

1 Overview – *The perfect fit where more network throughput is key*

Fast, low-cost, future-proof way to deploy long network segments. SFP ports allow for the use of fibre-optic connections, expanding the Ethernet network beyond 100m, ensuring reliable data transmission over long distances without signal degradation, and maintaining data integrity and system stability.

Network resilience and security. Fibre-optic connections are less susceptible to electromagnetic interference and electrical noise, reducing the risk of communication disruptions, and ensuring continuous data exchange between components, even in the most remote locations and challenging environmental conditions.

SFP scalability and expansion. The switches' modular design and support for SFP transceivers make it straightforward to add new devices or upgrade existing ones without major changes to infrastructure.

1.1 Functionality and Features

LIGHT INDUSTRIAL	INDUSTRIAL	EMBEDDED
		
SW-084	SW-584	SW-184
		
	SW-581	

Also Available with SFP: [SW-7617](#) / [SW-7717](#) / [SW-595](#) / [SW-195](#)

- ✓ Wide voltage input range: +5V to +30VDC - Can be powered by a variety of sources
- ✓ Industrial temperature range - Operates reliably in extreme environmental conditions (Only applies to SW-584, SW-581, SW-184)
- ✓ Redundant dual power inputs - Reduces the risk of power outages, ensuring continuous operation (Only applies to SW-584, SW-581, SW-184)
- ✓ Low latency - Provides quick response times, critical for real-time communication applications
- ✓ Improved network efficiency - Ensures faster data transmission and minimal network congestion



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1.2 General Information

Model	Power Consumption	Operating Temp	Product Weight	Product Size	GTIN (barcode)	Package Weight	Package Size
SW-584	4.2 Watts Max: @+5V to +30VDC	-40°C to +80°C -40°F to 176°F	0.112 kg 3.95 oz	93.3 x 99.2 x 22.6mm 3.67 x 3.91 x 0.89in	837324005004	0.205 kg 7.23 oz	160 x 135 x 49mm 6.30 x 5.31 x 1.93in
SW-581	3.3 Watts Max: @+5V to +30VDC	-40°C to +80°C -40°F to 176°F	0.092 kg 3.24 oz	94.8 x 98.9 x 22.8mm 3.73 x 3.89 x 0.90in	837324005042	0.187 kg 6.59 oz	160 x 135 x 49mm 6.30 x 5.31 x 1.93in
SW-084	4.2 Watts Max: @+5V to +30VDC	-10°C to +60°C 14°F to 140°F	0.128 kg 4.51 oz	101 x 107.3 x 26.9mm 3.98 x 4.22 x 1.06in	837324005028	0.128 kg 4.51 oz	106 x 100 x 26mm 4.17 x 3.94 x 1.02in
SW-184	4.2 Watts Max: @+5V to +30VDC	-40°C to +80°C -40°F to 176°F	0.072 kg 2.54 oz	95 x 88.3 x 19.9mm 3.74 x 3.48 x 0.78in	837324005448	0.152 kg 5.36 oz	160 x 135 x 49mm 6.30 x 5.31 x 1.93in



Contents

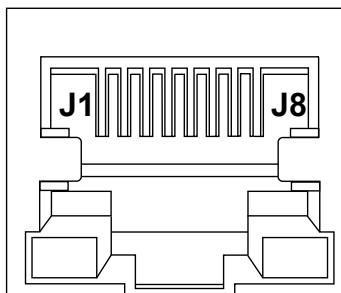
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2 Pinouts

2.1 Ethernet Ports

PIN	10/100/1000 ETHERNET
1	TxRx A+
2	TxRx A-
3	TxRx B+
4	TxRx C+
5	TxRx C-
6	TxRx B-
7	TxRx D+
8	TxRx D-

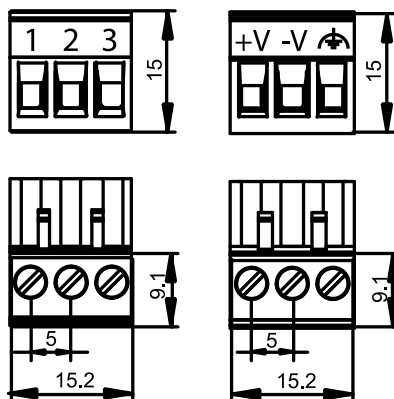


2.2 Power Terminal

2.2.1 Light Industrial Only 3 Pin Power (SW-084)

Pin	Function
1	+V
2	-V
3	FUNC EARTH

Screw Terminals 3 Pin 5mm Pitch	Wire Thickness	
	Wire Cross Section	1.0mm – 2.5mm
	AWG Value	#28 – #12
	Stripping Length	7mm / 0.27in
	Tightening Torque	0.28Nm – 0.39Nm

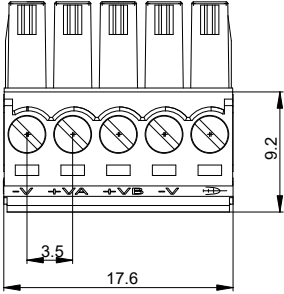
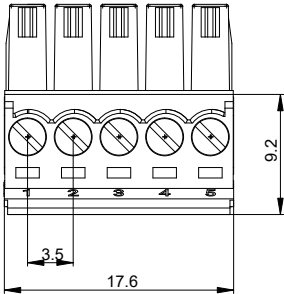
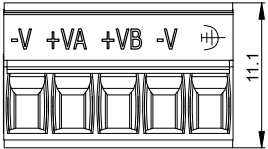
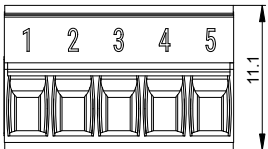




2.2.2 5 Pin Power (SW-584, SW-581, SW-184)

Pin	Function
1	-V
2	+VA
3	+VB
4	-V
5	FUNC EARTH

Screw Terminals	Wire Thickness	
5 Pin 3.5mm Pitch	Wire Cross Section	0.14mm – 1.5mm
	AWG Value	#28 – #16
	Stripping Length	7mm / 0.27in
	Tightening Torque	0.22Nm – 0.25Nm

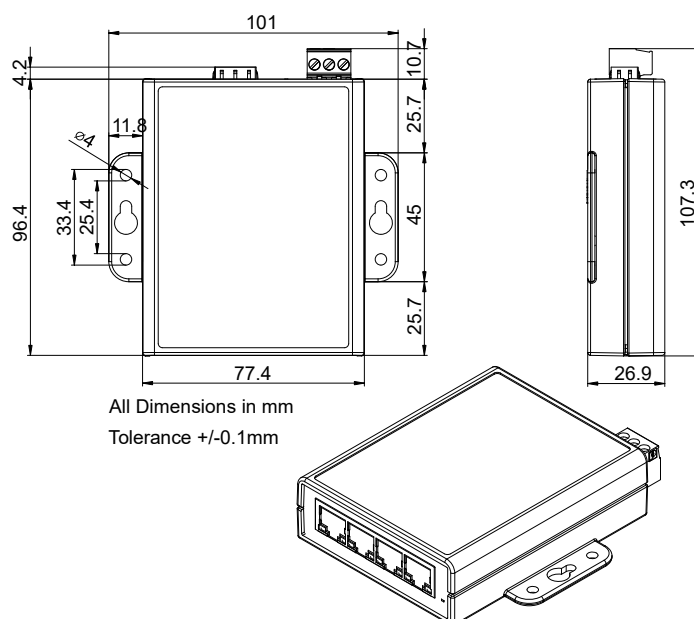




3 Enclosures (3D Models Available)

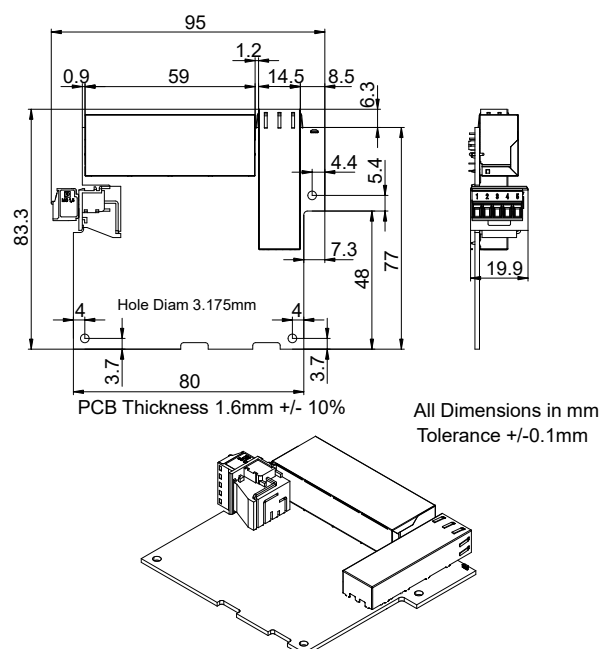
3.1 Light Industrial

3.1.1 SW-084



3.2 Embedded

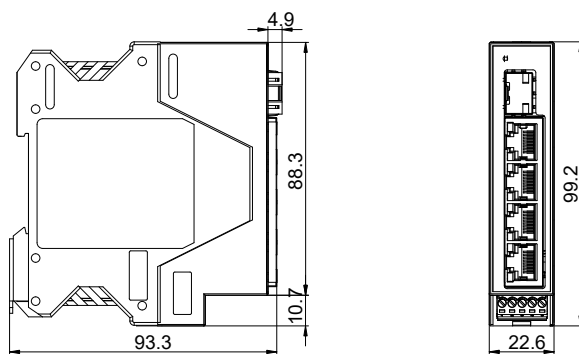
3.2.1 SW-184



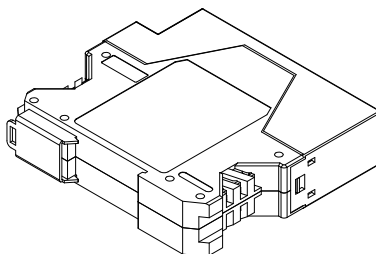


3.3 Industrial

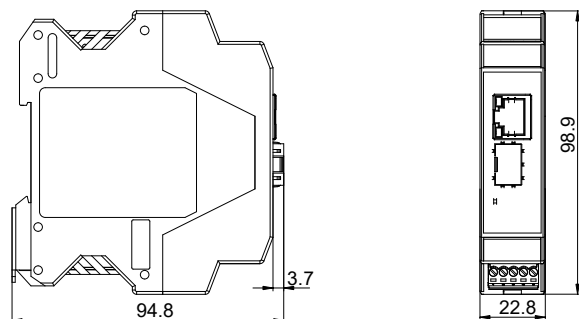
3.3.1 SW-584



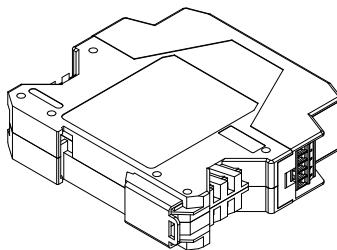
All Dimensions in mm
Tolerance +/- 0.1mm



3.3.2 SW-581



All Dimensions in mm
Tolerance +/- 0.1mm





4 Data

Gigabit Ethernet	Jumbo Frame support
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4.1 Power Supply

Power Consumption	See Table: 1.2 General Information
Power Supply Input	Unregulated +5V to +30 Volts DC, reverse polarity protection

4.2 Environment

Operating Temperature	-40°C to +80°C / -40°F to +176°F (SW-584, SW-581, SW-184) -10°C to +60°C / 14°F to 140°F (SW-084)
Storage Temperature	-40°C to +80°C / -40°F to +176°F (SW-584, SW-581, SW-184) -10°C to +60°C / 14°F to 140°F (SW-084)
Ambient Relative Humidity	5 to 95% (non-condensing)

4.3 RJ45 LEDs

RJ45 LED	Green	100M Activity
	Yellow	1G Activity
SFP/Power LED	Green	Power On
	Amber	SFP Plugged In
	Amber Flashing	SFP Activity
	Green/Amber Flashing	SFP Error/Incompatible

4.4 Ethernet

Ethernet Port	Up to 8x 10/100/1000BASE-T RJ45 ports All Ports Work Concurrently
Protection	1500VRMS Magnetic Isolation Between RJ45 (Copper Twisted Pair Only)



5 Approvals & Support

5.1 Industry Approvals

General	WEEE, RoHS, CE, UKCA
Safety	Complies with IEC-62368-1
HTS	8517620000
ECCN	5A991.b

5.2 Company Approvals

General	ISO9001, ISO14001, Microsoft Certified Gold Partner, AEO (C-TPAT)
CAGE	8QCY6
GSA Contract Number	47QTCA23D009X
Sustainability Rating	Ecovadis Silver Medal

5.3 Support

Warranty	Lifetime warranty registration
Support	Email: support@brainboxes.com Phone: +44(0) 151 220 2500 Brainboxes (USA): +1 (919) 241 8487
OEM option	Available for bulk buy OEM
COO (Country of Origin)	Made in GB, United Kingdom of Great Britain & Northern Ireland
Customisable	Perfect Fit Custom Design policy for volume users

6 Ordering Information

Part Number	Description
SW-584	Industrial 1 SFP & 4 Port Gigabit Ethernet Switch
SW-581	Industrial Gigabit SFP Media Converter
SW-084	Light Industrial 1 SFP & 4 Port Gigabit Ethernet Switch
SW-184	Embedded 1 SFP & 4 Port Gigabit Ethernet Switch

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