

The SBE - Encapsulated Series

The SBE Encapsulated industrial control transformers are epoxy encapsulated to seal the transformer windings against moisture, dirt and industrial contaminants. Extra deep, molded terminal barriers reduce the chance of electrical failure as the result of arcing or frayed lead wires. The rugged construction and proven reliability of the SBE design is uniquely suited for all industrial environments.

Features

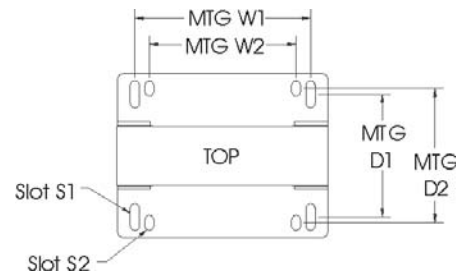
- 50 - 1000 VA, 50/60 Hz – suitable for worldwide applications.
- Interleaved copper windings reduce I<sup>2</sup>R losses and maximize efficiency.
- 55°C Rise, 105°C insulation system to minimize heat
- Epoxy encapsulated to protect cores and coils against moisture, dirt, and other contaminants.
- Meets or Exceeds NEMA Standard ST 1 and ANSI C89.1 for load inrush capability.
- Integrally molded, flame retardant (IEC 707/ISO Class 1210) Terminal Blocks provide greater terminal contact area and improved conductivity.
- Heavy gauge steel mounting plate
- Mounting dimensions are compatible with similar control transformers.
- Secondary fuse holders (FB2X) included for 13/32 x 1½ cartridges (fuses not included).
- Factory-installed fuse holders are available (See W, WA & WB options).
- 10 year warranty



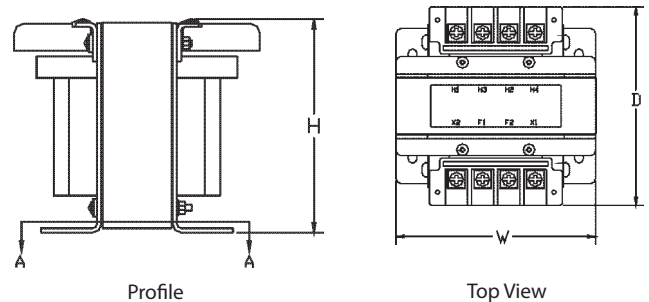
Related Products

- Linear Power Supplies
- DIN Rail DC Power Supplies
- Constant Voltage Transformers
- Line Reactors

SBE Mounting Profiles



Mounting Dimensions



Accessories

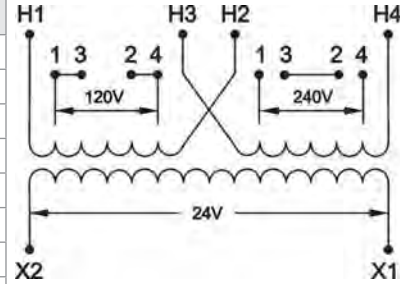
| Catalog Number | Description   |
|----------------|---|
| FBP            | Primary "CC" Rejection Type Fuse Holder (Finger Safe covers not available)  |
| FB2            | Secondary Fuse Holder only (Glass or Ceramic, ¼" x 1¼" fuse)  |
| FB2X           | Secondary Fuse Holder only included where applicable. Not sold separately. (Midget Cartridge Type, 13/32" x 1½" fuse) |
| FBPC1          | Primary "CC" Rejection Type Fuse Holder and Finger Safe Cover Kit   |
| IP20           | IEC Touchproof Cover Kit  |
| SBEDIN         | IEC Fuse Holder Adaptor Kit   |
| W              | Factory installed Primary Fuse Holder with Midget Type (no covers)  |
| WA             | Factory installed Fuse Holder with Glass/Ceramic Type and Covers  |
| WB             | Factory installed Fuse Holder with Midget Type and Covers   |

SBE Encapsulated Series Selection Tables

Group 1 – 120 x 240 Volt Primary, 24 Volt Secondary, 60 Hz



| VA  | Catalog Number | Height (inch) | Width (inch) | Depth (inch) | Mtg Width W1 / W2 | Mtg Depth D1 / D2 | Slot Size (inches) S1 / S2 | Approx. Ship Weight lbs (kg) |
|-----|----------------|---------------|--------------|--------------|-------------------|-------------------|----------------------------|------------------------------|
| 50  | E050E          | 2.72          | 3.01         | 3.99         | 2.51 / NA         | 2.02 / NA         | .20 x .33 / .20 x .33      | 3 (1.36)                     |
| 75  | E075E          | 2.96          | 3.39         | 4.36         | 2.81 / 2.50       | 2.10 / NA         | .20 x .50 / .20 x .50      | 4 (1.82)                     |
| 100 | E100E          | 2.96          | 3.39         | 4.61         | 2.81 / 2.50       | 2.37 / NA         | .20 x .50 / .20 x .50      | 5 (2.27)                     |
| 150 | E150E          | 3.89          | 4.5          | 4.48         | 3.74 / 3.12       | 2.56 / 2.87       | .20 x .65 / .20 x .33      | 8 (3.64)                     |
| 200 | E200E          | 3.89          | 4.5          | 4.79         | 3.74 / 3.12       | 2.87 / 3.18       | .20 x .65 / .20 x .33      | 10 (4.55)                    |
| 250 | E250E          | 3.89          | 4.5          | 5.21         | 3.74 / 3.12       | 3.29 / 3.61       | .20 x .65 / .20 x .33      | 11 (5.00)                    |
| 300 | E300E          | 4.53          | 5.25         | 4.66         | 4.38 / 3.75       | 3.10 / NA         | .31 x .71 / .31 x .71      | 12 (5.45)                    |
| 350 | E350E          | 4.53          | 5.25         | 5.07         | 4.38 / 3.75       | 3.54 / NA         | .31 x .71 / .31 x .71      | 15 (6.82)                    |
| 500 | E500E          | 4.53          | 5.25         | 5.75         | 4.38 / 3.75       | 4.33 / NA         | .31 x .85 / .31 x .85      | 19 (8.64)                    |
| 750 | E750E          | 5.56          | 6.38         | 6.93         | 5.32 / 4.37       | 4.25 / 5.75       | .31 x .85 / .31 x .85      | 31 (14.09)                   |

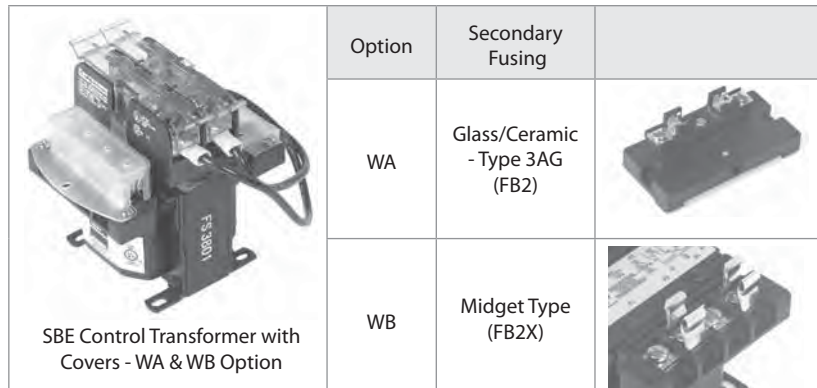
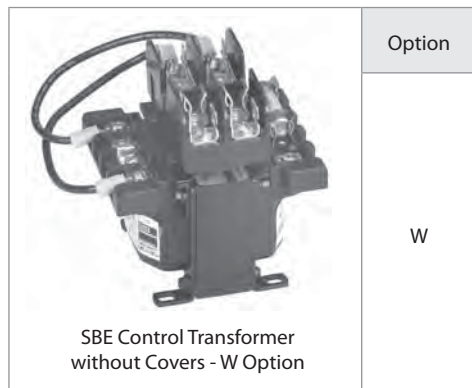


Note: Includes FB2X Secondary fuse holder.

- Group 1A – Factory Installed Primary Fuse Holder Class "CC" and:
- W - Secondary Fuse Holder (Midget Cartridge, 13/32" x 1 1/2" fuse) supplied, no covers
  - WA - Secondary Fuse Holder (Glass or Ceramic - Type 3AG, 1/4" x 1 1/4" fuse type)
  - WB - Secondary Fuse Holder (Midget Cartridge, 13/32" x 1 1/2" fuse)

| VA  | Primary Fuse Holder Class "CC"        |   |  | Dimensions    |              |              |                   |                   |                            |                              |
|-----|---------------------------------------|---|--|---------------|--------------|--------------|-------------------|-------------------|----------------------------|------------------------------|
|     | W Option - Midget Type Catalog Number | WA Option - Type 3AG w/ Covers Catalog Number | WB Option - Midget Type w/ Covers Catalog Number | Height (inch) | Width (inch) | Depth (inch) | Mtg Width W1 / W2 | Mtg Depth D1 / D2 | Slot Size (inches) S1 / S2 | Approx. Ship Weight lbs (kg) |
| 50  | E050EW                                | E050EWA                                       | E050EWB  | 4.18          | 3.01         | 3.99         | 2.51 / NA         | 2.02 / NA         | .20 x .33 / .20 x .33      | 3 (1.36)                     |
| 75  | E075EW                                | E075EWA                                       | E075EWB  | 4.41          | 3.39         | 4.36         | 2.81 / 2.50       | 2.10 / NA         | .20 x .50 / .20 x .50      | 4 (1.82)                     |
| 100 | E100EW                                | E100EWA                                       | E100EWB  | 4.41          | 3.39         | 4.61         | 2.81 / 2.50       | 2.37 / NA         | .20 x .50 / .20 x .50      | 5 (2.27)                     |
| 150 | E150EW                                | E150EWA                                       | E150EWB  | 5.36          | 4.5          | 4.48         | 3.74 / 3.12       | 2.56 / 2.87       | .20 x .65 / .20 x .33      | 8 (3.64)                     |
| 200 | E200EW                                | E200EWA                                       | E200EWB  | 5.36          | 4.5          | 4.79         | 3.74 / 3.12       | 2.87 / 3.18       | .20 x .65 / .20 x .33      | 10 (4.55)                    |
| 250 | E250EW                                | E250EWA                                       | E250EWB  | 5.36          | 4.5          | 5.21         | 3.74 / 3.12       | 3.29 / 3.61       | .20 x .65 / .20 x .33      | 11 (5.00)                    |
| 300 | E300EW                                | E300EWA                                       | E300EWB  | 5.99          | 5.25         | 4.66         | 4.38 / 3.75       | 3.10 / NA         | .31 x .71 / .31 x .71      | 12 (5.45)                    |
| 350 | E350EW                                | E350EWA                                       | E350EWB  | 5.99          | 5.25         | 5.07         | 4.38 / 3.75       | 3.54 / NA         | .31 x .71 / .31 x .71      | 15 (6.82)                    |
| 500 | E500EW                                | NA  | E500EWB  | 5.99          | 5.25         | 5.75         | 4.38 / 3.75       | 4.33 / NA         | .31 x .85 / .31 x .85      | 19 (8.64)                    |
| 750 | E750EW                                | NA  | E750EWB  | 7.01          | 6.38         | 6.93         | 5.32 / 4.37       | 4.25 / 5.75       | .31 x .85 / .31 x .85      | 31 (14.09)                   |

Notes: WA and WB suffix include Finger Safe covers. Fuses not included.  
 FB2 sold separately for W option. Secondary fusing assembly required.

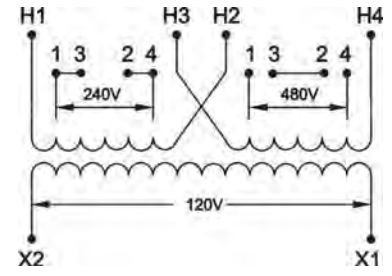


### SBE Encapsulated Series Selection Tables

Group 2 – 220 x 440 Volt Primary, 110 Volt Secondary, 50/60 Hz  
 230 x 460 Volt Primary, 115 Volt Secondary, 50/60 Hz  
 240 x 480 Volt Primary, 120 Volt Secondary, 60 Hz



| VA   | Catalog Number | Height (inch) | Width (inch) | Depth (inch) | Mtg Width W1 / W2 | Mtg Depth D1 / D2 | Slot Size (inches) S1 / S2 | Approx. Ship Weight lbs (kg) |
|------|----------------|---------------|--------------|--------------|-------------------|-------------------|----------------------------|------------------------------|
| 50   | E050           | 2.72          | 3.01         | 3.99         | 2.51 / NA         | 2.02 / NA         | .20 x .33 / .20 x .33      | 3 (1.36)                     |
| 75   | E075           | 2.96          | 3.39         | 4.36         | 2.81 / 2.50       | 2.10 / NA         | .20 x .50 / .20 x .50      | 4 (1.82)                     |
| 100  | E100           | 2.96          | 3.39         | 4.61         | 2.81 / 2.50       | 2.37 / NA         | .20 x .50 / .20 x .50      | 5 (2.27)                     |
| 150  | E150           | 3.89          | 4.5          | 4.48         | 3.74 / 3.12       | 2.56 / 2.87       | .20 x .65 / .20 x .33      | 8 (3.64)                     |
| 200  | E200           | 3.89          | 4.5          | 4.79         | 3.74 / 3.12       | 2.87 / 3.18       | .20 x .65 / .20 x .33      | 10 (4.55)                    |
| 250  | E250           | 3.89          | 4.5          | 5.21         | 3.74 / 3.12       | 3.29 / 3.61       | .20 x .65 / .20 x .33      | 11 (5.00)                    |
| 300  | E300           | 4.53          | 5.25         | 4.66         | 4.38 / 3.75       | 3.10 / NA         | .31 x .71 / .31 x .71      | 12 (5.45)                    |
| 350  | E350           | 4.53          | 5.25         | 5.07         | 4.38 / 3.75       | 3.54 / NA         | .31 x .71 / .31 x .71      | 15 (6.82)                    |
| 500  | E500           | 4.53          | 5.25         | 5.75         | 4.38 / 3.75       | 4.33 / NA         | .31 x .85 / .31 x .85      | 19 (8.64)                    |
| 750  | E750           | 5.56          | 6.38         | 6.93         | 5.32 / 4.37       | 4.25 / 5.75       | .31 x .85 / .31 x .85      | 31 (14.09)                   |
| 1000 | E1000          | 5.56          | 6.38         | 7.36         | 5.32 / 4.37       | 4.68 / 6.18       | .31 x .85 / .31 x .85      | 36 (16.36)                   |



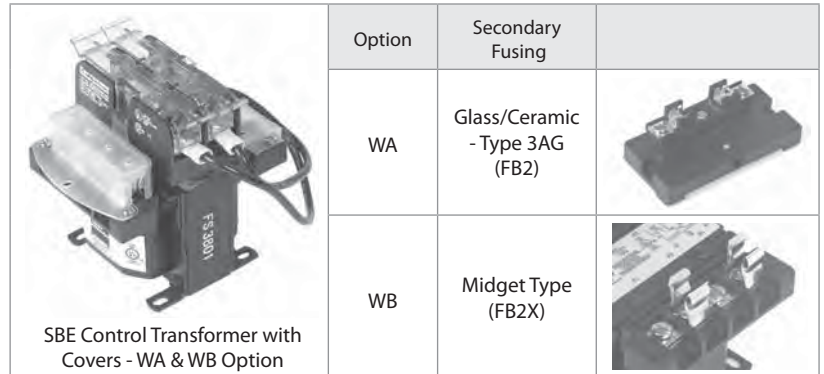
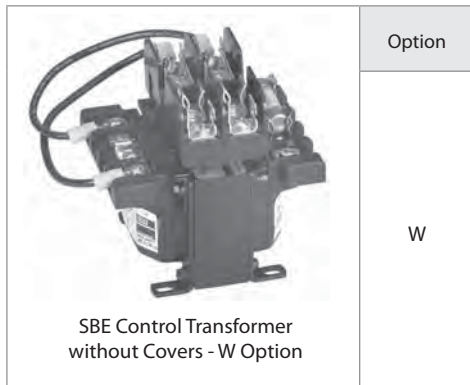
Note: Includes FB2X Secondary fuse holder.

Group 2A – Factory Installed Primary Fuse Holder Class "CC" and:  
 W - Secondary Fuse Holder (Midget Cartridge, 13/32" x 1 1/2" fuse) supplied, no covers  
 WA - Secondary Fuse Holder (Glass or Ceramic - Type 3AG, 1/4" x 1 1/4" fuse type)  
 WB - Secondary Fuse Holder (Midget Cartridge, 13/32" x 1 1/2" fuse)



| VA   | Primary Fuse Holder Class "CC"        |   |  | Dimensions    |              |              |                   |                   |                            |                              |
|------|---------------------------------------|---|--|---------------|--------------|--------------|-------------------|-------------------|----------------------------|------------------------------|
|      | W Option - Midget Type Catalog Number | WA Option - Type 3AG w/ Covers Catalog Number | WB Option - Midget Type w/ Covers Catalog Number | Height (inch) | Width (inch) | Depth (inch) | Mtg Width W1 / W2 | Mtg Depth D1 / D2 | Slot Size (inches) S1 / S2 | Approx. Ship Weight lbs (kg) |
| 50   | E050W                                 | E050WA  | E050WB   | 4.18          | 3.01         | 3.99         | 2.51 / NA         | 2.02 / NA         | .20 x .33 / .20 x .33      | 3 (1.36)                     |
| 75   | E075W                                 | E075WA  | E075WB   | 4.41          | 3.39         | 4.36         | 2.81 / 2.50       | 2.10 / NA         | .20 x .50 / .20 x .50      | 4 (1.82)                     |
| 100  | E100W                                 | E100WA  | E100WB   | 4.41          | 3.39         | 4.61         | 2.81 / 2.50       | 2.37 / NA         | .20 x .50 / .20 x .50      | 5 (2.27)                     |
| 150  | E150W                                 | E150WA  | E150WB   | 5.36          | 4.5          | 4.48         | 3.74 / 3.12       | 2.56 / 2.87       | .20 x .65 / .20 x .33      | 8 (3.64)                     |
| 200  | E200W                                 | E200WA  | E200WB   | 5.36          | 4.5          | 4.79         | 3.74 / 3.12       | 2.87 / 3.18       | .20 x .65 / .20 x .33      | 10 (4.55)                    |
| 250  | E250W                                 | E250WA  | E250WB   | 5.36          | 4.5          | 5.21         | 3.74 / 3.12       | 3.29 / 3.61       | .20 x .65 / .20 x .33      | 11 (5.00)                    |
| 300  | E300W                                 | E300WA  | E300WB   | 5.99          | 5.25         | 4.66         | 4.38 / 3.75       | 3.10 / NA         | .31 x .71 / .31 x .71      | 12 (5.45)                    |
| 350  | E350W                                 | E350WA  | E350WB   | 5.99          | 5.25         | 5.07         | 4.38 / 3.75       | 3.54 / NA         | .31 x .71 / .31 x .71      | 15 (6.82)                    |
| 500  | E500W                                 | E500WA  | E500WB   | 5.99          | 5.25         | 5.75         | 4.38 / 3.75       | 4.33 / NA         | .31 x .85 / .31 x .85      | 19 (8.64)                    |
| 750  | E750W                                 | E750WA  | E750WB   | 7.01          | 6.38         | 6.93         | 5.32 / 4.37       | 4.25 / 5.75       | .31 x .85 / .31 x .85      | 31 (14.09)                   |
| 1000 | E1000W                                | E1000WA                                       | E1000WB  | 7.01          | 6.38         | 7.36         | 5.32 / 4.37       | 4.68 / 6.18       | .31 x .85 / .31 x .85      | 36 (16.36)                   |

Notes: WA and WB suffix include Finger Safe covers. Fuses not included. W option for secondary fusing requires assembly (FB2 sold separately).

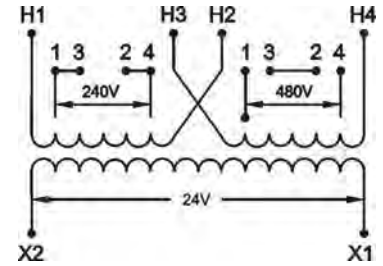


SBE Series Selection Tables - continued

Group 3 – 240 x 480 Volt Primary, 24 Volt Secondary, 60 Hz



| VA  | Catalog Number | Height (inch) | Width (inch) | Depth (inch) | Mtg Width W1 / W2 | Mtg Depth D1 / D2 | Slot Size (inches) | Approx. Ship Weight lbs (kg) |
|-----|----------------|---------------|--------------|--------------|-------------------|-------------------|--------------------|------------------------------|
| 50  | E050D          | 2.72          | 3.01         | 3.99         | 2.51/NA           | 2.02/N/A          | .20 x .33          | 3 (1.36)                     |
| 100 | E100D          | 2.96          | 3.39         | 4.61         | 2.81/2.50         | 2.37/NA           | .20 x .50          | 5 (2.27)                     |
| 250 | E250D          | 3.89          | 4.5          | 5.21         | 3.74/3.12         | 3.29/3.61         | .20 x .65          | 11 (5.00)                    |
| 500 | E500D          | 4.53          | 5.25         | 5.75         | 4.38/3.75         | 4.33/NA           | .31 x .71          | 19 (8.64)                    |

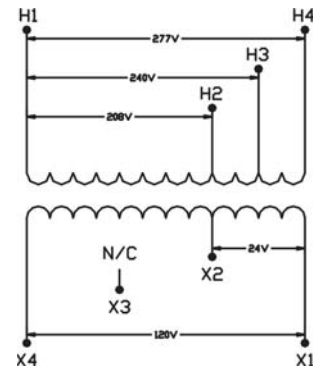


Note: Includes FB2X Secondary fuse holder.

Group 4 – 208/240/277 Volt Primary, 120/24 Volt Secondary, 60 Hz



| VA  | Catalog Number | Height (inch) | Width (inch) | Depth (inch) | Mtg Width W1 / W2 | Mtg Depth D1 / D2 | Slot Size (inches) | Approx. Ship Weight lbs (kg) |
|-----|----------------|---------------|--------------|--------------|-------------------|-------------------|--------------------|------------------------------|
| 50  | E050JL         | 2.72          | 3.01         | 3.99         | 2.51/NA           | 2.02/N/A          | .20 x .33          | 3 (1.36)                     |
| 100 | E100JL         | 2.96          | 3.39         | 4.61         | 2.81/2.50         | 2.37/NA           | .20 x .50          | 5 (2.27)                     |
| 250 | E250JL         | 3.89          | 4.5          | 5.21         | 3.74/3.12         | 3.29/3.61         | .20 x .65          | 11 (5.00)                    |
| 500 | E500JL         | 4.53          | 5.25         | 5.75         | 4.38/3.75         | 4.33/NA           | .31 x .71          | 19 (8.64)                    |

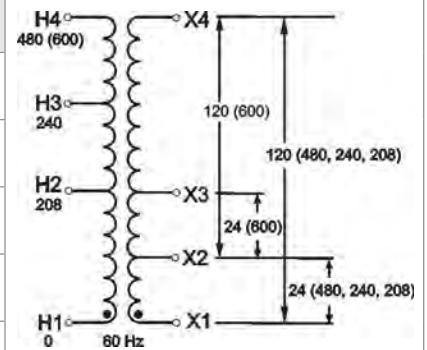


Note: Will only accept one FB2 secondary fuse holder. Will not accept FB2X secondary fuse holder.

Group 5 – 208/240/480/600 Volt Primary, 120/24 Volt Secondary, 60 Hz  
200/230/460/575 Volt Primary, 115/23 Volt Secondary, 60 Hz



| VA  | Catalog Number | Height (inch) | Width (inch) | Depth (inch) | Mtg Width W1 / W2 | Mtg Depth D1 / D2 | Slot Size (inches) | Approx. Ship Weight lbs (kg) |
|-----|----------------|---------------|--------------|--------------|-------------------|-------------------|--------------------|------------------------------|
| 50  | E050JN         | 2.96          | 3.39         | 4.36         | 2.81/2.50         | 2.10/NA           | .20 x .50          | 4 (1.81)                     |
| 100 | E100JN         | 3.89          | 4.5          | 4.48         | 3.74/3.12         | 2.56/2.87         | .20 x .65          | 8 (3.67)                     |
| 150 | E150JN         | 3.89          | 4.5          | 5.21         | 3.74/3.12         | 3.29/3.61         | .20 x .65          | 11 (5.00)                    |
| 250 | E250JN         | 4.53          | 5.25         | 5.07         | 4.38/3.75         | 3.54/NA           | .31 x .71          | 15 (6.82)                    |
| 500 | E500JN         | 5.56          | 6.38         | 6.93         | 5.32/4.37         | 4.25/5.75         | .31 x .85          | 30 (13.64)                   |



Note: Will only accept one FB2 secondary fuse holder. Will not accept FB2X secondary fuse holder.

SBE Accessories (For Group 1 & 2 voltage configurations only)

**FBP:** Field installed primary fuse holder kit designed to accommodate two Class "CC" rejection type fuses. Finger safe covers not available.

**FB2:** Field installed secondary fuse holder kit designed to accommodate one Glass or Ceramic, 1/4" x 1 1/4" fuse.

**SBEDIN:** Field installed IEC Fuse Holder Adaptor Kit

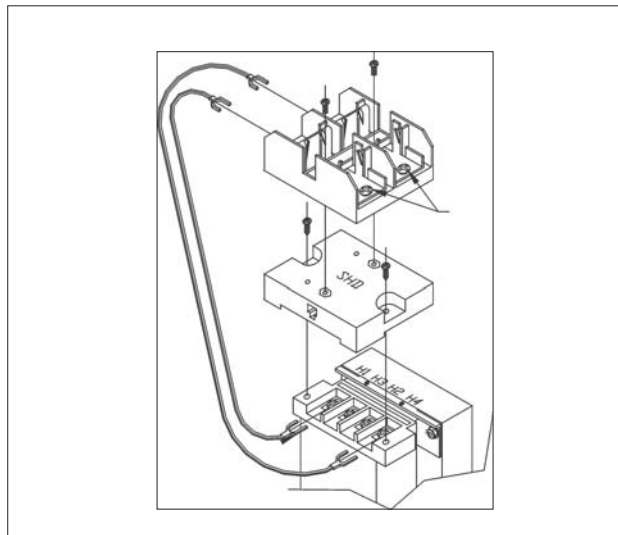
See the Technical Notes section for recommended fuse sizes.

**FBPC1:** Field installed primary fuse holder designed to accommodate two Class "CC" rejection type fuses with Primary and Secondary Finger Safe Covers Kit.

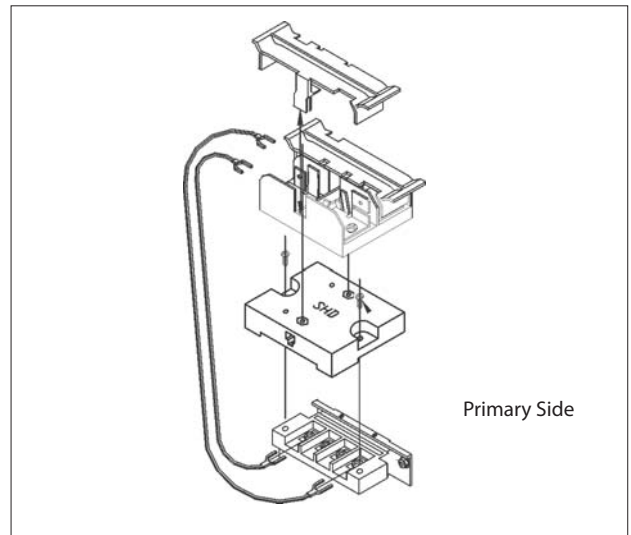
**FB2X:** Field installed secondary fuse holder designed to accommodate one 13/32" x 1 1/2" (Midget type) cartridge fuse (included with applicable transformer purchase only).

**IP20:** Field installed Primary and Secondary IEC Touch Proof Cover Kit.

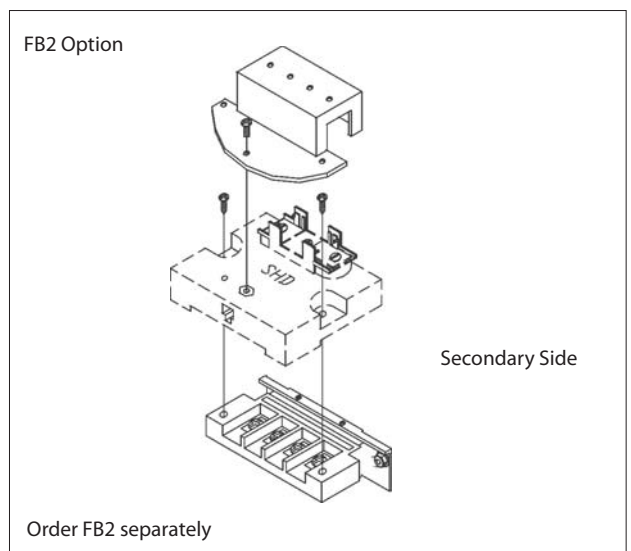
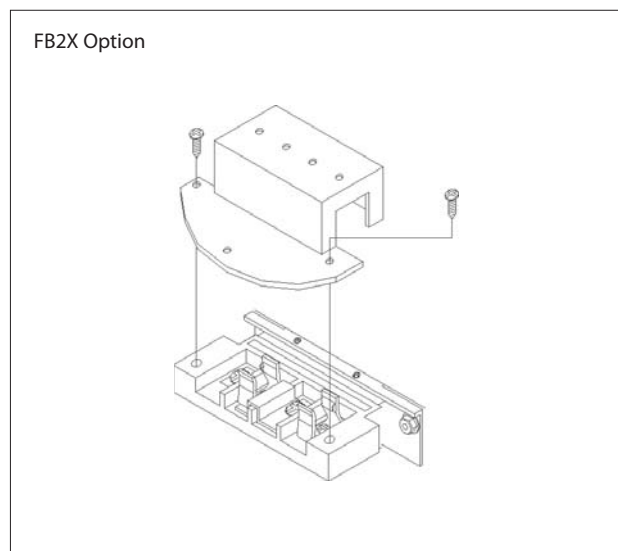
FBP Fuse Block - Primary Side



FBPC1 Fuse Block and Finger Safe Cover Kit

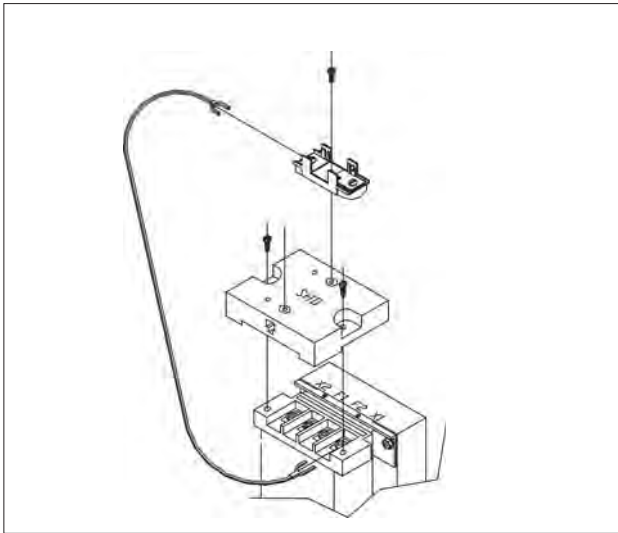


FBPC1 Secondary Cover - For use with either FB2X or FB2 options.

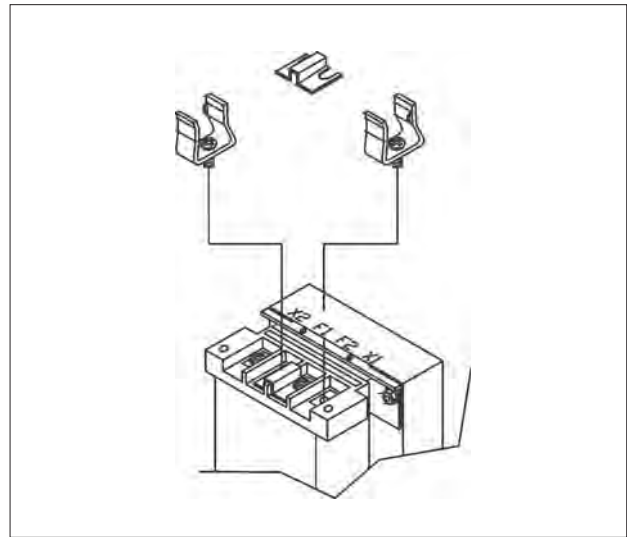


SBE Additional Accessories - continued

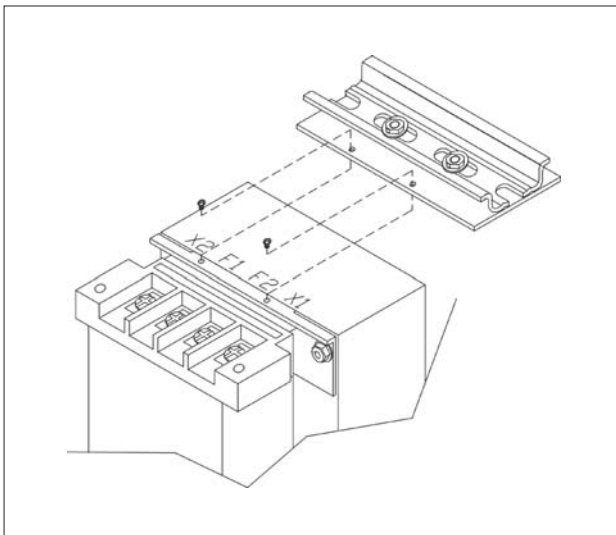
FB2 Fuse Block - Secondary Side



FB2X Fuse Block - Secondary Side



SBE DIN Circuit Breaker Mounting



IP20 Terminal Covers (Two Covers Per Kit)

