# **MIDI High Performance Series**

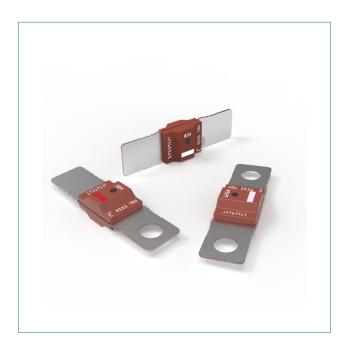
Bolt-down Fuses – Rated 70V-SF36











### **Description**

MIDI® High Performance 70V automotive fuses protect circuits that receive large inrushes of current, such as those for fans, heaters, batteries, and starters. Silicon inserts ensure these fuses offer more than 1 Mohm of resistance in their open state. Like all boltdown MIDI fuses, these employ diffusion pill technology to offer predictable time-delayed performance.

#### **Features & Benefits**

- 1 Mohm open state resistance
- High-contrast color coding on housing aids identification
- High tightening torque resistance
- Available with two, one, or no mounting holes
- Recognized as UL 248-1 Special Purpose Fuses (at 70V DC File E71611) and Directive 2011/65/EU
- Referes to ISO 20934 Type SF36

### **Agency Approvals**

| Agency      | Agency File Number          | Current Rating (A) |
|-------------|-----------------------------|--------------------|
| <b>71</b> 2 | UL-US-L71611-295-03219102-3 | 30 A - 200 A       |

### **Applications**

- Cars / SUVs
- Trucks
- Offroad vehicles
- Power Tools

- 2/3 wheelers
- Buses
- Watercraft as approved by Littelfuse®

### **Additional Information**





Resources

Samples

#### **See Disclaimer Notice**

# **Specifications**

| Voltage Rating:                           | 70 V DC  |  |  |
|---|--|--|--|
| Interrupting Rating:                      | 2500 A @ 70 V DC   |  |  |
| Recommended Environmental<br>Temperature: | -40 °C to +125 °C  |  |  |
| Terminals Material:                       | Tin-plated copper alloy  |  |  |
| Housing Material:                         | PA66-GF25 FR<br>(UL 94 Flammability rating of V-0)   |  |  |
| Open State Resistance (OSR):              | > 1 Mohm (after fuse opening)  |  |  |
| Mounting Torque M6:                       | 9 Nm +/- 1Nm   |  |  |
| Typical Weight per Fuse:                  | 3.5 g  |  |  |
| Refers To:                                | ISO 20934 – Type SF36. Fuse ratings<br>150 A, 175 A and 200 A deviate from<br>ISO standard (current cycles and<br>current steps not applicable). |  |  |
| Comply With:                              | Standard UL 248-1 as a Special<br>Purpose Fuse in UL File E71611 and<br>Directive 2011/65/EU.  |  |  |

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## **Ordering Information**

| Part Number  | Current Rating (A) | Bolt Size | Bolt Qty. | Package Size |
|--------------|--------------------|-----------|-----------|--------------|
| 4998xxx.M-M6 | 30 – 200           | M6        | 2         | 500          |
| 4998xxx.M1M6 | 30 – 200           | M6        | 1         | 500          |
| 4998xxx.M-NH | 30 – 200           | -         | 0         | 500          |

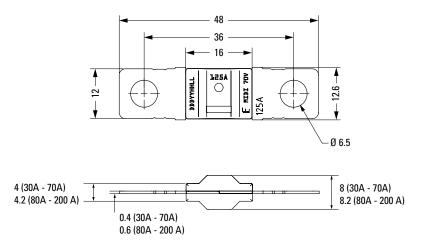
### **Ratings**

| Part Number | Current<br>Rating (A) | Housing<br>Material Color | Test Cable Size (mm²) | Typ. Voltage<br>Drop (mV) | Typ. Cold<br>Resistance (mΩ) | Typ. I²t<br>(A²s) |
|-------------|-----------------------|---------------------------|-----------------------|---------------------------|------------------------------|-------------------|
| 4998030.M_  | 30                    |                           | 2.5                   | 100                       | 2.20                         | 3200              |
| 4998040.M_  | 40                    |                           | 4                     | 94                        | 1.56                         | 4700              |
| 4998050.M_  | 50                    |                           | 6                     | 86                        | 1.16                         | 7500              |
| 4998060.M_  | 60                    |                           | 6                     | 81                        | 0.94                         | 6800              |
| 4998070.M_  | 70                    |                           | 10                    | 76                        | 0.74                         | 10 900            |
| 4998080.M_  | 80                    |                           | 10                    | 64                        | 0.57                         | 10 500            |
| 4998100.M_  | 100                   |                           | 10                    | 68                        | 0.44                         | 18 300            |
| 4998125.M_  | 125                   |                           | 16                    | 66                        | 0.35                         | 51 300            |
| 4998150.M_  | 150                   |                           | 25                    | 72                        | 0.29                         | 45 100            |
| 4998175.M_  | 175                   |                           | 25                    | 70                        | 0.24                         | 88 000            |
| 4998200.M_  | 200                   |                           | 35                    | 67                        | 0.20                         | 111 700           |

Note: The typical I<sup>2</sup>t is an average value calculated from the breaking capacity tests by using the melting time before the arcing occurs.

#### **Dimensions**

Dimensions in mm. Please refer to the outline drawing for dimensions and tolerances.

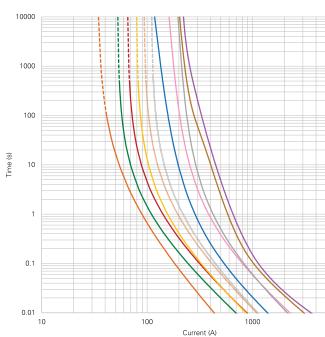




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### **Time-Current Characteristic**



| % of Rating   | Opening Time Min. / Max. (s) |
|---|------------------------------|
| 100   | 360 000 / -                  |
| 135   | 300 / 3 600                  |
| 150   | 90 / 500                     |
| 200   | 1 / 50                       |
| 300   | 0.3 / 4                      |
| 500   | 0.1 / 1                      |
| 600   | 0.07 / 0.7                   |
| 30 A 125 A 150 A 50 A 1775 A 60 A 200 A 200 A 100 A |                              |

**Note 1:** Current recommendation may be impacted by the final condition of the application (terminals characteristics, wire size etc..).

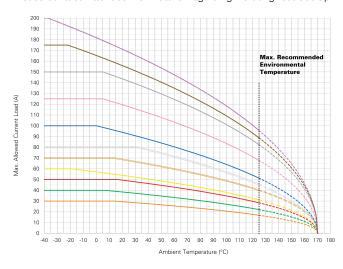
Please contact Littelfuse® for more information.

Note 2: Fuse ratings 150 A, 175 A and 200 A deviate from ISO standard (current cycles and current steps not applicable).

### **Typical Derating Curves**

Temperature security margin is 20%

Please contact Littelfuse® for Details Regarding Derating Test Set Up.



|   | Max. allowed current load (A) at ambient temperature based on typical derating |      |       |       |       |        |        |
|---|--|------|-------|-------|-------|--------|--------|
|   | -40 °C   | 0 °C | 20 °C | 65 °C | 85 °C | 110 °C | 125 °C |
| 30 A  | 30   | 30   | 29    | 25    | 23    | 19     | 17     |
| 40 A  | 40   | 40   | 38    | 33    | 30    | 25     | 22     |
| 50 A  | 50   | 50   | 49    | 42    | 38    | 32     | 28     |
| 60 A  | 57   | 57   | 54    | 46    | 42    | 35     | 31     |
| 70 A  | 70   | 70   | 69    | 59    | 53    | 46     | 40     |
| 80 A  | 80   | 80   | 80    | 70    | 63    | 52     | 45     |
| 100 A   | 100  | 100  | 94    | 78    | 71    | 59     | 51     |
| 125 A   | 125  | 125  | 120   | 101   | 91    | 78     | 68     |
| 150 A   | 150  | 150  | 144   | 122   | 110   | 94     | 82     |
| 175 A   | 175  | 165  | 156   | 132   | 119   | 101    | 89     |
| 200 A   | 200  | 182  | 171   | 144   | 130   | 110    | 96     |
| 30 A 125 A<br>40 A 150 A<br>50 A 175 A<br>60 A 200 A<br>70 A<br>80 A<br>100 A |  |      |       |       |       |        |        |

**Note:** Current recommendation may be impacted by the final condition of the application (terminals characteristics, wire size etc..). Please contact Littelfuse® for more information.

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