWG
- Tightening Torque: 4.5 Lb-in
- Temperature rating of field wiring - 105℃ minimum (Sized for 60℃ Ampacity)

Ambient Temperature:

Standard Temperature Models –
-10℃ to 60℃ minimum/maximum surrounding air ambient. T4(or T4A)

This equipment is suitable for use in Class 1, Division 2, Groups A, B, C and D hazardous locations, Or nonhazardous locations only.

WARNING – EXPLOSION HAZARD – Substitution of component may impair suitability for Class 1, Division 2.

UL File Number: E245458

Specifications

Power Requirements		
Low Voltage Range:	12 to 36 VDC	
	10 to 24 VAC	
Connection		
Power	Removable Terminal Block	
Protection	Reverse Polarity Protection	
RJ45 Ports		
	Shielded	
	10Base-T / 100Base-TX	
	Auto-sensing	
	Full / Half Duplex	
	MDI / MDI-X auto-Negotiate	
Multi Mode Fiber		
	100Base-FX	
Distance	2 km	
Wavelength	1310 nm	
Cable	50/125 um, 62.5/125 um	
TX power	-23.5-14 dBm	
Rec Sensitivity	-35 dBm	
Connector Type	LC	
Cover	LC connector cover	
Single Mode Fiber		
	100Base-FX	
Distance	20 km	
Wavelength	1310 nm	
Cable	9/125	
TX power	-15 - 8 dBm	
Rec Sensitivity	-35 dBm	
Connector Type	LC	
Cover	LC connector cover	

LED Indicators		
Power	Green ON solid	Power applied
Speed	Green ON solid	100 Mbps
Speed	Off	10Mbps
Link/Activity	Green ON Solid	Link
Link/Activity	Green flashing	Activity
Fiber Port	Green ON solid	100Mbps Link
Fiber Port	Green flashing	100Mbps Activity
Slim Metal Enclosure		
Material	steel	
Rating	IP30 -	
DIN Rail	35mm - installed on switch	QTY 1
Panel Mounting	Bracket and screws - included with switch	QTY 4
Enclosure Dimensions	WxDxH (size in mm)	
5 Port	25 x 75 x 100	
4 + 1 LC fiber	25 x 75 x 100	
8 Port	24 x 75 x 145	
7 + 1 fiber LC	24 x 75 x 145	
IEEE Standards		
IEEE802.3	10Base-T Ethernet	
IEEE802.3u	100BaseTX, 100Base FX	
IEEE802.3x	Flow Control	
Transfer Rate:	14,880bps (10Base-T), 148,800bps (100-Base-T)	
Packet buffer	648k bit	
Address Table Size:	2 k	
Processing Type	Store and Forward	
Broadcast Storm Control	Automatic	
Flow Control	Full / Half Duplex Back Pressure Flow Control	
Agency Approvals		
Hazardous Location	UL/cUL Class I Division 2 Groups A,B,C, and D	
EMI	FCC Part 15, CISPR (EN55022)	

Generic Standard for (Heavy) Industrial Environments	per EN61000-6-2	
EMC	EN61000-4-2 (ESD), level 3	Contact +/- 6kv
		Enclosure Air +/- 8kv
EMC	EN61000-4-3 (RS), level 3	10V/meter
EMC	EN61000-4-4 (EFT), level 3	
	Signal ports	+/- 1kV
	D.C. Power ports	+/- 2kV
	A.C. Power ports	+/- 2kV
	Earth ground ports3	NA
EMC	EN61000-4-5 (Surge), level 3	
	Signal ports	+/- 1kV
	D.C. Power ports	+/- 2kV
	A.C. Power ports	+/- 2kV
EMC	EN61000-4-6 (CS), level 3	
	Signal ports	10 V rms
	D.C. Power ports	10 V rms
	A.C. Power ports	10 V rms
	Earth ground ports3	NA
Safety		
Shock	IEC 60068-2-27	
Vibration	IEC 60068-2-6	
Free Fall	IEC 60068-2-32	
Certifications		
Certifications	IP30	
Certifications	RoHS	
Certifications	WEEE	
Environment Limits		
Standard Temp Models:	-10˚C to 60˚C	Ultra Compact
Storage Temperature:	-40 to 85˚C	
Ambient Relative Humidity	10 to 95%(Non-condensing	
MTBF	200000	