

### 1 Overview – Solutions for high-speed data transfer, extended network reach, and robust reliability

Designed for enhanced connectivity, Brainboxes Industrial 16 Port Ethernet Switches are a cost-effective solution to streamline installations, simplify maintenance and wiring complexity, and improve efficiency whilst reducing potential points of failure.

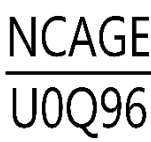
Available with **Fast** and **Gigabit Ethernet**, and with **SFP**, all Hero Ethernet switches come in an **industrial hardened metal enclosure** for reliable operation in demanding environments.

#### 1.1 Functionality and Features

|                                 |                                                                                     | WITH SFP                                                                            |                                                                                                                                                    |
|---------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| 10/100<br>ETHERNET              |   |   | ✓ Enhanced connectivity and flexibility: Higher port count enables flexible network layout and device placement                                    |
|                                 | SW-7016                                                                             | SW-7617                                                                             | ✓ Integrated, adjustable DIN-rail mount with grounding                                                                                             |
| 10/100 &<br>GIGABIT<br>ETHERNET |  |  | ✓ Wide voltage input range (+5V to +30VDC) and dual redundant power inputs - ensures reliability and reduces the risk of power outages             |
|                                 | SW-7416                                                                             | SW-7717                                                                             | ✓ Industrial hardened enclosure and wide operating temperature range (-40°C to +80°C / -40°F to +176°F) - reliable operation in harsh environments |

#### 1.2 Product Variants

| Model   | Fast Ethernet<br>10/100 BASE-T<br>(RJ45) | Gigabit<br>10/100/1000 BASE-T<br>(RJ45) | SFP<br>1000 BASE-X | Enclosure |
|---------|------------------------------------------|-----------------------------------------|--------------------|-----------|
| SW-7016 | 16                                       | -                                       | -                  | Hardened  |
| SW-7416 | 14                                       | 2                                       | -                  | Hardened  |
| SW-7617 | 16                                       | -                                       | 1                  | Hardened  |
| SW-7717 | 14                                       | 2                                       | 1                  | Hardened  |





### 1.3 General Information

| Model          | Power Consumption                   | Operating Temp                   | Product Weight    | Product Size                             | GTIN (barcode) | Package Weight    | Package Size                             |
|----------------|-------------------------------------|----------------------------------|-------------------|------------------------------------------|----------------|-------------------|------------------------------------------|
| <b>SW-7016</b> | 3.8 Watts Max:<br>@+5V to<br>+30VDC | -40°C to +80°C<br>-40°F to 176°F | 0.53kg<br>18.68oz | 158 x 103 x 43mm<br>6.22 x 4.05 x 1.69in | 837324005196   | 0.67kg<br>23.63oz | 200 x 140 x 80mm<br>7.87 x 5.51 x 3.15in |
| <b>SW-7416</b> | 6 Watts Max:<br>@+5V to<br>+30VDC   | -40°C to +80°C<br>-40°F to 176°F | 0.64kg<br>22.64oz | 180 x 108 x 43mm<br>7.09 x 4.25 x 1.69in | 837324005202   | 0.75kg<br>26.46oz | 200 x 140 x 80mm<br>7.87 x 5.51 x 3.15in |
| <b>SW-7617</b> | 7.5 Watts Max:<br>@+5V to<br>+30VDC | -40°C to +80°C<br>-40°F to 176°F | 0.64kg<br>22.64oz | 180 x 108 x 43mm<br>7.09 x 4.25 x 1.69in | 837324005219   | 0.75kg<br>26.46oz | 200 x 140 x 80mm<br>7.87 x 5.51 x 3.15in |
| <b>SW-7717</b> | 7.5 Watts Max:<br>@+5V to<br>+30VDC | -40°C to +80°C<br>-40°F to 176°F | 0.64kg<br>22.64oz | 180 x 108 x 43mm<br>7.09 x 4.25 x 1.69in | 837324005226   | 0.75kg<br>26.46oz | 200 x 140 x 80mm<br>7.87 x 5.51 x 3.15in |





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## 2 Pinouts

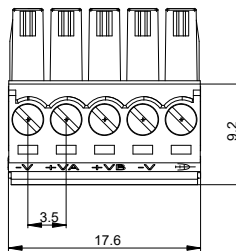
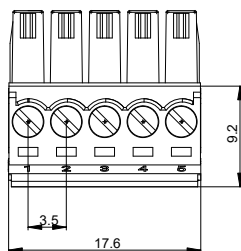
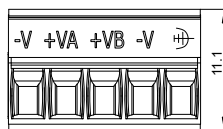
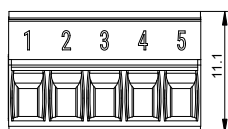
### 2.1 Ethernet Ports

| PIN | ETHERNET             |                              |
|-----|----------------------|------------------------------|
|     | 10/100 Fast Ethernet | 10/100/1000 Gigabit Ethernet |
| 1   | Tx+ / Rx+            | TxRx A+                      |
| 2   | Tx- / Rx-            | TxRx A-                      |
| 3   | Rx+ / Tx+            | TxRx B+                      |
| 4   |                      | TxRx C+                      |
| 5   |                      | TxRx C-                      |
| 6   | Rx- / Tx-            | TxRx B-                      |
| 7   |                      | TxRx D+                      |
| 8   |                      | TxRx D-                      |

### 2.2 Power Terminal

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

| Screw Terminals      | Wire Thickness     |                 |
|----------------------|--------------------|-----------------|
| 5 Pin<br>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 |



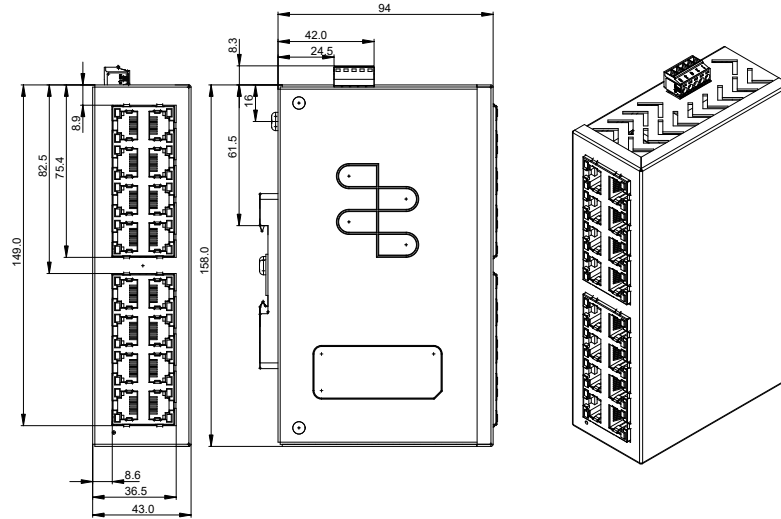
All Dimensions in mm



### 3 Enclosures (3D Models Available)

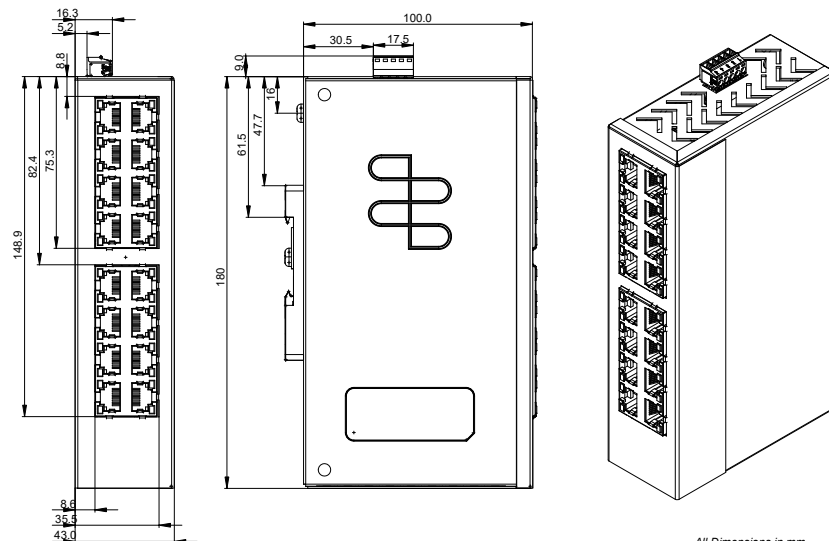
#### 3.1 Hardened (DIN rail mountable metal enclosure)

##### 3.1.1 SW-7016



All Dimensions in mm  
Tolerance  $\pm 0.5\text{mm}$  Unless otherwise stated

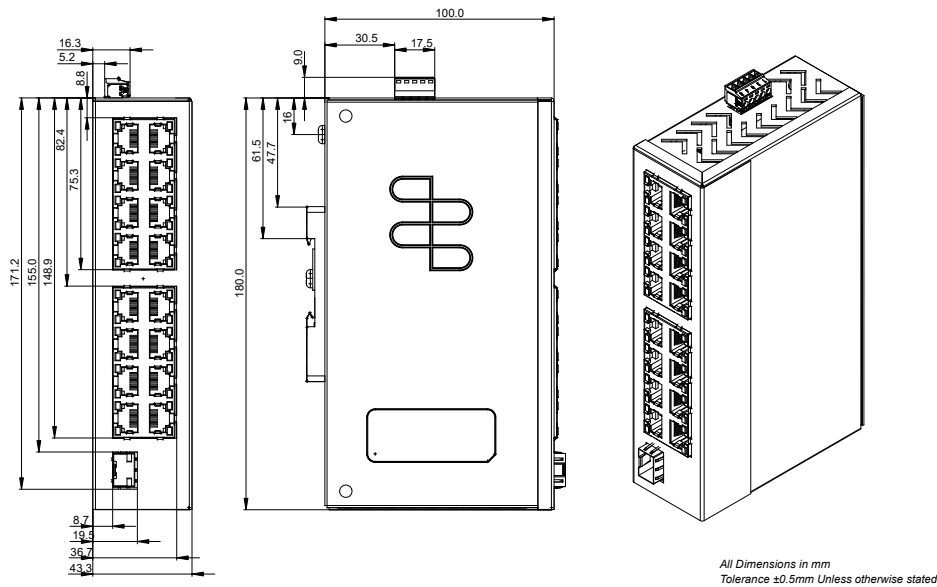
##### 3.1.2 SW-7416



All Dimensions in mm  
Tolerance  $\pm 0.5\text{mm}$  Unless otherwise stated

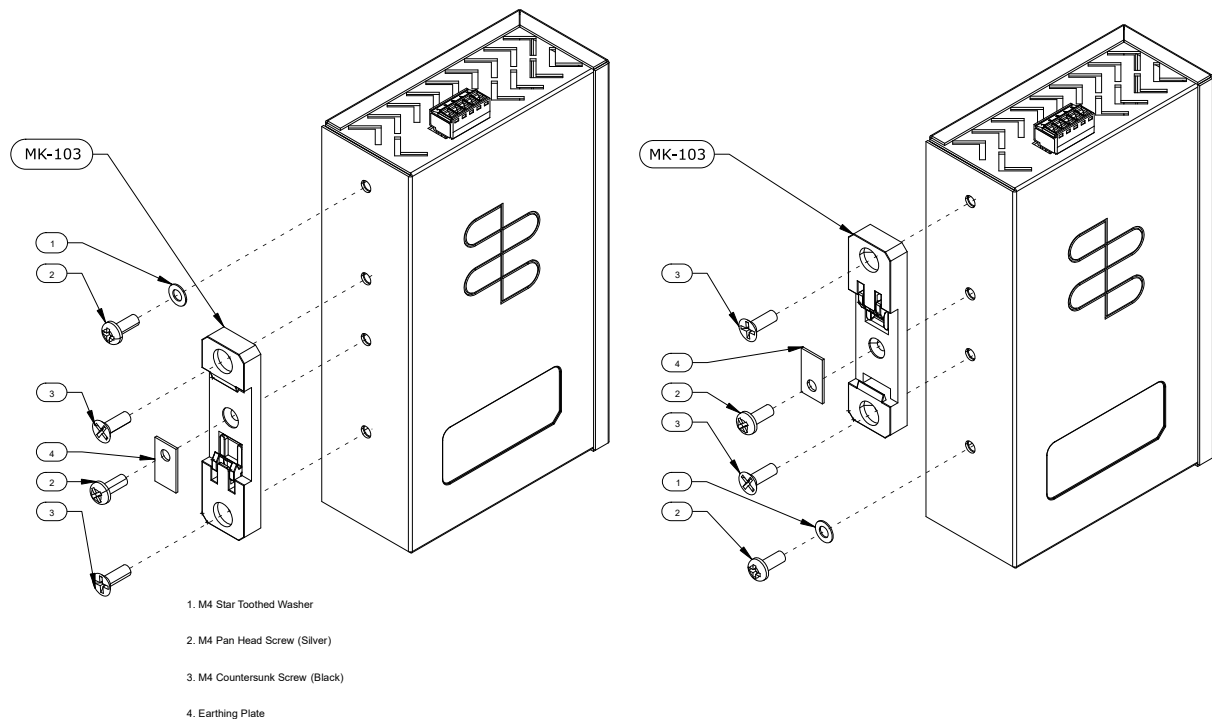


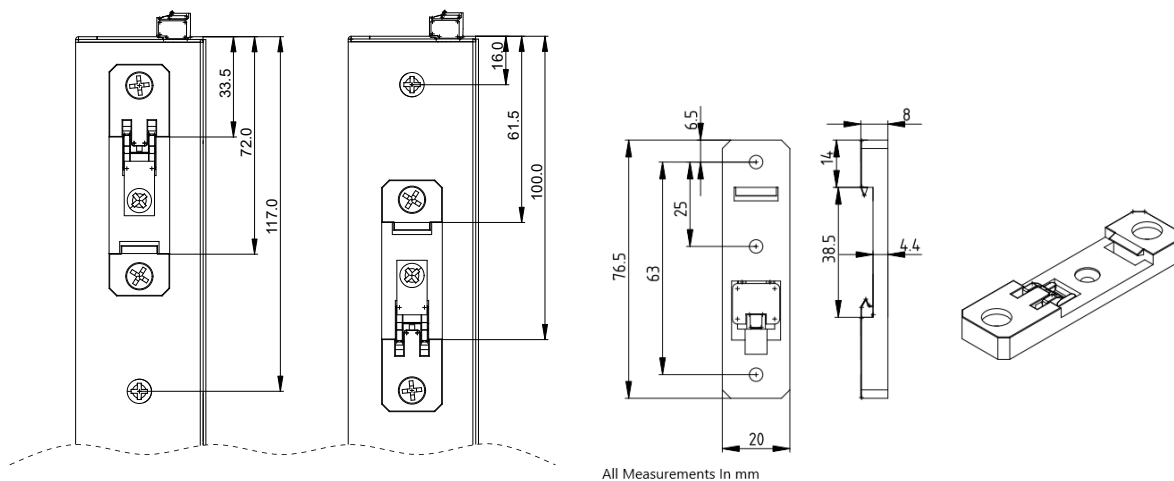
### 3.1.3 SW-7617 & SW-7717



## 4 DIN-Rail Mounting

All 16 Port switch products come with a MK-103 DIN Rail clip, which depending on your requirements, can be repositioned into 2 different mounting locations and rotated 180°:





## 5 Data

|                                   |                       |
|-----------------------------------|-----------------------|
| <b>SFP Overcurrent Protection</b> | 1.15W (360mA) Maximum |
|-----------------------------------|-----------------------|

### 5.1 Power Supply

|                           |                                                                                          |
|---------------------------|------------------------------------------------------------------------------------------|
| <b>Power Consumption</b>  | See Table: 1.3 General Information                                                       |
| <b>Power Supply Input</b> | Unregulated +5V to +30 Volts DC Dual Redundant Power Inputs, Reverse Polarity Protection |

### 5.2 Environment

|                                  |                                  |
|----------------------------------|----------------------------------|
| <b>Operating Temperature</b>     | -40°C to +80°C / -40°F to +176°F |
| <b>Storage Temperature</b>       | -40°C to +80°C / -40°F to +176°F |
| <b>Ambient Relative Humidity</b> | 5 to 95% (non-condensing)        |

### 5.3 LED Information

|                 |                             |                             |
|-----------------|-----------------------------|-----------------------------|
| <b>RJ45 LED</b> | <b>Green</b>                | Link/Activity               |
|                 | <b>Yellow</b>               | Port Operating at Max Speed |
| <b>SFP LED</b>  | <b>Green</b>                | Power On                    |
|                 | <b>Amber</b>                | SFP Plugged In              |
|                 | <b>Amber Flashing</b>       | SFP Link / Activity         |
|                 | <b>Green/Amber Flashing</b> | SFP Error/Incompatible      |



## 5.4 Ethernet

|                      |                                                                                                                                                           |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Ethernet Port</b> | Up to 16x 10/100BASE-T(X) RJ45 ports (Auto MDI-X)<br>Up to 2x 10/100/1000BASE-T RJ45 ports<br>Up to 1x 1000BASE-X SFP port<br>All Ports Work Concurrently |
| <b>Protection</b>    | 1500VRMS Magnetic Isolation Between RJ45 (Copper Twisted Pair Only)                                                                                       |

## 6 Approvals & Support

### 6.1 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                      |

### 6.2 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                                                     |

### 6.3 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                                                                                 |





## 7 Ordering Information

| Part Number    | Description                                                    |
|----------------|----------------------------------------------------------------|
| <b>SW-7016</b> | Hardened Industrial 16x 10/100 Ethernet Switch                 |
| <b>SW-7416</b> | Hardened Industrial 14x 10/100 & 2x 1G Ethernet Switch         |
| <b>SW-7617</b> | Hardened Industrial 16x 10/100 & 1x SFP Ethernet Switch        |
| <b>SW-7717</b> | Hardened Industrial 14x 10/100, 2x 1G & 1x SFP Ethernet Switch |

## 8 Accessories

- [PW-301](#) – 96W Single Output Industrial DIN Power Supply
- [PW-245](#) – 60W Single Output Industrial DIN Power Supply
- [PW-400](#) – Power Adapter 12V 1.5A Terminal Tails UK/EU/US/AUS Pack