## Special Purpose HelioProtection® Photovoltaic fuse-links HP10M 1000VDC 1 to 30A

Mersen HP10M photovoltaic (PV) fuse series was engineered and designed specifically for the protection of photovoltaic systems. Its enhanced fuse construction makes it ideal for continuous temperature and current cycling withstand adding to system longevity. The 1000VDC rated HP10M, designed for low minimum breaking capacity capabilities of 1.35 times the fuse rated current value, allows for safe circuit interruption under typical low fault current conditions produced by PV arrays. Protect your off-grid or grid tied PV system from unexpected ground faults and line faults using Mersen HelioProtection® fuse line.

#### **Benefits**

Industries first UL Listed Solution Globally accepted Low fault current interrupting

capability

Temperature cycle withstand capability

Durable construction for enhanced system longevity

Guaranteed operation at temperature extremes (-30°C to +70°C)

| Rated       | Nominal     | Class | Catalog | Reference |
|-------------|-------------|-------|---------|-----------|
| Voltage (V) | Current (A) |       | Number  | Number    |
| 1000        | 1           | gPV   | HP10M1  | B1018579  |
| 1000        | 2           | gPV   | HP10M2  | C1018580  |
| 1000        | 3           | gPV   | HP10M3  | D1018581  |
| 1000        | 4           | gPV   | HP10M4  | E1018582  |
| 1000        | 5           | gPV   | HP10M5  | F1018583  |
| 1000        | 6           | gPV   | HP10M6  | G1018584  |
| 1000        | 7           | gPV   | HP10M7  | H1018585  |
| 1000        | 8           | gPV   | HP10M8  | J1018586  |
| 1000        | 10          | gPV   | HP10M10 | L1018588  |
| 1000        | 12          | gPV   | HP10M12 | M1018589  |
| 1000        | 15          | gPV   | HP10M15 | N1018590  |
| 1000        | 20          | gPV   | HP10M20 | P1018591  |
| 1000        | 25          | gPV   | HP10M25 | D1023825  |
| 1000        | 30          | gPV   | HP10M30 | E1023826  |

#### **Dimensions inches (mm)**

www.ferrazshawmut.mersen.com



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### **Applications**

All photovoltaic applications Combiner box applications PV string/array level protection In-line PV module protection Inverters Battery charge controllers

### Ratings

1000VDC: 1 to 30A, L/R = 1ms IR: 10kA I.R. DC Minimum Breaking Capacity: 1.35 x In

#### **Approvals**

CSA Component Certified C22.2 UL Listed to Standard UL2579 File E333668

IEC 60269-6 Certified RoHS Component



#### **Related products**

Fuse-holders UltraSafe<sup>™</sup> US10 With indicator: US101IHEL / Without indicator: US101HEL

Packaging: 10 pieces



Data Sheet



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| Rated       | Nominal     | Watts Loss @ | Watts Loss @ | Watts Loss @ |
|-------------|-------------|--------------|--------------|--------------|
| Voltage (V) | Current (A) | 100% ln (W)  | 80% In (W)   | 70% ln (W)   |
| 1000        | 1           | 0.32         | 0.2          | 0.14         |
| 1000        | 2           | 0.43         | 0.27         | 0.2          |
| 1000        | 3           | 1.4          | 0.9          | 0.63         |
| 1000        | 4           | 1.3          | 0.8          | 0.58         |
| 1000        | 5           | 1.4          | 0.9          | 0.63         |
| 1000        | 6           | 1.5          | 1.0          | 0.67         |
| 1000        | 7           | 1.5          | 1.1          | 0.68         |
| 1000        | 8           | 1.1          | 0.7          | 0.5          |
| 1000        | 10          | 1.5          | 0.9          | 0.69         |
| 1000        | 12          | 2.0          | 1.3          | 0.9          |
| 1000        | 15          | 3.0          | 1.9          | 1.3          |
| 1000        | 20          | 4.4          | 2.6          | 2.0          |
| 1000        | 25          | 2.9          | 1.7          | 1.2          |
| 1000        | 30          | 3.8          | 2.1          | 1.5          |

Ampere rating vs. Ambient temperature



#### 10000 10000 7000 7000 5000 5000 3000 3000 2000 2000 1000 1000 700 700 500 500 1A 300 2A 300 ЗA 200 200 8A 4A 100 100 10A 5A 70 70 12A 50 50 6A -15A 30 30 \_20A 7A 20 20 -25A -30A Actual 10 10 7 prearcing time (s) 5 3 2 2 0.7 0.7 0.5 0.5 0.3 0.3 0.2 0.2 0.1 0. 0.07 0.07 0.05 0.05 0.03 0.03 0.02 0.02 0.01 0.01 30 20 0.7 50 70 100 200 300 500 700 2000 3000 5000 7000 0.7 30 20 50 70 Ş 200 300 500 700 2000 3000 5000 7000 0000

rms value of prearc current (A)  $\pm$  10%



### Time current characteristics