HFA600-D02

High-Power Non-Inductive Resistor Module

Applications

HFA600 general-purpose high-power resistors use a thick-film, non-inductive design. Applications include power generation, ultra-high-voltage DC transmission, variable-frequency drives, electric locomotives and marine drives.



Features

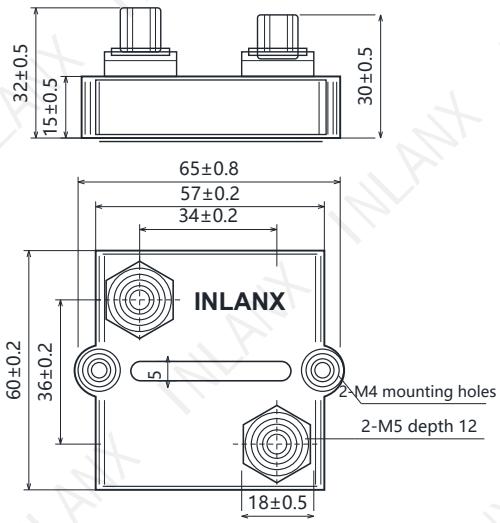
- Rated power: 600W at a baseplate center temperature ≤85°C.
- The specially designed housing holds the chip in an inner case potted with high-voltage silicone rubber. Springs connect the inner and outer cases. Two M4 screws secure the outer case to the heat sink, ensuring a contact force of 120N to 160N.
- Raw materials meet UL94-V0.

Ordering Example

Model-Resistance-Tolerance-Terminal design-Terminal nut

HFA600-440R-2%-(1/2)-M5

Dimensions



Electrical Specifications

Parameter	Specification
Resistance range	0.5Ω~1MΩ
Resistance tolerance	±2%(G), ±3%(R), ±5%(J), ±10%(K)
Temperature coefficient	±150ppm/°C (25°C to 105°C); other TCR values available on request.
Rated power	600W at 85°C; maximum working voltage: 5,000VDC.

Electrical Specifications (Continued)

Parameter	Specification
Short-time overload	1000W, 70°C, 10s, ΔR≤±(0.4%R+0.001Ω)
Peak current	Up to 1500Amp at low resistance and with narrow pulses.
Dielectric withstand voltage	6KVrms, 50Hz, 1min; up to 12KVrms, 1min on request.
Partial discharge	4KVrms, <10pC; up to 7KVrms, <10pC on request.
Insulation resistance	500V; minimum 10GΩ.
Creepage distance	Minimum 42mm
Clearance	Minimum 14mm
Inductance	≤80nH
Distributed capacitance	To ground: ≤110pF; in parallel: ≤40pF
Damp heat	56 days / 40°C, RH≥95%, ΔR≤±(0.25%R+0.001Ω).
Temperature cycling	-55°C / +125°C (0.5h each), 5 cycles, ΔR≤±(0.2%R+0.001Ω)
High-frequency vibration	MIL-Std-202, Method 204, Condition D, ΔR≤±(0.2%R+0.001Ω).
Load life	1,000h at rated power, baseplate at 85°C, ΔR≤±(0.4%R+0.001Ω).
Operating temperature range	-55℃~+155℃
Terminal mounting	M5/M4 screws; maximum torque: 2.0Nm.
Factory / type tests	Q/HLF02-2023