



# INDUSTRIAL WIREWOUND RESISTORS



## Cement Coated

- AC
- KKA, KKE
- PAC
- WSZ
- Z300
- ZWK
- ZBS
- ZWS

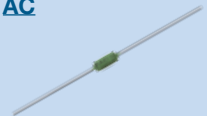
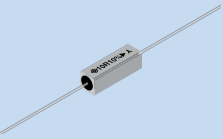


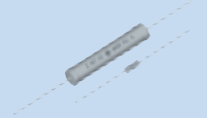


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### Features

- Power range of 1 W to 500 W
- Resistance range of R056 to 620 K
- Temperature range: - 55 °C to + 200 °C
- Fire-proof construction
- Lead (Pb)-free
- High-quality ceramic core
- Perfect humidity protection
- Outstanding endurance
- Adjustable and non-inductive styles available
- RoHS compliant

Historical Model	Product	Wattage	Resistance Range	Tolerance (± %) *	TC (ppm/K) *	Applications
	AC 01	1 W	R10 – 2K4	5	- 10...- 80/ 100...180	<ul style="list-style-type: none"> <li>• Filters</li> <li>• Capacitor discharge</li> <li>• Break resistors</li> <li>• Power supplies</li> <li>• Welding equipment</li> <li>• Rail systems</li> <li>• Voltage dividers</li> <li>• Converters</li> <li>• Automotive</li> <li>• Energy meters</li> </ul>
	AC 03	3 W	R10 – 5K1			
	AC 04	4 W	R10 – 6K8			
	AC 05	5 W	R10 – 10K			
	AC 07	7 W	R10 – 15K			
	AC 10	10 W	R68 – 27K			
	KKA 4 KKE 4	4 W	R056 – 9K1	5/10	400 ± 50 0 ± 40, 0 ± 10	
	KKA 5	5 W	R075 – 15K			
	KKA 7 KKE 7	7 W	R11 – 33K			
	KKE 7Si	4 W	R075 – 15K			
	KKA 9 KKE 9	9 W	R11 – 33K			
	KKE 9Si	5.5 W	R11 – 33K			
	KKA 11 KKE 11	11 W	R15 – 47K			
	KKE 11 Si	11 W	R15 – 47K			
	KKA 17 KKE 17	17 W	R27 – 82K			
	KKE 17 Si	17 W	R27 – 82K			
	PAC 01	1 W	R10 – 2K2	1	± 100	
	PAC 02	2 W	R10 – 3K6			
	PAC 03	3 W	R10 – 4K7			
	PAC 04	4 W	R10 – 8K2			
	PAC 05	5 W	R10 – 10K			
	PAC 06	6 W	R10 – 12K			
	WSZ 6720	1.8 W	1R – 510R R22 – 510R R10 – 3K3 R10 – 3K3	1 2 5 10	- 10...- 80 100...180	
	Z 301	1 W	R30 – 2K0	5/10	- 10...- 80/ 100...180	
	ZDA 0411	2 W	R47 – 4K3 on request	5/10 1/2		
	Z 302	3 W	R10 – 3K3 R22 – 510R	5/10 1/2		
	Z 303	4 W	R10 – 3K9 1R0 – 1K0	5/10 1/2		
	Z 305	6 W	1R0 – 2K4 1R2 – 2K4	5/10 1/2		
	Z 306	8 W	R10 – 16K 1R0 – 4K7	5/10 1/2		
	Z 307	10 W	R20 – 30K 1R0 – 8K2	5/10 1/2		

Note: E = adjustable — Ni = non-inductive

\* Ohmic values are not available in all tolerances and TC values. For more details, please refer to the related datasheet at [www.vishay.com](http://www.vishay.com) or contact your local sales office.


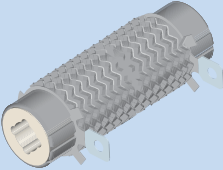
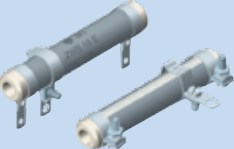
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Historical Model	Product	Wattage	Resistance Range	Tolerance ± % *	TC (ppm/K) *	Applications
<b>ZWK</b> 	ZWK 10 ZWK 10 Ni	10 W	R47 – 22K R24 – 3K9	2/5/10 5/10		<ul style="list-style-type: none"> <li>• Filters</li> <li>• Capacitor discharge</li> <li>• Break resistors</li> <li>• Power supplies</li> <li>• Welding equipment</li> <li>• Rail systems</li> <li>• Voltage dividers</li> <li>• Converters</li> <li>• Automotive</li> </ul>
	ZWK 15 ZWK 15 Ni	15 W	R47 – 33K R36 – 5K6	2/5/10 5/10		
	ZWK 20 ZWK 20 Ni	20 W	R75 – 51K R56 – 9K1	2/5/10 5/10		
	ZWK 40 ZWK 40 Ni	40 W	1R5 – 100K 1R1 – 18K	2/5/10 5/10		
	ZWK 60 ZWK 60 Ni	60 W	1R8 – 130K 1R5 – 24K	2/5/10 5/10		
	ZWK 90 ZWK 90 Ni	90 W	2R7 – 200K 2R2 – 36K	2/5/10 5/10		
	ZWK 150 ZWK 150 Ni	150 W	4R7 – 360K 3R9 – 62K	2/5/10 5/10		
	<b>ZBS</b> 	ZBS 20/100 ZBS 20/100 E	50 W	R13 – 6R2		
ZBS 20/165 ZBS 20/165 E		100 W	R27 – 12R			
ZBS 20/265 ZBS 20/265 E		150 W	R47 – 22R			
ZBS 30/100 ZBS 30/100 E		75 W	R10 – 8R2			
ZBS 30/133 ZBS 30/133 E		110 W	R15 – 12R			
ZBS 30/165 ZBS 30/165 E		150 W	R20 – 16R			
ZBS 30/215 ZBS 30/215 E		200 W	R27 – 24R			
ZBS 30/265 ZBS 30/265 E		250 W	R30 – 27R			
ZBS 30/330 ZBS 30/330 E		300 W	R39 – 36R			
ZBS 45/370 ZBS 45/370 E		375 W	R75 – 56R			
ZBS 60/370 ZBS 60/370 E		500 W	R91 – 75R			
<b>ZWS</b> 		ZWS 6 ZWS 6 E ZWS 6 Ni	6 W	R82 – 13K R82 – 4K7 R15 – 2K4	2/5/10 5/10 5/10	
	ZWS 8 ZWS 8 E ZWS 8 Ni	8 W	R68 – 20K R62 – 6K8 R24 – 3K6	2/5/10 5/10 5/10		
	ZWS 12 ZWS 12 E ZWS 12 Ni	12 W	R62 – 27K R56 – 9K1 R33 – 5K1	2/5/10 5/10 5/10		
	ZWS 15 ZWS 15 E ZWS 15 Ni	15 W	R68 – 33K R68 – 11K R39 – 6K2	2/5/10 5/10 5/10		
	ZWS 20 ZWS 20 E ZWS 20 Ni	20 W	R62 – 43K R62 – 15K R47 – 8K2	2/5/10 5/10 5/10		
	ZWS 35 ZWS 35 E ZWS 35 Ni	35 W	1R1 – 82K 1R1 – 27K R91 – 15K	2/5/10 5/10 5/10		
	ZWS 50 ZWS 50 E ZWS 50 Ni	50 W	1R3 – 91K 1R3 – 33K 1R1 – 16K	2/5/10 5/10 5/10		
	ZWS 100 ZWS 100 E ZWS 100 Ni	100 W	2R7 – 200K 2R7 – 68K 2R2 – 33K	2/5/10 5/10 5/10		
	ZWS 30/100 ZWS 30/100 E ZWS 30/100 Ni	75 W	2R4 – 180K 2R4 – 56K 2R0 – 30K	2/5/10 5/10 5/10		
	ZWS 30/133 ZWS 30/133 E ZWS 30/133 Ni	110 W	3R3 – 240K 3R3 – 82K 2R7 – 43K	2/5/10 5/10 5/10		
	ZWS 150 ZWS 150 E ZWS 150 Ni	150 W	4R7 – 360K 4R7 – 120K 3R9 – 62K	2/5/10 5/10 5/10		
	ZWS 250 ZWS 250 E ZWS 250 Ni	250 W	8R2 – 620K 8R2 – 220K 6R8 – 110K	2/5/10 5/10 5/10		

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