

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

Designed for network intensive applications where rapid data transmission is key, Brainboxes Industrial Gigabit Ethernet Switches boast increased speed, efficiency and performance, making it easier to configure and support high-speed data transfer between devices and/or the central controls.

Backwards compatible; the range is available in a range of formats and specifications, can plug into older networks, and can connect to devices that are 10Mbps, Fast Ethernet (100Mbps) or Gigabit, whilst detecting the highest common speed between both ends of the connection.

1.1 Functionality and Features

	LIGHT INDUSTRIAL	EMBEDDED	INDUSTRIAL	HARDENED
4 PORTS		 SW-114	 SW-514	
5 PORTS	 SW-015	 SW-115	 SW-515	 SW-715
8 PORTS		 SW-118	 SW-518	 SW-718

Also available: PoE+ Ethernet Switch Range / Hero Ethernet 16 Port Switch Range / Pure Embedded Range

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



**UK
CA**

CAGE
8QCY6

NCAGE
U0Q96

AEO
UK Authorised Economic Operator





1.2 General Information

Model	Power Consumption	Operating Temp	Product Weight	Product Size (L x H x W)	GTIN (barcode)	Package Weight	Package Size
SW-114	3.6 Watts Max: @+5V to +30VDC	-40°C to +80°C -40°F to 176°F	0.06 kg 2.12 oz	95 x 80.8 x 19.9 mm 3.74 x 3.18 x 0.78 in	837324004939	0.14 kg 4.94 oz	160 x 135 x 49mm 6.30 x 5.31 x 1.93in
SW-514	3.6 Watts Max: @+5V to +30VDC	-40°C to +80°C -40°F to 176°F	0.11 kg 3.88 oz	92.6 x 99.0 x 22.6 mm 3.65 x 3.90 x 0.89 in	837324004854	0.19 kg 6.70 oz	160 x 135 x 49mm 6.30 x 5.31 x 1.93in
SW-015	3.6 Watts Max: @+5V to +30VDC	-10°C to +60°C 14°F to 140°F	0.12 kg 4.23 oz	100.8 x 106.6 x 25.8 mm 3.96 x 4.19 x 1.1 in	837324004366	0.20 kg 7.05 oz	160 x 135 x 49mm 6.30 x 5.31 x 1.93in
SW-115	3.6 Watts Max: @+5V to +30VDC	-40°C to +80°C -40°F to 176°F	0.07 kg 2.47 oz	94.3 x 99.0 x 19.9 mm 3.71 x 3.90 x 0.78 in	837324004304	0.15 kg 5.29 oz	160 x 135 x 49mm 6.30 x 5.31 x 1.93in
SW-515	3.6 Watts Max: @+5V to +30VDC	-40°C to +80°C -40°F to 176°F	0.11 kg 3.88 oz	94.5 x 99.0 x 22.6 mm 3.72 x 3.90 x 0.89 in	837324004281	0.21 kg 7.41 oz	160 x 135 x 49mm 6.30 x 5.31 x 1.93in
SW-715	3.6 Watts Max: @+5V to +30VDC	-40°C to +80°C -40°F to 176°F	0.28 kg 9.88 oz	95.1 x 99.3 x 29.3 mm 3.74 x 3.91 x 1.15 in	837324004298	0.36 kg 12.70 oz	160 x 135 x 49mm 6.30 x 5.31 x 1.93in
SW-118	6.5 Watts Max: @+5V to +30VDC	-40°C to +80°C -40°F to 176°F	0.10 kg 3.53 oz	94.8 x 104.2 x 25.5 mm 3.73 x 4.10 x 1.00 in	837324005134	0.18 kg 6.35 oz	160 x 135 x 49mm 6.30 x 5.31 x 1.93in
SW-518	6.5 Watts Max: @+5V to +30VDC	-40°C to +80°C -40°F to 176°F	0.18 kg 6.35 oz	116.2 x 99.0 x 45.3 mm 4.57 x 3.90 x 1.78 in	837324005097	0.26 kg 9.17 oz	160 x 135 x 49mm 6.30 x 5.31 x 1.93in
SW-718	6.5 Watts Max: @+5V to +30VDC	-40°C to +80°C -40°F to 176°F	0.38 kg 13.40 oz	114.9 x 99.3 x 41.3 mm 4.52 x 3.91 x 1.63 in	837324005110	0.46 kg 16.23 oz	160 x 135 x 49mm 6.30 x 5.31 x 1.93in



Complies with
UL60950-1
E112324 CSA C22.2 No. 60950-1



Contents

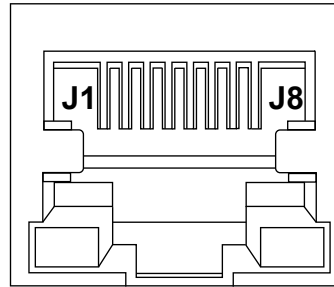
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2 Pinouts

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-

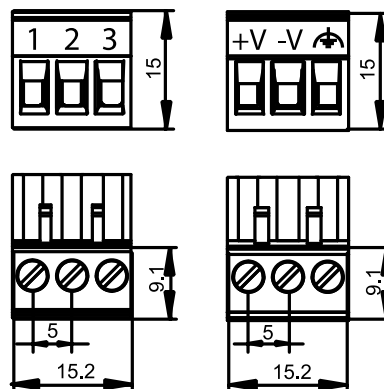


2.2 Power Terminal

2.2.1 Light Industrial Only 3 Pin Power

Pin	Function
1	+V
2	-V
3	FUNC EARTH

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

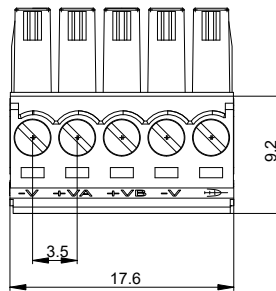
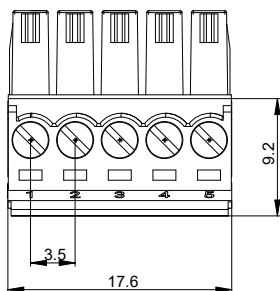
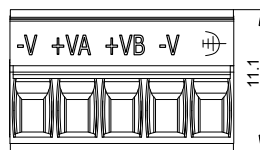
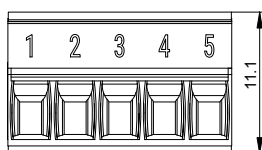




2.2.2 5 Pin Power

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

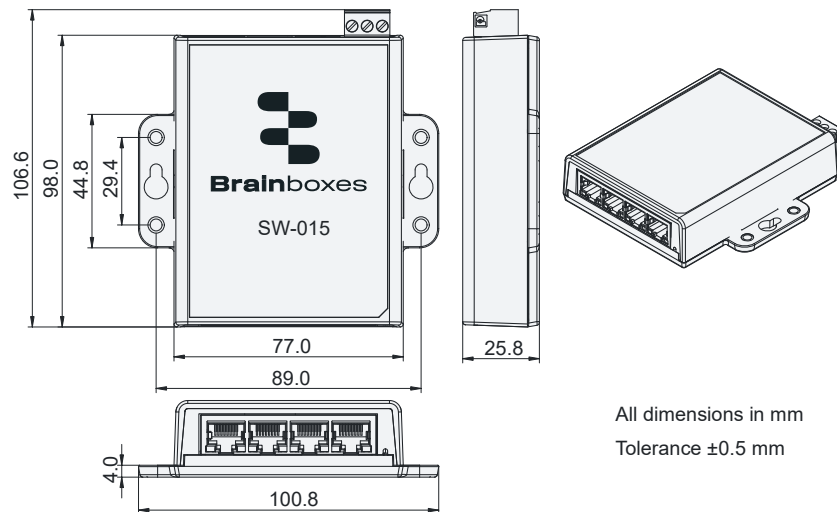




3 Enclosures (3D Models Available)

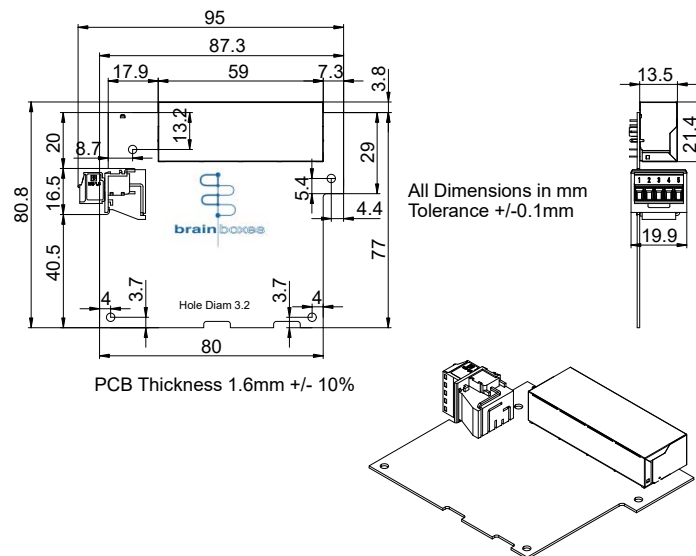
3.1 Light Industrial

3.1.1 SW-015



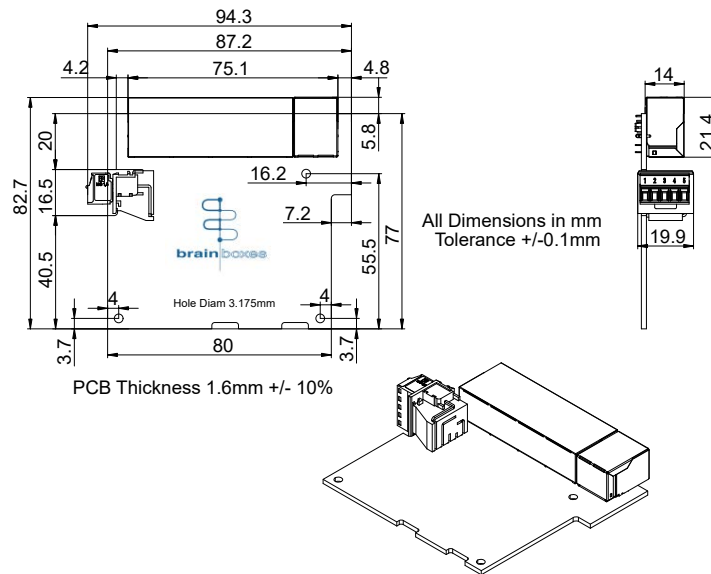
3.2 Embedded

3.2.1 SW-114

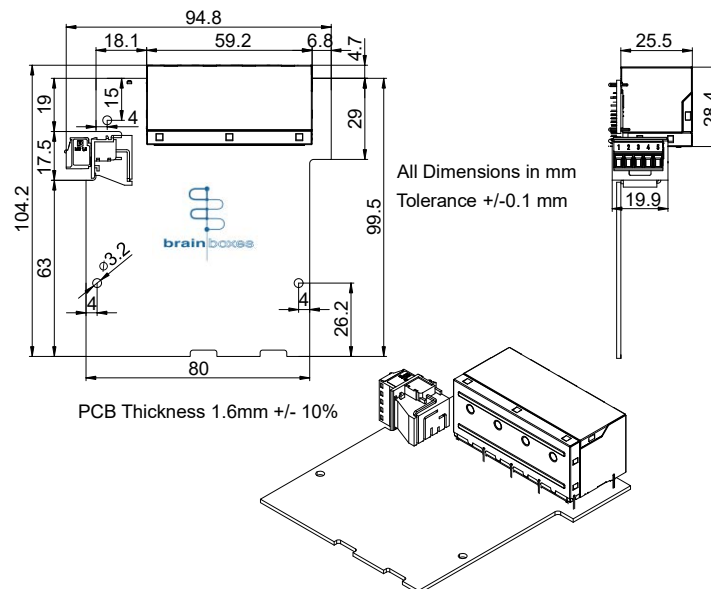




3.2.2 SW-115



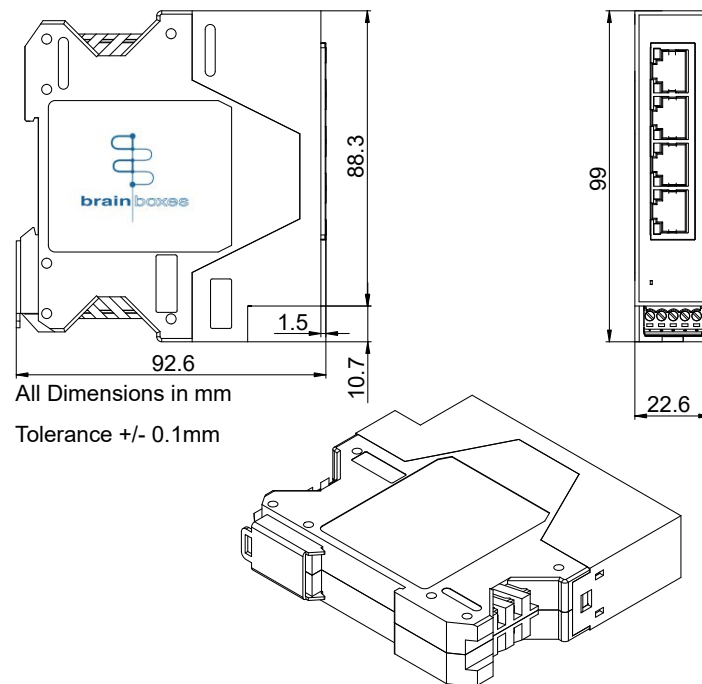
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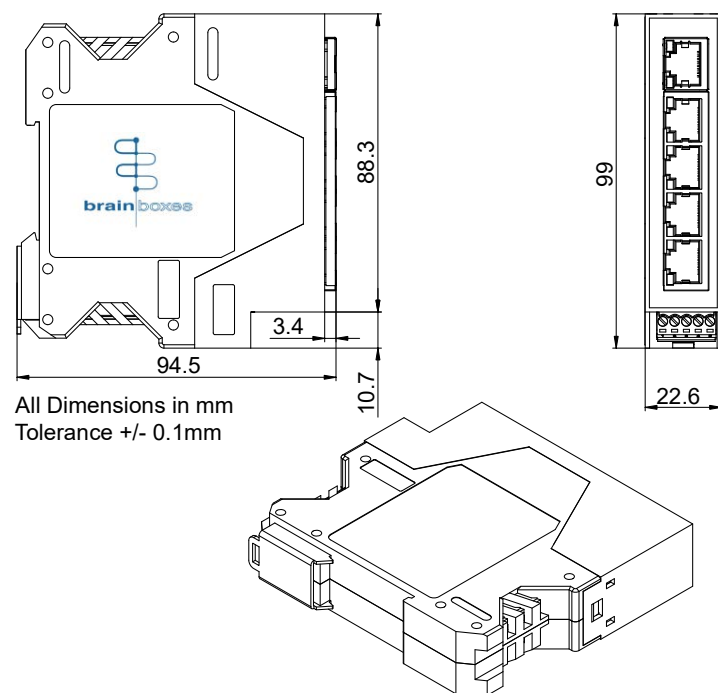


3.3 Industrial

3.3.1 SW-514

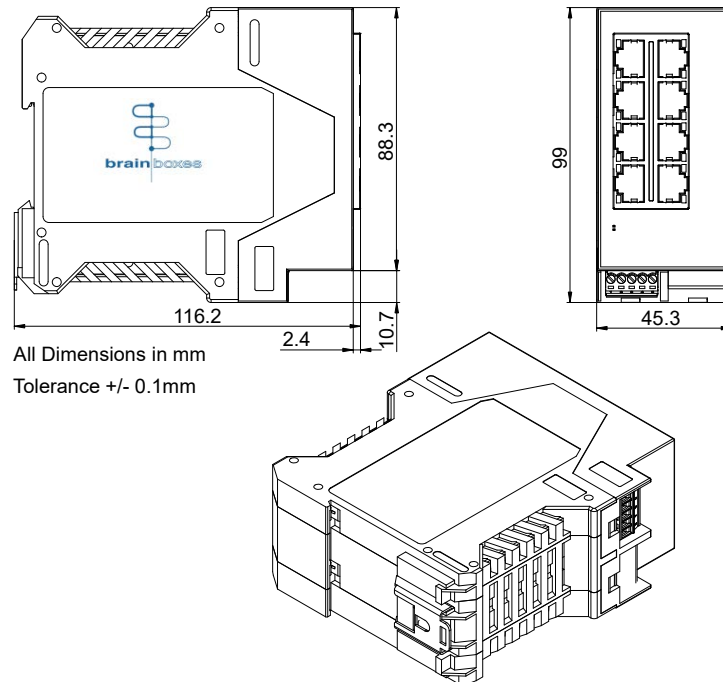


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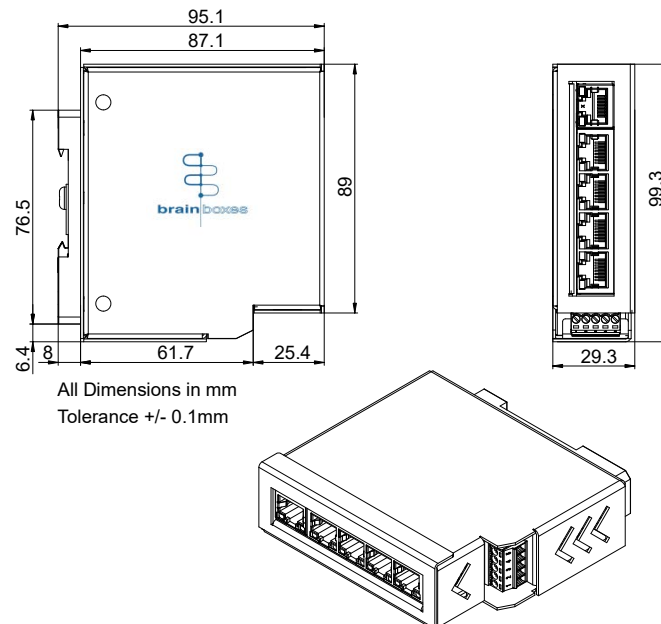


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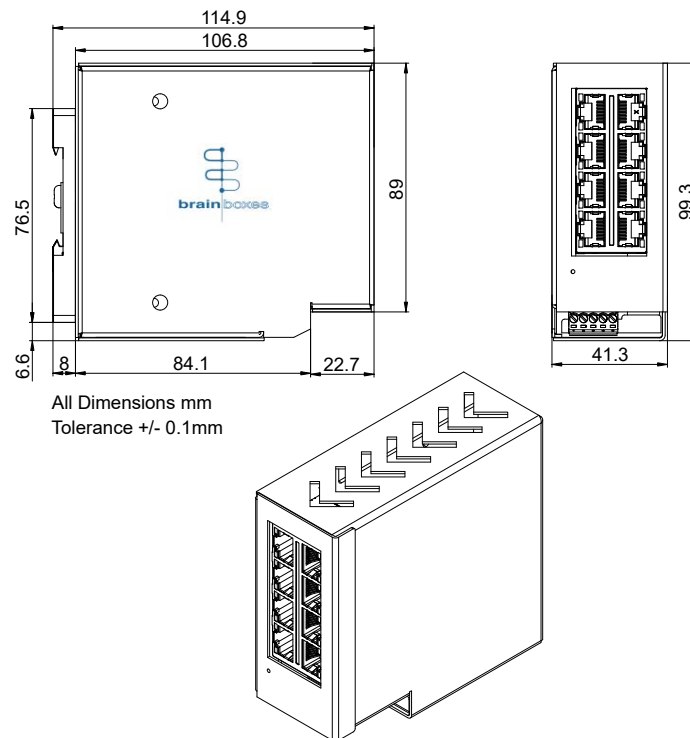
3.4 Hardened

3.4.1 SW-715





3.4.2 SW-718



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
Storage Temperature	-40°C to +85°C / -40°F to +185°F
Ambient Relative Humidity	5 to 95% (non-condensing)

4.3 RJ45 LEDs

RJ45 LED	Green	100M Activity
	Yellow	1G Activity



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
UL	METL Complies with UL62368-1
HTS	8517620000
ECCN	5A991.b

5.2 Company Approvals

General	ISO9001, ISO14001, Microsoft Certified Gold Partner, AEO (C-TPAT)
CAGE	8QCY6
NCAGE	U0Q96
GSA Contract Number	47QTCA23D009X
Sustainability Rating	Ecovardis Bronze 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-114	Embedded Industrial 4 Port Gigabit Ethernet Switch
SW-514	Industrial 4 Port Gigabit Ethernet Switch DIN Rail Mountable
SW-015	Light Industrial 5 Port Gigabit Ethernet Switch Wall Mountable
SW-115	Embedded Industrial 5 Port Gigabit Ethernet Switch
SW-515	Industrial 5 Port Gigabit Ethernet Switch DIN Rail Mountable
SW-715	Hardened Industrial 5 Port Gigabit Ethernet Switch DIN Rail Mountable
SW-118	Embedded Industrial 8 Port Gigabit Ethernet Switch
SW-518	Industrial 8 Port Gigabit Ethernet Switch DIN Rail Mountable
SW-718	Hardened Industrial 8 Port Gigabit Ethernet Switch DIN Rail Mountable

7 Accessories

Part Number	Max. Power Requirement	Compatible Power Accessory
SW-114, SW-514	3.6 W	PW-245, PW-400, PW-600
SW-015, SW-115, SW-515, SW-715		
SW-118, SW-518, SW-718	6.5W	PW-245, PW-400