

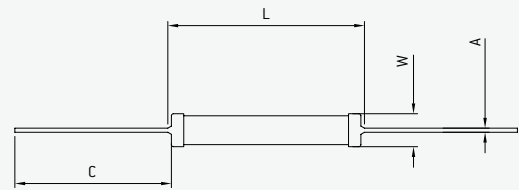
# HIGH VOLTAGE RESISTORS HVR 968



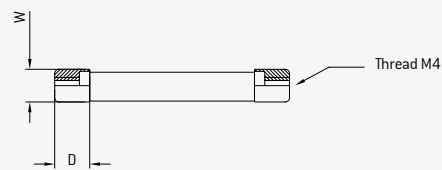
Thick-film high voltage resistors of this type series have been designed specifically for demanding applications. Heavy-duty and with high dielectric strength, these offer the ideal qualities for mastering measuring, controlling and regulating processes. Whether for high voltage pulses or for registering constant high voltages – with our HVR basic program we offer the ideal solution for all applications in X-ray technology, high voltage measuring technology and energy transmission systems.



- Round designs
- Pulse-proof
- Low inductance



Alternatively threaded end caps



## GENERAL TECHNICAL SPECIFICATIONS

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

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	TOLERANCE						
	TCR (ppm/°C)	0.50 %	1 %	2 %	5 %	10 %	20 %
<b>968.2</b> 3.8 W 9 kV (air) 13.5 kV (oil)	25 50 100 200	60 K – 500 M 9 K – 1 G 9 K – 1 G 9 K – 10 G	60 K – 500 M 9 K – 1 G 9 K – 1 G 9 K – 10 G	60 K – 500 M 9 K – 1 G 9 K – 1 G 9 K – 10 G	60 K – 500 M 9 K – 1 G 9 K – 1 G 9 K – 10 G	60 K – 500 M 9 K – 1 G 9 K – 1 G 9 K – 10 G	60 K – 500 M 9 K – 1 G 9 K – 1 G 9 K – 10 G
<b>968.3</b> 5 W 12 kV (air) 18 kV (oil)	25 50 100 200	80 K – 750 M 6 K – 1.5 G 6 K – 1.5 G 6 K – 15 G	80 K – 750 M 6 K – 1.5 G 6 K – 1.5 G 6 K – 15 G	80 K – 750 M 6 K – 1.5 G 6 K – 1.5 G 6 K – 15 G	80 K – 750 M 6 K – 1.5 G 6 K – 1.5 G 6 K – 15 G	80 K – 750 M 6 K – 1.5 G 6 K – 1.5 G 6 K – 15 G	80 K – 750 M 6 K – 1.5 G 6 K – 1.5 G 6 K – 15 G
<b>968.4</b> 6 W 14 kV (air) 21 kV (oil)	25 50 100 200	80 K – 750 M 10 K – 1.5 G 10 K – 1.5 G 10 K – 15 G	80 K – 750 M 10 K – 1.5 G 10 K – 1.5 G 10 K – 15 G	80 K – 750 M 10 K – 1.5 G 10 K – 1.5 G 10 K – 15 G	80 K – 750 M 10 K – 1.5 G 10 K – 1.5 G 10 K – 15 G	80 K – 750 M 10 K – 1.5 G 10 K – 1.5 G 10 K – 15 G	80 K – 750 M 10 K – 1.5 G 10 K – 1.5 G 10 K – 15 G
<b>968.5</b> 7.5 W 18 kV (air) 27 kV (oil)	25 50 100 200	120 K – 1 G 10 K – 2 G 10 K – 2 G 10 K – 20 G	120 K – 1 G 10 K – 2 G 10 K – 2 G 10 K – 20 G	120 K – 1 G 10 K – 2 G 10 K – 2 G 10 K – 20 G	120 K – 1 G 10 K – 2 G 10 K – 2 G 10 K – 20 G	120 K – 1 G 10 K – 2 G 10 K – 2 G 10 K – 20 G	120 K – 1 G 10 K – 2 G 10 K – 2 G 10 K – 20 G
<b>968.7</b> 10 W 24 kV (air) 36 kV (oil)	25 50 100 200	180 K – 1.5 G 20 K – 3 G 20 K – 3 G 20 K – 30 G	180 K – 1.5 G 20 K – 3 G 20 K – 3 G 20 K – 30 G	180 K – 1.5 G 20 K – 3 G 20 K – 3 G 20 K – 30 G	180 K – 1.5 G 20 K – 3 G 20 K – 3 G 20 K – 30 G	180 K – 1.5 G 20 K – 3 G 20 K – 3 G 20 K – 30 G	180 K – 1.5 G 20 K – 3 G 20 K – 3 G 20 K – 30 G
<b>968.10</b> 12 W 36 kV (air) 54 kV (oil)	25 50 100 200	240 K – 2 G 30 K – 3 G 30 K – 3 G 30 K – 30 G	240 K – 2 G 30 K – 3 G 30 K – 3 G 30 K – 30 G	240 K – 2 G 30 K – 3 G 30 K – 3 G 30 K – 30 G	240 K – 2 G 30 K – 3 G 30 K – 3 G 30 K – 30 G	240 K – 2 G 30 K – 3 G 30 K – 3 G 30 K – 30 G	240 K – 2 G 30 K – 3 G 30 K – 3 G 30 K – 30 G
<b>968.12</b> 15 W 42 kV (air) 63 kV (oil)	25 50 100 200	300 K – 2 G 35 K – 3 G 35 K – 3 G 35 K – 3 G	300 K – 2 G 35 K – 3 G 35 K – 3 G 35 K – 3 G	300 K – 2 G 35 K – 3 G 35 K – 3 G 35 K – 3 G	300 K – 2 G 35 K – 3 G 35 K – 3 G 35 K – 3 G	300 K – 2 G 35 K – 3 G 35 K – 3 G 35 K – 3 G	300 K – 2 G 35 K – 3 G 35 K – 3 G 35 K – 3 G
<b>968.15</b> 17 W 54 kV (air) 81 kV (oil)	25 50 100 200	350 K – 2 G 50 K – 3 G 50 K – 6 G 50 K – 30 G	350 K – 2 G 50 K – 3 G 50 K – 6 G 50 K – 30 G	350 K – 2 G 50 K – 3 G 50 K – 6 G 50 K – 30 G	350 K – 2 G 50 K – 3 G 50 K – 6 G 50 K – 30 G	350 K – 2 G 50 K – 3 G 50 K – 6 G 50 K – 30 G	350 K – 2 G 50 K – 3 G 50 K – 6 G 50 K – 30 G

Other resistance values and temperature coefficients upon request.

DIMENSIONS							
TYPES	A	B [Ø]	C	D	L [length]	Unit	Weight [g]
<b>968.2</b>	0.8 (0.03)	8.0 (0.31)	37.0 (1.46)	8.5 (0.33)	27.0 (1.06)	mm (inches)	4.17
<b>968.3</b>	0.8 (0.03)	8.0 (0.31)	37.0 (1.46)	8.5 (0.33)	37.0 (1.46)	mm (inches)	5.89
<b>968.4</b>	0.8 (0.03)	8.0 (0.31)	37.0 (1.46)	8.5 (0.33)	47.0 (1.85)	mm (inches)	7.65
<b>968.5</b>	0.8 (0.03)	8.0 (0.31)	37.0 (1.46)	8.5 (0.33)	52.0 (2.05)	mm (inches)	8.50
<b>968.7</b>	0.8 (0.03)	8.0 (0.31)	37.0 (1.46)	8.5 (0.33)	78.0 (3.07)	mm (inches)	12.75
<b>968.10</b>	0.8 (0.03)	8.0 (0.31)	37.0 (1.46)	8.5 (0.33)	102.0 (4.06)	mm (inches)	17.34
<b>968.12</b>	0.8 (0.03)	8.0 (0.31)	37.0 (1.46)	8.5 (0.33)	123.0 (4.84)	mm (inches)	20.50
<b>968.15</b>	0.8 (0.03)	8.0 (0.31)	37.0 (1.46)	8.5 (0.33)	153.0 (6.02)	mm (inches)	25.67

Length tolerance: max. -2 mm/+2 mm Models with brass caps: L<sub>total</sub> = L + 10 mm, Weight: +2.15 g per resistor

SAMPLE ORDER		ATTENTION: PLEASE USE THE FOLLOWING ORDER SPECIFICATIONS.			
HVR 968.5 Type	A Connections	B Cover	100M Resistance value	1 % Tolerance	TC25 Temperature coefficient
	<b>A = wire, axial*</b>	G = glass	R = Ω	0.5 %	25 ppm/°C
	C = caps	<b>B = operation in air*</b>	K = KΩ	<b>1.0 %*</b>	50 ppm/°C
		D = operation in oil	M = MΩ	2.0 %	<b>100 ppm/°C*</b>
		U = encasing	G = GΩ	5.0 %	200 ppm/°C
				10.0 %	
				20.0 %	
					* standard

