

Data Sheet No.:E08019

Version:V0

Date:2020/10/28



HPWR

High-Power Wirewound Resistor

Rated power 15W~20KW

Tolerance $\pm 1\% \sim \pm 5\%$

Applications

Test load

Elevator

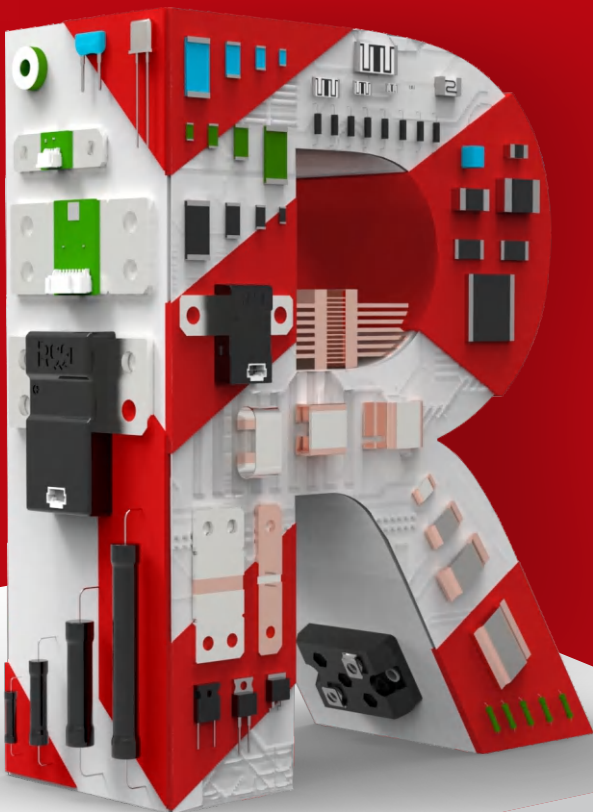
Railway system

Wind and solar power

Battery test system

Motor control

**Better Solution for Sustainable
High End Manufacturing**



High power, high stability, effective heat dissipation, Cost-effective, best choice for testing & loading

Introduction

The HPWR is constructed using a high-quality ceramic tube, around which chromium alloy wire is precision-wound. This core structure is then coated with a high-temperature, non-flammable protective layer to ensure insulation and durability. After undergoing natural drying, the resistors are baked at various temperatures to optimize performance before final assembly. Lug terminals are integrated for convenient bolt or wire connections.

Depending on its application, this versatile resistor is known by various names, such as tubular wirewound resistors, ceramic tube resistors, high-power resistors, ripple resistors, braking resistors, charge resistors, discharge resistors, dump load resistors, current-limiting resistors, burn-in resistors, or load resistors.

Key features:

- High power handling capacity
- Excellent shock resistance
- Efficient heat dissipation
- Superior stability
- Long operational lifespan

Customization options:

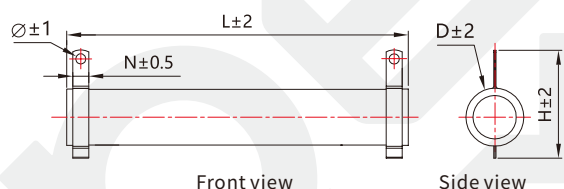
- Single units with multiple resistance values
- Multi-terminal configurations
- Non-inductive designs (on request)
- Adjustable sliders (on request)



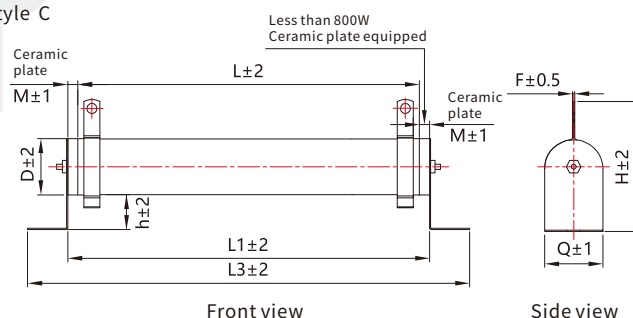
Dimensions and Parameters

Unit: mm

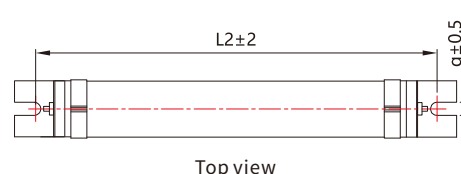
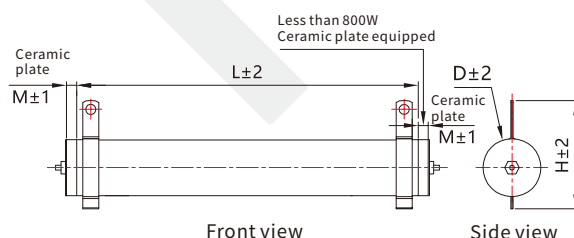
Style A



Style C



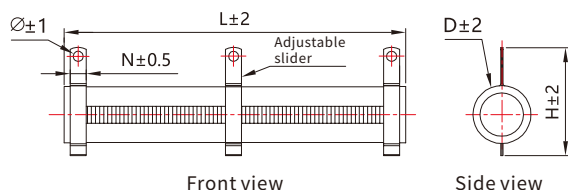
Style B



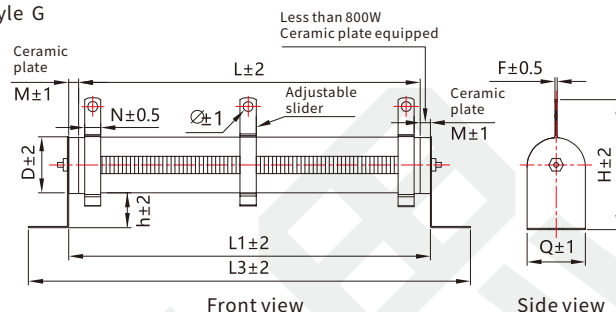
Dimensions and Parameters

Unit: mm

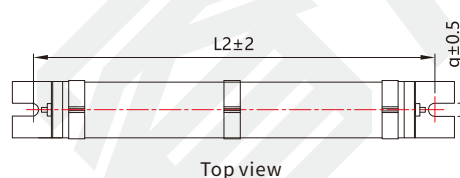
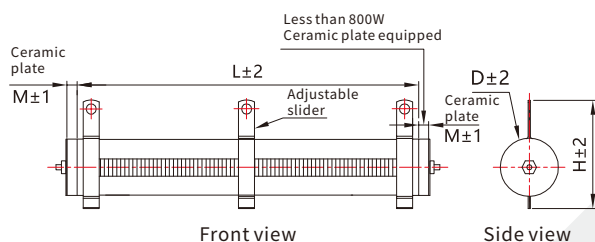
Style E



Style G



Style F



Power W	Resistance Ω	D	L	L1	L2	L3	H	h	N	φ	q	Q	M	F	N.W kg	Tolerance %	TCR ppm/°C
15	0.5~3K	15	45	52	66	85	40	/	6	3.3	4.5	15	3.5	1	0.05		
20	0.5~3K	15	50	57	71	90	40	/	6	3.3	4.5	15	3.5	1	0.05	±1	±200
25	0.5~3K	20	50	60	80	100	50	/	6	3.3	5	20	5	1	0.06	±2	~
30	0.5~3.3K	20	70	80	100	120	50	/	6	3.3	5	20	5	1	0.07	±5	±400
40	0.5~4.7K	20	87	97	115	137	50	/	6	3.3	5	20	5	1	0.08	±10	
50	1.5~5.1K	28	90	101	122	143	68	/	8	5	6	28	5.5	1	0.14		
80	1.5~6.8K	28	140	151	172	193	68	/	8	5	6	28	5.5	1	0.15		
100	2.2~6.8K	28	170	181	202	223	68	/	8	5	6	28	5.5	1	0.16		
150	3.3~15K	28	215	226	247	268	68	/	8	5	6	28	5.5	1	0.19	±1	±200
200	4.7~22K	28	267	278	299	320	68	/	8	5	6	28	5.5	1	0.22	±2	~
250	4.7~22K	28	267	278	299	320	68	/	8	5	6	28	5.5	1	0.22	±5	±400
300	4.7~33K	40	267	279	305	343	87	/	10	5.5	6	40	6	1.3	0.60	±10	
400	4.7~33K	40	330	342	367	406	87	/	10	5.5	6	40	6	1.3	0.70		
500	4.7~33K	50	300	317	340	385	98	25	10	5.5	8	50	8.5	1.3	0.90		
600	5.1~47K	50	330	347	370	415	98	25	10	5.5	8	50	8.5	1.3	1.00		
750	5.1~51K	50	400	417	440	485	98	25	10	5.5	8	50	8.5	1.3	1.20		
800	5.1~51K	70	/	300	331	362	135	25	15	6	8	70	/	1.7	1.60	±1	±200
1K	5.1~51K	70	/	300	331	362	135	25	15	6	8	70	/	1.7	1.60	±2	~
1.5K	5.1~68K	70	/	415	446	477	135	25	15	6	8	70	/	1.7	2.00	±5	±400
2K	5.1~68K	70	/	510	541	572	135	25	15	6	8	70	/	1.7	2.80	±10	
2.5K	5.1~68K	70	/	600	631	662	135	25	15	6	8	70	/	1.7	3.20		
3K	5.1~68K	70	/	600	631	662	135	25	15	6	8	70	/	1.7	3.20		
4K	5.1~15K	100	/	430	468	521	155	18	15	8	8	100	/	2.2	4.30		
5K	5.1~15K	100	/	500	538	591	155	18	15	8	8	100	/	2.2	5.00	±1	±200
6K	5.1~15K	100	/	600	638	691	155	18	15	8	8	100	/	2.2	6.00	±2	~
10K	5.1~15K	150	/	600	640	720	260	30	20	8	10	150	/	2.2	13.50	±5	±400
12K	5.1~15K	150	/	660	700	780	260	30	20	8	10	150	/	2.2	15.00	±10	
15K	5.1~15K	150	/	660	700	780	260	30	20	8	10	150	/	2.2	15.00		
20K	5.1~15K	150	/	1000	1040	1120	260	30	20	8	10	150	/	2.2	22.00		

Part Number Information

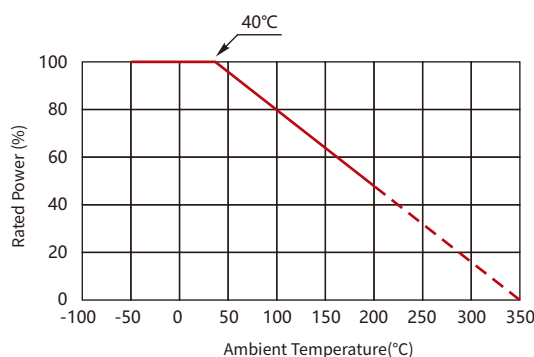
Example: HPWR0150J100RE9A (HPWR 15W $\pm 5.0\%$ 100 Ω $\pm 300\text{ppm}/^\circ\text{C}$ Standard Lug terminals)

H	P	W	R	0	1	5	0	J	1	0	0	R	E	9	A
Series		Power		Tolerance		Resistance		TCR		Code		Style			
HPWR		0015=15W 0150=150W 1K00=1KW 20K0=20KW		F= $\pm 1.0\%$ G= $\pm 2.0\%$ J= $\pm 5.0\%$ K= $\pm 10.0\%$		R500=0.5 Ω 1R50=1.5 Ω 100R=100 Ω 1K00=1000 Ω 68K0=68000 Ω		S= $\pm 200\text{ppm}/^\circ\text{C}$ E= $\pm 300\text{ppm}/^\circ\text{C}$ G= $\pm 400\text{ppm}/^\circ\text{C}$		9=Standard N=Non-inductance E=Edgewound (available for R<100R) X=Other options		A=Lug terminals B=Lug terminals+Ceramic plate C=Lug terminals+Mounting brackets E=A+Adjustable slider F=B+Adjustable slider G=C+Adjustable slider			

Performance

Test	Test Method	Test Result
Short Time Overload	5 times rated power for 10s; 10 times rated power for 5s; 25 times rated power for 1s	$\Delta R \leq \pm (2\%R + 0.1\Omega)$
Dielectric Withstand Voltage	1KV-10KVac 60s, leakage current 2.5mA	$\Delta R \leq \pm (0.1\%R + 0.05\Omega)$
Insulation Resistance	1000Vdc	50~1000M Ω , 1Min
Terminal Tensile Strength	40N	No off
Vibration resistance	1.5mm, 10-55-10Hz, each 2hours	No damage, No off
Load Life	At rated voltage, 90 min "On", 30 min "Off", total 500hours	$\Delta R \leq \pm (3\%R + 0.1\Omega)$
Low Temp. Resistance	Store at $-55^\circ\text{C} \pm 2^\circ\text{C}$ for 16h	$\Delta R \leq \pm (1\%R + 0.1\Omega)$
High Temp. Resistance	Store at $70^\circ\text{C} \pm 2^\circ\text{C}$ for 16h	$\Delta R \leq \pm (1\%R + 0.1\Omega)$
Non-flammability	10 times rated power, power on for 5Min	Without combustion

Derating Curve



Revision

Version	Revised Content	Date	Approver
V0	Initial Issue	2020.10.28	CFD

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