

# PFU Series

1000 W & 800 W

High Power Resistors / High Voltage Resistors



- High Power Density
- 0.5 Ohm to 1 Mohm
- Very Low Inductance
- Moisture resistant encapsulation
- Vibraton Proof



Applications: *Power Supplies, Motor Controls, Snubber Resistors, Load Banks, and Robotics*

## SPECIFICATIONS

Type	PFU 800	PFU 1000	Conditions
Rated Power	-	1000	At Flange Temperature -55 to +75 °C
	800	-	At Flange Temperature -55 to +90 °C
Short Time Overload	1200	1200	5 Seconds mounted on cooler
Thermal Resistance	0.10 °C / W		From Resistor to Flange
Resistance Range	0.5 ohm to 1 Mohm		Maximum power is limited per Ohm's law. $V^2/R$ for example at 1Mohm power is limited to 25 watts
Nominal Resistance	E24+		E24, additionally 2.5, 5.0 and 8.0
TCR	+/- 100 PPM/K (A)		1 ohm to 1 Mohm, +/- 200PPM/°C < 1 ohm , for -55 to +155 °C
Tolerance	+/- 5% (J)		
Operation Temperature	-55 to +175 °C		At Resistor Element Surface
Max Applied Voltage	$V = \sqrt{P \cdot R}$ (5,000V Max)		P Rated Power (W), R - resistance value (ohm), V - voltage (V)
Insulation Voltage	5,000 V-50Hz	5,000 V-50Hz	60 seconds between Terminals and Flange. Leak current below 0.5 mA
Partial Discharge Voltage	5,000 V-30KHz	5,000 V-50KHz	Starting Voltage Zero Count
Capacitance	73 pF		Terminal to Flange
Inductance	108 nH		Terminal to Terminal
Capacitance	25 pF		Terminal to Terminal
Creep Distance	42 mm		
Air Distance	14 mm		
Load Life	$\Delta R$ +/- 0.40%		Continuous Power 1000 hours
Humidity	$\Delta R$ +/- 0.25%		60 °C, 90 to 95% RH, DC 0.1W, 1000 hours
Temperature Cycle	$\Delta R$ +/- 0.20%		-55 °C, 30 min, +155 °C 30 min, 5 cycles
Insulation Resistance	Over 1G ohm		Between terminals and flange, DC 1000V
Vibration	$\Delta R$ +/- 0.25%		See Note below
Flammability	UL94V-0		For Resistor Body
Weight	160 grams	168 grams	

Note: IEC60068 2-6 displacement 0.75 mm or acceleration 100m/J<sup>2</sup> 10Hz to 54Hz sweep, 10 cycles X,Y,Z direction

# PFU Series

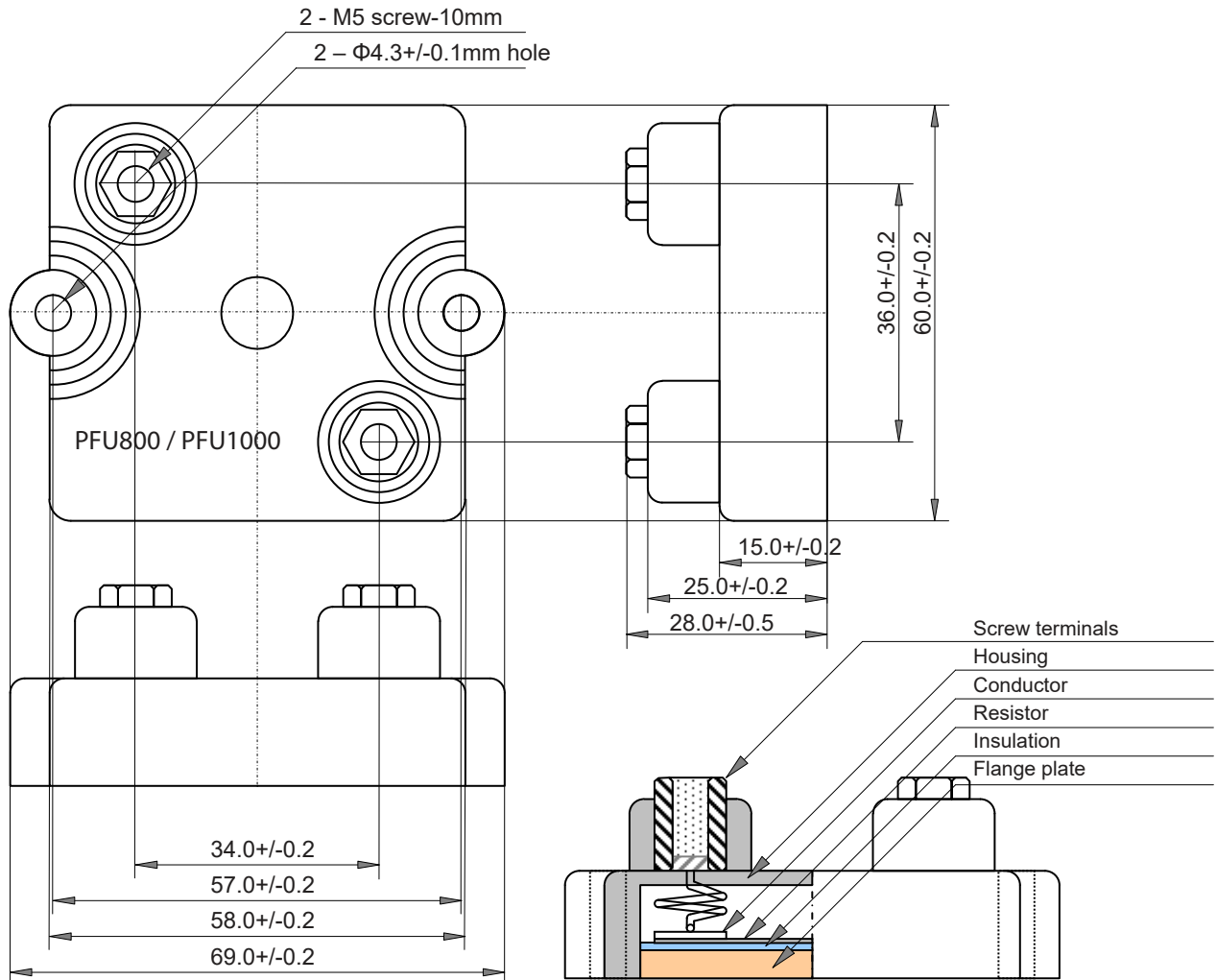
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## SPECIFICATIONS (continued)

### Dimensions and Structure (mm)



Recommended: Mounting Torque: 1.8Nm (M4)  
Contact Torque: 2.0 Nm (M5)

### Power Rating Notes -

The PFU Series Power Film Resistors must be attached to a suitable heatsink. The maximum internal resistor temperature is 175°C. **Liquid Cooling highly recommended.**

To specify an appropriate heatsink use the following formula :

$$R_{\theta H} = \frac{T_{MAX} - (P * R_{\theta R}) - T_A}{P}$$

Where:  $R_{\theta H}$  = Thermal Resistance of Heatsink ( K/W )  
 $R_{\theta R}$  = Thermal Resistance of Resistor ( K/W )  
 $T_{MAX}$  = Maximum Temperature of Resistor  
 $T_A$  = Ambient Temperature of Heatsink ( °C )  
 $P$  = Power Through Resistor ( W )

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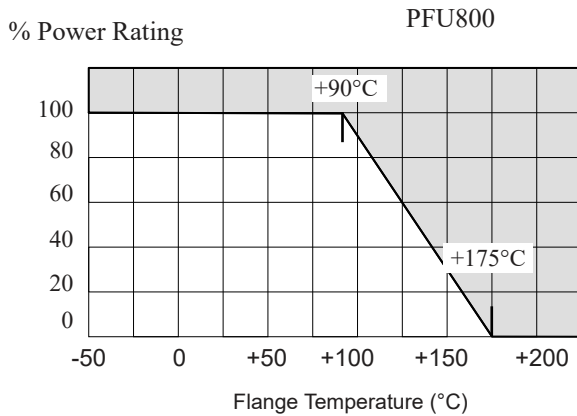
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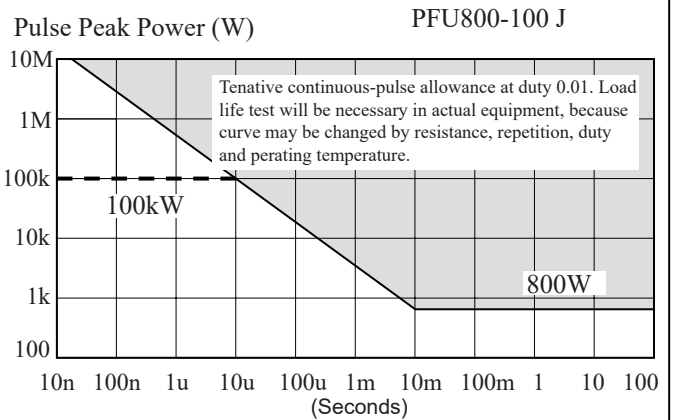


## SPECIFICATIONS (continued)

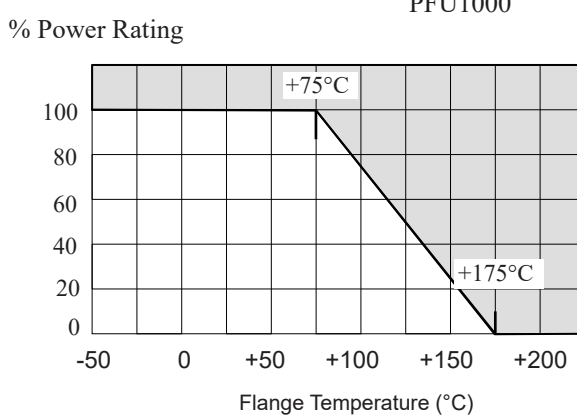
### Derating Curve



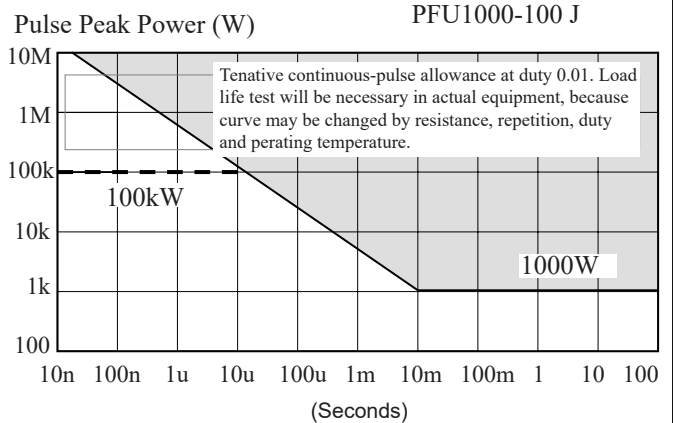
### Pulse Energy Durability



### Derating Curve



### Pulse Energy Durability



## Ordering Information

**Part Description: Part Type - Terminal Style - Resistance - Tolerance**

**PFU800 10 Ohms 5%**