



**HP RESISTOR ELEMENTS**

A versatile range of resistor elements suitable for applications requiring high power in a small space.

These resistor elements produce virtually no audible noise when subject to high frequency AC or chopped DC applications and their open wire wound construction makes them particularly suitable for repetitive short term power overloads.

Available in three different power ratings with a short time overload capability of up to 7 times its continuous rating.

**Applications**

- Dynamic braking of inverters.
- Test loads.
- Current limiting
- Equipment discharge
- Motor starting/stopping



**Features and Benefits**

- Stable high temperature resistance alloy for reliability.
- Rated for repetitive duties and high short term overloads.
- Low inductance
- Includes mounting hardware and support rods.
- Negligible noise

**Standard Ratings**

Resistance Value ( $\Omega \pm 10\%$ )	Continuous power rating for 600°C element temperature rise		
	600W	1000W	1500W
	Part Numbers		
4.7	HP600-4R7-F	HP1000-4R7-F	
6.8	HP600-6R8-F	HP1000-6R8-F	HP1500-6R8-F
10.0	HP600-10R0-F	HP1000-10R0-F	HP1500-10R0-F
22.0	HP600-22R0-F	HP1000-22R0-F	HP1500-22R0-F
33.0	HP600-33R0-F	HP1000-33R0-F	HP1500-33R0-F
47.0	HP600-47R0-F	HP1000-47R0-F	HP1500-47R0-F
100.0	HP600-100R0-F	HP1000-100R0-F	HP1500-100R0-F



### Technical Specifications

Resistance alloy	Iron /Chrome/Aluminium/ Stainless Steel
Temperature coefficient of resistance	0.007%/°C
Material of core	P120 Ceramic
Terminations	M5 threaded bolts
Maximum operating voltage	1000V (DC or AC rms)
Inductance	50 - 120µH ±30% at 100Hz (depending on resistance and power)
Insulation resistance (500V DC)	>100MΩ
Operating temperature range	-25°C to +50°C

### Installation

It is essential to allow a free flow of air around the resistor element, air leaving the resistor element can exceed 200°C.

The minimum recommended clearance to other equipment is 250mm vertically above and 150mm horizontally.

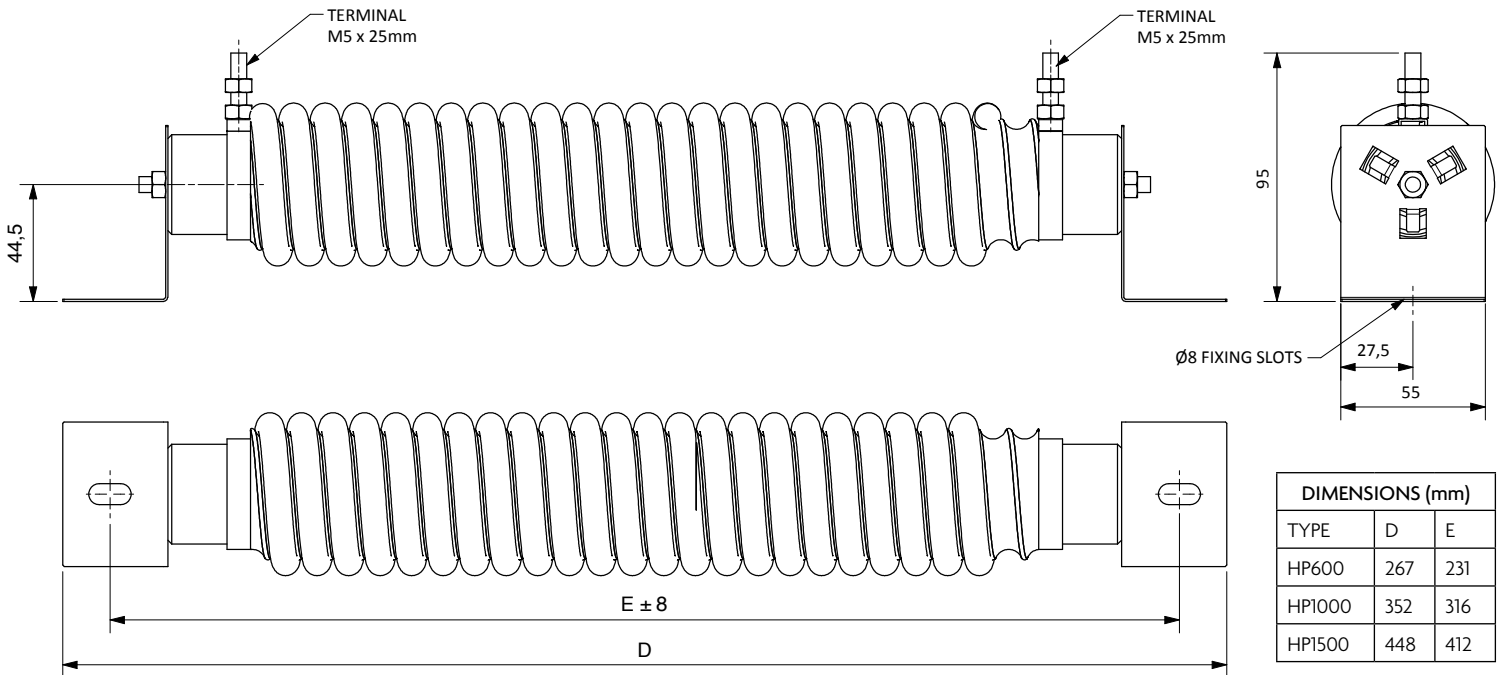
The assigned power ratings are for elements mounted horizontally in free air, for elements mounted vertically apply a derating factor of 20% to the values shown.

Resistor elements get hot when in operation ensure any adjacent surfaces are non-flammable.

Cable crimps should be uninsulated and cable should be rated for a 155°C

Any cables should be positioned to the side and below the element (out of the hot air path).

Minimum horizontal spacing 90mm.



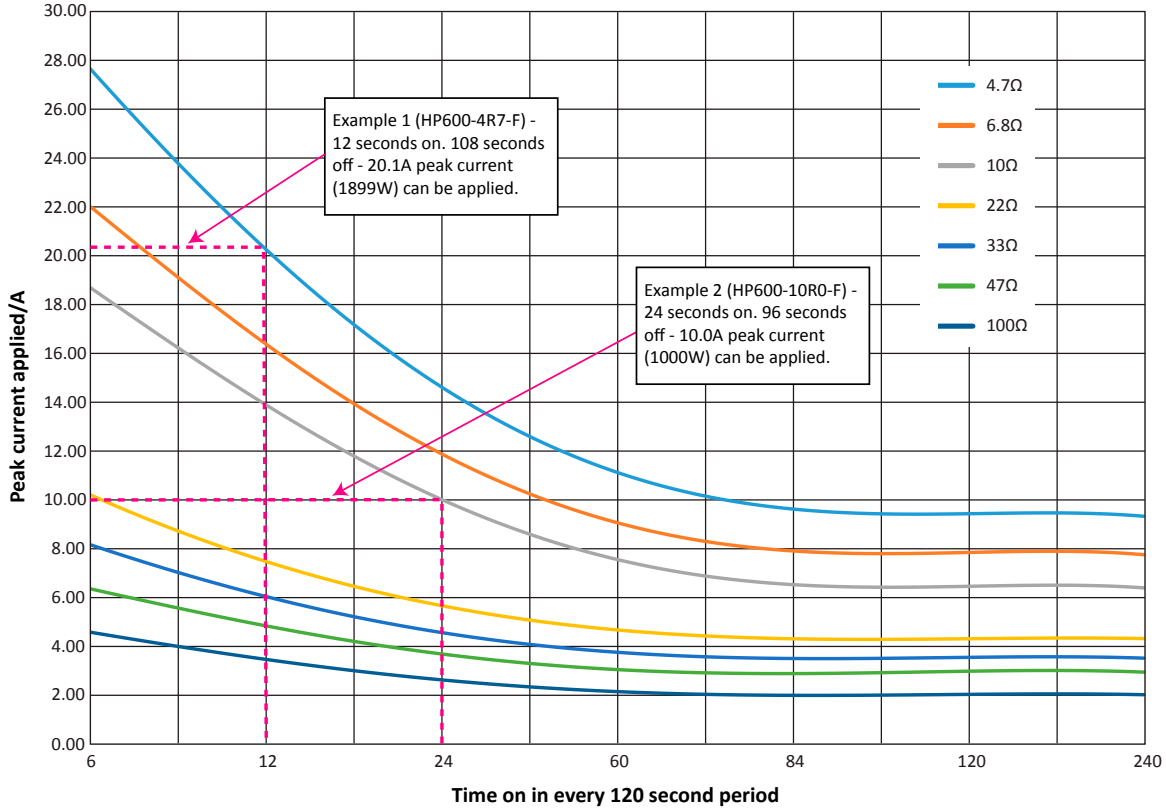
## DERATING TABLE

The following graphs shows the permissible repetitive current that can be applied to a resistor element based on a total time in circuit of 120 seconds.

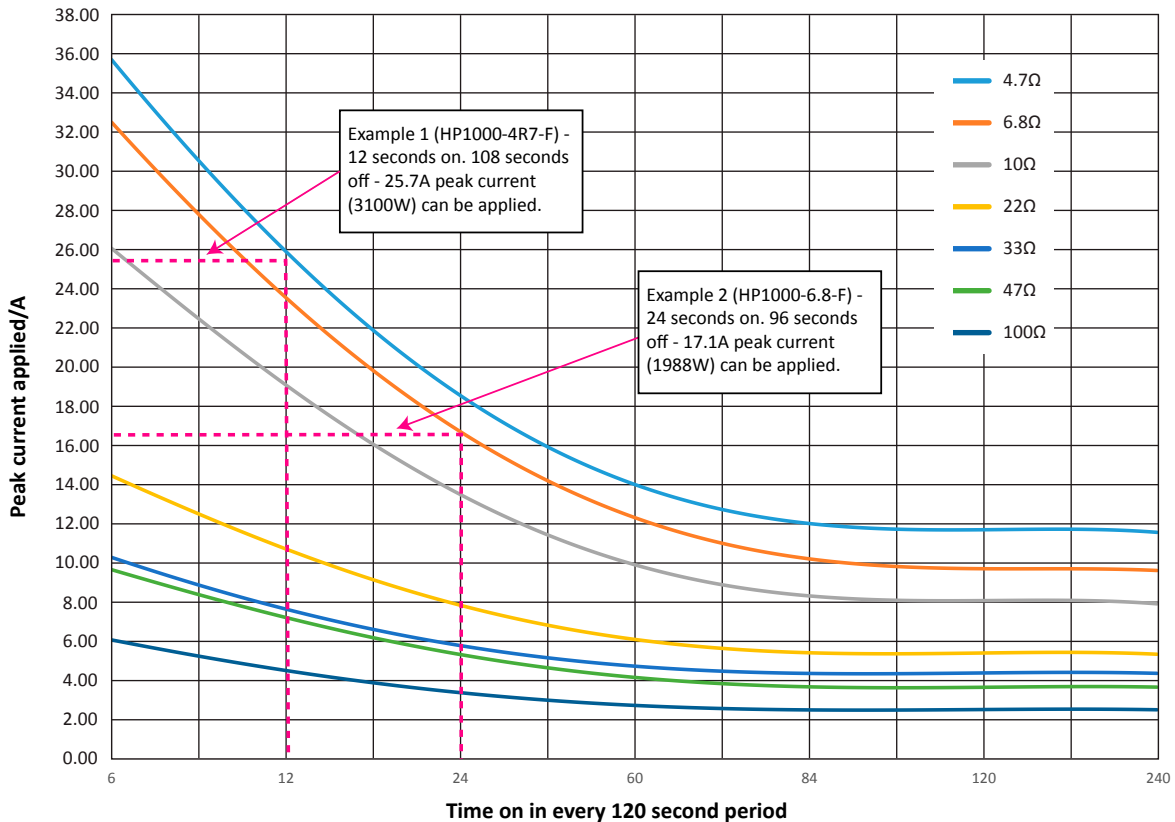
For example:

1. The maximum current that can be applied on a repeating cycle to an HP600-4R7-F which is in circuit for 12 seconds and then off for 108 seconds (10%) is 20.1A (1899W).
2. The maximum current that can be applied on a repeating cycle to an HP600-10R0-F which is in circuit for 24 seconds and the off for 96 seconds (20%) is 10.0 A (1000W).

### HP600 Maximum Currents

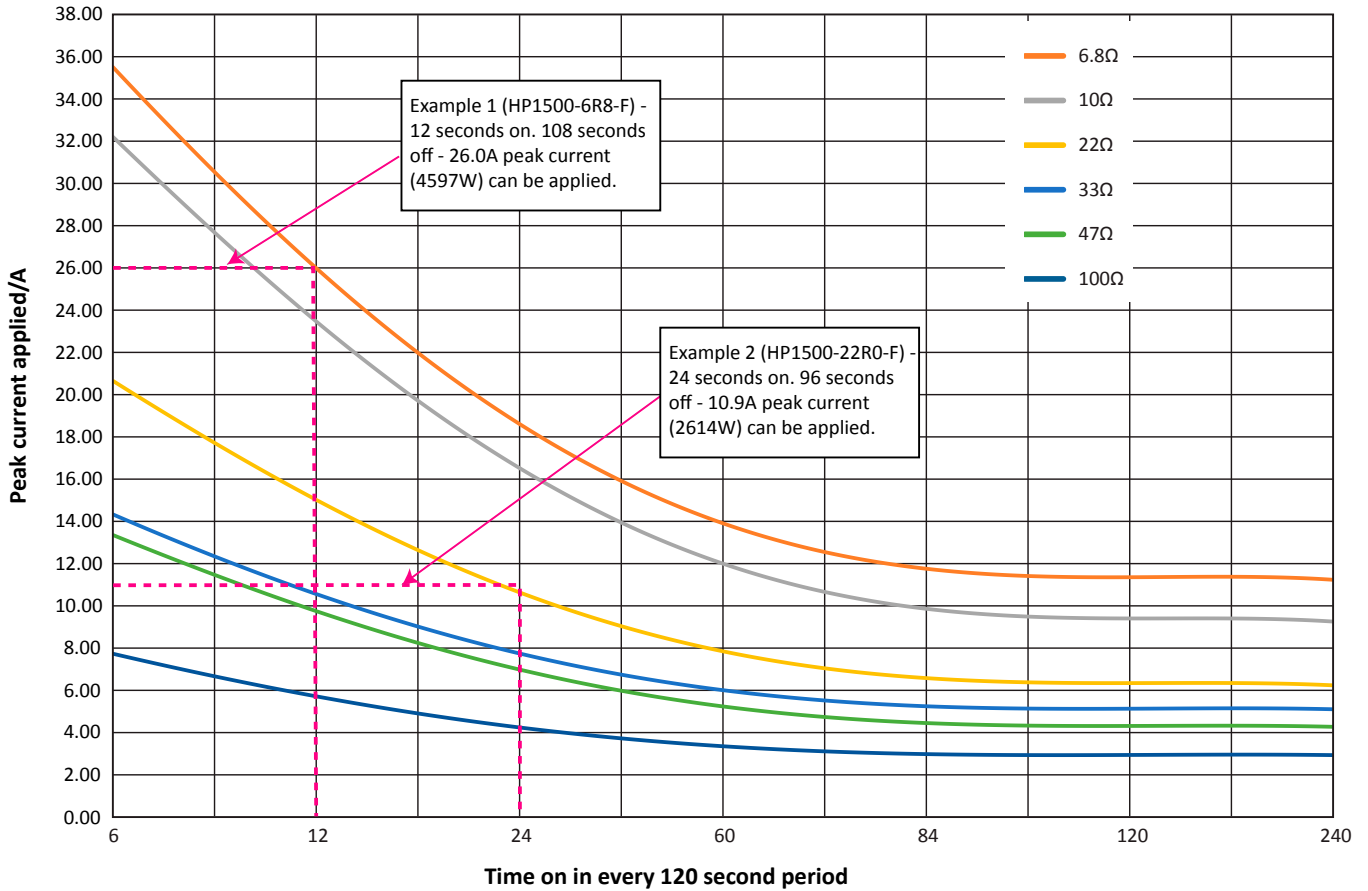


### HP1000 Maximum Currents





### HP1500 Maximum Currents



### Other Cressall resistor products available through RS Components

#### ZC Coils

A versatile range of adjustable resistor elements designed for both continuous and high energy short time duties. ZC coils are ideal for motor control or load testing applications.



#### ES Braking Resistors

Suitable for applications needing high power in a small space. Open wire wound construction makes them particularly suitable for repetitive short term power overloads.



Cressall is Britain's leading power resistor manufacturer. The advanced design and technology we use to produce them mean that Cressall Resistors are an essential component of the power generation, electric vehicle, rail traction, defense, renewable energy, marine and offshore industries.

To find out more about the full range of our resistor types and their fields of application, [email our sales office](mailto:sales@cressall.com), visit our website [www.cressall.com](http://www.cressall.com) or ring us today for a copy of our latest catalogue.

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