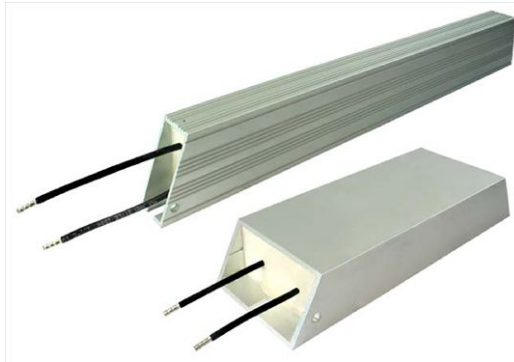


# Aluminum Housed Compact Wirewound Resistor



## FEATURES

- Power rating up to 500 W
- High overload capacity
- Protection IP20 or IP65
- Enhanced humidity protection
- Complete housed construction
- Multiple construction for higher power rating
- Heatsink mounting
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
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(5-2008)

## APPLICATIONS

- Drive controllers
- Railway
- Frequency inverter
- Renewable energy

STANDARD ELECTRICAL SPECIFICATIONS						
MODEL	POWER RATING W <i>P</i> <sub>40 °C</sub>	RESISTANCE RANGE <sup>(1)</sup> Ω	TEMPERATURE COEFFICIENT ppm/K	TOLERANCE ± %	PROTECTION	MAX. PERMISSIBLE OPERATING VOLTAGE
VACR0500	50	3.0 to 560	50 to 150	10	IP65	UL 600 V/UL 1000 V
VACR1000	100	3.0 to 560	50 to 150	10	IP65	EN 1000 V DC
VACR1001		2.7 to 910	50 to 150	10	IP65	UL 600 V/UL 1000 V
VACR1003		6.2 to 1.2K	50 to 150	10	IP65	UL 600 V/UL 1000 V
VACR1202	120	4.7 to 1.0K	50 to 150	10	IP65	UL 600 V/UL 1000 V
VACR1301	130	2.7 to 910	50 to 150	10	IP65	EN 1000 V DC
VACR1501	150	2.7 to 910	50 to 150	10	IP20	UL 600 V/UL 1000 V
VACR1502		4.7 to 1.0K	50 to 150	10	IP65	EN 1000 V DC
VACR1503		6.2 to 1.2K	50 to 150	10	IP65	EN 1000 V DC
VACR1504		6.2 to 1.2K	50 to 150	10	IP65	UL 600 V/UL 1000 V
VACR1505		9.1 to 1.5K	50 to 150	10	IP65	UL 600 V/UL 1000 V
VACR1804	180	6.2 to 1.2K	50 to 150	10	IP65	EN 1000 V DC
VACR1806		8.2 to 1.8K	50 to 150	10	IP65	UL 600 V/UL 1000 V
VACR2001	200	3.3 to 910	50 to 150	10	IP20	EN 1000 V DC
VACR2005		9.1 to 1.5K	50 to 150	10	IP65	EN 1000 V DC
VACR2502	250	4.7 to 1.0K	50 to 150	10	IP20	UL 600 V/UL 1000 V
VACR2506		8.2 to 1.8K	50 to 150	10	IP65	EN 1000 V DC
VACR3002	300	4.7 to 1.0K	50 to 150	10	IP20	EN 1000 V DC
VACR3004		6.2 to 1.2K	50 to 150	10	IP20	UL 600 V/UL 1000 V
VACR4004	400	6.2 to 1.2K	50 to 150	10	IP20	EN 1000 V DC
VACR4006		8.2 to 1.8K	50 to 150	10	IP20	UL 600 V/UL 1000 V
VACR5006	500	8.2 to 1.8K	50 to 150	10	IP20	EN 1000 V DC

### Notes

- VACR100 and VACR200 as special flat version on request.
- <sup>(1)</sup> Resistance value to be selected from E24 series, other values on request.



PULSE POWER <sup>(1)</sup> in W at T <sub>a</sub> = 40 °C									
MODEL	MAX. PERMISSIBLE OPERATING VOLTAGE	SIZE: 40 mm x 20 mm				SIZE: 60 mm x 30 mm			
		PULSE TIME <sup>(2)</sup>							
		6 %	15 %	25 %	40 %	6 %	15 %	25 %	40 %
VACR050	UL 600 V/UL 1000 V	550	200	150	100	-	-	-	-
VACR100 <sup>(3)</sup>	UL 600 V/UL 1000 V	950	400	250	150	900	500	300	200
	EN 1000 V DC	1600	650	400	250	-	-	-	-
VACR120	UL 600 V/UL 1000 V	-	-	-	-	1080	600	360	240
VACR130	EN 1000 V DC	-	-	-	-	1170	650	390	260
VACR150	UL 600 V/UL 1000 V	1600	650	400	250	1350	750	450	300
	EN 1000 V DC	2200	900	550	350	1350	750	450	300
VACR180	UL 600 V/UL 1000 V	-	-	-	-	1620	900	540	360
	EN 1000 V DC	-	-	-	-	1620	900	540	360
VACR200 <sup>(3)</sup>	EN 1000 V DC	3200	1300	750	500	1800	1000	600	400
VACR250	UL 600 V/UL 1000 V	-	-	-	-	2250	1250	750	500
	EN 1000 V DC	-	-	-	-	2250	1250	750	500
VACR300	UL 600 V/UL 1000 V	-	-	-	-	2700	1500	900	600
	EN 1000 V DC	-	-	-	-	2700	1500	900	600
VACR400	UL 600 V/UL 1000 V	-	-	-	-	3600	2000	1200	800
	EN 1000 V DC	-	-	-	-	3600	2000	1200	800
VACR500	EN 1000 V DC	-	-	-	-	4500	2500	1500	1000

**Notes**

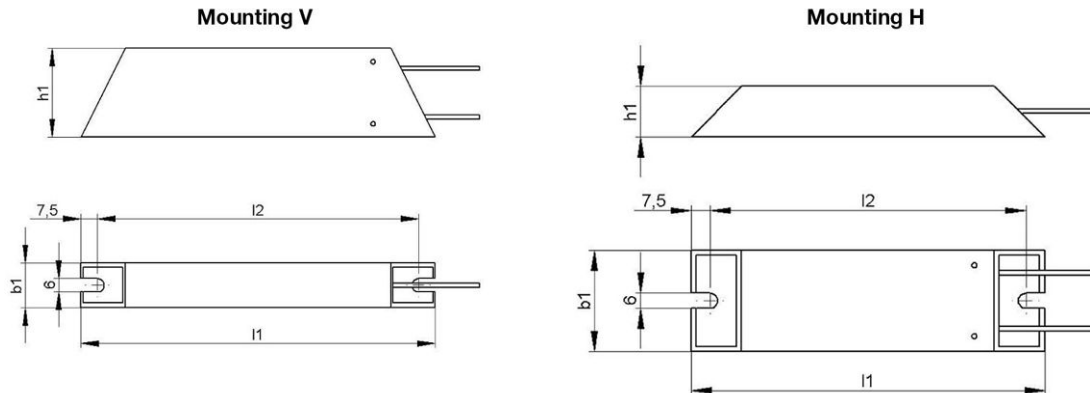
<sup>(1)</sup> Approximate value (depending on resistance)

<sup>(2)</sup> Cycle duration of 120 s

PART NUMBER AND PRODUCT DESCRIPTION																	
Part Number: VACR1003VUB100K00																	
V	A	C	R	1	0	0	3	V	U	B	1	0	0	0	K	0	0
MODEL		MOUNTING	MAX. PERMISSIBLE VOLTAGE	PROTECTION		VALUE		TOLERANCE	SPECIAL								
<b>VACR050</b> 0 = <b>VACR100</b> <sup>(3)</sup> 160 x 40 x 20 <b>VACR120</b> 160 x 20 x 40 <b>VACR130</b> 1 = <b>VACR150</b> 167 x 60 x 30 <b>VACR180</b> 167 x 30 x 60 <b>VACR200</b> <sup>(3)</sup> 2 = <b>VACR250</b> 217 x 60 x 30 <b>VACR300</b> 217 x 30 x 60 <b>VACR400</b> 3 = <b>VACR500</b> 240 x 40 x 20 240 x 20 x 40 4 = 267 x 60 x 30 267 x 30 x 60 5 = 300 x 40 x 20 300 x 20 x 40 6 = 337 x 60 x 30 337 x 30 x 60		<b>V</b> = Vertical <b>H</b> = Horizontal	<b>E</b> = EN1000 (EN 1000 V DC) <b>U</b> = UL 1000 V <b>V</b> = UL 600 V	<b>A</b> = IP20 <b>B</b> = IP65 <b>C</b> = IP54 (on request)		<b>3 digit value</b> <b>1 digit multiplier</b> <b>MULTIPLIER</b> 8 = *10 <sup>-2</sup> 9 = *10 <sup>-1</sup> 0 = *10 <sup>0</sup> 1 = *10 <sup>1</sup> 2 = *10 <sup>2</sup> 3 = *10 <sup>3</sup>		<b>K</b> = ± 10.0 %	<b>00</b> = Standard Two digits code for special parts, edited by marketing.								
Product Description: VACR1003 V UL 1000 V IP65 100R 10 %																	
VACR1003	V	UL 1000 V	IP65	100R	10 %												
MODEL	MOUNTING	MAX. PERMISSIBLE VOLTAGE	PROTECTION	VALUE	TOLERANCE												

**Note**

<sup>(3)</sup> Special flat version on request.

**DIMENSIONS** in millimeters


MODEL	MOUNTING	b1	h1	l1 <sup>(1)</sup>	l2	MASS (kg)
VACR0500	H	40	20	160	145	0.26
	V	20	40	160	145	
VACR1003	H	40	20	240	225	0.26
	V	20	40	240	225	
VACR1000	H	40	20	160	145	0.26
	V	20	40	160	145	
VACR1001	H	60	30	167	150	0.7
	V	30	60	167	150	
VACR1202	H	60	30	217	200	0.7
	V	30	60	217	200	
VACR1301	H	60	30	167	150	0.5
	V	30	60	167	150	
VACR1505	H	40	20	300	285	0.43
	V	20	40	300	285	
VACR1503	H	40	20	240	225	0.43
	V	20	40	240	225	
VACR1501	H	60	30	167	150	0.43
	V	30	60	167	150	
VACR1502	H	60	30	217	200	0.43
	V	30	60	217	200	
VACR1504	H	60	30	267	250	0.43
	V	30	60	267	250	
VACR1804	H	60	30	267	250	0.9
	V	30	60	267	250	
VACR1806	H	60	30	337	320	0.9
	V	30	60	337	320	
VACR2005	H	40	20	300	285	0.55
	V	20	40	300	285	
VACR2001	H	60	30	167	150	0.55
	V	30	60	167	150	
VACR2502	H	60	30	217	200	0.7
	V	30	60	217	200	
VACR2506	H	60	30	337	320	0.7
	V	30	60	337	320	
VACR3002	H	60	30	217	200	0.7
	V	30	60	217	200	
VACR3004	H	60	30	287	250	0.7
	V	30	60	267	250	
VACR4004	H	60	30	267	250	0.9
	V	30	60	267	250	
VACR4006	H	60	30	337	320	0.9
	V	30	60	337	320	
VACR5006	H	60	30	337	320	1.1
	V	30	60	337	320	

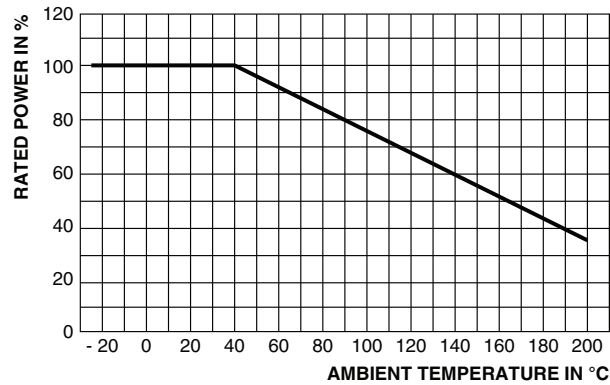
**Notes**

- VACR100 and VACR200 as special flat version on request.

(1) Mounting note: The length l1 increases at 0.85 mm/100 mm while heating (mounting with fixed and movable bearing).



DERATING



TEMPERATURE			
POWER RATING W	SURFACE TEMPERATURE at T <sub>40</sub> °C	MAX. PERMISSIBLE OPERATING VOLTAGE V	SIZE mm
50 to 100	180	UL 600 V/UL 1000 V	40 x 20
100 to 200	250	EN 1000 V DC	40 x 20
200 to 500	360	EN 1000 V DC	60 x 30
150 to 400	340	UL 600 V/UL 1000 V	60 x 30
130 to 250	230	EN 1000 V DC	60 x 30
100 to 180	210	UL 600 V/UL 1000 V	60 x 30



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