



# High-Speed Class J Fuses

Advanced protection for  
drives and soft-starters

 GROUPE  
CARBONE LORRAINE

**Ferraz  
Shawmut**  
Your circuit protection resource.

## Standard Fuse Ampere Ratings, Catalog Numbers

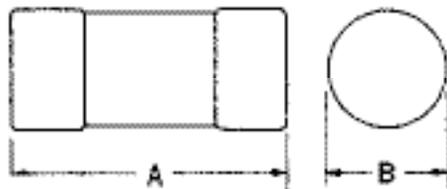
| AMPERE RATING | CATALOG NUMBER | OUTLINE FIG. | AMPERE RATING | CATALOG NUMBER | OUTLINE FIG. |
|---------------|----------------|--------------|---------------|----------------|--------------|
| 15            | HSJ15          | 1            | 100           | HSJ100         | 2            |
| 17.5          | HSJ17.5        | 1            | 110           | HSJ110         | 2            |
| 20            | HSJ20          | 1            | 125           | HSJ125         | 2            |
| 25            | HSJ25          | 1            | 150           | HSJ150         | 2            |
| 30            | HSJ30          | 1            | 175           | HSJ175         | 2            |
| 35            | HSJ35          | 1            | 200           | HSJ200         | 2            |
| 40            | HSJ40          | 1            | 225           | HSJ225         | 2            |
| 45            | HSJ45          | 1            | 250           | HSJ250         | 2            |
| 50            | HSJ50          | 1            | 300           | HSJ300         | 2            |
| 60            | HSJ60          | 1            | 350           | HSJ350         | 2            |
| 70            | HSJ70          | 2            | 400           | HSJ400         | 2            |
| 80            | HSJ80          | 2            | 500           | HSJ500         | 2            |
| 90            | HSJ90          | 2            | 600           | HSJ600         | 2            |

**Recommended Fuse Bloc with Box Connectors for AMP-TRAP Class J Fuses**

| Fuse Ampere Rating | Catalog Number |        |
|--------------------|----------------|--------|
|                    | 600V or Less   |        |
|                    | 1 Pole         | 3 Pole |
| 0-30               | US3J11         | US3J31 |
| 31-60              | US6J11         | US6J31 |
| 61-100             | 6106J          | 61063J |
| 101-200            | 621001J        | 62003J |
| 201-400            | 64031J         | 64033J |
| 401-600            | 6631J          | 6633J  |

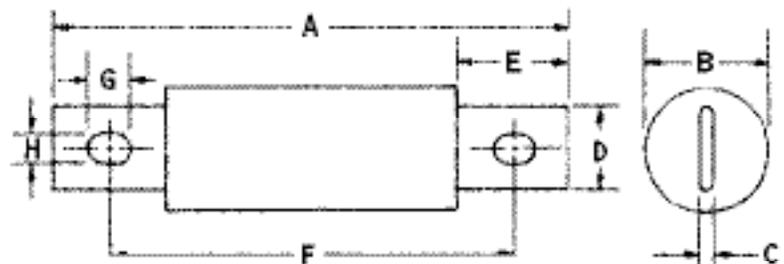
## Dimensions

Fig 1



15-60A

Fig 2



70-600A

| Ampere Rating | A     |     | B      |    | C    |     | D     |    | E     |    | F     |     | G     |    | H     |    |
|---------------|-------|-----|--------|----|------|-----|-------|----|-------|----|-------|-----|-------|----|-------|----|
|               | in.   | mm  | in.    | mm | in.  | mm  | in.   | mm | in.   | mm | in.   | mm  | in.   | mm | in.   | mm |
| 15-30         | 2-1/4 | 57  | 13/16  | 21 | -    | -   | -     | -  | -     | -  | -     | -   | -     | -  | -     | -  |
| 31-60         | 2-3/8 | 60  | 1-1/16 | 27 | -    | -   | -     | -  | -     | -  | -     | -   | -     | -  | -     | -  |
| 61-100        | 4-4/8 | 117 | 1-1/8  | 29 | 1/8  | 3.2 | 3/4   | 19 | 1     | 25 | 3-5/8 | 92  | 3/8   | 10 | 9/32  | 7  |
| 101-200       | 5-3/4 | 146 | 1-5/8  | 41 | 3/16 | 4.8 | 1-1/8 | 29 | 1-3/8 | 35 | 4-3/8 | 111 | 3/8   | 10 | 9/32  | 7  |
| 201-400       | 7-1/8 | 181 | 2-1/8  | 54 | 1/4  | 6.3 | 1-5/8 | 41 | 1-7/8 | 48 | 5-1/4 | 133 | 17/32 | 13 | 13/32 | 10 |
| 401-600       | 8     | 203 | 2-1/2  | 64 | 3/8  | 9.5 | 2     | 51 | 2-1/8 | 54 | 6     | 152 | 11/16 | 18 | 17/32 | 13 |

# The Need for code compliance and semi-conduct



## The Ferraz Shawmut solution: High Speed Class J fuses

Many manufacturers of drives and soft-starters have sought to reduce costs by eliminating internal semiconductor fusing. This now leaves equipment vulnerable to component failure, and falls short of code branch circuit requirements. Therefore, it becomes the end users' responsibility to protect the drives and soft-starters, while also providing branch circuit protection.

Ferraz Shawmut has developed an innovative solution to this problem, the UL listed Class J Fuse (HSJ) designed specifically to fit the operating parameters of drives and soft-starters, and protect the internal power electronic devices.

The HSJ combines the following features:

- Semiconductor protection (very low  $I^2t$ )
- Compliance to NEC (branch circuit protection)
- Mirrors operating characteristics of electronic motor controllers
- Capable of protecting overloads down to 135% of fuse rating

## Why let short cuts result in costly short circuits?

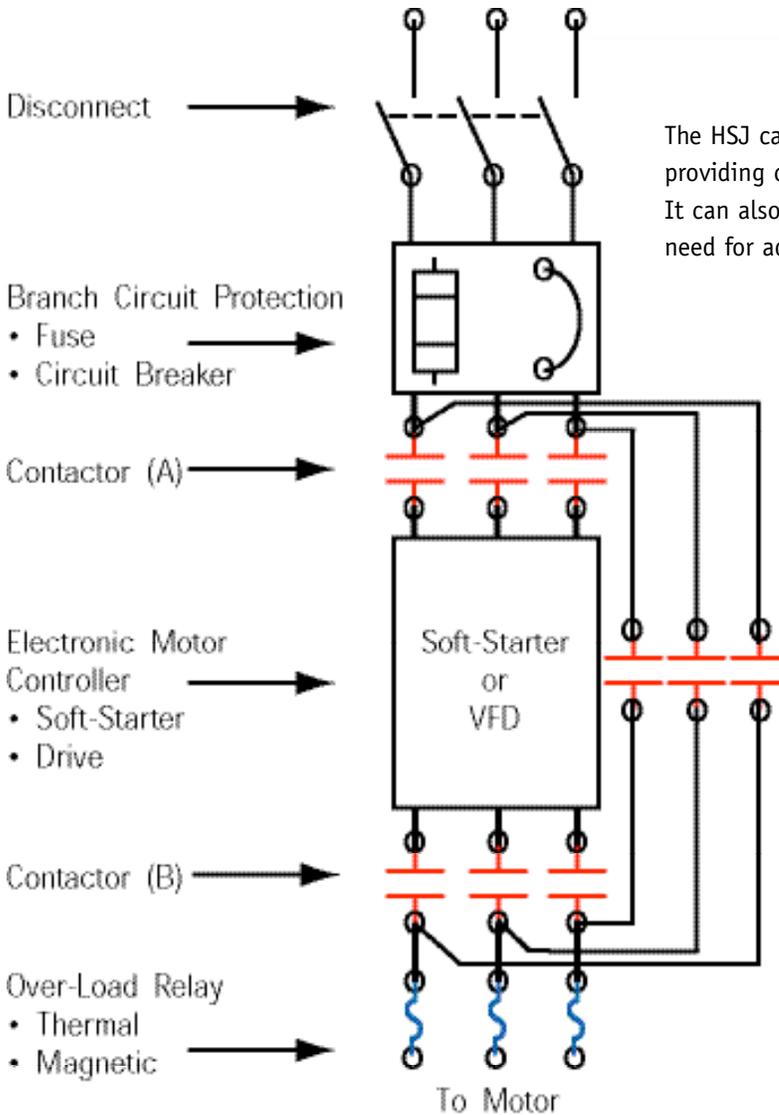
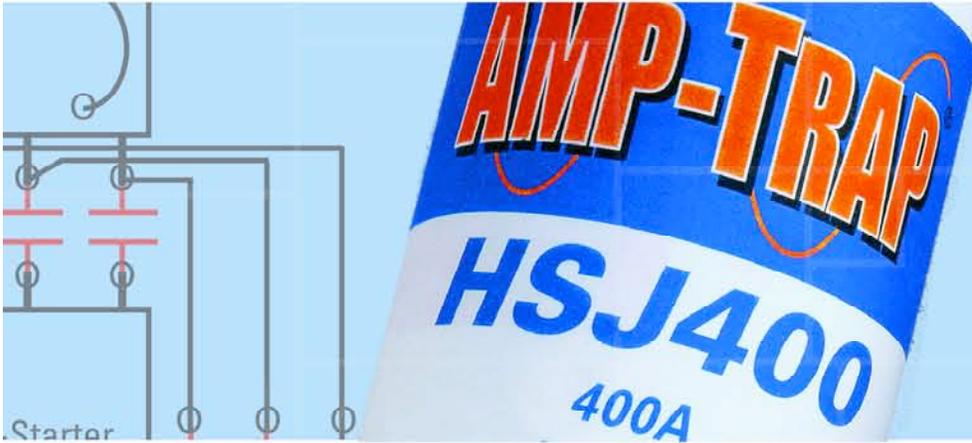
By using Ferraz Shawmut HSJ fuses not only are the NEC safety requirements and the equipment integrity maintained, but the price of replacing costly equipment is also eliminated.

## Features & Benefits

- UL listed to 248-8
- UL Class J dimension
- CSA certified to C22.2
- 600VAC/500VDC
- 15A to 600A
- 200 kA interrupting rating
- Very low  $I^2t$
- Protects most semiconductor devices
- Can be used with ULTRASAFE fuse holders for finger-safe protection (up to 60A)
- Easily coordinated with drives and soft starters

# Protection

You'll find the HSJ in a broad range of amp ratings – from 15A to 600A, UL listed to 248.8 (Class J).



The HSJ can be used in fusible disconnect switches, providing code branch circuit protection. It can also protect power semiconductors without the need for additional protective devices.

| Protection Method                     | Code Branch Circuit Protection | Drive or Soft-Start Protection |
|---------------------------------------|--------------------------------|--------------------------------|
| NEW HSJ (UL Listed)                   | ✓                              | ✓                              |
| Circuit Breaker (UL Listed)           | ✓                              | ✗                              |
| Class J, T, RK1, RK5 Fuse (UL Listed) | ✓                              | ✗                              |
| Semiconductor Fuse (UL Rec)           | ?                              | ✓                              |



The HSJ is the only product available capable of providing NEC branch circuit protection and power electronics protection in one package!

### Innovation and more, from your circuit protection resource.

High-Speed Class J fuses are just one example of the innovative products and features engineered by Ferraz Shawmut — your circuit protection resource.

With products to meet every major global standard and a worldwide sales and service network, the depth of Ferraz Shawmut's solutions is unmatched in the industry. And don't forget technical support from applications specialists and experts on international standards.

### To learn more...

For more information about High Speed Class J fuses—visit [ferrazshawmut.com](http://ferrazshawmut.com), contact your Ferraz Shawmut representative or call us at 978-462-6662.



Your circuit protection resource.

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