









## 1 Overview - Less Cost, Less Cabling, Less Maintenance

Designed for demanding environments, Brainboxes Industrial PoE Switches remove the need for costly electrical installations by enabling the transmission of electrical power over the same cable that carries data.

Available with **Fast** and **Gigabit Ethernet**, plus **SFP**, and in a **range of enclosures** to perfectly fit your application, Brainboxes PoE switches are simple to install, fully conform to IEEE 802.3af/at Ethernet standards for reliable performance, and offer the flexibility to deploy powered devices at almost any location.

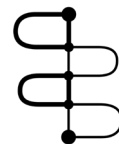
### 1.1 Functionality and Features

	EMBEDDED	INDUSTRIAL	HARDENED
<b>FAST</b>	 <b>SW-125</b>	 <b>SW-525</b>	 <b>SW-725</b>
<b>GIGABIT</b>	 <b>SW-135</b>	 <b>SW-535</b>	 <b>SW-735</b>
<b>GIGABIT PLUS SFP</b>	 <b>SW-195</b>	 <b>SW-595</b>	

- 4 PoE+ capable ports
- Fully compliant to IEEE 802.3af/at
- PoE Power Budget: 90W @ 70°C between all 4 PoE ports
- Industrial temp range: -40°C to +70°C
- Redundant dual power inputs: +44V to +57V DC
- Compact design
- Allows power and data to be combined on the same Ethernet cable
- DIN Rail Mountable or Embedded

### 1.2 Product Variants

Model	PoE+	Fast Ethernet	Gigabit	SFP	Enclosure
	IEEE 802.3af/at	10/100 BaseT (RJ45)	10/100/1000 BaseT (RJ45)	1000 Base-X	
<b>SW-125</b>	4	5	-	-	Embedded
<b>SW-525</b>	4	5	-	-	Industrial
<b>SW-725</b>	4	5	-	-	Hardened
<b>SW-135</b>	4	-	5	-	Embedded
<b>SW-535</b>	4	-	5	-	Industrial
<b>SW-735</b>	4	-	5	-	Hardened
<b>SW-195</b>	4	-	4	1	Embedded
<b>SW-595</b>	4	-	4	1	Industrial



### 1.3 General Information

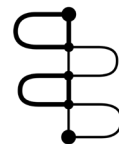
Model	Power Consumption (not including PoE)	Operating Temp (°C)	Product Weight (kg)	Product Size (mm)	GTIN (barcode)	Package Weight (kg)	Package Size (mm)
<b>SW-125</b>	4 Watts Max: 91mA@+44VDC/ 70mA@+57VDC	-40 to +70	0.079	105 x 95 x 20	837324004588	0.182	160 x 135 x 49
<b>SW-525</b>	4 Watts Max: 91mA@+44VDC/ 70mA@+57VDC	-40 to +70	0.132	116 x 99 x 23	837324004533	0.235	160 x 135 x 49
<b>SW-725</b>	4 Watts Max: 91mA@+44VDC/ 70mA@+57VDC	-40 to +70	0.327	115 x 99 x 28	837324004564	0.444	160 x 135 x 49
<b>SW-135</b>	5.5 Watts Max: 110mA@+44VDC/ 96mA@+57VDC	-40 to +70	0.090	105 x 86 x 20	837324005066	0.162	160 x 135 x 49
<b>SW-535</b>	5.5 Watts Max: 110mA@+44VDC/ 96mA@+57VDC	-40 to +70	0.137	116 x 99 x 23	837324005073	0.24	160 x 135 x 49
<b>SW-735</b>	5.5 Watts Max: 110mA@+44VDC/ 96mA@+57VDC	-40 to +70	0.327	115 x 99 x 28	837324005172	0.422	160 x 135 x 49
<b>SW-195</b>	5.5 Watts Max: 110mA@+44VDC/ 96mA@+57VDC	-40 to +70	0.885	105 x 86 x 20	837324005189	0.160	160 x 135 x 49
<b>SW-595</b>	5.3 Watts Max: 105mA@+44VDC, 93mA@+57VDC	-40 to +70	0.136	115 x 100 x 23	837324005080	0.231	160 x 135 x 49



**UK  
CA** CAGE  
8QCY6

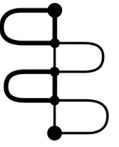


**MADE IN  
BRITAIN**



## Contents

1	Overview - Less Cost, Less Cabling, Less Maintenance.....	1
1.1	Functionality and Features.....	1
1.2	Product Variants.....	1
1.3	General Information.....	2
2	Pinouts.....	4
2.1	Ethernet Ports.....	4
2.2	Power Terminal.....	4
3	Enclosures (3D Models Available).....	5
3.1	Industrial.....	5
3.1.1	SW-525, SW-535, SW-595.....	5
3.2	Hardened.....	6
3.2.1	SW-725, SW-735.....	6
3.3	Embedded.....	6
3.3.1	SW-125.....	6
3.3.2	SW-135.....	7
3.3.3	SW-195.....	7
4	Data.....	8
4.1	Connectors.....	8
4.2	Power Supply.....	8
4.3	Environment.....	8
4.4	Ethernet.....	8
4.5	Magjack LED.....	8
4.6	SFP LED.....	9
5	Approvals & Support.....	9
5.1	Industry Approvals.....	9
5.2	Company Approvals.....	9
5.3	Support.....	9
6	Accessories.....	9



## 2 Pinouts

### 2.1 Ethernet Ports

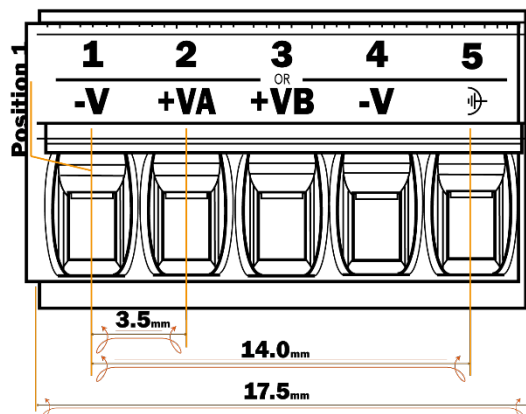
PoE Pinout 1/2(V+) 3/6(V-) Endspan Mode A

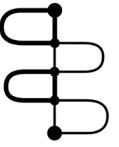
PIN	FUNCTION		
	Data 10/100	Data Gigabit	PoE Power
1	Tx+	TxRx A+	DC+
2	Tx-	TxRx A-	DC+
3	Rx+	TxRx B+	DC-
4		TxRx C+	
5		TxRx C-	
6	Rx-	TxRx B-	DC-
7		TxRx D+	
8		TxRx D-	

### 2.2 Power Terminal

PIN	FUNCTION
1	-V
2	+VA
3	+VB
4	-V
5	FUNC EARTH

5 position 3.5mm pitch pluggable terminal block included



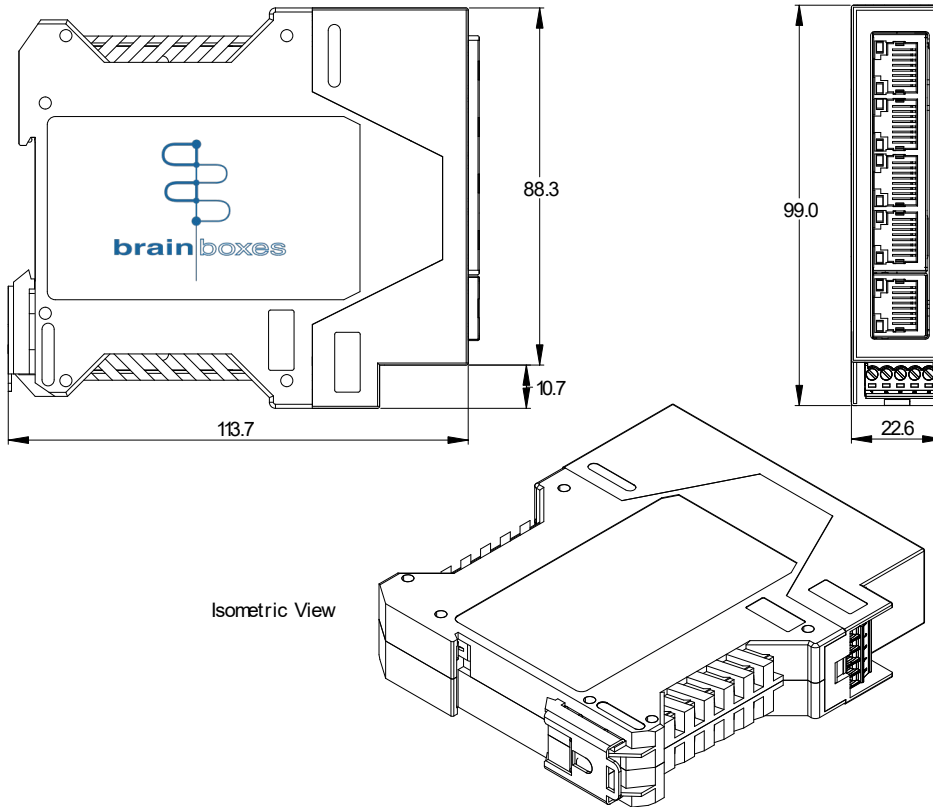


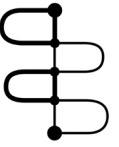
### 3 Enclosures (3D Models Available)

#### 3.1 Industrial

##### 3.1.1 SW-525, SW-535, SW-595

DIN rail mountable IP-20 rated non-conducting polyamide case

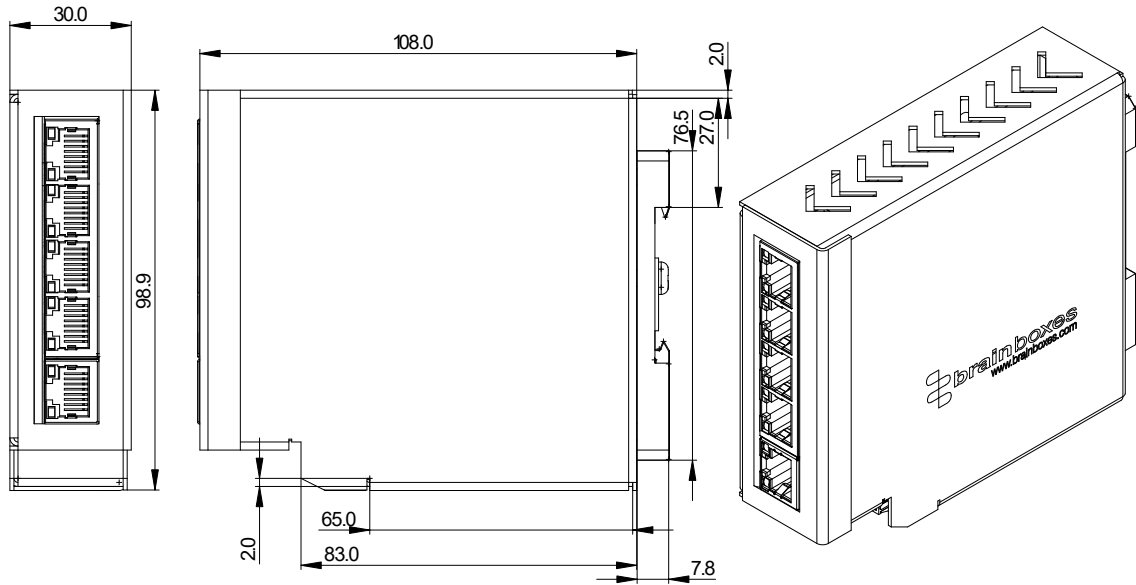




### 3.2 Hardened

#### 3.2.1 SW-725, SW-735

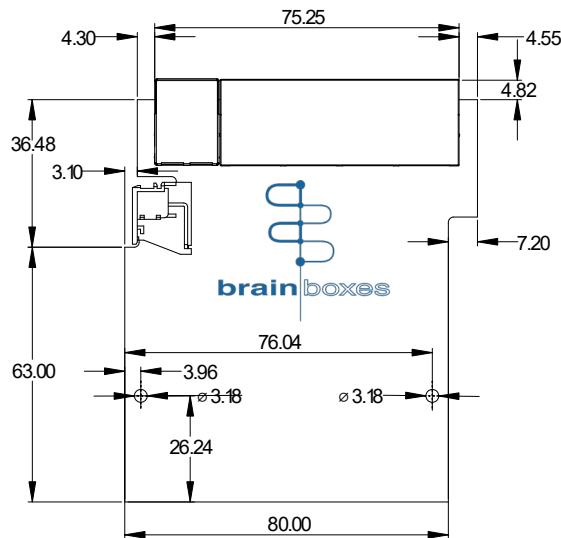
DIN rail mountable hardened metal enclosure

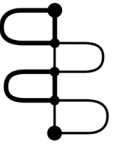


### 3.3 Embedded

#### 3.3.1 SW-125

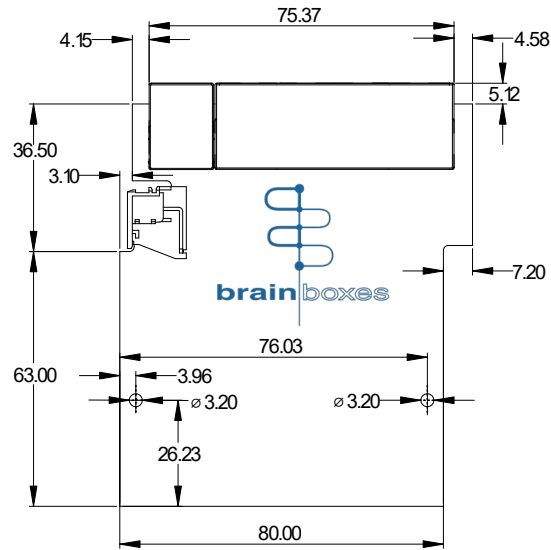
All Dimensions in mm  
Tolerance +/- 0.1mm





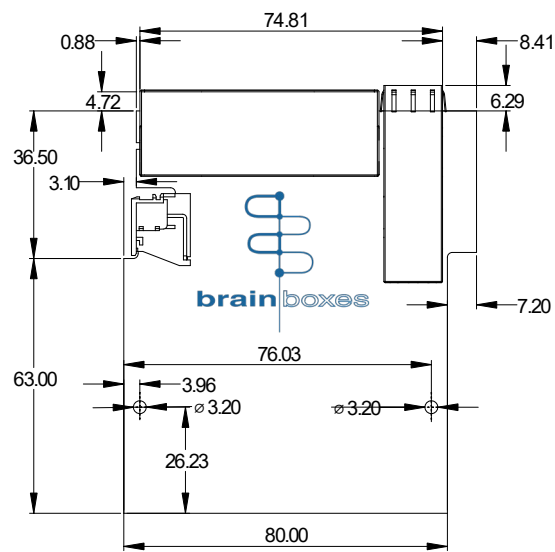
### 3.3.2 SW-135

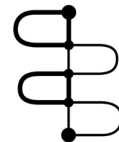
All Dimensions in mm  
Tolerance +/- 0.1mm



### 3.3.3 SW-195

All Dimensions in mm  
Tolerance +/- 0.1mm





## 4 Data

Gigabit Ethernet: Jumbo Frame support

SFP Port: Overcurrent protection

### 4.1 Connectors

<b>Screw Terminals</b>	3.5mm pitch, #22 - #14, 0.5mm <sup>2</sup> -2.5mm <sup>2</sup> pin power supply
<b>Wire Thickness</b>	0.150 inch, 3.81mm, 20 pins, 12+8 screw terminals, #26 - #16 AWG, 0.14mm <sup>2</sup> -1.3mm <sup>2</sup>

### 4.2 Power Supply

<b>Power Consumption</b>	<b>See Table: 1.3 General Information</b>
<b>PoE Power Budget</b>	90W @ 70°C 4 Ports IEEE 802.3af/at compliant: deliver up to 30W to each port (backwards compatible)
<b>Power Supply Input</b>	Unregulated +44V to +57 Volts DC, reverse polarity protection
<b>Isolation</b>	1500VRMS Magnetic isolation from Ethernet

### 4.3 Environment

<b>Operating Temperature</b>	-40°C to +70°C/-40°F to +158°F
<b>Storage Temperature</b>	-40°C to +70°C/-40°F to +158°F
<b>Ambient Relative Humidity</b>	5 to 95% (non-condensing)

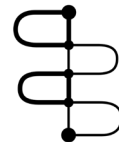
### 4.4 Ethernet

<b>Ethernet Port</b>	5 x RJ45 jack, auto-negotiation, crossover auto-sensing (Auto MDIX)
<b>Protection</b>	1,500 Volts magnetic isolation between ports

### 4.5 Magjack LED

<b>Link/Activity LED</b>	<b>Solid Green</b>	Connection established
	<b>Flashing Green</b>	Data communication
<b>PoE Power LED (ports 1-4) (ports 2-5 SW-X95 only)</b>	<b>Solid Yellow</b>	PoE power ON
	<b>Flashing Yellow</b>	Power warning





## 4.6 SFP LED

<b>SFP Power LED</b>	<b>Solid Green</b>	SFP power ON
	<b>Solid Amber</b>	SFP plugged in
	<b>Flashing Amber</b>	SFP activity
	<b>Flashing Green/Amber</b>	SFP error/incompatible

## 5 Approvals & Support

### 5.1 Industry Approvals

<b>General</b>	WEEE, RoHS, CE, UKCA,
<b>UL</b>	METL Complies with UL62368-1
<b>HTS</b>	8517620000
<b>ECCN</b>	5A991.b

### 5.2 Company Approvals

<b>General</b>	ISO9001, ISO14001, Microsoft Certified Gold Partner, AEO (C-TPAT)
<b>CAGE</b>	8QCY6
<b>NCAGE</b>	U0Q96
<b>GSA Contract Number</b>	47QTCA23D009X

### 5.3 Support

<b>Warranty</b>	Lifetime - online registration required
<b>Support</b>	Lifetime Web, Email and phone support from fully qualified, friendly staff who work in and alongside the Product Development Team
<b>OEM option</b>	Available for bulk buy OEM
<b>COO (Country of Origin)</b>	Made in GB, United Kingdom of Great Britain & Northern Ireland
<b>Customisable</b>	Perfect Fit Custom Design policy for volume users

## 6 Accessories

- PW-301 – DIN Rail Power Supply