Wirewound Rheostat / Potentiometer Power Rheostat Series 25W-2KW

Premium disc-type variable resistor · Elegant appearance · High adjustment accuracy · Multi-unit stackable



Introduction

Power Rheostat series variable resistors are commonly referred to as rheostats or potentiometers. They can be used as a rheostat (two terminals) or as a potentiometer (three terminals). When a single unit lacks sufficient power, up to 6 units can be stacked in series.

Applications

Lead time 3–4 weeks. Widely used in:

1. Mixers, agitators, fans and power tools
2. Motor speed controllers
3. Test instruments requiring precise data
4. Load testing, loading equipment, industrial machine speed regulation, voltage/current regulating instruments, automatic control devices, etc.

Construction

High-grade resistance alloy wire is wound on a C-shaped ceramic core. Except for the sliding contact surface, the whole winding is coated with non-flammable resin varnish, protecting the wire and aiding heat dissipation. After air-drying, the winding is fixed to the circular base with special electronic adhesive and oven-baked; hardware and central rotary parts are then assembled. The shaft drives the carbon brush to slide along the resistance wire to obtain the required value. One unit can be wound with different wires to offer multiple adjustable values. Ceramic material and knob can be customized to customer requirements.

Dimensions 25W-150W

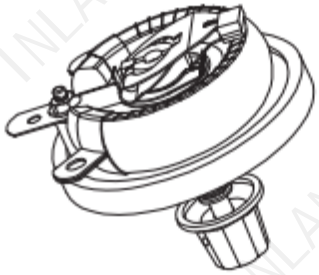


Fig. 1 (Isometric)

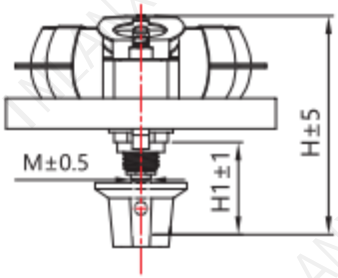


Fig. 2 (Front View)

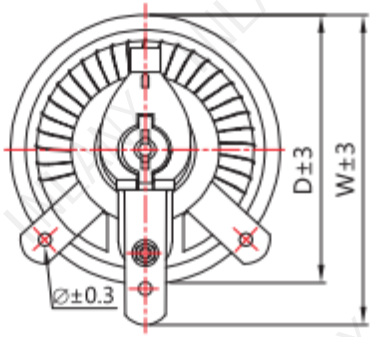


Fig. 3 (Top View)

Model	Power	Resistance	Tolerance	Dimensions (mm)						N.W.(g)	Temp. Coeff.
				D±3	W±3	Φ±0.5	H±3	H1±3	M±0.5		
Power Rheostat	25W	0.5Ω–3.3KΩ	K(±10%) J(±5%)	45	50	2	60	25	6	80	±200PPM ~ ±400PPM
Power Rheostat	50W	0.5Ω–3.3KΩ		65	70	4	65	25	6	170	
Power Rheostat	100W	1.5Ω–4.7KΩ		80	92	4	65	25	6	252	
Power Rheostat	150W	1.5Ω–5.1KΩ		105	120	4	70	30	6	480	

Dimensions 300W / 500W

300W N.W. 1.20 kg | 500W N.W. 1.80 kg

Disc rheostat 300W N.W. 1.20 kg

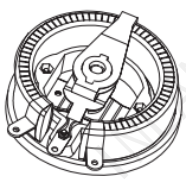


Fig. 1 (Isometric)

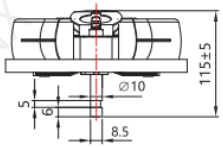


Fig. 2 (Front View)

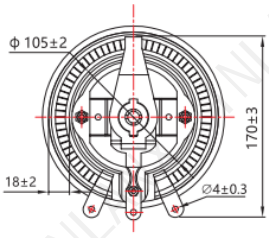


Fig. 3 (Top View)

Disc rheostat 500W N.W. 1.80 kg

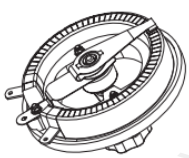


Fig. 1 (Isometric)

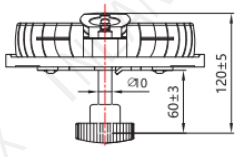


Fig. 2 (Front View)

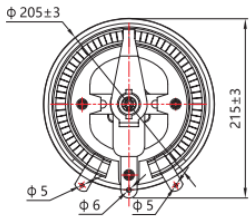


Fig. 3 (Top View)

Combined Disc-type Rheostats 1000W-2000W

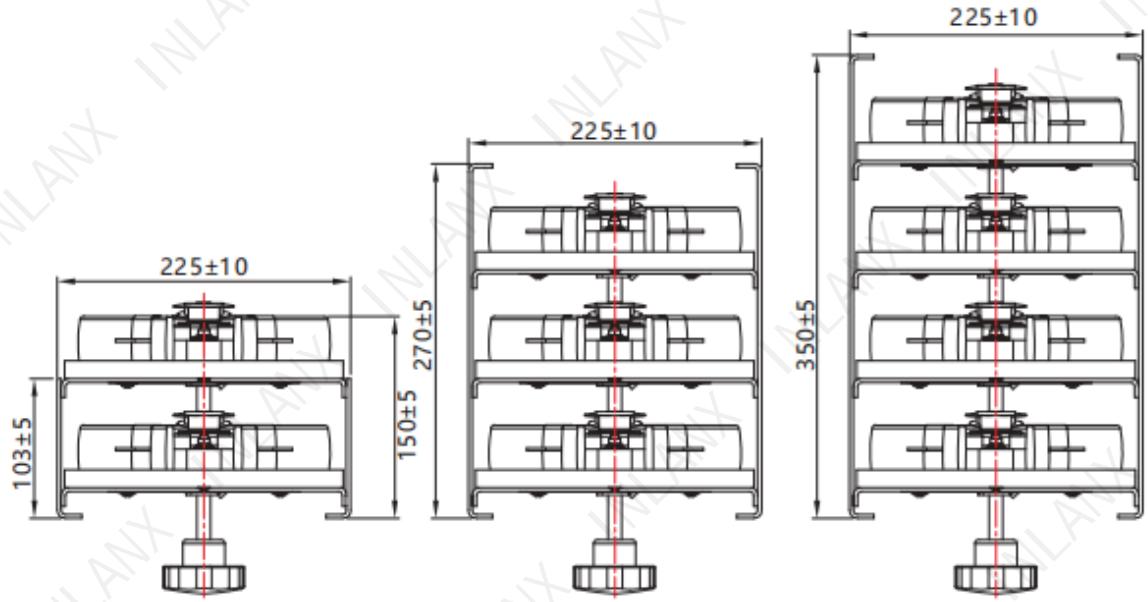


Fig.1 (Power Rheostat 500W x 2) Fig.2 (Power Rheostat 500W x 3) Fig.3 (Power Rheostat 500W x 4)

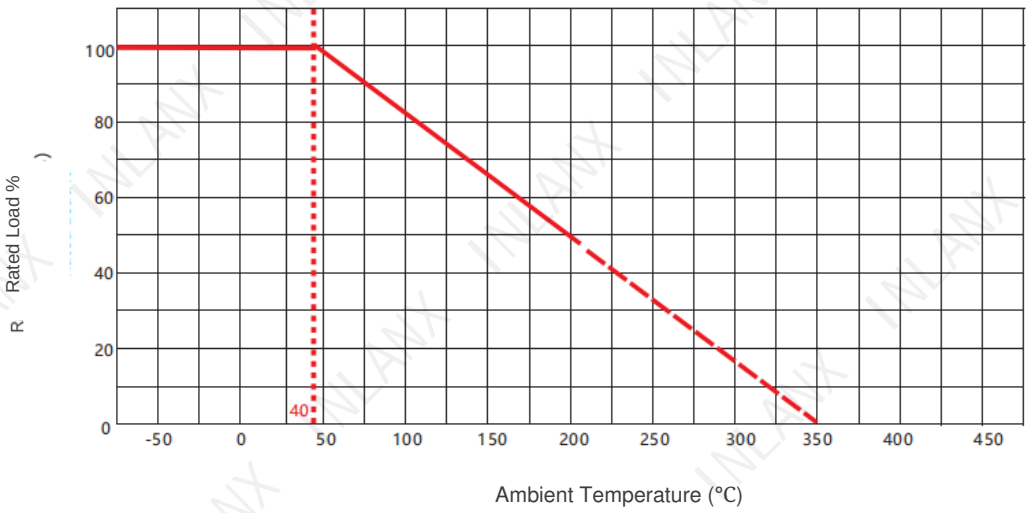
Note:

1. Each rheostat is rated 500W
2. 1000W (2 x 500W rheostats in series/parallel)
3. 1500W (3 x 500W rheostats in series/parallel)
4. 2000W (4 x 500W rheostats in series/parallel)
5. Black knob mounted at the bottom

Ordering Example

Power Rheostat	500W	20R	J
↓	↓	↓	↓
Model	Power	Nominal Resistance	Tolerance (K:±10%, J:±5%)

Derating Curve



Performance Test Parameters

Item	Test Conditions	Requirements
Resistance Tolerance	Test voltage ≤3V, ambient temp. 25°C	F – G – J – K
Temp. Coefficient	R0: resistance at room temp. (T0); R1: at T0+100°C (T1). Formula: (R1−R0)/[R0×(T1−T0)]×10 (PPM/°C)	±200PPM ~ ±400PPM
Rated Load	Rated voltage at 40°C, 1 hour	ΔR ≤ ±(3%R + 0.1Ω)
Short-time Overload	5× rated power 10 s; 10× 5 s; 25× 1 s	ΔR ≤ ±(2%R + 0.1Ω)
Dielectric Strength	1–10 kV AC, 60 s, leakage 2.5 mA	ΔR ≤ ±(0.1%R + 0.05Ω)
Insulation Resistance	1000Vdc	50–1000 MΩ, 1 minute
Terminal Strength	40N	No loosening
Vibration	1.5 mm, 10–55–10 Hz, 2 h each	No damage, no loosening
Endurance (RT)	Rated voltage ON 90 min / OFF 30 min, 500 h	ΔR ≤ ±(3%R + 0.1Ω)
Cold Test	−55°C±2°C, storage 16 h	ΔR ≤ ±(1%R + 0.1Ω)
Dry Heat Test	70°C±2°C, storage 16 h	ΔR ≤ ±(1%R + 0.1Ω)
Flame Retardancy	10× rated power, ON 5 min	Open circuit allowed, no burning