RXG8B High-Power High-Voltage Wirewound Resistors

Product overview

Alloy resistance wire is wound on a ceramic tube and protected by a heat-resistant insulating coating. Copper end caps provide a robust construction for voltage dropping, shunting and loading in high-voltage DC or AC circuits. Non-inductive winding is available on request.



Features and applications

High power and voltage capability; short-time overload at 10× rated power for 6 s. For capacitor discharge, starting, DC loads, braking and dielectric-test equipment. Power, resistance, tolerance and dimensions can be customized.

Construction and materials

Resistance wire: nickel-chromium or copper-nickel alloy. Core: ceramic tube. Coating: heat-resistant insulation. End caps: copper. Terminations: tinned copper, subject to the supplied configuration.

Technical characteristics

Parameter	Specification
Rated power	50-3500 W; custom ratings up to 5000 W
Resistance range	1 Ω-200 kΩ
Resistance tolerance	J (±5%); other tolerances on request
Rated temperature rise	≤375 °C
Dielectric withstand, electrode to mounting frame	40 kV
Resistance change at rated power	≤±5%; ≤±3% available on request
Short-time overload	10× rated power for 6 s
Ambient temperature	-55 °C to +315 °C
Ingress protection	IP00

Characteristics

Test item	Specifications	Test method
Solderability	Uniform solder coverage	HiSnPb39; tinning using a 75 W soldering iron
Insulation resistance	>20 MΩ/cm²	500 V DC test voltage
Dielectric withstand	No breakdown or flashover	2000 V DC, or 50 Hz AC with the same peak voltage
Body strength	ΔR ≤ ±(1%R + 0.05Ω)	≤40 W: 30 N load; ≥50 W: 100 N load
Vibration	ΔR ≤ ±(1%R + 0.05Ω)	10-500 Hz; acceleration 98 m/s²; 1 h
Bump	ΔR ≤ ±(1%R + 0.05Ω)	40-80 bumps/min; acceleration 245 m/s²; 2000 bumps
Temperature rise	<325°C	Apply rated power load
Rapid temperature change	ΔR ≤ ±(2%R + 0.1Ω)	θA = -55°C; θB = +200°C; 5 cycles
Steady-state damp heat	ΔR ≤ ±(2%R + 0.1Ω)	40 ±2°C; 93 ±2% RH; 96 h
Overload	ΔR ≤ ±(2%R + 0.1Ω)	Apply 10× rated power for 5 s
Endurance at room temperature	ΔR ≤ ±(5%R + 0.1Ω)	Apply rated power load for 1000 h

R denotes nominal resistance; ΔR denotes the resistance change after testing.

Source-data difference: this added test table specifies temperature rise <325°C and a 10× power overload for 5 s. The original specification lists ≤375°C temperature rise and 6 s short-time overload. Both source values are retained; the applicable values are subject to the agreed technical requirements.

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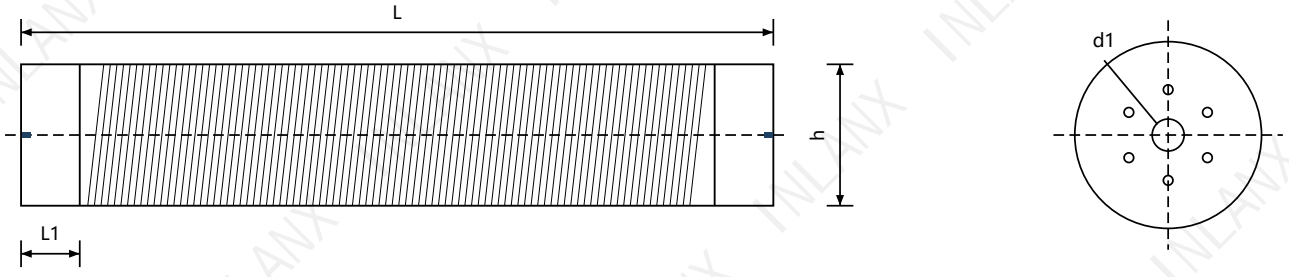
Outline dimensions • mm

Cylindrical ceramic tube with copper end caps and a heat-resistant insulating coating. Mounting constructions for 30-200 W are specified with overall height h. Ratings of 500 W and above use a straight-tube construction. L denotes length, L1 denotes the end mounting-section length, and d1 denotes mounting-hole diameter.

Power W	L	L1	h	d1
30	130	15	32	12
50	184	15	32	12
75	200	15	32	12
100	240	15	32	12
150	270	25	32	12
200	320	25	32	12
500	440	25	65	16
1000	440	30	85	16
1500	440	30	105	16
2000	510	30	105	16
2500	610	30	105	16
3000	660	30	105	16
3500	710	30	105	16

Dimensions: L = overall length; L1 = end mounting-section length; h = overall height; d1 = mounting-hole diameter. A dash means not specified, not zero. Dimensional data are for selection reference; confirm against the approved supply drawing.

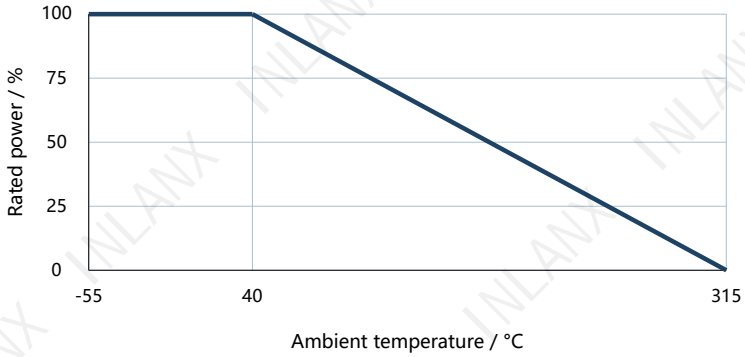
Range note: the technical specification states 50-3500 W, customizable to 5000 W. The original 30 W dimension row is retained; its availability and electrical rating require separate confirmation.



Outline and dimension schematic

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Power derating



100% rated power is permitted from -55 to 40 °C. Above 40 °C, derate linearly to zero at 315 °C.

Model designation and ordering

INLANX-RXG8B-Power-Resistance-Tolerance. Examples: INLANX-RXG8B-1000W-50Ω J (1000 W, 50 Ω, ±5%); INLANX-RXG8B-3500W-10kΩ J. Specify quantity. Custom power, resistance, tolerance and dimensions are available.

Similar constructions may be designated RX30 or RXG40 by other suppliers; names and specifications are not automatically interchangeable.

Installation and use

Provide ventilation and keep the coating uncovered for heat dissipation. Maintain adequate insulation distances and electrical clearances in high-voltage use. After a 10× rated-power overload for 6 s, allow natural cooling before normal use. Derate above 40 °C. With IP00 protection, avoid prolonged exposure to corrosive gases or high humidity.