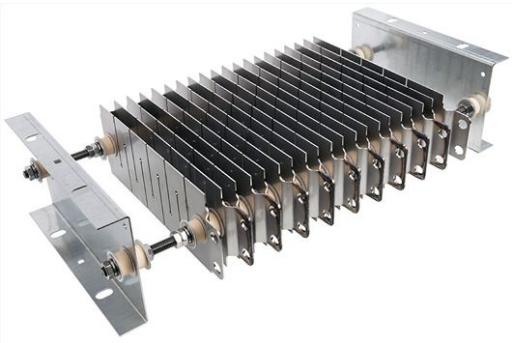
High Power, High Current Grid Resistors, 1 kW and Larger



FEATURES

- High power capability up to 6.5 kW at 40 °C
- Operating temperature range: -55 °C to +400 °C
- Welded construction
- Double insulated
- Modular or custom designs
- Multiple taps
- Indoor and outdoor enclosures available
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

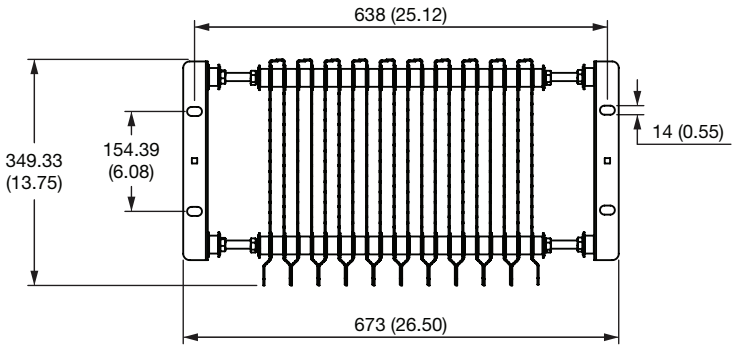
Pb-free

RoHS COMPLIANT

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	POWER RATING W	RESISTANCE RANGE Ω	TOLERANCE %	TEMPERATURE COEFFICIENT ppm/°C	TERMINAL STYLE
GRE1	1K to 6.5K	0.10 to 24	10	± 930	NEMA 2 hole

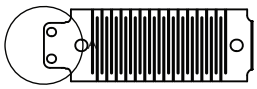
DIMENSIONS in millimeters (inches)

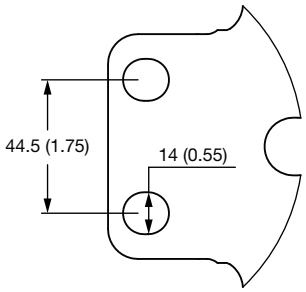


TOP VIEW

FRONT VIEW

TERMINAL STYLE in millimeters (inches)





DETAIL A
SCALE 1:1

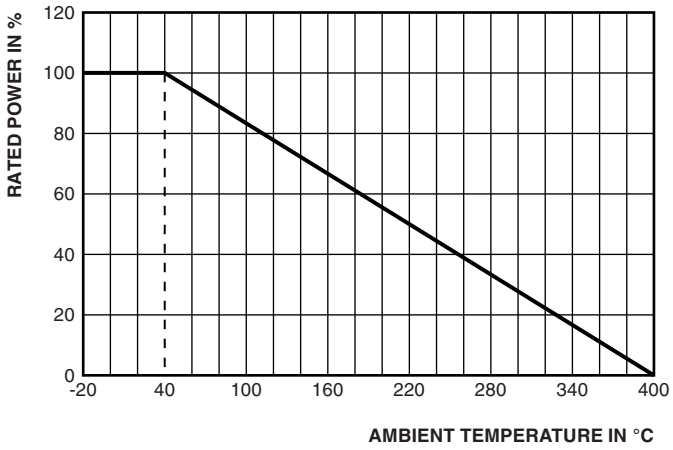
Note

- Standard NEMA 2 hole pattern

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Power rating	W	1K to 100K
Resistance range	Ω	0.1 to 24 (others available upon request
Resistance tolerance	%	10
TCR	ppm/°C	± 930
Operating temperature	°C	-55 to +400
Temperature rise	°C	360 above an ambient of 40 °C
Maximum altitude	f.a.s.l. (m.a.s.l.)	derate above 4921 f.a.s.l. (1500 m.a.s.l.)
Short-term overload (surge)		25 x, 15 x, or 10 x rated power for 5 s (varies by wattage)
Surge windings		n/a
Maximum working voltage		$(P \times R)^{1/2}$
Insulation resistance	Ω	1M
Dielectric voltage	V_{RMS}	2500 for 60 s
Creepage	inch (mm)	1.18 (30) typical
Terminal sleeves		n/a
Inductance	µH	5 to 40 (varies by wattage and resistance)
Non-inductive winding		n/a
Terminal strength	lb	n/a
Electrical or mechanical customization		consult factory: www.vishay.com/milwaukee/contact

DERATING CURVE



MATERIAL SPECIFICATIONS

Plate element	stainless steel
Insulators	ceramic

GLOBAL PART NUMBER INFORMATION

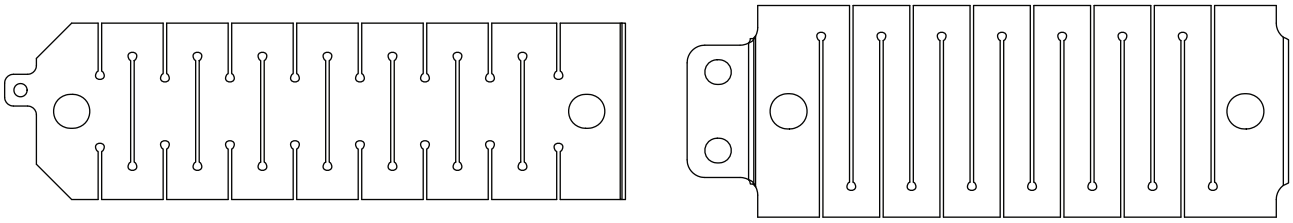
Global Part Numbering example: GRE12R128K23B1234A (GRE1-1234A IP23 2.128 10 % B)

G	R	E	1	2	R	1	2	8	K	2	3	B	1	2	3	4	A

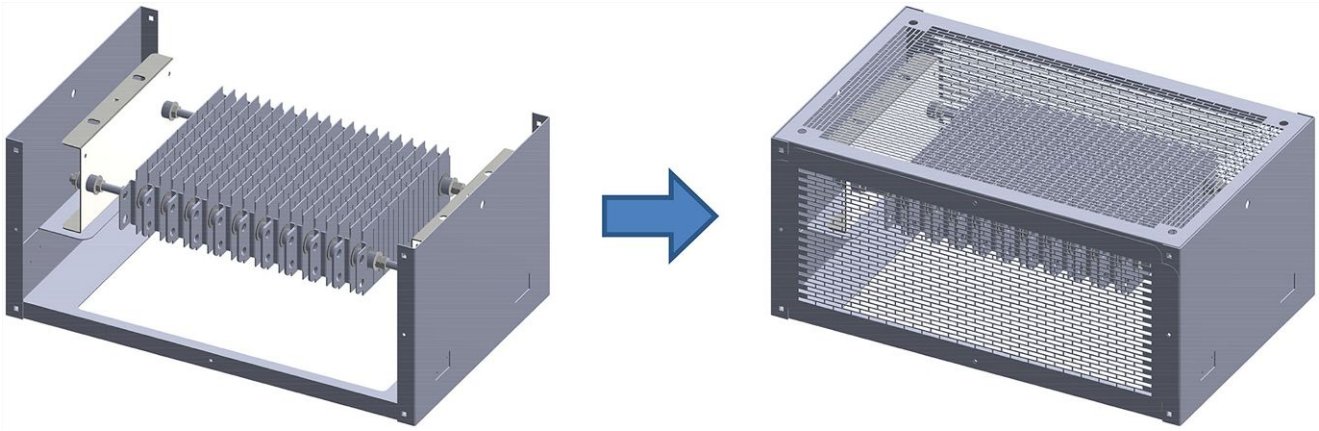
MODEL (2 digits)	ELEMENT TYPE (2 digits)	VALUE (5 digits)	TOLERANCE (1 digit)	ENCLOSURE (2 digits)	PACKAGING (1 digit)	SPECIAL (5 digits)
GR	**E1** = 325 W **ES** = Special	**R** = Decimal **L** = Milli **2R128** = 2.128 Ω **9L000** = 0.009 Ω	**J** = ± 5.0 % **K** = ± 10 % **K** = Standard for all types and values	**IPxx** = IP rating **00** = NEMA 0 (Open) **20** = NEMA 1 (Screen) **23** = NEMA 3 (Outdoor)	**B** = Bulk	Allowable range **00000** to **ZZZZZ** alphanumeric Engineering controlled internal document number

ENGINEERED-TO-ORDER CUSTOMIZATIONS

Custom element designs to meet electrical and mechanical constraints



One or multiple resistors in an IP rated enclosure



Contact the factory: vishaymilwaukeeresistors@vishay.com

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