



VISHAY INTERTECHNOLOGY, INC.



INDUSTRIAL WIREWOUND RESISTORS

Cement Coated

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


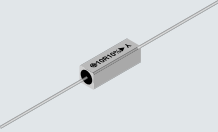


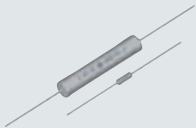


Industrial Wirewound Resistors

Cement Coated

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
- High-quality ceramic core
- Perfect humidity protection
- Outstanding endurance
- Adjustable and non-inductive styles available


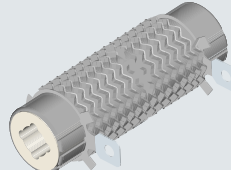

Historical Model	Product	Wattage	Resistance Range	Tolerance ± % *	TC (ppm/K) *	Applications
	AC 01	1 W	R10 – 2K4	5	- 10...- 80/ 100...180	<ul style="list-style-type: none"> • Filters • Capacitor discharge • Break resistors • Power supplies • Welding equipment • Rail systems • Voltage dividers • Converters • Automotive
	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	7 W	R11 – 33K			
	KKE 7	7 W	R075 – 15K			
	KKE 7Si	4 W	R075 – 12K			
	KKA 9	9 W	R11 – 33K			
	KKE 9	9 W	R11 – 33K			
	KKE 9Si	5.5 W	R11 – 33K			
	KKA 11	11 W	R15 – 47K			
	KKE 11	11 W	R15 – 47K			
KKE 11 Si	7 W	R28 – 47K				
	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	1	- 10...- 80 100...180	
			R22 – 510R			
WSZ 8027	4 W	1R – 1K0	1	- 10...- 80 100...180		
		R10 – 1K0				
WSZ 8027	4 W	R10 – 3K3	2	- 10...- 80 100...180		
		R10 – 3K3				
WSZ 8027	4 W	R10 – 3K9	5	- 10...- 80 100...180		
		R10 – 3K9				
	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 or contact your local sales office.

For technical support, contact ww2bresistors@vishay.com (Asia and Americas), ww1bresistors@vishay.com (Europe)



Historical Model	Product	Wattage	Resistance Range	Tolerance ± % *	TC (ppm/K) *	Applications	
ZWK 	ZWK 10 ZWK 10 Ni	10 W	R47 – 22K R24 – 3K9	2/5/10 5/10	650...750/ - 10...- 80/ 100...180	<ul style="list-style-type: none"> • Filters • Capacitor discharge • Break resistors • Power supplies • Welding equipment • Rail systems • Voltage dividers • Converters • Automotive 	
	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			
	ZBS 	ZBS 20/100 ZBS 20/100 E	50 W	R13 – 6R2			10/5
		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				
ZWS 		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			

SEMICONDUCTORS:

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• RF Transistors • Optoelectronics • ICs

PASSIVE COMPONENTS:

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