



## American General Purpose Fuses UltraSafe Range Highlights



The brand-new innovative and comprehensive "MODULOSTAR®" range of Ferraz Shawmut Modular Fuseholders and Fuse disconnectors is global and designed to accommodate a multitude of fuses from around the world, including - UL class CC, Midget - Special protection class (UR, gR, gD) in 4 sizes: 10x38, 14x51, 22x58 and 27x60 mm. All MODULOSTAR® products are manufactured in accordance with IEC 60269-2, IEC 60947 - 1 & 3, UL512 and CSA 22-2 Standards.

### General characteristics

- **Impulse withstand voltages :**
  - The range is tested at respectively  $U_{imp} = 6KV$  and  $8KV$  according to part 8.3.3.4.1 of IEC 60947-1 between neighboring poles, between phase and wires, between phase and microswitch. Insulation voltage rating  $U_i = 690VAC$  and  $800VAC$
  - The blown fuse light indicators are available for 24VDC to 700VDC and 110VAC to 690-700VAC
- **European RoHS Directive:**  
Modulostar® product range is develop in accordance with European Directive 2002/95/CE dated 27 January 2003, as free of halogene (PBB, PBDE), chlorine, mercury, cadmium and lead.
- **Environmental aspects**  
Modulostar® range is design following "ecoconception" method, with software tool EIME (Environmental Information & Management Explorer), which takes into account the following criteria: Water Toxicity, Water Eutrophication, Hazardous Waste Production, Raw Material Depletion, Energy Depletion, Water Depletion, Global Warming, Air Toxicity, Photochemical Ozone Creation, Air Acidification
- **Plastic material used are UL 94 V0 to V2 with UL Recognized Yellow card**  
RTI ( Relative Thermal Index)  $> 120^{\circ}C$   
CTI ( Comparative Tracking Index)  $> 350V$   
Bodies are in Polyamide 6 with 20% reinforced material  
Handles are in Polyamide 6.6 with 25% reinforced material or in Thermodur BMC
- **Homologations:** CB report according IEC 60269-2 and IEC 60947-3 standards  
UL CSA Listed (600V AC) for class CC products ranges, UL CSA recognition ( 800V AC - 1000V DC) for Midget and IEC products
- **Vibration withstand:**  
Tests with sine vibrations carried out at ambient temperature with scanning each of the three main axis of the holder .  
Spectrum: 1<sup>st</sup> segment ( 2 to 16Hz) constant displacement  $x=5mm$  peak  
2<sup>nd</sup> segment (16 to 250 Hz) constant acceleration  $\gamma = 5g$  peak  
Exponential scanning speed: 1 octave per minute.  
Duration : 2 hours per axis.
- **Climatic usage conditions:** Modulostar® is designed for temperate climates . For more severe climates we recommend the following:

|                           |      |      |      |      |
|---------------------------|------|------|------|------|
| Maximum temperature       | 20°C | 30°C | 40°C | 50°C |
| Maximum relative humidity | 95%  | 90%  | 80%  | 50%  |
| Curent derating           | 1    | 0.95 | 0.9  | 0.8  |



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### Fuse ranges used in Ferraz Shawmut fusegear

| Class \ Size               | 10.3 x 38 / CC  | 14 x 51                                     | 22 x 58  | 27 x 60                             |
|----------------------------|---|---|--|-------------------------------------|
| 600V Class J Time delay    |   |   | AJT 1 to 30A                                   | AJT 31 to 60A                       |
| 600V Class J Fast acting   |   |   | A4J 1 to 30A                                   | A4J 31 to 60A                       |
| 600V Midget fast acting    | 6JX, ATM, SBS 0.25 to 30A                                     |   |  |                                     |
| 600V Class CC Time delay   | ATDR, ATQR, ATMR 1/4 to 30A                                   |   |  |                                     |
| 600V Class RK5 Time delay  |   | TR 1 to 30A                                 |  |                                     |
| 250V Class RK1 Fast acting |   | A2K 1 to 30A                                |  |                                     |
| 250V Class K-5             |   | OT, OTN 1 to 30A                            |  |                                     |
| 250V Class RK1 Time delay  |   | A2D, 1 to 30A                               |  |                                     |
| 500V Midget Time delay     | ATQ 0.1 to 10A  |   |  |                                     |
| 250V-300V Midget           | OTM, TRM, A25Z-2 0.1 to 30A                                   |   |  |                                     |
| 125V Midget Fast acting    | GGU, GFN 3 to 30A   |   |  |                                     |
| aM                         | 400V 25 to 32A<br>500V 0.16 to 20A<br>690V 0.16 to 12 or 20A* | 500V 32 to 50A<br>690V 0.25 to 40A          | 500V 100 to 125A<br>690V 1 to 80A              |                                     |
| gG                         | 400V 32A<br>500V 0.5 to 25A<br>690V 0.5 to 12 or 20A*         | 400V 50A<br>500V 32 to 40A<br>690V 1 to 32A | 400V 125A<br>500V 100A<br>690V 4 to 80A        |                                     |
| 60gD                       |   | 600V 10 to 30A                              | 600V 35 to 60A                                 | 600V 65 to 100A                     |
| gG with striker            | 400V 2 to 32A   | 400V 50A<br>500V 2 to 40A<br>690V 2 to 32A* | 400V 125A<br>500V 80 to 100A<br>690V 4 to 80A* | 690V 63 to 160A*                    |
| aM with striker            | 400V 2 to 32A   | 500V 1 to 15A<br>690V 10 to 40A*            | 500V 63 to 100A<br>690V 1 to 80A*              | 690V 63 to 160A*                    |
| UR                         | 600V 0.1 to 0.8   | 690V 6 to 50A                               | 690V 25 to 100A                                |                                     |
| gR                         | 690V 1 to 32A   | 690V 1 to 50A                               | 690V 25 to 100A                                |                                     |
| UR with striker            | 500V 1 to 30A   | 690V 6 to 50A                               | 690V 25 to 100A                                | 690V 63 to 250V<br>1000V 32 to 170A |
| gR with striker            |   | 690V 1 to 50A                               | 690V 25 to 100A                                | 800V 8 to 110A                      |
| I <sub>n</sub> maxi        | 32A   | 50A   | 125A   | 170A                                |

\* development in progress