

# Installation Guide

## Elinx ESW726 Family

26 Port 19 inch  
Managed Rackmount Ethernet Switch



## ESW726 Series

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International Headquarters:

707 Dayton Road  
Ottawa, IL 61350 USA

Phone (815) 433-5100

Website: [www.bb-elec.com](http://www.bb-elec.com)

**Sales** e-mail: [orders@bb-elec.com](mailto:orders@bb-elec.com)

**Technical Support:** [support@bb.elec.com](mailto: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](http://www.bb-europe.com)

**Sales** e-mail: [sales@bb-europe.com](mailto:sales@bb-europe.com)

**Technical Support:** [support@bb-europe.com](mailto:support@bb-europe.com)

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# Overview

B&B Electronics Elinx family of Industrial rack mount Ethernet switches have been designed to meet light and heavy Industrial communication requirements.

The ESW726 Managed family offers a variety of Industrial models. The switch configurations range from 26 ports RJ45 copper to RJ45 copper with multi mode, single mode, and or SFP gigabit ports.

Two ports can be used for network redundancy by implementing our RingOn technology. RingOn has been developed to provide a rapid recovery system for Industrial networks. If any part of the ring disconnects the network communications will automatically be restored by RingOn technology.

All RJ45 copper ports support auto-negotiation, 10/100Mbps data rate, full/half duplex, flow control and auto MDI/MDIX. The Elinx switches provide advanced management functions such as: RingOn™, VLAN, Trunking, QoS (Quality of Service), IGMP Snooping, Port Rate Control, Port Mirroring, Static Mac Address Forwarding Table, SNMP (Simple Network Management Protocol), Diagnosis, Email/Relay fault warning and field Firmware Update.

The ESW726 Series will support IEEE 802.3 (10Base-T), IEEE 802.3u (100BaseTX) and (100BaseFX), 802.3ab 1000Base(X), IEEE 802.3z for 1000BaseSX/LX/LHX/ZX, 802.3x for flow control, full and half duplex, MDI/MDIX auto-sensing.

The ESW726 series accepts 18VDC to 36VDC input voltage using terminal blocks. The operating temperature range for standard models are -10°C to 60°C with wide temperature models supporting -40°C to 75°C. The ambient relative humidity rating is 5 to 95% (Non-condensing).

# Package Checklist

The ESW726 will ship with the following items.

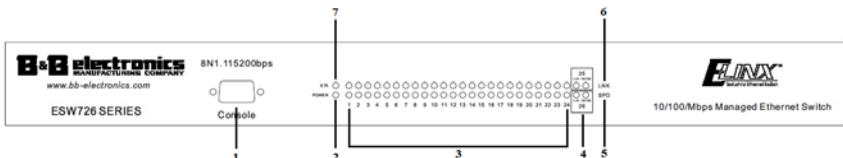
- B&B Managed Switch
- AC Power Cord (AC Models only)
- Serial cable for console port
- Installation Guide
- CD-with User's Manual

## ESW726 Family

### Features

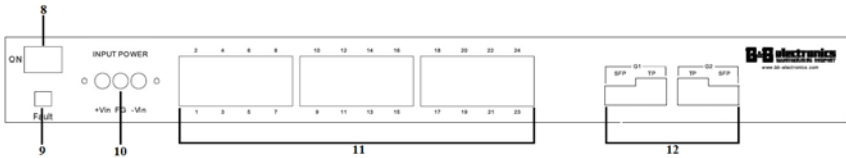
- 10Base-T, 100BaseTX, 100BaseFX,1000BaseSX/LX/LHX/ZX, 1000Base(X)
- 10/100Mbps, full and half duplex, MDI/MDIX auto -sensing
- 2 copper/SFP combo ports for Gigabit Ethernet
- RJ45 shielded connectors
- IP30 metal enclosure
- Rack mount
- Shock, vibration, and freefall
- 8k MAC address
- -10°C to 60°C or -40°C to 75°C (Wide Temperature Models)

### Front Panel



1. Console Port
2. Power LED
3. RJ45 LED
4. Fiber, Combo RJ45 / SFP LED
5. Speed
6. Link
7. System Ready

## Back Panel

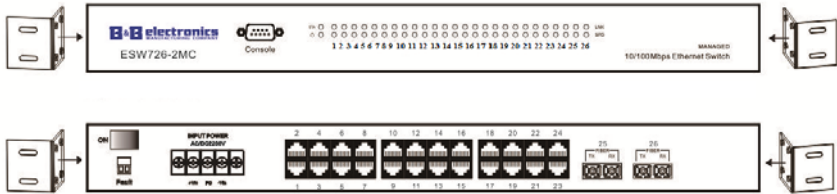


8. On / OFF Switch
9. Fault Relay
10. Power Input
11. RJ45 Port
12. Combo SFP or RJ45 Port

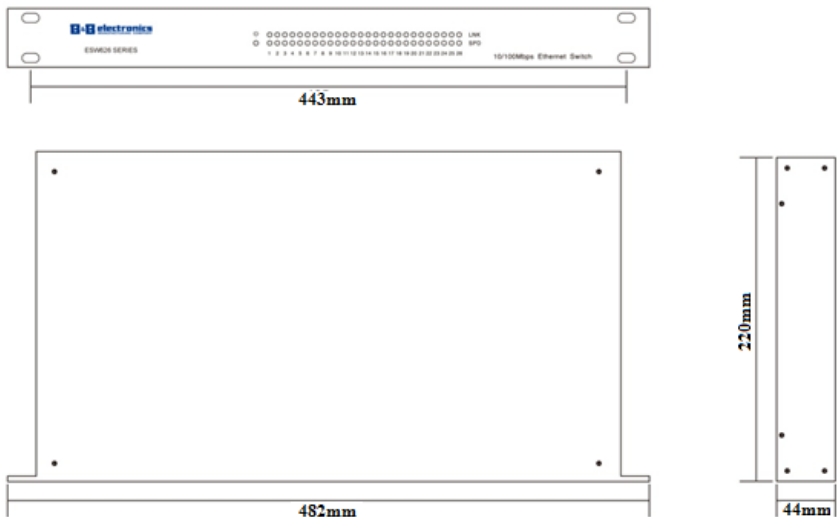
## LED Description

LED	Status	Description
PWR	Green	Power Applied
	Off	No power
STA	Green	System Ready
	Off	System down
10/100 Copper Upper LED	Green	100Mbps
	Off	10Mbps
10/100 Copper Lower LED	Green	Link
	Blinking	Activity
	Off	Not connected to network
Fiber LED	Green	Link
	Blinking	Activity
	Off	Not connected to network
10/100/1000 Copper Upper LED	Green	1000Mbps
	Off	10/100Mbps
10/100/1000 Copper Lower LED	Green	Link
	Blinking	Activity
	Off	Not connected to network
SFP LED	Green	1000Mbps
	Blinking	Activity
	Off	Not connected to network

# Mounting Options



# Dimensional Drawing



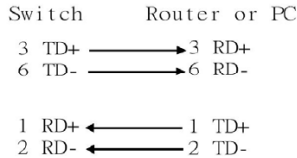
# Ports

## RJ45

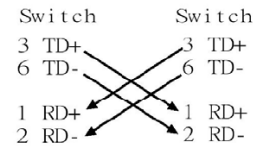
The RJ45 copper ports support auto MDI/MDIX operation. This feature allows network connections to computers, servers, or other switches using straight-through or crossover cables (See Figure below). Straight-through cable connections: pins 1, 2, 3 and 6, at one end of the cable, are connected straight-through to pins 1, 2, 3 and 6 at the other end of the cable. The table below shows the 10BASE-T/100BASE-TX MDI and MDI-X port pin outs.



Pin	MDI-X Signal Name	MDI Signal Name
1	Receive Data plus (RD+)	Transmit Data plus (TD+)
2	Receive Data minus (RD-)	Transmit Data minus (TD-)
3	Transmit Data plus (TD+)	Receive Data plus (RD+)
6	Transmit Data minus (TD-)	Receive Data minus (RD-)



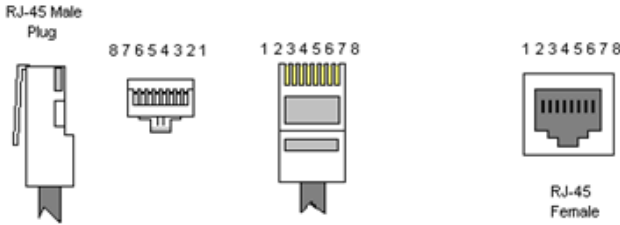
Straight Through Cable Schematic



Cross Over Cable Schematic

## ***Gigabit Copper/SFP (mini-GBIC) COMBO ports***

The ESW726 can be ordered with up to two auto-detect Gigabit copper/SFP combo ports. The Gigabit Copper (10/100/1000Mbps) ports use Category 5e or above UTP/STP cable for connection. The SFP slots can be used to connect the network segment with single or multi-mode fiber. For installation, the module needs to be adjusted so as to be aligned correctly and then moved into the SFP slot until a click is heard. With the SFP module (fiber optic connection), the switch will be able to transmit speeds up to 1000 Mbps. Fiber optic communications will prevent harsh environment interfaces from being introduced into the network and will extend transmission distance.



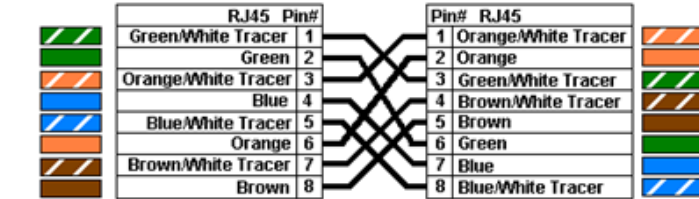
Color Standard  
EIA/TIA T568A

Ethernet Patch Cable



Color Standard  
EIA/TIA T568A

Ethernet Crossover Cable



"A" is earlier

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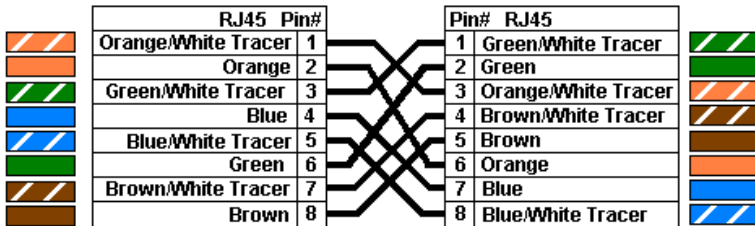
Color Standard  
EIA/TIA T568B

### Ethernet Patch Cable



Color Standard  
EIA/TIA T568B

### Ethernet Crossover Cable



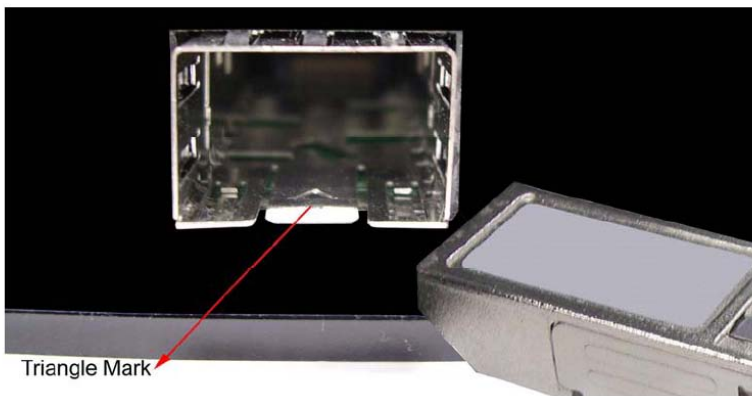
"B" is most recent

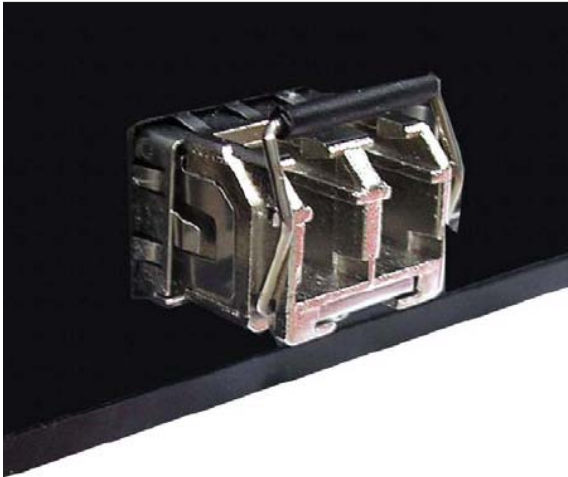
Common Ethernet Crossover Cables may only cross connect the Orange & Green pairs

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## SFP Installation and Connection

The SFP module is terminated with LC connectors. For installation, the module needs to be adjusted so as to be aligned correctly and then moved into the SFP slot until a click is heard.



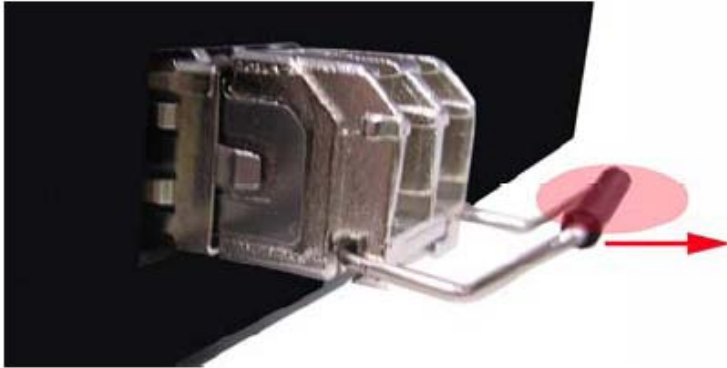


SFP Module Inserted



LC Fiber Cable Connection

To remove SFP modules lower removal bar and firmly pull transceiver out.



## ***Cabling***

Use unshielded twisted-pair (UTP) or shielded twisted-pair (STP) cable.

10Mbps: Category 3, 4, 5 or great cable

100Mbps: Category 5 or great cable

1000Mbps: Category 5e or great cable

Maximum cable length: 100 meters (328ft.)

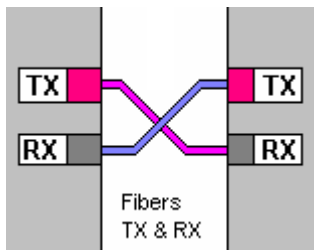
## ***100Base FX SC Fiber***

The use of fiber optics has become prevalent in Industrial Ethernet network communication 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 dependent on the model number ordered.



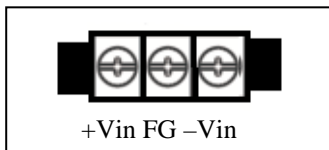
## ***Fiber connection illustration***



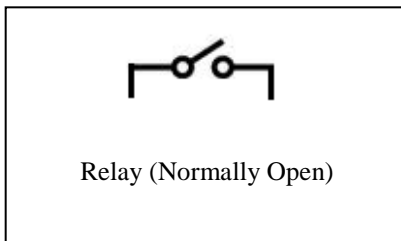
## ***Power Input Connections***

The ESW726 series accepts 18V~36VDC input voltage using terminal blocks.

### DC Power Connections



### Fault Relay



## ***Default Settings***

### Console Port (DB9 Male)

- Serial baud rate: 115200
- Data Bits: 8
- Parity: NONE
- Stop bits: 1
- Flow Control: NONE

## Serial Cable Pin out

PC Serial Port DB 9	Console Port DB9
5	1
3	3
2	4

## Network Settings

- IP address: 192.168.118.100
- Subnet Mask: 255.255.255.0
- Gateway: 192.168.118.1

## Default Security

- User Name: admin
- Password: admin

## VLAN

- All Ports are members of VLAN 1 (management VLAN)

## Specifications

Power Requirements		
Voltage Range	18V~36VDC 25W MAX	
Connection		
	Terminal Block	
Protection	Reverse Polarity Protection	
RJ45 Ports		
	Shielded	
	10/ 100BaseT(X) auto-sensing	
	Full/Half Duplex	
	MDI /MDIX auto-Negotiate	
Multi Mode Fiber		
	100Base-FX	
Distance	2 km	

Wavelength	1310 nm	
Cable	62.5/125 um	
TX power	-23.5 to -14dbm	
RX Sensitivity	<-35dbm	
Connector Type	SC	
<b>Single Mode Fiber</b>		
	100Base-FX	
Distance	20 km	
Wavelength	1310 nm	
Cable	9/125 um	
TX power	-15 to -8dbm	
RX Sensitivity	< -35dbm	
Connector Type	SC	
<b>SFP Ports</b>		
	Mini-GBIC SFP Ports	
Connector Type	LC	
<b>Metal Enclosure</b>		
Material	Aluminum and Steel	
Rating	IP30	
Rack Mount		
Enclosure Dimensions(W×H×D)	443×44×220 mm	
<b>IEEE Standards</b>		
IEEE802.3	10Base-T	
IEEE802.3u	100BaseT(X), 100Base FX	
IEEE802.3ab	1000Base(X)	
IEEE802.3z	1000BaseSX/LX/LHX/ZX	
IEEE802.3x	Flow control	
Packet buffer	256k bytes	
MAC Address Size:	8 k	
Processing Type	Store and Forward	
<b>Agency Approvals</b>		
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	+/- 0.5kV
	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
Hazardous Location		
Shock	IEC 60068-2-27	

Vibration	IEC 60068-2-6	
Freefall	IEC 60068-2-32	
<b>Certifications</b>		
Certification	IP30	
Certification	RoHS	
Op. Temperature	-10°C to 60°C or -40°C to 75°C (Wide Temperature Type)	
Storage Temperature	-40°C to 85°C	
Ambient Relative Humidity	5 to 95% (Non-condensing)	
MTBF	200,000h	