



ENGLISH

# Datasheet

## RS Pro 2000W Thick Film Heatsink Resistor

### Product details :

2000Watt power resistor suitable for multiple industries & applications including-

- Traction.
- Power Supplies.
- Control devices.
- Robotics.



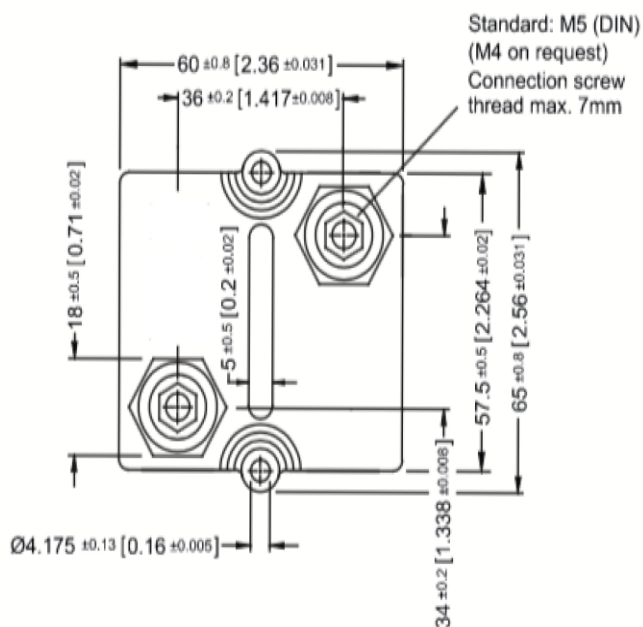
### Specifications :

Resistance values	1R to 6K
Resistance tolerance	J (5%) and K (10%)
Temperature coefficient	$\pm 150\text{ppm}/^\circ\text{C}$ - others available on request, measured $+25^\circ\text{C}$ to $+85^\circ\text{C}$
Maximum working voltage	5kVdc - others available on request not exceeding maximum power
Short time overload	2400W at $70^\circ\text{C}$ for 10 sec $\Delta R = 0.4\%$ max
Power rating	2000W at $125^\circ\text{C}$ bottom case temperature resp. $60^\circ\text{C}$ heat sink temp
Maximum continuous current	120 A
Electric strength voltage	7kVrms/50Hz/500VA , test time 1 min between case and terminal
Single shot voltage	up to 12kV normwave (1.5/50 $\mu\text{sec}$ )
Partial discharge	4kVrms $< 10\text{pC}$
Insulation resistance	10G $\Omega$ min at 1000V
Creepage distance	$> 42\text{mm}$ min
Air distance	$> 14\text{mm}$ min
Inductance	$\geq 80\text{nH}$ typical, measuring frequency 10kHz
Capacity/Mass	$\geq 120\text{pF}$ typical, measuring frequency 10kHz
Capapcity/Parallel	$\geq 40\text{pF}$ typical, measuring frequency 10kHz
Operating temperature	$-55^\circ\text{C}$ to $+150^\circ\text{C}$
Max torque for contacts	1.8 Nm to 2Nm
Max torque for mounting	1.6Nm to 1.8 Nm M4 screws
Weight	$\sim 120$ g

## Test Specifications :

Test	Method	Tolerance Drift
Short time overload	2400 W/10 sec	0.40%
Humidity steady state	56 days/40°C/95%	0.25%
Temp. Cycling	-55/+125/5cycles	0.20%
Shock	40g/4000 times	0.25%
Vibrations	2-500Hz/10g	0.25%
Load life 3,000 cyl	PN 30 min on/ 30 min off	0.40%
Terminal strengths	200N for heaxa. thread contacts	0.05%

## Dimensions mm (inch):



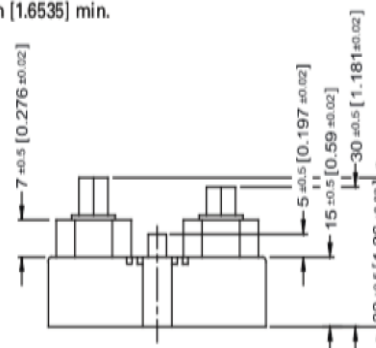
### Standard Terminals

Air distance: 14mm [0.5512] min.

Creeping distance: 42mm [1.6535] min.

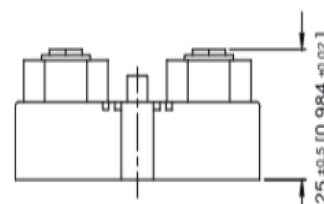
#### Terminal height 30/32

Standard



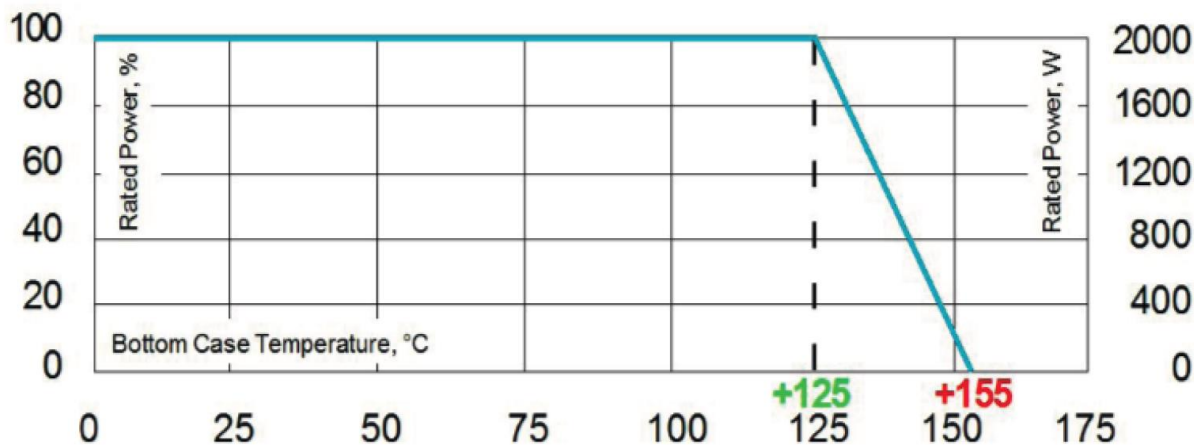
#### Terminal height 25/25

Optional





**Derating Curve :**



Derating (thermal resist.)RSPR2K; 66.6 W/K (0.015K/W)  
 Power Rating: 2000W at 125°C bottom case temperature.

Best results can be reached by using a thermal conduction to the heatsink  $R_{th-cs} < 0.025^\circ\text{K/W}$ , which can be reached by using thermal transfer compound with a heat conductivity of 1W/mK.

The Flatness of the cooling plate must be better than 0.05mm overall.  
 The roughness of the surface should not exceed 6.4µm.

RS Pro SKU	Resistance Value	Power Rating	Product Name
1853045	1R	2000W	Thick Film Power Resistor 2000W 1R $\hat{A}\pm 10\%$
1853049	2R5	2000W	Thick Film Power Resistor 2000W 2R5 $\hat{A}\pm 10\%$
1853044	5R	2000W	Thick Film Power Resistor 2000W 5R $\hat{A}\pm 10\%$
1853050	15R	2000W	Thick Film Power Resistor 2000W 15R $\hat{A}\pm 10\%$
1853051	25R	2000W	Thick Film Power Resistor 2000W 25R $\hat{A}\pm 10\%$
1853046	50R	2000W	Thick Film Power Resistor 2000W 50R $\hat{A}\pm 10\%$
1853047	100R	2000W	Thick Film Power Resistor 2000W 100R $\hat{A}\pm 10\%$
1853048	500R	2000W	Thick Film Power Resistor 2000W 500R $\hat{A}\pm 10\%$