

FIXDE RESISTORS(TR)

Trapezium Aluminum Housed Wire-wound Resistors

TR series

- Gold Aluminum shell surface, good performance in heat radiation, suitable for cooling plate installation can be used in the atrocious environment.
- High insulating capacity, encapsulation by incombustible and inorganic material good performance in vibration.
- Multi connection form will be easily to fix.



■ Electrical and mechanical characteristics

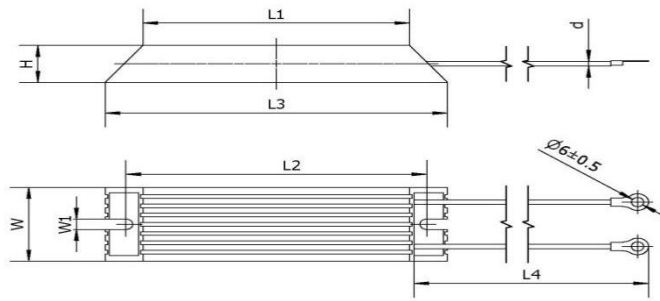
Characteristics	Standards	Test methods						
Resistance and Resistance tolerance	Resistance tolerance $\pm 5\%$ (J)	Resistance shall be measured using the applied voltage values of the following table. <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Nominal resistance range</th> <th>Maximum applied voltage</th> </tr> </thead> <tbody> <tr> <td>$R < 1$</td> <td>0.1</td> </tr> <tr> <td>$100K \leq R < 30M$</td> <td>30</td> </tr> </tbody> </table>	Nominal resistance range	Maximum applied voltage	$R < 1$	0.1	$100K \leq R < 30M$	30
Nominal resistance range	Maximum applied voltage							
$R < 1$	0.1							
$100K \leq R < 30M$	30							
Temperature coefficient	± 300 ppm	Test the resistance value at normal temperature and normal temperature added $100^{\circ}C$, calculate per $^{\circ}C$ resistance value change rate .						
Power rating load	$\Delta R/R \leq \pm (1\% + 0.05 \Omega)$ (temperature) $350^{\circ}C$ Max.	the power rating is applied to the resistor kept horizontally for 30 min.						
Short-time overload	$\Delta R/R \leq \pm (2\% + 0.05 \Omega)$	At $10 \times$ rated voltage for 5 seconds.						
Insulation resistance	$\geq 1000M \Omega$	DC500V						
Dielectric withstanding voltage	Without damage by flash-over, fire. or breakdown, etc.	$\geq AC2500V$, 60 (sec.)						
Vibration	no evidence of mechanical damage	Frequency: 10~55Hz, Amplitude: 1.5mm						
Terminal strength	no evidence of mechanical damage	(Pull): 150N , 30 ± 5 seconds						
Resistor strength	no evidence of mechanical damage	250N, 30 ± 5 seconds						

■ Environmental characteristics

Characteristics	Standards	Test methods
Heat resistance	$\Delta R/R \leq \pm (1\% + 0.05 \Omega)$	Immerge into $375 \pm 10^{\circ}C$ tin stove for 2~3 seconds.
Thermal shock	$\Delta R/R \leq \pm (2\% + 0.05 \Omega)$	$-55^{\circ}C/30$ (min.) $\rightarrow +25^{\circ}C/15$ (min.) $\rightarrow +125^{\circ}C/30$ (min.) $\rightarrow +2515$ (min. total 5 cycles.
Power rating load	$\Delta R/R \leq \pm (5\% + 0.05 \Omega)$	Overload rated voltage or Max.working voltage (get the lower) for 1000 hours (1.5 hours on and half-hour off) at the $40 \pm 2^{\circ}C$ and 90~95% relative humidity.
Load life in heat	$\Delta R/R \leq \pm (5\% + 0.05 \Omega)$	Overload rated voltage or Max.working voltage (get the lower) for 1000 hours (1.5 hours on and half-hour off) at the $70 \pm 2^{\circ}C$.

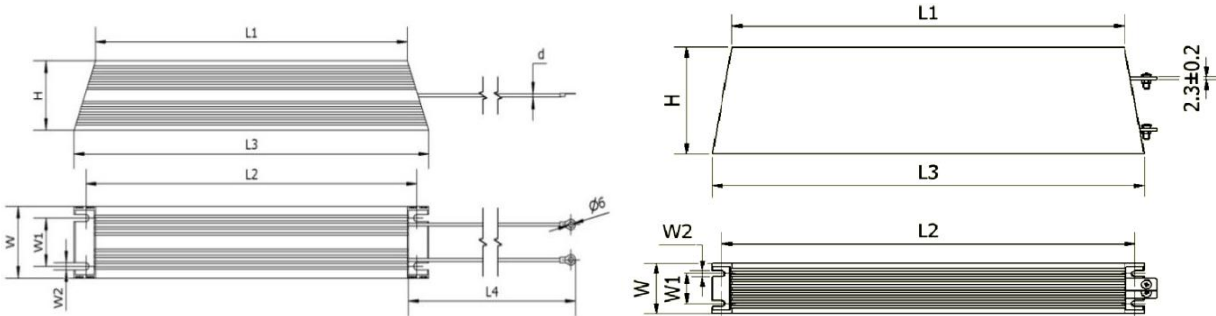
■ Standards

- Configuration(mm)



Power	Dimensions(mm)								Resistance range
	L1±1	L2±1	L3±1	L4±10	H±1	W±1	W1±0.5	d±0.2	
40W	75	90	100	200	18	30	5.6	2.51	0R1-7K
60W	84	98	115	200	18	30	5.6	2.51	0R1-9K
80W	109	123	140	200	20	40	5.6	3.44	0R1-22K
100W	134	148	165	200	20	40	5.6	3.44	0R1-31K
120W	155	170	185	200	20	40	5.6	3.44	0R1-34K
150W	184	198	215	200	20	40	5.6	3.44	0R1-40K
200W	119	147	165	300	30	60	5.6	3.44	0R1-46K
250W	119	147	165	300	30	60	5.6	3.44	0R1-46K
300W	184	212	230	300	30	60	5.6	3.44	0R1-72K
350W	184	212	230	300	30	60	5.6	3.44	0R1-72K
400W	239	267	285	300	30	60	5.6	3.44	0R1-79K
500W	289	317	335	300	30	60	5.6	3.44	0R1-100K

Note: The Power and dimension can be especially customized for customers.



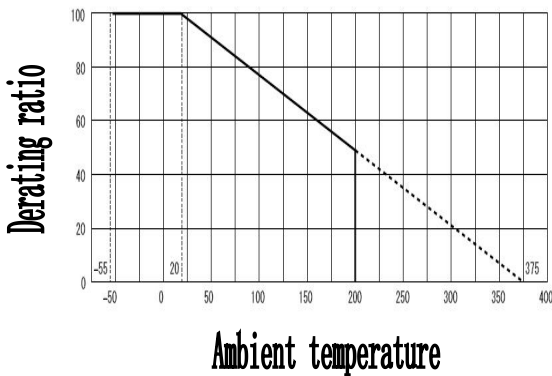
A TYPE 600W~800W

B TYPE 1000W~2000W

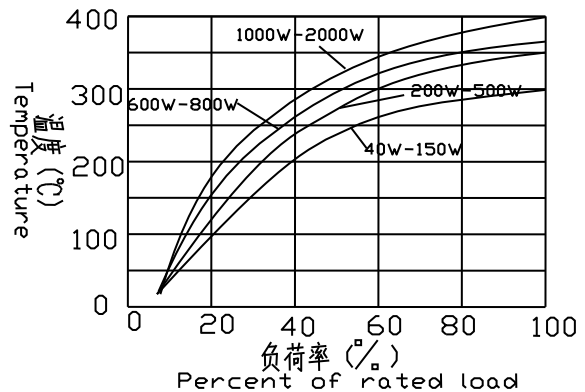
Power	Dimensions(mm)									Resistance range	Type
	L1±1	L2±1	L3±1	L4±10	H±1	W±1	W1±0.5	W2±0.5	d±0.5		
600W	313	337	355	300	59	61	41	6	4	0R1-278K	A
800W	358	382	400	300	59	61	41	6	4	0R1-329K	A
1000W	362	384	400		107	50	30	6.0		0R1-293K	B
1200W	412	434	450		85	55	30	6.0		0R1-343K	B
1500W	447	469	485		107	50	30	6.0		0R1-378K	B
1800W	542	564	580		107	50	30	6.0		0R1-472K	B
2000W	560	582	600		107	50	30	6.0		0R1-492K	B

Note: The Power and dimension can be especially customized for customers.

● Power Derating Curve



● Temperature Rise



● **Voltage Performance:**

Power	Max.working Voltage	Max.overload Voltage	Withstand Voltage
40W	300V	300V	2500V
60W	400V	400V	2500V
80W	500V	500V	2500V
100W	600V	600V	2500V
120W	700V	700V	2500V
150W	900V	900V	2500V
200W	1000V	1000V	3000V
250W	1000V	1000V	3000V
300W	1500V	1500V	3000V
350W	1500V	1500V	3000V
400W	1600V	1600V	3000V
500W	1600V	1600V	3000V
600W	1700V	1700V	3500V
800W	1800V	1800V	3500V
1000W	2000V	2000V	3500V
1200W	2100V	2100V	3500V
1500W	2200V	2200V	3500V
1800W	2300V	2300V	3500V
2000W	2400V	2400V	3500V

● **Explanation of Part Number**

Series	Power	Tolerance	Winding way	Special Code	(D)	(L)	Resistance
TR	60W	J	P	00	A	100	0R220
Trapezium Aluminum Housed Wire-wound Resistors	40W=40W 60W=60W 80W=80W 100=100W 120=120W 150=150W 200=200W 250=250W 300=300W 350=350W 400=400W 500=500W 600=600W 800=800W A00=1000W A20=1200W A50=1500W A80=1800W B00=2000W	F=± 1% G=± 2% J=± 5% K=± 10%	P=flat-wis e coil N=Non-ind uctive winding S=double round	00= Conventional products	A=30mm B=40 mm C=60 mm	100=100mm 115=115mm	0R100=0.1 Ω 0R220=0.22 Ω 1R000=1 Ω 1R200=1.2 Ω 10R00=10 Ω 1K000=1K Ω 100K0=100K Ω