Wirewound Resistors, Industrial Power, Vitreous Coated, Adjustable Edgewound Tubular



FEATURES

- High temperature vitreous coating
- Complete welded construction
- Tight tolerance of 5 % for values above 1 Ω
- Excellent stability in operation (< 3 % change in resistance)
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free

RoHS COMPLIANT

HALOGEN FREE

GREEN (5-2008)

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	HISTORICAL MODEL	POWER RATING $P_{25\,°C}$ W	RESISTANCE RANGE Ω ± 5 %	RESISTANCE RANGE Ω ± 10 %	WEIGHT (typical) g
AVE0050	AVE-50	50	1.0 to 3.8	1.0 to 3.8	18
AVE0090	AVE-90	90	0.10 to 5.7	0.10 to 5.7	36
AVE0100	AVE-100	100	1.0 to 6.1	0.15 to 6.1	41
AVE0110	AVE-110	110	1.0 to 7.4	0.20 to 7.4	49
AVE0120	AVE-120	120	1.0 to 8.6	0.1 to 8.6	54
AVE0140	HLZ-140	140	0.08 to 9.0	0.08 to 9.0	109
AVE0155	AVE-155	155	1.0 to 12.5	0.1 to 12.5	129
AVE0165	HLZ-165	165	0.35 to 13.0	0.35 to 13.0	91
AVE0180	HLZ-165	165	0.35 to 13.0	0.35 to 13.0	91
AVE0240	AVE-240	240	1.0 to 18	0.1 to 18	186
AVE0300	AVE-300	300	1.0 to 25	0.15 to 25	236
AVE0375	AVE-375	375	1.0 to 32	0.20 to 32	286
AVE0420	AVE-420	420	1.0 to 35.8	0.25 to 35.8	320

GLOBAL PART NUMBER INFORMATION

Global Part Numbering example: AVE030020E15R0KE92 (visit www.vishay.net SAP parts manual for all options)

A	V	E	0	3	0	0	2	0	E	1	5	R	0	K	E	9	2

GLOBAL MODEL (7 digits)	TERMINAL DESIGNATION (2 digits)	TERMINAL FINISH (1 digit)	VALUE (4 digits)	TOLERANCE (1 digit)	PACKAGING CODE (1 digit)	SPECIAL (up to 2 digits)
(see Standard Electrical Specifications Global Model column for options)	**06** **15** **20**	**E** = lead (Pb)-free	**R** = decimal **K** = thousand **1R50** = 1.5 Ω **1K50** = 1.5 kΩ	**J** = ± 5 % **K** = ± 10 %	**E** = lead (Pb)-free cell and bulk pack	(dash number) from **1** to **99** as applicable **91** = 100 style horizontal thru-bolt bracket **92** = 200 style push-in bracket **93** = 300 style vertical thru-bolt bracket

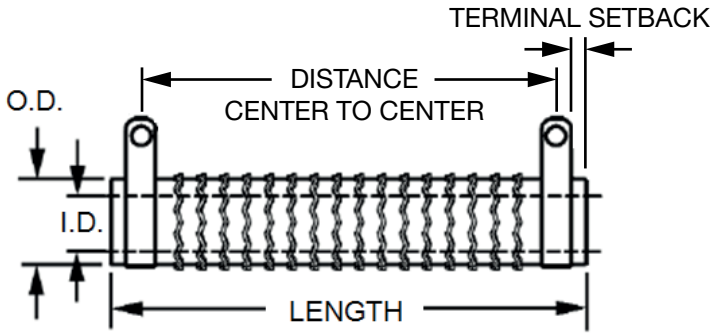
Historical Part Number example: AVE-300-15-10%-BKTS

AVE-300	15 Ω	10 %	BKTS
HISTORICAL MODEL	RESISTANCE VALUE	TOLERANCE	SPECIAL

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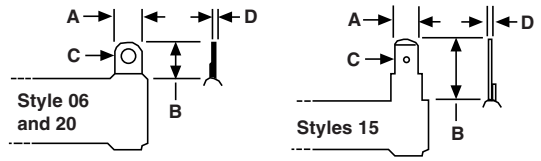
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DIMENSIONS in inches [millimeters]



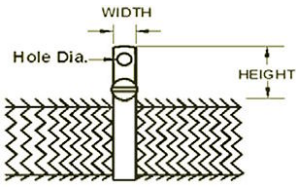
MODEL	CORE DIMENSIONS			TERMINAL SETBACK	DISTANCE CENTER TO CENTER (REF.)	TERMINAL DESIGNATION		SLIDER MODEL NUMBER
	LENGTH	O.D. ± 0.031 [± 0.79]	I.D. ± 0.031 [± 0.79]			STANDARD	OPTIONAL (QUICK CONNECT)	
AVE0050	2.000 [50.8]	0.750 [19.05]	0.500 [12.70]	0.094 [2.18]	1.562 [39.67]	06	15	71
AVE0090	4.000 [101.6]	0.563 [14.30]	0.312 [7.95]	0.094 [2.39]	3.562 [90.47]	06	15	71
AVE0100	3.500 [88.90]	0.750 [19.05]	0.500 [12.70]	0.079 [2.39]	3.092 [78.54]	06	15	74
AVE0110	4.000 [101.6]	0.750 [19.05]	0.500 [12.70]	0.125 [2.01]	3.500 [88.90]	06	15	74
AVE0120	4.500 [114.3]	0.750 [19.05]	0.547 [13.89]	0.125 [3.18]	3.400 [101.60]	06	15	74
AVE0140	4.000 [101.6]	1.125 [28.58]	0.750 [19.05]	0.219 [5.56]	2.812 [71.42]	20	15	74
AVE0155	4.250 [107.95]	1.125 [28.58]	0.750 [19.05]	0.282 [7.16]	3.311 [84.10]	20	15	74
AVE0165 AVE0180	6.500 [165.1]	0.750 [19.05]	0.750 [19.05]	0.125 [3.18]	5.75 [146.05]	20	15	74
AVE0240	6.500 [165.1]	1.125 [28.58]	0.750 [19.05]	0.282 [7.16]	5.625 [142.88]	20	15	75
AVE0300	8.500 [215.9]	1.125 [28.58]	0.750 [19.05]	0.267 [6.78]	7.591 [192.81]	20	15	75
AVE0375	10.500 [266.7]	1.125 [28.58]	0.750 [19.05]	0.266 [6.76]	9.593 [243.66]	20	15	75
AVE0420	11.750 [298.45]	1.125 [28.58]	0.750 [19.05]	0.266 [6.76]	10.843 [275.41]	20	15	76

TERMINAL DIMENSIONS in inches [millimeters]



DIMENSIONS	TERMINAL STYLE		
	06	15	20
A	0.250 [6.35]	0.250 [6.35]	0.375 [9.53]
B	0.500 [12.70]	0.594 [15.08]	0.5625 [14.28]
C (HOLE DIAMETER)	0.173 [4.39]	0.065 [1.65]	0.204 [5.18]
D	0.020 [0.51]	0.031 [0.79]	0.032 [0.812]

AVE SLIDERS-DIMENSIONS in inches [millimeters]



GLOBAL PART NUMBER (1) (RoHS COMPLIANT)	GLOBAL MODEL (OF RESISTOR)	SLIDER MODEL NUMBER	DIMENSIONS		
			WIDTH	HEIGHT	HOLE DIAMETER
75008603E29	ASE0050, ASE0090	71	0.250 [6.35]	0.719 [18.26]	0.141 [3.58]
75025201E29	ASE0100, ASE0110, ASE0120, ASE0155	74	0.312 [7.92]	0.891 [22.63]	0.196 [4.98]
75025203E29	ASE0240, ASE0300, ASE0375	75	0.500 [12.70]	0.891 [22.63]	0.265 [6.73]
75025206E29	ASE0420	76	0.312 [7.92]	0.891 [22.63]	0.196 [4.98]

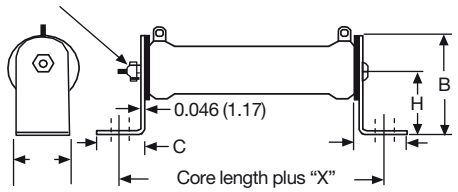
Note

(1) Order HEI slider with global part number.

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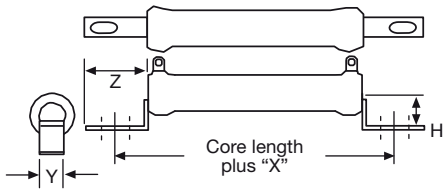
MOUNTING HARDWARE FOR AVE PRODUCTS - Dimensions in inches (millimeters)

91 = 100 Style Horizontal 1 High Bracket



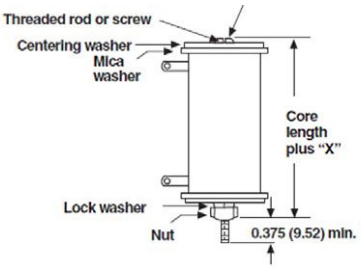
BRACKET TYPE	X	Y	Z	H	MOUNTING SLOT	C	B
102	1.063 (26.99)	0.750 (19.05)	0.859 (21.83)	1.250 (31.75)	0.219 x 0.438 (5.56 x 11.11)	0.750 (19.05)	1.750 (44.75)
103	1.063 (26.99)	1.250 (31.75)	1.000 (25.40)	1.500 (38.10)	0.281 x 0.563 (7.14 x 14.29)	0.927 (23.55)	2.125 (53.98)

92 = 200 Style Push-In Bracket



BRACKET TYPE	X	H	Y	Z	HOLE (DIA.)
204	0.700 (17.78)	0.578 (14.68)	0.250 (6.35)	0.500 (12.70)	0.156 (3.96)
206	0.846 (21.49)	0.800 (20.62)	0.375 (9.53)	0.600 (15.24)	0.343 x 0.213 (8.71 x 5.46)
207	0.700 (17.78)	1.125 (28.58)	0.500 (12.70)	0.687 (17.45)	0.250 x 0.188 (6.35 x 4.78)

93 = 300 Style Thru-Bolt Bracket



BRACKET TYPE	X (APPROXIMATE)	THREAD
302	0.271 (6.88)	10-32
303	0.463 (11.76)	1/4-20

MOUNTING HARDWARE			
GLOBAL MODEL	AVAILABLE BRACKET TYPES BY MODEL		
	91 = 100 STYLE HORIZONTAL 1 HIGH BRACKET	92 = 200 STYLE PUSH-IN BRACKET	93 = 300 STYLE THRU-BOLT BRACKET
AVE0050	102	206	302
AVE0090	102	204	302
AVE0100	102	206	302
AVE0110	102	206	302
AVE0120	102	206	302
AVE0140	103	205	303
AVE0155	103	207	302
AVE0165	102	206	303
AVE0180	102	206	303
AVE0240	103	207	302
AVE0300	103	207	303
AVE0375	103	207	303
AVE0420	103	207	303
AVE0500	103	-	302

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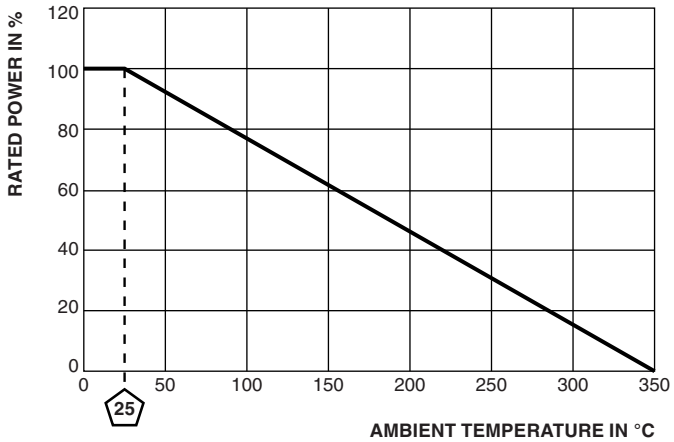
TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Power Rating	W	50 to 420
Resistance Range	Ω	0.10 to 35.8
Resistance Tolerance	%	10
Temperature Coefficient	ppm/°C	± 260 for 20 Ω and above, ± 400 for 1 Ω to 19.99 Ω
Operating Temperature	°C	-55 °C to 350 °C
Temperature Rise	°C	325 °C above an ambient of 25 °C
Maximum Altitude	f.a.s.l.	10 000
Short-Term Overload	-	10x rated power for 5 s
Surge Windings	-	Available
Maximum Working Voltage	-	$(P \times R)^{0.5}$
Insultation Resistance	Ω	1M
Dielectric Voltage	V_{RMS}	1000 V_{AC}
Creepage	-	Varies by wattage, see “Terminal Setback” in Dimensions table
Terminal Sleeves	-	n/a
Inductance	µH	Varies by wattage and resistance
Non-Inductive Winding	-	n/a
Terminal Strength	lb	10 lbs
Electrical or Mechanical Customization	-	Contact factory: ww2dresistors@vishay.com

MATERIAL SPECIFICATIONS

Element	Copper-nickel alloy or nickel-chrome alloy, depending on resistance value
Core	Cordierite, steatite
Coating	Special high temperature vitreous enamel
Standard Terminals	Tinned alloy 42
Optional Terminals	Alloy 42
Terminal Bands	Alloy 42
Part Marking	HEI, model, wattage, value, tolerance, date code

DERATING



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