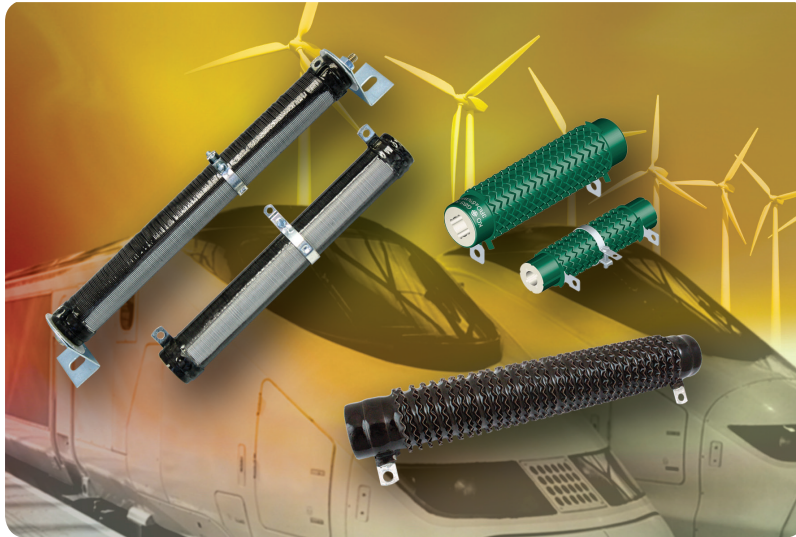




# INDUSTRIAL WIREWOUND RESISTORS

Vitreous Coated

## Vitreous Coated Wirewound Resistors



### FEATURES

- A wide range of high power ratings (4 W to 1000 W)
- Resistance range (0.1  $\Omega$  to 651 k $\Omega$ )
- Low / high temperature performance (-55  $^{\circ}\text{C}$  to +415  $^{\circ}\text{C}$ )
- Fire-proof construction
- High quality ceramic core
- Perfect humidity protection
- Outstanding endurance
- Adjustable and non-inductive styles available

### RESOURCES

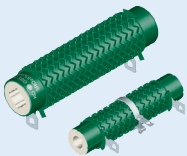


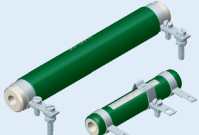
- For available military standard, visit [www.vishay.com/doc?21005](http://www.vishay.com/doc?21005)
- For technical questions on:
  - Vishay Draloric products contact [ww1resistors@vishay.com](mailto:ww1resistors@vishay.com)
  - Vishay Milwaukee products contact [ww2resistors@vishay.com](mailto:ww2resistors@vishay.com)
  - Vishay Huntington products contact [ww2dresistors@vishay.com](mailto:ww2dresistors@vishay.com)
  - Vishay MCB products contact [mcbfixedresistors@vishay.com](mailto:mcbfixedresistors@vishay.com)





# INDUSTRIAL WIREWOUND RESISTORS

Vitreous Coated

Product	Global Model	Wattage	Resistance Range	Tolerance (± %)*	TCR (ppm/K)**	Applications
<b>Vishay Draloric</b> <b>GBS</b> 	GBS 20 / 100	80 W	0.13 Ω to 6.2 Ω	5 / 10	-10...-80 / 100...180, +650 to +750	
	GBS 20 / 100E	50 W	0.13 Ω to 6.2 Ω			
	GBS 20 / 165	160 W	0.27 Ω to 12 Ω			
	GBS 20 / 165E	100 W	0.27 Ω to 12 Ω			
	GBS 20 / 265	300 W	0.47 Ω to 22 Ω			
	GBS 20 / 265E	180 W	0.47 Ω to 22 Ω			
	GBS 30 / 100	150 W	0.10 Ω to 8.2 Ω			
	GBS 30 / 100E	90 W	0.10 Ω to 8.2 Ω			
	GBS 30 / 133	200 W	0.15 Ω to 12 Ω			
	GBS 30 / 133E	120 W	0.15 Ω to 12 Ω			
	GBS 30 / 165	250 W	0.20 Ω to 16 Ω			
	GBS 30 / 165E	150 W	0.20 Ω to 16 Ω			
	GBS 30 / 215	300 W	0.27 Ω to 24 Ω			
	GBS 30 / 215E	200 W	0.27 Ω to 24 Ω			
<b>Vishay Draloric</b> <b>GWK</b> 	GWK 10	10 W	1.8 Ω to 16 kΩ	2 / 5 / 10	100...180	<ul style="list-style-type: none"> <li>• Filters</li> <li>• Capacitor discharge</li> <li>• Brake 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>
	GWK 10Ni	7 W	2.4 Ω to 1 kΩ	5 / 10		
	GWK 20	20 W	2.2 Ω to 27 kΩ	2 / 5 / 10		
	GWK 20Ni	13 W	4.7 Ω to 1.8 kΩ	5 / 10		
	GWK 40	30 W	3.3 Ω to 43 kΩ	2 / 5 / 10		
	GWK 40Ni	20 W	6.8 Ω to 2.7 kΩ	5 / 10		
	GWK 60	40 W	6.2 Ω to 82 kΩ	2 / 5 / 10		
	GWK 60Ni	25 W	13 Ω to 5.1 kΩ	5 / 10		
	GWK 100	80 W	8.2 Ω to 82 kΩ	2 / 5 / 10		
	GWK 100Ni	50 W	27 Ω to 10 kΩ	5 / 10		
	GWK 150	100 W	12 Ω to 110 kΩ	2 / 5 / 10		
	GWK 150Ni	60 W	36 Ω to 15 kΩ	5 / 10		
	GWK 200	160 W	20 Ω to 180 kΩ	2 / 5 / 10		
	GWK 200Ni	100 W	56 Ω to 22 kΩ	5 / 10		
GWK 300	260 W	36 Ω to 330 kΩ	2 / 5 / 10			
GWK 300Ni	180 W	100 Ω to 43 kΩ	5 / 10			
<b>Vishay Draloric</b> <b>G200</b> 	G202	4 W	0.10 Ω to 10 kΩ on request	2 / 5 / 10 1		
	G204	7 W	0.10 Ω to 39 kΩ on request	2 / 5 / 10 1		
	G206	13 W	0.15 Ω to 68 kΩ on request	2 / 5 / 10 1		
	G207	17 W	0.20 Ω to 120 kΩ on request	2 / 5 / 10 1		
<b>Vishay Draloric</b> <b>GWS</b> 	GWS 15	15 W	4.3 Ω to 20 kΩ	2 / 3 / 5 / 10	100...180	
	GWS 15E	10 W	4.3 Ω to 620 Ω	5 / 10		
	GWS 15Ni	10 W	5.1 Ω to 910 Ω	5 / 10		
	GWS 20	20 W	3.6 Ω to 30 kΩ	2 / 5 / 10		
	GWS 20E	15 W	4.3 Ω to 1 kΩ	5 / 10		
	GWS 20Ni	15 W	5.1 Ω to 1.3 kΩ	5 / 10		
	GWS 25	25 W	3.6 Ω to 39 kΩ	2 / 3 / 5 / 10		
	GWS 25E	18 W	5.1 Ω to 1.3 kΩ	5 / 10		
GWS 25Ni	18 W	6.8 Ω to 1.8 kΩ	5 / 10			

Note: E = adjustable — Ni = non-inductive

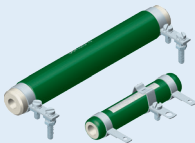
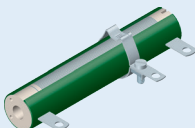
\* Ohmic values are not available in all tolerances and TC values. For more details, please refer to the related datasheet at [www.vishay.com](http://www.vishay.com) or contact your local sales office

\*\* MIL standard available, please visit [www.vishay.com/doc?21005](http://www.vishay.com/doc?21005)



# INDUSTRIAL WIREWOUND RESISTORS

## Vitreous Coated

Product	Global Model	Wattage	Resistance Range	Tolerance (± %)*	TCR (ppm/K)**	Applications
<b>Vishay Draloric</b> <b>GWS</b> 	GWS 35	30 W	5.1 Ω to 47 kΩ	2 / 5 / 10	100...180	<ul style="list-style-type: none"> <li>• Filters</li> <li>• Capacitor discharge</li> <li>• Brake 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>
	GWS 35E	22 W	6.8 Ω to 1.6 kΩ	5 / 10		
	GWS 35Ni	22 W	8.2 Ω to 2.4 kΩ	5 / 10		
	GWS 50	40 W	3.3 Ω to 62 kΩ	2 / 3 / 5 / 10		
	GWS 50E	30 W	8.2 Ω to 2 kΩ	5 / 10		
	GWS 50Ni	30 W	10 Ω to 3 kΩ	5 / 10		
	GWS 75	65 W	7.5 Ω to 130 kΩ	2 / 3 / 5 / 10		
	GWS 75E	45 W	18 Ω to 3.9 kΩ	5 / 10		
	GWS 75Ni	45 W	22 Ω to 6.2 kΩ	5 / 10		
	GWS 100	80 W	6.8 Ω to 110 kΩ	2 / 3 / 5 / 10		
	GWS 100E	60 W	13 Ω to 5.1 kΩ	5 / 10		
	GWS 100Ni	60 W	24 Ω to 6.8 kΩ	5 / 10		
	GWS 30 / 100	150 W	9.1 Ω to 100 kΩ	2 / 5 / 10		
	GWS 30 / 100E	110 W	22 Ω to 8.2 kΩ	5 / 10		
GWS 220	160 W	13 Ω to 160 kΩ	2 / 3 / 5 / 10			
GWS 220E	120 W	30 Ω to 10 kΩ	5 / 10			
GWS 220Ni	120 W	51 Ω to 16 kΩ	5 / 10			
GWS 30 / 133	200 W	13 Ω to 160 kΩ	2 / 5 / 10			
GWS 30 / 133E	130 W	36 Ω to 13 kΩ	5 / 10			
GWS 300	300 W	24 Ω to 300 kΩ	2 / 3 / 5 / 10			
GWS 300E	200 W	56 Ω to 20 kΩ	5 / 10			
GWS 300Ni	200 W	100 Ω to 30 kΩ	5 / 10			
GWS 500	500 W	39 Ω to 270 kΩ	2 / 3 / 5 / 10			
GWS 500E	300 W	100 Ω to 36 kΩ	5 / 10			
<b>Vishay Draloric</b> <b>RW **</b> 	RW 10 / 44	18 W	1 Ω to 36 kΩ	5 / 10	100...180	<ul style="list-style-type: none"> <li>• Filters</li> <li>• Capacitor discharge</li> <li>• Brake 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>
	RW 10 / 44E	11 W	1 Ω to 1.6 kΩ			
	RW 10 / 44Ni	11 W	6.2 Ω to 2.4 kΩ			
	RW 12 / 25	11 W	0.39 Ω to 13 kΩ			
	RW 12 / 38	15 W	1 Ω to 33 kΩ			
	RW 12 / 38E	14 W	4.3 Ω to 1.5 kΩ			
	RW 12 / 38Ni	14 W	5.6 Ω to 2.2 kΩ			
	RW 12 / 51	25 W	1 Ω to 56 kΩ			
	RW 12 / 51E	17 W	1 Ω to 2.4 kΩ			
	RW 12 / 51Ni	17 W	9.1 Ω to 3.6 kΩ			
	RW 12 / 76	45 W	2 Ω to 4.3 kΩ			
	RW 12 / 76E	27 W	2 Ω to 91 kΩ			
	RW 12 / 76Ni	27 W	16 Ω to 6.2 kΩ			
	RW 20 / 76	70 W	1 Ω to 75 kΩ			
	RW 20 / 76E	42 W	1 Ω to 6.8 kΩ			
	RW 20 / 76Ni	42 W	24 Ω to 10 kΩ			
	RW 20 / 102	90 W	3 Ω to 110 kΩ			
	RW 20 / 102E	55 W	3 Ω to 10 kΩ			
	RW 20 / 102Ni	55 W	36 Ω to 15 kΩ			
	RW 30 / 102	130 W	2.7 Ω to 160 kΩ			
RW 30 / 102E	80 W	2.7 Ω to 15 kΩ				
RW 30 / 152	220 W	4.7 Ω to 200 kΩ				
RW 30 / 152E	130 W	4.7 Ω to 24 kΩ				
RW 30 / 203	300 W	6.8 Ω to 270 kΩ				
RW 30 / 203E	180 W	6.8 Ω to 36 kΩ				
RW 30 / 267	400 W	8.2 Ω to 390 kΩ				
RW 30 / 267E	240 W	8.2 Ω to 47 kΩ				
RW 30 / 305	480 W	10 Ω to 300 kΩ				
RW 30 / 305E	290 W	10 Ω to 56 kΩ				

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

\*\* MIL standard available, please visit [www.vishay.com/doc?21005](http://www.vishay.com/doc?21005)



# INDUSTRIAL WIREWOUND RESISTORS

Vitreous Coated




Product	Global Model	Historical Model	Wattage	Resistance Range	Tol.	TCR (ppm/°C)***	Applications
<b>Vishay Milwaukee</b> <b>RBEF</b> 	RBEF0040	9-32-ΩR	40 W	0.01 Ω to 10.6 Ω	± 5 %, ± 10 %	± 400, ± 180, ± 82, ± 20	<ul style="list-style-type: none"> <li>• Grid resistors</li> <li>• DC/DC converters</li> <li>• AC/DC inverters</li> <li>• High voltage bleeders</li> <li>• Dynamic braking</li> <li>• Bias supplies</li> <li>• Motor speed controls</li> <li>• Voltage divider networks</li> <li>• Capacitor charging / discharging regulation</li> <li>• Filament dropping</li> <li>• Voltage dropping</li> <li>• Electrical loads</li> <li>• Crowbar circuits</li> <li>• Current shunts</li> </ul>
	RBEF0050	12-32-ΩR	50 W	0.02 Ω to 8.2 Ω			
	RBEF0075	12-48-ΩR	75 W	0.01 Ω to 19.3 Ω			
	RBEF0090	9-64-ΩR	90 W	0.015 Ω to 28.3 Ω			
	RBEF0100	12-56-ΩR	100 W	0.012 Ω to 24.5 Ω			
	RBEF0110	12-64-ΩR	110 W	0.015 Ω to 30.6 Ω			
	RBEF0120	12-72-ΩR	120 W	0.018 Ω to 36.8 Ω			
	RBEF0135	12-80-ΩR	135 W	0.021 Ω to 42.9 Ω			
	RBEF0150	18-64-ΩR	150 W	0.019 Ω to 44.8 Ω			
	RBEF0160	12-96-ΩR	160 W	0.027 Ω to 55 Ω			
	RBEF0175	18-72-ΩR	175 W	0.023 Ω to 53.7 Ω			
	RBEF0180	12-104-ΩR	180 W	0.03 Ω to 61.3 Ω			
	RBEF0220	18-96-ΩR	220 W	0.035 Ω to 80.6 Ω			
	RBEF0225	18-98-ΩR	225 W	0.036 Ω to 82.8 Ω			
	RBEF0240	18-104-ΩR	240 W	0.038 Ω to 89.5 Ω			
	RBEF0300	18-136-ΩR	300 W	0.054 Ω to 125 Ω			
	RBEF0375	18-168-ΩR	375 W	0.069 Ω to 161 Ω			
	RBEF0400	23-136-ΩR	400 W	0.061 Ω to 159 Ω			
	RBEF0420	18-188-ΩR	420 W	0.079 Ω to 184 Ω			
	RBEF0500	26-168-ΩR	500 W	0.081 Ω to 210 Ω			
RBEF0550	26-188-ΩR	550 W	0.093 Ω to 242 Ω				
<b>Vishay Milwaukee</b> <b>RDEF</b> 	RDEF0008	5-16-Ω	8 W	0.82 Ω to 13.5 kΩ	± 5 %, ± 10 %	± 400, ± 180, ± 130, ± 20	<ul style="list-style-type: none"> <li>• Grid resistors</li> <li>• DC/DC converters</li> <li>• AC/DC inverters</li> <li>• High voltage bleeders</li> <li>• Dynamic braking</li> <li>• Bias supplies</li> <li>• Motor speed controls</li> <li>• Voltage divider networks</li> <li>• Capacitor charging / discharging regulation</li> <li>• Filament dropping</li> <li>• Voltage dropping</li> <li>• Electrical loads</li> <li>• Crowbar circuits</li> <li>• Current shunts</li> </ul>
	RDEF0012	5-28-Ω	12 W	0.12 Ω to 49 kΩ			
	RDEF0015	7-24-Ω	15 W	0.16 Ω to 28.7 kΩ			
	RDEF0020	7-32-Ω	20 W	0.13 Ω to 53.2 kΩ			
	RDEF0025	9-32-Ω	25 W	0.22 Ω to 35 kΩ			
	RDEF0030	12-32-Ω	30 W	0.28 Ω to 29 kΩ			
	RDEF0045	12-48-Ω	45 W	0.18 Ω to 63 kΩ			
	RDEF0050	9-64-Ω	50 W	0.21 Ω to 119 kΩ			
	RDEF0051	12-56-Ω	51 W	0.22 Ω to 83 kΩ			
	RDEF0061	12-64-Ω	61 W	0.27 Ω to 97 kΩ			
	RDEF0065	12-72-Ω	65 W	0.31 Ω to 122 kΩ			
	RDEF0075	9-96-Ω	75 W	0.33 Ω to 207 kΩ			
	RDEF0076	12-80-Ω	76 W	0.35 Ω to 134 kΩ			
	RDEF0080	18-64-Ω	80 W	0.06 Ω to 53 kΩ			
	RDEF0090	12-96-Ω	90 W	0.43 Ω to 172 kΩ			
	RDEF0095	18-80-Ω	95 W	0.08 Ω to 79 kΩ			
	RDEF0100	12-104-Ω	100 W	0.47 Ω to 186 kΩ			
	RDEF0120	18-96-Ω	120 W	0.11 Ω to 100 kΩ			
RDEF0130	18-104-Ω	130 W	0.12 Ω to 111 kΩ				
RDEF0160	18-128-Ω	160 W	0.15 Ω to 144 kΩ				
RDEF0175	18-136-Ω	175 W	0.16 Ω to 156 kΩ				

\*\*\* TCR is dependent on ohmic value. Please refer to datasheet for TCR value



# INDUSTRIAL WIREWOUND RESISTORS

Vitreous Coated

Product	Global Model	Historical Model	Wattage	Resistance Range	Tol.	TCR (ppm/°C)***	Applications
<b>Vishay Milwaukee</b> <b>RDEF</b> 	RDEF0225	18-168-Ω	225 W	0.21 Ω to 200 kΩ	± 5 %, ± 10 %	± 400, ± 180, ± 130, ± 20	<ul style="list-style-type: none"> <li>• Grid resistors</li> <li>• DC/DC converters</li> <li>• AC/DC inverters</li> <li>• High voltage bleeders</li> <li>• Dynamic braking</li> <li>• Bias supplies</li> <li>• Motor speed controls</li> <li>• Voltage divider networks</li> <li>• Capacitor charging / discharging regulation</li> <li>• Filament dropping</li> <li>• Voltage dropping</li> <li>• Electrical loads</li> <li>• Crowbar circuits</li> <li>• Current shunts</li> </ul>
	RDEF0235	18-180-Ω	235 W	0.22 Ω to 216 kΩ			
	RDEF0240	18-188-Ω	240 W	0.24 Ω to 227 kΩ			
<b>Vishay Milwaukee</b> <b>RBEA</b> 	RBEA0090	9-64-ΩRA	90 W	0.014 Ω to 25.3 Ω	± 5 %, ± 10 %	± 400, ± 180, ± 82, ± 20	
	RBEA0100	12-56-ΩRA	100 W	0.011 Ω to 20.7 Ω			
	RBEA0110	12-64-ΩRA	110 W	0.014 Ω to 26.8 Ω			
	RBEA0120	12-72-ΩRA	120 W	0.017 Ω to 32.9 Ω			
	RBEA0135	12-80-ΩRA	135 W	0.020 Ω to 39 Ω			
	RBEA0150	18-64-ΩRA	150 W	0.018 Ω to 39 Ω			
	RBEA0160	12-96-ΩRA	160 W	0.027 Ω to 51.3 Ω			
	RBEA0175	18-72-ΩRA	175 W	0.022 Ω to 48.1 Ω			
	RBEA0180	12-104-ΩRA	180 W	0.030 Ω to 57.4 Ω			
	RBEA0220	18-96-ΩRA	220 W	0.035 Ω to 75 Ω			
	RBEA0225	18-98-ΩRA	225 W	0.036 Ω to 77.2 Ω			
	RBEA0240	18-104-ΩRA	240 W	0.039 Ω to 83.9 Ω			
	RBEA0300	18-136-ΩRA	300 W	0.055 Ω to 120 Ω			
	RBEA0375	18-168-ΩRA	375 W	0.072 Ω to 156 Ω			
RBEA0400	23-136-ΩRA	400 W	0.062 Ω to 149 Ω				
RBEA0420	18-188-ΩRA	420 W	0.082 Ω to 178 Ω				
RBEA0500	26-168-ΩRA	500 W	0.083 Ω to 200 Ω				
RBEA0550	26-188-ΩRA	550 W	0.097 Ω to 232 Ω				
<b>Vishay Milwaukee</b> <b>RDEA</b> 	RDEA0012	5-28-ΩA	12 W	0.27 Ω to 10.6 kΩ	± 5 %	± 400, ± 180, ± 130, ± 20	
	RDEA0025	9-32-ΩA	25 W	0.50 Ω to 19 kΩ			
	RDEA0030	12-32-ΩA	30 W	0.66 Ω to 26 kΩ			
	RDEA0045	12-48-ΩA	45 W	1.21 Ω to 49 kΩ			
	RDEA0050	9-64-ΩA	50 W	1.34 Ω to 54 kΩ			
	RDEA0051	12-56-ΩA	51 W	1.49 Ω to 61 kΩ			
	RDEA0061	12-64-ΩA	61 W	1.77 Ω to 73 kΩ			
	RDEA0065	12-72-ΩA	65 W	2.04 Ω to 84 kΩ			
	RDEA0075	9-96-ΩA	75 W	2.18 Ω to 89 kΩ			
	RDEA0076	12-80-ΩA	76 W	2.32 Ω to 96 kΩ			
	RDEA0080	18-64-ΩA	80 W	0.40 Ω to 48 kΩ			
	RDEA0090	12-96-ΩA	90 W	2.87 Ω to 119 kΩ			
	RDEA0095	18-80-ΩA	95 W	0.56 Ω to 79 kΩ			
	RDEA0100	12-104-ΩA	100 W	3.15 Ω to 131 kΩ			
	RDEA0120	18-96-ΩA	120 W	0.71 Ω to 100 kΩ			
	RDEA0130	18-104-ΩA	130 W	0.78 Ω to 111 kΩ			
RDEA0160	18-128-ΩA	160 W	1 Ω to 144 kΩ				

\*\*\* TCR is dependent on ohmic value. Please refer to datasheet for TCR value



# INDUSTRIAL WIREWOUND RESISTORS

## Vitreous Coated



Product	Global Model	Historical Model	Wattage	Resistance Range	Tol.	TCR (ppm/°C)***	Applications
<b>Vishay Milwaukee</b> <b>RDEA</b> 	RDEA0175	18-136-ΩA	175 W	1.08 Ω to 156 kΩ	± 5 %	± 400, ± 180, ± 130, ± 20	<ul style="list-style-type: none"> <li>• Grid resistors</li> <li>• DC/DC converters</li> <li>• AC/DC inverters</li> <li>• High voltage bleeders</li> <li>• Dynamic braking</li> <li>• Bias supplies</li> <li>• Motor speed controls</li> <li>• Voltage divider networks</li> <li>• Capacitor charging / discharging regulation</li> <li>• Filament dropping</li> <li>• Voltage dropping</li> <li>• Electrical loads</li> <li>• Crowbar circuits</li> <li>• Current shunts</li> </ul>
	RDEA0225	18-168-ΩA	225 W	1.38 Ω to 200 kΩ			
	RDEA0235	18-180-ΩA	235 W	1.49 Ω to 216 kΩ			
	RDEA0240	18-188-ΩA	240 W	1.56 Ω to 227 kΩ			
<b>Vishay Huntington</b> <b>AVE</b> 	AVE0050	AVE-50	50 W	1 Ω to 3.8 Ω	± 5 %, ± 10 %	± 260, ± 400	
	AVE0100	AVE-100	100 W	1 Ω to 6.1 Ω			
	AVE0110	AVE-110	110 W	1 Ω to 7.4 Ω			
	AVE0120	AVE-120	120 W	1 Ω to 8.6 Ω			
	AVE0155	AVE-155	155 W	1 Ω to 12.5 Ω			
	AVE0240	AVE-240	240 W	1 Ω to 18 Ω			
	AVE0300	AVE-300	300 W	1 Ω to 25 Ω			
	AVE0375	AVE-375	375 W	1 Ω to 32 Ω			
AVE0420	AVE-420	420 W	1 Ω to 35.8 Ω				
<b>Vishay Huntington</b> <b>AVT</b> 	AVT010	AVT-10	12 W	0.1 Ω to 10.2 kΩ	± 5 %, ± 10 %	± 260, ± 400	<ul style="list-style-type: none"> <li>• Filters</li> <li>• Capacitor discharge</li> <li>• Dynamic braking</li> <li>• High voltage bleeders</li> <li>• Power supplies</li> <li>• Welding equipment</li> <li>• Rail systems</li> <li>• Voltage drivers</li> <li>• Converters</li> <li>• Automotive</li> </ul>
	AVT025	AVT-25	25 W	0.1 Ω to 23 kΩ			
	AVT25A	AVT-25A	30 W	0.1 Ω to 25.3 kΩ			
	AVT25B	AVT-25B	30 W	0.1 Ω to 28 kΩ			
	AVT050	AVT-50	50 W	0.1 Ω to 57 kΩ			
	AVT50A	AVT-50A	60 W	0.1 Ω to 74 kΩ			
	AVT50B	AVT-50B	70 W	0.1 Ω to 130 kΩ			
	AVT075	AVT-75	75 W	0.1 Ω to 91 kΩ			
	AVT75A	AVT-75A	90 W	0.1 Ω to 118 kΩ			
	AVT100	AVT-100	100 W	0.1 Ω to 132 kΩ			
	AVT130	AVT-130	130 W	0.1 Ω to 192 kΩ			
	AVT160	AVT-160	160 W	0.1 Ω to 398 kΩ			
AVT200	AVT-200	200 W	0.1 Ω to 337 kΩ				
<b>Vishay Huntington</b> <b>CMV</b> 	CMV16	CMV-16	16 W	1 Ω to 59 kΩ	± 5 %, ± 10 %	± 260, ± 400	
	CMV20	CMV-20	20 W	1 Ω to 95 kΩ			
	CMV22	CMV-22	22 W	1 Ω to 105 kΩ			
<b>Vishay Huntington</b> <b>FVE</b>	FVE0050	FVE-50	50 W	0.1 Ω to 4.1 Ω	± 5 %, ± 10 %	± 260, ± 400	
	FVE0090	FVE-90	90 W	0.1 Ω to 14.1 Ω			
	FVE0100	FVE-100	100 W	0.1 Ω to 12.2 Ω			

\*\*\* TCR is dependent on ohmic value. Please refer to datasheet for TCR value



# INDUSTRIAL WIREWOUND RESISTORS

Vitreous Coated

Product	Global Model	Historical Model	Wattage	Resistance Range	Tol.	TCR (ppm/°C)***	Applications
<b>Vishay Huntington</b> <b>FVE</b> 	FVE0110	FVE-110	110 W	0.1 Ω to 15.4 Ω	± 5 %, ± 10 %	± 260, ± 400	<ul style="list-style-type: none"> <li>• Filters</li> <li>• Capacitor discharge</li> <li>• Dynamic braking</li> <li>• High voltage bleeders</li> <li>• Power supplies</li> <li>• Welding equipment</li> <li>• Rail systems</li> <li>• Voltage drivers</li> <li>• Converters</li> <li>• Automotive</li> </ul>
	FVE0120	FVE-120	120 W	0.1 Ω to 18.4 Ω			
	FVE0155	FVE-155	155 W	0.1 Ω to 22.4 Ω			
	FVE0240	FVE-240	240 W	0.1 Ω to 44.75 Ω			
	FVE0300	FVE-300	300 W	0.1 Ω to 62.5 Ω			
	FVE0375	FVE-375	375 W	0.1 Ω to 80.5 Ω			
	FVE0420	FVE-420	420 W	0.1 Ω to 92 Ω			
	FVE0500	FVE-500	500 W	0.1 Ω to 121 Ω			
<b>Vishay Huntington</b> <b>FVT</b> 	FVT005	FVT-5	5 W	0.1 Ω to 20.5 kΩ	± 5 %, ± 10 %	± 260, ± 400	
	FVT005...NI	FVT-5-...-NI	5 W	1 Ω to 750 Ω			
	FVT010	FVT-10	10 W	0.1 Ω to 22.3 kΩ			
	FVT010...NI	FVT-10-...-NI	10 W	1 Ω to 2.79 kΩ			
	FVT020	FVT-20	20 W	0.1 Ω to 95 kΩ			
	FVT020...NI	FVT-20-...-NI	20 W	1 Ω to 4.8 kΩ			
	FVT025	FVT-25	25 W	0.1 Ω to 44.6 kΩ			
	FVT025...NI	FVT-25-...-NI	25 W	1 Ω to 6.18 kΩ			
	FVT025A	FVT-25A	30 W	0.1 Ω to 56 kΩ			
	FVT025A...NI	FVT-25A-...-NI	30 W	1 Ω to 7.25 kΩ			
	FVT025B	FVT-25B	30 W	0.1 Ω to 49 kΩ			
	FVT025B...NI	FVT-25B-...-NI	30 W	1 Ω to 6.8 kΩ			
	FVT050	FVT-50	50 W	0.1 Ω to 114 kΩ			
	FVT050...NI	FVT-50-...-NI	50 W	1 Ω to 15.1 kΩ			
	FVT050A	FVT-50A	60 W	0.1 Ω to 149 kΩ			
	FVT050A...NI	FVT-50A-...-NI	60 W	1 Ω to 19.1 kΩ			
	FVT050B	FVT-50B	70 W	0.1 Ω to 173 kΩ			
	FVT050B...NI	FVT-50B-...-NI	70 W	1 Ω to 22.1 kΩ			
	FVT075	FVT-75	75 W	0.1 Ω to 276 kΩ			
	FVT075...NI	FVT-75-...-NI	75 W	1 Ω to 35 kΩ			
	FVT075A	FVT-75A	90 W	0.1 Ω to 238 kΩ			
	FVT075A...NI	FVT-75A-...-NI	90 W	1 Ω to 31 kΩ			
	FVT100	FVT-100	100 W	0.1 Ω to 267 kΩ			
	FVT100...NI	FVT-100-...-NI	100 W	1 Ω to 34 kΩ			
	FVT130	FVT-130	130 W	0.1 Ω to 387 kΩ			
	FVT130...NI	FVT-130-...-NI	130 W	1 Ω to 49.3 kΩ			
	FVT160	FVT-160	175 W	0.1 Ω to 510 kΩ			
	FVT160...NI	FVT-160-...-NI	175 W	1 Ω to 78.8 kΩ			
FVT200	FVT-200	225 W	0.1 Ω to 651 kΩ				
FVT200...NI	FVT-200-...-NI	225 W	1 Ω to 85.4 kΩ				

\*\*\* TCR is dependent on ohmic value. Please refer to datasheet for TCR value



# INDUSTRIAL WIREWOUND RESISTORS

Vitreous Coated

Product	Global Model	Historical Model	Wattage	Resistance Range	Tol.	TCR (ppm/°C)***	Applications
<b>Vishay Huntington</b> <b>FVT with Ferrule Caps</b>  Refer to datasheet for ordering with ferrule cap termination option	FVT-5	FVT005	5 W	0.1 Ω to 20.5 kΩ	± 5 %, ± 10 %	± 260, ± 400	<ul style="list-style-type: none"> <li>Filters</li> <li>Capacitor discharge</li> <li>Dynamic braking</li> <li>High voltage bleeders</li> <li>Power supplies</li> <li>Welding equipment</li> <li>Rail systems</li> <li>Voltage drivers</li> <li>Converters</li> <li>Automotive</li> </ul>
	FVT-5-...-NI	FST005...NI	5 W	1 Ω to 750.kΩ			
	FVT-10	FVT010	12 W	0.1 Ω to 22.3 kΩ			
	FVT-10-...-NI	FVT010...NI	12 W	1 Ω to 2.79 kΩ			
	FVT-25A	FVT25A	30 W	0.1 Ω to 56 kΩ			
	FVT-25A-...-NI	FVT25A...NI	30 W	1 Ω to 7.25 kΩ			
	FVT-50A	FVT50A	60 W	0.1 Ω to 149 kΩ			
	FVT-50A-...-NI	FVT50A...NI	60 W	1 Ω to 19.1 kΩ			
	FVT-50B	FVT50B	70 W	0.1 Ω to 176 kΩ			
	FVT-50B-...-NI	FVT50B...NI	70 W	1 Ω to 22.1 kΩ			
	FVT-75A	FVT75A	90 W	0.1 Ω to 238 kΩ			
	FVT-75A-...-NI	FVT75A...NI	90 W	1 Ω to 31 kΩ			
	FVT-100	FVT100	100 W	0.1 Ω to 267 kΩ			
FVT-100-...-NI	FVT100...NI	100 W	1 Ω to 34 kΩ				
<b>Vishay MCB</b> <b>VNF</b> 	VNF 42 X 362	-	600 W	8.2 Ω to 470 kΩ	± 5 %	75 (Typ)	<ul style="list-style-type: none"> <li>Filters</li> <li>Capacitor discharge</li> <li>Capacitor precharge</li> <li>Power supplies</li> <li>Welding equipment</li> <li>Railway converters</li> <li>Converters</li> </ul>
	VNF 42 X 362 A	-	600 W	8.2 Ω to 1.5 kΩ			
	VNF 30 X 250	-	320 W	4.7 Ω to 390 kΩ			
	VNF 30 X 250 A	-	320 W	4.7 Ω to 820 kΩ			
	VNF 30 X 153	-	200 W	3.3 to 270 kΩ			
	VNF 30 X 153 A	-	200 W	3.3 Ω to 560 Ω			
	VNF 25 X 168	-	180 W	2.7 Ω to 270 kΩ			
	VNF 25 X 168 A	-	180 W	2.7 Ω to 680 Ω			
	VNF 25 X 138	-	145 W	2.7 Ω to 180 kΩ			
	VNF 25 X 138 A	-	145 W	2.7 Ω to 470 Ω			
	VNF 25 X 110	-	120 W	2.7 Ω to 120 kΩ			
	VNF 25 X 110 A	-	120 W	2.7 Ω to 330 Ω			
	VNF 25 X 84	-	85 W	2.2 Ω to 82 kΩ			
	VNF 25 X 84 A	-	85 W	2.2 Ω to 180 Ω			
	VNF 13 X 70	-	35 W	2.2 Ω to 56 kΩ			
	VNF 13 X 70 A	-	35 W	2.2 Ω to 220 Ω			
<b>Vishay MCB</b> <b>VNB</b> 	VNB 30 X 250	-	320 W	4.7 Ω to 390 kΩ	± 5 %	75 (Typ)	<ul style="list-style-type: none"> <li>Filters</li> <li>Capacitor discharge</li> <li>Capacitor precharge</li> <li>Power supplies</li> <li>Welding equipment</li> <li>Railway converters</li> <li>Converters</li> </ul>
	VNB 30 X 250 A	-	320 W	4.7 Ω to 820 Ω			
	VNB 30 X 153	-	200 W	3.3 Ω to 270 kΩ			
	VNB 30 X 153 A	-	200 W	3.3 Ω to 560 Ω			
	VNB 25 X 168	-	180 W	2.7 Ω to 270 kΩ			
	VNB 25 X 168 A	-	180 W	2.7 Ω to 680 Ω			

\*\*\* TCR is dependent on ohmic value. Please refer to datasheet for TCR value





# INDUSTRIAL WIREWOUND RESISTORS

## Vitreous Coated

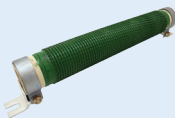
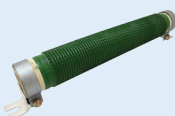
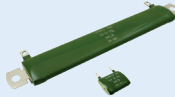

Product	Global Model	Historical Model	Wattage	Resistance Range	Tol.	TCR (ppm/°C)***	Applications
<b>Vishay MCB</b> <b>VNB</b> 	VNB 25 X 138	–	145 W	2.7 Ω to 180 kΩ	± 5 %	75 (Typ)	<ul style="list-style-type: none"> <li>• Filters</li> <li>• Capacitor discharge</li> <li>• Capacitor precharge</li> <li>• Power supplies</li> <li>• Welding equipment</li> <li>• Railway converters</li> <li>• Converters</li> </ul>
	VNB 25 X 138 A	–	145 W	2.7 Ω to 470 Ω			
	VNB 25 X 110	–	120 W	2.7 Ω to 120 kΩ			
	VNB 25 X 110 A	–	120 W	2.7 Ω to 330 Ω			
	VNB 25 X 84	–	85 W	2.2 Ω to 82 kΩ			
	VNB 25 X 84 A	–	85 W	2.2 Ω to 180 Ω			
	VNB 20 X 117	–	90 W	2.7 Ω to 120 kΩ			
	VNB 20 X 117 A	–	90 W	2.7 Ω to 390 Ω			
	VNB 16 X 94	–	55 W	2.2 Ω to 68 kΩ			
	VNB 16 X 94 A	–	55 W	2.2 Ω to 270 Ω			
	VNB 13 X 70	–	35 W	2.2 Ω to 56 kΩ			
	VNB 13 X 70 A	–	35 W	2.2 Ω to 220 Ω			
VNB 10 X 52	–	22 W	1 Ω to 33 kΩ				
VNB 10 X 52 A	–	22 W	1 Ω to 150 Ω				
<b>Vishay MCB</b> <b>VNN</b> 	VNN 42 X 362	–	600 W	8.2 Ω to 470 kΩ	± 5 %	75 (Typ)	<ul style="list-style-type: none"> <li>• Filters</li> <li>• Capacitor discharge</li> <li>• Capacitor precharge</li> <li>• Power supplies</li> <li>• Welding equipment</li> <li>• Railway converters</li> <li>• Converters</li> </ul>
	VNN 42 X 362 A	–	600 W	8.2 Ω to 1.5 kΩ			
	VNN 30 X 250	–	320 W	4.7 Ω to 390 kΩ			
	VNN 30 X 250 A	–	320 W	4.7 Ω to 820 Ω			
	VNN 30 X 153	–	200 W	3.3 Ω to 270 kΩ			
	VNN 30 X 153 A	–	200 W	3.3 Ω to 560 Ω			
	VNN 25 X 168	–	180 W	2.7 Ω to 270 kΩ			
	VNN 25 X 168 A	–	180 W	2.7 Ω to 680 Ω			
	VNN 25 X 138	–	145 W	2.7 Ω to 180 kΩ			
	VNN 25 X 138 A	–	145 W	2.7 Ω to 470 Ω			
	VNN 25 X 110	–	120 W	2.7 Ω to 120 kΩ			
	VNN 25 X 110 A	–	120 W	2.7 Ω to 330 Ω			
	VNN 25 X 84	–	85 W	2.2 Ω to 82 kΩ			
	VNN 25 X 84 A	–	75 W	2.2 Ω to 180 Ω			
	VNN 20 X 117	–	90 W	2.7 Ω to 120 kΩ			
	VNN 20 X 117 A	–	90 W	2.7 Ω to 390 Ω			
	VNN 16 X 94	–	55 W	2.2 Ω to 68 kΩ			
	VNN 16 X 94 A	–	55 W	2.2 Ω to 270 Ω			
VNN 13 X 70	–	35 W	2.2 Ω to 56 kΩ				
VNN 13 X 70 A	–	35 W	1 Ω to 220 Ω				
VNN 10 X 52	–	22 W	1 Ω to 33 kΩ				
VNN 10 X 52 A	–	22 W	1 Ω to 150 Ω				

\*\*\* TCR is dependent on ohmic value. Please refer to datasheet for TCR value



# INDUSTRIAL WIREWOUND RESISTORS

## Vitreous Coated

Product	Global Model	Historical Model	Wattage	Resistance Range	Tol.	TCR (ppm/°C) <sup>***</sup>	Applications
<b>Vishay MCB</b> <b>VCF</b> 	VCF 50 X 370	–	1000 W	0.39 Ω to 68 Ω	± 5 %, ± 10 %	180 (Typ)	<ul style="list-style-type: none"> <li>• Filters</li> <li>• Capacitor discharge</li> <li>• Capacitor precharge</li> <li>• Dynamic braking</li> <li>• Power supplies</li> <li>• Welding equipment</li> <li>• Rail systems</li> <li>• Converters</li> </ul>
	VCF 42 X 362	–	700 W	0.33 Ω to 56 Ω			
	VCF 30 X 250	–	350 W	0.22 Ω to 33 Ω			
	VCF 30 X 153	–	220 W	0.18 Ω to 22 Ω			
	VCF 25 X 168	–	200 W	0.1 Ω to 18 Ω			
	VCF 25 X 138	–	160 W	0.068 Ω to 12 Ω			
	VCF 25 X 110	–	130 W	0.068 Ω to 10 Ω			
	VCF 25 X 84	–	90 W	0.068 Ω to 8.2 Ω			
<b>Vishay MCB</b> <b>VCN</b> 	VCN 50 X 370	–	1000 W	0.39 Ω to 68 Ω	± 5 %, ± 10 %	180 (Typ)	<ul style="list-style-type: none"> <li>• Filters</li> <li>• Capacitor discharge</li> <li>• Capacitor precharge</li> <li>• Dynamic braking</li> <li>• Power supplies</li> <li>• Welding equipment</li> <li>• Rail systems</li> <li>• Converters</li> </ul>
	VCN 42 X 362	–	700 W	0.33 Ω to 56 Ω			
	VCN 30 X 250	–	350 W	0.22 Ω to 33 Ω			
	VCN 30 X 153	–	220 W	0.18 Ω to 22 Ω			
	VCN 25 X 168	–	200 W	0.1 Ω to 18 Ω			
	VCN 25 X 138	–	160 W	0.068 Ω to 12 Ω			
	VCN 25 X 110	–	130 W	0.068 Ω to 10 Ω			
	VCN 25 X 84	–	90 W	0.068 Ω to 8.2 Ω			
<b>Vishay MCB</b> <b>VNPC</b> 	VNPC 150	–	150 W	4.7 Ω to 100 kΩ	± 5 %	75 (Typ)	<ul style="list-style-type: none"> <li>• Capacitor discharge</li> <li>• Power supplies</li> <li>• Welding equipment</li> <li>• Rail systems</li> <li>• Converters</li> </ul>
	VNPC 120	–	120 W	3.9 Ω to 68 kΩ			
	VNPC 90	–	90 W	2.7 Ω to 47 kΩ			
	VNPC 50	–	50 W	1.8 Ω to 22 kΩ			
	VNPC 30	–	30 W	1 Ω to 8.2 kΩ			
<b>Vishay MCB</b> <b>CT</b> 	C52T	–	900 W	8.2 Ω to 100 kΩ	± 5 %, ± 10 %	75 (Typ)	<ul style="list-style-type: none"> <li>• Filters</li> <li>• Capacitor discharge</li> <li>• Capacitor precharge</li> <li>• Dynamic braking</li> <li>• Power supplies</li> <li>• Welding equipment</li> <li>• Rail systems</li> <li>• Converters</li> </ul>
	C52T LI	–	900 W	0.33 Ω to 270 Ω			
	C42T	–	480 W	1 Ω to 56 kΩ			
	C38T	–	270 W	1 Ω to 27 kΩ			

<sup>\*\*\*</sup> TCR is dependent on ohmic value. Please refer to datasheet for TCR value

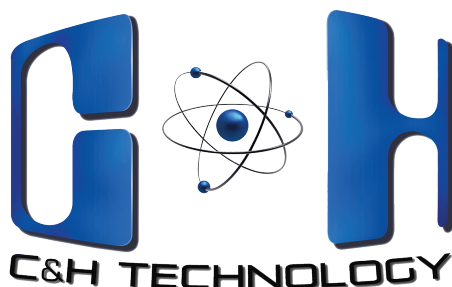


# INDUSTRIAL WIREWOUND RESISTORS

Vitreous Coated

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