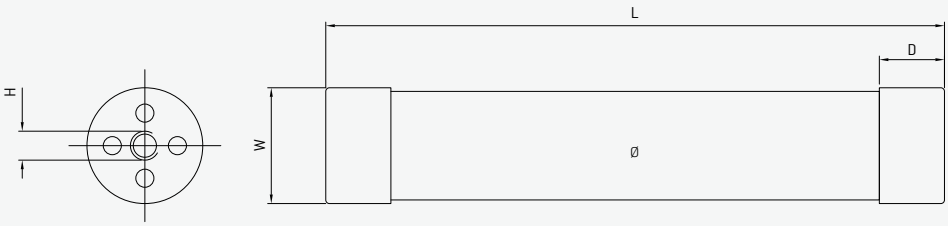
HIGH VOLTAGE RESISTORS HVR 969

Thick-film high voltage resistors of this type series are especially well-suited for measuring and testing tasks under very high voltages or for use as protective resistors. Whether for high voltage pulses or for registering constant high voltages – with our HVR basic program we offer the ideal solution for all applications in high voltage engineering, energy transmission, insulation testing and traffic engineering.



- Round designs
- Pulse-proof
- Low inductance

GENERAL TECHNICAL SPECIFICATIONS	
Resistance values, standard	10 K, 100 K, 1 M, 5 M, 10 M, 25 M, 50 M, 100 M, 1 G, 2 G, 5 G*
Tolerance	1 % (0.5 % to 20 %)*
Temperature coefficient	100 ppm/°C (25 ppm/°C to 200 ppm/°C)*
Voltage coefficient	<2 ppm/V
Insulation resistance	10,000 MΩ (500 V 25 °C 75 % relative humidity)
Dielectric strength of the insulation	>1,000 V (25 °C 75 % relative humidity) ΔR/R 0.25 % max.
Thermal shock	ΔR/R 0.25 % max.
Overload capacity	1.5 x P[nom], 5s (not 1.5 x V[max])
Moisture resistance	ΔR/R 0.25 % max.
Long-term stability	ΔR/R 0.25 % max.
Temperature range (operation / storage)	−55 °C to +175 °C (−55 °C to +100 °C)
Cover	Epoxy-based varnishes (glass, silicone-based encasing)
Connection type	Brass caps with inner thread M4 / M8

Depending on ambient conditions, the characteristics of resistors can change.
We recommend a suitability test under operational conditions.

* Other values upon request.

TYPE SELECTION

TYPES	TCR (ppm/°C)	0.50 %	1 %	2 %	5 %	10 %	20 %
969.11 **11 W** **24 kV (air)** **32 kV (oil)**	25 50 100 200	50 K – 500 M 10 K – 1 G 10 K – 1 G 10 K – 5 G	50 K – 500 M 10 K – 1 G 10 K – 1 G 10 K – 5 G	50 K – 500 M 10 K – 1 G 10 K – 1 G 10 K – 5 G	50 K – 500 M 10 K – 1 G 10 K – 1 G 10 K – 5 G	50 K – 500 M 10 K – 1 G 10 K – 1 G 10 K – 5 G	50 K – 500 M 10 K – 1 G 10 K – 1 G 10 K – 5 G
969.23 **23 W** **48 kV (air)** **72 kV (oil)**	25 50 100 200	100 K – 1 G 10 K – 1 G 10 K – 1 G 10 K – 10 G	100 K – 1 G 10 K – 1 G 10 K – 1 G 10 K – 10 G	100 K – 1 G 10 K – 1 G 10 K – 1 G 10 K – 10 G	100 K – 1 G 10 K – 1 G 10 K – 1 G 10 K – 10 G	100 K – 1 G 10 K – 1 G 10 K – 1 G 10 K – 10 G	100 K – 1 G 10 K – 1 G 10 K – 1 G 10 K – 10 G
969.54 **54 W** **48 kV (air)** **72 kV (oil)**	25 50 100 200	100 K – 1 G 15 K – 1 G 15 K – 1 G 15 K – 10 G	100 K – 1 G 15 K – 1 G 15 K – 1 G 15 K – 10 G	100 K – 1 G 15 K – 1 G 15 K – 1 G 15 K – 10 G	100 K – 1 G 15 K – 1 G 15 K – 1 G 15 K – 10 G	100 K – 1 G 15 K – 1 G 15 K – 1 G 15 K – 10 G	100 K – 1 G 15 K – 1 G 15 K – 1 G 15 K – 10 G
969.71 **71 W** **64 kV (air)** **96 kV (oil)**	25 50 100 200	100 K – 1.5 G 25 K – 1.5 G 25 K – 1.5 G 25 K – 15 G	100 K – 1.5 G 25 K – 1.5 G 25 K – 1.5 G 25 K – 15 G	100 K – 1.5 G 25 K – 1.5 G 25 K – 1.5 G 25 K – 15 G	100 K – 1.5 G 25 K – 1.5 G 25 K – 1.5 G 25 K – 15 G	100 K – 1.5 G 25 K – 1.5 G 25 K – 1.5 G 25 K – 15 G	100 K – 1.5 G 25 K – 1.5 G 25 K – 1.5 G 25 K – 15 G
969.105 **105 W** **96 kV (air)** **148 kV (oil)**	25 50 100 200	100 K – 2 G 35 K – 2 G 35 K – 2 G 35 K – 25 G	100 K – 2 G 35 K – 2 G 35 K – 2 G 35 K – 25 G	100 K – 2 G 35 K – 2 G 35 K – 2 G 35 K – 25 G	100 K – 2 G 35 K – 2 G 35 K – 2 G 35 K – 25 G	100 K – 2 G 35 K – 2 G 35 K – 2 G 35 K – 25 G	100 K – 2 G 35 K – 2 G 35 K – 2 G 35 K – 25 G

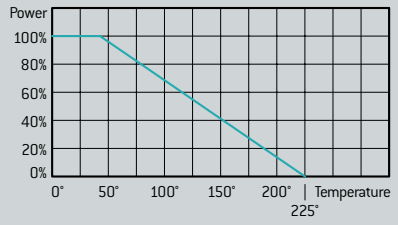
DIMENSIONS

TYPES	Ø	W	D	H	L [length]	Unit	Weight [g]
969.11	13.0 (0.51)	14.5 (0.57)	10 (0.39)	M4	81.0 (3.19)	mm (inches)	36
969.23	13.0 (0.51)	14.5 (0.57)	10 (0.39)	M4	156.0 (6.14)	mm (inches)	64
969.54	30.5 (1.2)	31.1 (1.22)	18 (0.71)	M8	160.0 +1/−2 (6.3)	mm (inches)	274
969.71	30.5 (1.2)	31.1 (1.22)	18 (0.71)	M8	209.0 ±2 (8.23)	mm (inches)	338
969.105	30.5 (1.2)	31.1 (1.22)	18 (0.71)	M8	309.0 ±3 (12.17)	mm (inches)	485

SAMPLE ORDER

HVR 969.23 Type	B Cover	100M Resistance value	1 % Tolerance	TC25 Temperature coefficient
	G = glass	R = Ω	0.5 %	25 ppm/°C
	B = operation in air	K = KΩ	**1.0 %**	50 ppm/°C
	D = operation in oil	M = MΩ	2.0 %	**100 ppm/°C**
	U = encasing	G = GΩ	5.0 %	200 ppm/°C
			10.0 %	
			20.0 %	

DERATING CURVE



Specifications are subject to change without notice.