



INDUSTRIAL WIREWOUND RESISTORS

Silicone Coated

Silicone Coated Wirewound Resistors



FEATURES

- A wide range of high power ratings (3 W to 2000 W)
- A wide resistance range (0.05 Ω to 645 k Ω)
- Low- / high-temperature performance (-65 °C to +415 °C)
- Complete welded construction
- Excellent overload capability
- High-temperature silicone coating
- Excellent stability in operation
- Non-inductive styles available

RESOURCES

- For technical questions on:
 - Vishay Dale products contact ww2dresistors@vishay.com
 - Vishay Milwaukee products contact ww2cresistors@vishay.com
 - Vishay Huntington products contact ww2dresistors@vishay.com
- Material categorization: For definitions of compliance please see <http://www.vishay.com/doc?99912>



One of the World's Largest Manufacturers of
Discrete Semiconductors and Passive Components

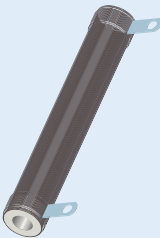
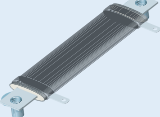

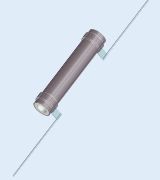





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Resistors - Complete Welded Construction


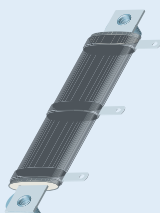
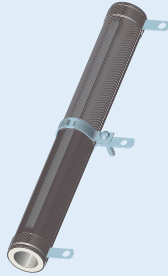
Product	Global Model	Historical Model	Wattage	Resistance Range	Tol.	TCR* ppm/°C	Applications		
Vishay Dale HL (Tubular) 	HL011	HL-11	11	0.1 Ω to 70 kΩ	± 5 %, ± 10 %	± 90, ± 50, ± 30	<ul style="list-style-type: none"> • Grid resistors • DC/DC converters • AC/DC inverters • High-voltage bleeders • Dynamic braking • Bias supplies • Motor speed controls • Voltage divider networks • Capacitor charging / discharging regulation • Filament dropping • Voltage dropping • Electrical loads • Crowbar circuits • Current shunts 		
	HL012	HL-12	12	0.1 Ω to 58 kΩ					
	HL015	HL-15	15	0.1 Ω to 60 kΩ					
	HL020	HL-20	20	0.1 Ω to 95 kΩ					
	HL025	HL-25	25	0.1 Ω to 115 kΩ					
	HL026	HL-26	26	0.1 Ω to 170 kΩ					
	HL050	HL-50	50	0.1 Ω to 112 kΩ					
	HL051	HL-51	51	0.1 Ω to 124 kΩ					
	HL060	HL-60	60	0.1 Ω to 145 kΩ					
	HL065	HL-65	65	0.1 Ω to 170 kΩ					
	HL080	HL-80	80	0.1 Ω to 190 kΩ					
	HL100	HL-100	100	0.1 Ω to 260 kΩ					
	HL120	HL-120	120	0.1 Ω to 330 kΩ					
	HL130	HL-130	130	0.1 Ω to 380 kΩ					
	HL160	HL-160	160	0.1 Ω to 470 kΩ					
HL175	HL-175	175	0.1 Ω to 500 kΩ						
HL225	HL-225	225	0.1 Ω to 645 kΩ						
Vishay Dale HL (Flat) 	HL024	HL-24	30	0.1 Ω to 11 kΩ	± 5 %, ± 10 %	± 90, ± 50, ± 30	<ul style="list-style-type: none"> • Grid resistors • DC/DC converters • AC/DC inverters • High-voltage bleeders • Dynamic braking • Bias supplies • Motor speed controls • Voltage divider networks • Capacitor charging / discharging regulation • Filament dropping • Voltage dropping • Electrical loads • Crowbar circuits • Current shunts 		
	HL035	HL-35	40	0.1 Ω to 26 kΩ					
	HL055	HL-55	55	0.1 Ω to 54 kΩ					
	HL070	HL-70	70	0.1 Ω to 77 kΩ					
	HL090	HL-95	95	0.1 Ω to 99.9 kΩ					
Vishay Dale HLM (Miniature Flat) 	HLM010	HLM-10	10	0.1 Ω to 15 kΩ	± 5 %, ± 10 %	± 90, ± 50, ± 30		<ul style="list-style-type: none"> • Grid resistors • DC/DC converters • AC/DC inverters • High-voltage bleeders • Dynamic braking • Bias supplies • Motor speed controls • Voltage divider networks • Capacitor charging / discharging regulation • Filament dropping • Voltage dropping • Electrical loads • Crowbar circuits • Current shunts 	
	HLM015	HLM-15	15	0.1 Ω to 26 kΩ					
	HLM020	HLM-20	20	0.1 Ω to 71 kΩ					
Vishay Dale HLW (Leaded) 	HLW03	HLW-3	3	0.1 Ω to 6 kΩ	± 5 %, ± 10 %	± 90, ± 50, ± 30			<ul style="list-style-type: none"> • Grid resistors • DC/DC converters • AC/DC inverters • High-voltage bleeders • Dynamic braking • Bias supplies • Motor speed controls • Voltage divider networks • Capacitor charging / discharging regulation • Filament dropping • Voltage dropping • Electrical loads • Crowbar circuits • Current shunts
	HLW05	HLW-5	5.25	0.1 Ω to 15 kΩ					
	HLW06	HLW-6	8	0.1 Ω to 20.5 kΩ					
	HLW10	HLW-10	10	0.1 Ω to 29 kΩ					
	HLW12	HLW-12	12	0.1 Ω to 58 kΩ					
	HLW15	HLW-15	15	0.1 Ω to 58 kΩ					
	HLW20	HLW-20	20	0.1 Ω to 95 kΩ					
Vishay Dale HLZ (Ribbed) 	HLZ033	HLZ-33	35	0.05 Ω to 1.9 Ω	± 5 %, ± 0 %	± 90, ± 50, ± 30	<ul style="list-style-type: none"> • Grid resistors • DC/DC converters • AC/DC inverters • High-voltage bleeders • Dynamic braking • Bias supplies • Motor speed controls • Voltage divider networks • Capacitor charging / discharging regulation • Filament dropping • Voltage dropping • Electrical loads • Crowbar circuits • Current shunts 		
	HLZ090	HLZ-90	90	0.10 Ω to 5.7 Ω					
	HLZ099	HLZ-99	100	0.15 Ω to 6.1 Ω					
	HLZ105	HLZ-105	105	0.20 Ω to 7.4 Ω					
	HLZ110	HLZ-110	110	0.20 Ω to 8.6 Ω					
	HLZ140	HLZ-140	140	0.08 Ω to 9.0 Ω					
	HLZ165	HLZ-165	165	0.35 Ω to 13 Ω					



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Resistors - Complete Welded Construction



Product	Global Model	Historical Model	Wattage	Resistance Range	Tol.	TCR* ppm/°C	Applications
Vishay Dale HLZ (Ribbed) 	HLZ220	HLZ-220	220	0.10 Ω to 16 Ω	± 5 %, ± 10 %	± 90, ± 50, ± 30	<ul style="list-style-type: none"> • Grid resistors • DC/DC converters • AC/DC inverters • High-voltage bleeders • Dynamic braking • Bias supplies • Motor speed controls • Voltage divider networks • Capacitor charging / discharging regulation • Filament dropping • Voltage dropping • Electrical loads • Crowbar circuits • Current shunts
	HLZ240	HLZ-240	240	0.10 Ω to 18 Ω			
	HLZ275	HLZ-275	275	0.15 Ω to 23 Ω			
	HLZ300	HLZ-300	300	0.15 Ω to 25 Ω			
	HLZ375	HLZ-375	375	0.20 Ω to 32 Ω			
Vishay Dale HLT (Tapped) 	HLT015	HLT-15	15	0.1 Ω to 18 kΩ	± 10 %	± 90, ± 50, ± 30	
	HLT020	HLT-20	20	0.1 Ω to 31 kΩ			
	HLT025	HLT-25	25	0.1 Ω to 34 kΩ			
	HLT026	HLT-26	26	0.1 Ω to 59 kΩ			
	HLT050	HLT-50	50	0.1 Ω to 104 kΩ			
	HLT051	HLT-51	51	0.1 Ω to 112 kΩ			
	HLT055	HLT-55	55	0.1 Ω to 49 kΩ			
	HLT060	HLT-60	60	0.1 Ω to 136 kΩ			
	HLT065	HLT-65	65	0.1 Ω to 159 kΩ			
	HLT070	HLT-70	70	0.1 Ω to 72 kΩ			
	HLT080	HLT-80	80	0.1 Ω to 164 kΩ			
	HLT090	HLT-90	95	0.1 Ω to 96 kΩ			
	HLT100	HLT-100	100	0.1 Ω to 253 kΩ			
	HLT120	HLT-120	120	0.1 Ω to 305 kΩ			
	HLT130	HLT-130	130	0.1 Ω to 358 kΩ			
HLT160	HLT-160	160	0.1 Ω to 446 kΩ				
HLT175	HLT-175	175	0.1 Ω to 481 kΩ				
HLT225	HLT-225	225	0.1 Ω to 622 kΩ				
Vishay Dale HLA (Adjustable) 	HLA012	HLA-12	12	1 Ω to 10 kΩ	± 5 %	± 90, ± 50, ± 30	
	HLA020	HLA-20	20	1 Ω to 18 kΩ			
	HLA025	HLA-25	25	1 Ω to 23 kΩ			
	HLA026	HLA-26	26	1 Ω to 31 kΩ			
	HLA050	HLA-50	50	1 Ω to 57 kΩ			
	HLA051	HLA-51	51	1 Ω to 95 kΩ			
	HLA060	HLA-60	60	1 Ω to 74 kΩ			
	HLA065	HLA-65	65	1 Ω to 130 kΩ			
	HLA080	HLA-80	80	1 Ω to 111 kΩ			
	HLA100	HLA-100	100	1 Ω to 132 kΩ			
	HLA120	HLA-120	120	1 Ω to 180 kΩ			
	HLA130	HLA-130	130	1 Ω to 192 kΩ			
	HLA160	HLA-160	160	1 Ω to 249 kΩ			
HLA175	HLA-175	175	1 Ω to 398 kΩ				
HLA225	HLA-225	225	1 Ω to 337 kΩ				



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Product	Global Model	Historical Model	Wattage	Resistance Range	Tol.	TCR* ppm/°C	Applications
Vishay Milwaukee RBSF 	RBSF0040	9-32-ΩRS	40	0.01 Ω to 10.6 Ω	± 5 %, ± 10 %	± 400, ± 180, ± 82, ± 20	<ul style="list-style-type: none"> • Grid resistors • DC/DC converters • AC/DC inverters • High-voltage bleeders • Dynamic braking • Bias supplies • Motor speed controls • Voltage divider networks • Capacitor charging / discharging regulation • Filament dropping • Voltage dropping • Electrical loads • Crowbar circuits • Current shunts
	RBSF0050	12-32-ΩRS	50	0.02 Ω to 8.2 Ω			
	RBSF0075	12-48-ΩRS	75	0.01 Ω to 19.3 Ω			
	RBSF0090	9-64-ΩRS	90	0.015 Ω to 28.3 Ω			
	RBSF0100	12-56-ΩRS	100	0.012 Ω to 24.5 Ω			
	RBSF0110	12-64-ΩRS	110	0.015 Ω to 30.6 Ω			
	RBSF0120	12-72-ΩRS	120	0.018 Ω to 36.8 Ω			
	RBSF0135	12-80-ΩRS	135	0.021 Ω to 42.9 Ω			
	RBSF0150	18-64-ΩRS	150	0.019 Ω to 44.8 Ω			
	RBSF0160	12-96-ΩRS	160	0.027 Ω to 55 Ω			
	RBSF0175	18-72-ΩRS	175	0.023 Ω to 53.7 Ω			
	RBSF0180	12-104-ΩRS	180	0.03 Ω to 61.3 Ω			
	RBSF0220	18-96-ΩRS	220	0.035 Ω to 80.6 Ω			
	RBSF0225	18-98-ΩRS	225	0.036 Ω to 82.8 Ω			
	RBSF0240	18-104-ΩRS	240	0.038 Ω to 89.5 Ω			
	RBSF0300	18-136-ΩRS	300	0.054 Ω to 125 Ω			
	RBSF0375	18-168-ΩRS	375	0.069 Ω to 161 Ω			
	RBSF0400	26-136-ΩRS	400	0.061 Ω to 159 Ω			
	RBSF0420	18-188-ΩRS	420	0.079 Ω to 184 Ω			
	RBSF0500	26-168-ΩRS	500	0.081 Ω to 210 Ω			
RBSF0550	26-188-ΩRS	550	0.093 Ω to 242 Ω				
RBSF0750	40-192-ΩRS	750	0.128 Ω to 166 Ω				
RBSF1000	40-240-ΩRS	1000	0.168 Ω to 217 Ω				
RBSF1500	40-320-ΩRS	1500	0.234 Ω to 303 Ω				
RBSF2000	52-320-ΩRS	2000	0.281 Ω to 391 Ω				
Vishay Milwaukee RDSF 	RDSF0008	5-16-ΩS	8	0.82 Ω to 13.5 kΩ	± 5 %, ± 10 %	± 400, ± 180, ± 130, ± 20	
	RDSF0012	5-28-ΩS	12	0.12 Ω to 49 kΩ			
	RDSF0015	7-24-ΩS	15	0.16 Ω to 28.7 kΩ			
	RDSF0020	7-32-ΩS	20	0.13 Ω to 53.2 kΩ			
	RDSF0025	9-32-ΩS	25	0.22 Ω to 35 kΩ			
	RDSF0030	12-32-ΩS	30	0.28 Ω to 29 kΩ			
	RDSF0045	12-48-ΩS	45	0.18 Ω to 63 kΩ			
	RDSF0050	9-64-ΩS	50	0.21 Ω to 119 kΩ			
	RDSF0051	12-56-ΩS	51	0.22 Ω to 83 kΩ			
	RDSF0061	12-64-ΩS	61	0.27 Ω to 97 kΩ			
	RDSF0065	12-72-ΩS	65	0.31 Ω to 122 kΩ			
	RDSF0075	9-96-ΩS	75	0.33 Ω to 207 kΩ			
	RDSF0076	12-80-ΩS	76	0.35 Ω to 134 kΩ			
	RDSF0080	18-64-ΩS	80	0.06 Ω to 53 kΩ			
	RDSF0090	12-96-ΩS	90	0.43 Ω to 172 kΩ			



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Vishay Milwaukee RDSF 	RDSF0095	18-80-ΩS	95	0.08 Ω to 79 kΩ	± 5 %, ± 10 %	± 400, ± 180, ± 130, ± 20	<ul style="list-style-type: none"> • Grid resistors • DC/DC converters • AC/DC inverters • High-voltage bleeders
	RDSF0100	12-104-ΩS	100	0.47 Ω to 186 kΩ			
	RDSF0120	18-96-ΩS	120	0.11 Ω to 100 kΩ			
	RDSF0130	18-104-ΩS	130	0.12 Ω to 111 kΩ			
	RDSF0160	18-128-ΩS	160	0.15 Ω to 144 kΩ			
	RDSF0175	18-136-ΩS	175	0.16 Ω to 156 kΩ			
	RDSF0220	26-136-ΩS	220	0.21 Ω to 69 kΩ			
	RDSF0225	18-168-ΩS	225	0.21 Ω to 200 kΩ			
	RDSF0235	18-180-ΩS	235	0.22 Ω to 216 kΩ			
	RDSF0240	18-188-ΩS	240	0.24 Ω to 227 kΩ			
	RDSF0275	26-168-ΩS	275	0.27 Ω to 90 kΩ			
	RDSF0300	26-188-ΩS	300	0.31 Ω to 104 kΩ			
	RDSF0500	40-192-ΩS	500	0.49 Ω to 34 kΩ			
	RDSF0750	40-240-ΩS	750	0.63 Ω to 44 kΩ			
	RDSF1000	40-320-ΩS	1000	0.89 Ω to 62 kΩ			
RDSF1150	52-320-ΩS	1150	1.14 Ω to 41 kΩ				
Vishay Milwaukee RBSA 	RBSA0090	9-64-ΩRSA	90	0.014 Ω to 25.3 Ω	± 5 %, ± 10 %	± 400, ± 180, ± 82, ± 20	<ul style="list-style-type: none"> • Dynamic braking • Bias supplies • Motor speed controls • Voltage divider networks • Capacitor charging / discharging regulation • Filament dropping • Voltage dropping • Electrical loads • Crowbar circuits • Current shunts
	RBSA0100	12-56-ΩRSA	100	0.011 Ω to 20.7 Ω			
	RBSA0110	12-64-ΩRSA	110	0.014 Ω to 26.8 Ω			
	RBSA0120	12-72-ΩRSA	120	0.017 Ω to 32.9 Ω			
	RBSA0135	12-80-ΩRSA	135	0.020 Ω to 39 Ω			
	RBSA0150	18-64-ΩRSA	150	0.018 Ω to 39 Ω			
	RBSA0160	12-96-ΩRSA	160	0.027 Ω to 51.3 Ω			
	RBSA0175	18-72-ΩRSA	175	0.022 Ω to 48.1 Ω			
	RBSA0180	12-104-ΩRSA	180	0.030 Ω to 57.4 Ω			
	RBSA0220	18-96-ΩRSA	220	0.035 Ω to 75 Ω			
	RBSA0225	18-98-ΩRSA	225	0.036 Ω to 77.2 Ω			
	RBSA0240	18-104-ΩRSA	240	0.039 Ω to 83.9 Ω			
	RBSA0300	18-136-ΩRSA	300	0.055 Ω to 120 Ω			
	RBSA0375	18-168-ΩRSA	375	0.072 Ω to 156 Ω			
	RBSA0400	26-136-ΩRSA	400	0.062 Ω to 149 Ω			
	RBSA0420	18-188-ΩRSA	420	0.082 Ω to 178 Ω			
	RBSA0500	26-168-ΩRSA	500	0.083 Ω to 200 Ω			
	RBSA0550	26-188-ΩRSA	550	0.097 Ω to 232 Ω			
	RBSA0750	40-192-ΩRSA	750	0.130 Ω to 158 Ω			
	RBSA1000	40-240-ΩRSA	1000	0.176 Ω to 209 Ω			
RBSA1500	40-320-ΩRSA	1500	0.248 Ω to 294 Ω				
RBSA2000	52-320-ΩRSA	2000	0.300 Ω to 380 Ω				



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Vishay Milwaukee RDSA 	RDSA0012	5-28-ΩSA	12	0.27 Ω to 10.6 kΩ	± 5 %	± 400, ± 180, ± 130, ± 20	<ul style="list-style-type: none"> • Grid resistors • DC/DC converters • AC/DC inverters • High-voltage bleeders • Dynamic braking • Bias supplies • Motor speed controls • Voltage divider networks • Capacitor charging / discharging regulation • Filament dropping • Voltage dropping • Electrical loads • Crowbar circuits • Current shunts
	RDSA0025	9-32-ΩSA	25	0.50 Ω to 19 kΩ			
	RDSA0030	12-32-ΩSA	30	0.66 Ω to 26 kΩ			
	RDSA0045	12-48-ΩSA	45	1.21 Ω to 49 kΩ			
	RDSA0050	9-64-ΩSA	50	1.34 Ω to 54 kΩ			
	RDSA0051	12-56-ΩSA	51	1.49 Ω to 61 kΩ			
	RDSA0061	12-64-ΩSA	61	1.77 Ω to 73 kΩ			
	RDSA0065	12-72-ΩSA	65	2.04 Ω to 84 kΩ			
	RDSA0075	9-96-ΩSA	75	2.18 Ω to 89 kΩ			
	RDSA0076	12-80-ΩSA	76	2.32 Ω to 96 kΩ			
	RDSA0080	18-64-ΩSA	80	0.40 Ω to 48 kΩ			
	RDSA0090	12-96-ΩSA	90	2.87 Ω to 119 kΩ			
	RDSA0095	18-80-ΩSA	95	0.56 Ω to 79 kΩ			
	RDSA0100	12-104-ΩSA	100	3.15 Ω to 131 kΩ			
	RDSA0120	18-96-ΩSA	120	0.71 Ω to 100 kΩ			
	RDSA0130	18-104-ΩSA	130	0.78 Ω to 111 kΩ			
	RDSA0160	18-128-ΩSA	160	1.00 Ω to 144 kΩ			
	RDSA0175	18-136-ΩSA	175	1.08 Ω to 156 kΩ			
	RDSA0220	26-136-ΩSA	220	1.38 Ω to 69 kΩ			
	RDSA0225	18-168-ΩSA	225	1.38 Ω to 200 kΩ			
RDSA0235	18-180-ΩSA	235	1.49 Ω to 216 kΩ				
RDSA0240	18-188-ΩSA	240	1.56 Ω to 227 kΩ				
RDSA0275	26-168-ΩSA	275	1.81 Ω to 90 kΩ				
RDSA0300	26-188-ΩSA	300	2.07 Ω to 104 kΩ				
RDSA0500	40-192-ΩSA	500	3.24 Ω to 34 kΩ				
RDSA0750	40-240-ΩSA	750	4.22 Ω to 44 kΩ				
RDSA1000	40-320-ΩSA	1000	5.85 Ω to 62 kΩ				
RDSA1150	52-320-ΩSA	1150	7.58 Ω to 41 kΩ				
Vishay Milwaukee OVSF 	OVSF0030	16-20-Ω-Oval	30	1.20 Ω to 7.30 kΩ	± 5 %	± 400, ± 180, ± 130	
	OVSF0040	16-32-Ω-Oval	40	1.70 Ω to 27 kΩ			
	OVSF0055	16-56-Ω-Oval	55	2.40 Ω to 85 kΩ			
	OVSF0070	16-76-Ω-Oval	70	3.0 Ω to 137 kΩ			
	OVSF0095	16-96-Ω-Oval	95	4.10 to 171 kΩ			
Vishay Milwaukee OVSA 	OVSA0040	16-32-ΩSA-Oval	40	1.70 Ω to 27 kΩ	± 5 %	± 400, ± 180, ± 130	
	OVSA0055	16-56-ΩSA-Oval	55	2.40 Ω to 64 kΩ			
	OVSA0070	16-76-ΩSA-Oval	70	3.0 Ω to 92 kΩ			
	OVSA0095	16-96-ΩSA-Oval	95	4.10 to 120 kΩ			



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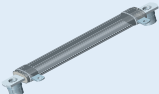
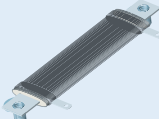
Product	Global Model	Historical Model	Wattage	Resistance Range	Tol.	TCR* ppm/°C	Applications
Vishay Huntington ASE 	ASE0050	ASE-50	50	1.0 Ω to 3.8 Ω	$\pm 5\%$, $\pm 10\%$	± 260 , ± 400	<ul style="list-style-type: none"> • Grid resistors • DC/DC converters • AC/DC inverters • High-voltage bleeders • Dynamic braking • Bias supplies • Motor speed controls • Voltage divider networks • Capacitor charging / discharging regulation • Filament dropping • Voltage dropping • Electrical loads • Crowbar circuits • Current shunts
	ASE0100	ASE-100	100	1.0 Ω to 6.1 Ω			
	ASE0110	ASE-110	110	1.0 Ω to 7.4 Ω			
	ASE0120	ASE-120	120	1.0 Ω to 8.6 Ω			
	ASE0155	ASE-155	155	1.0 Ω to 12.5 Ω			
	ASE0240	ASE-240	240	1.0 Ω to 18.0 Ω			
	ASE0300	ASE-300	300	1.0 Ω to 25.0 Ω			
	ASE0375	ASE-375	375	1.0 Ω to 32.0 Ω			
	ASE0420	ASE-420	420	1.0 Ω to 35.8 Ω			
	ASE0500	ASE-500	500	0.30 Ω to 46.2 Ω			
	ASE0750	ASE-750	750	0.35 Ω to 81.3 Ω			
	ASE1000	ASE-1000	1000	0.40 Ω to 101.6 Ω			
	ASE1500	ASE-1500	1500	0.45 Ω to 135.5 Ω			
Vishay Huntington AST 	AST010	AST-10	12	1.0 Ω to 10.2 k Ω	$\pm 5\%$, $\pm 10\%$	± 260 , ± 400	<ul style="list-style-type: none"> • Grid resistors • DC/DC converters • AC/DC inverters • High-voltage bleeders • Dynamic braking • Bias supplies • Motor speed controls • Voltage divider networks • Capacitor charging / discharging regulation • Filament dropping • Voltage dropping • Electrical loads • Crowbar circuits • Current shunts
	AST025	AST-25	25	1.0 Ω to 23.0 k Ω			
	AST25A	AST-25A	30	1.0 Ω to 30.0 k Ω			
	AST25B	AST-25B	30	1.0 Ω to 24.0 k Ω			
	AST050	AST-50	50	1.0 Ω to 57.0 k Ω			
	AST50A	AST-50A	60	1.0 Ω to 75.0 k Ω			
	AST50B	AST-50B	70	1.0 Ω to 84.3 k Ω			
	AST075	AST-75	75	1.0 Ω to 85.5 k Ω			
	AST75A	AST-75A	90	1.0 Ω to 114 k Ω			
	AST100	AST-100	100	1.0 Ω to 132 k Ω			
	AST130	AST-130	130	1.0 Ω to 192 k Ω			
	AST160	AST-160	160	1.0 Ω to 298 k Ω			
	AST200	AST-200	200	1.0 Ω to 337 k Ω			
Vishay Huntington CMS 	CMS16	CMS-16	16	1.0 Ω to 59.0 k Ω	$\pm 5\%$, $\pm 10\%$	± 260 , ± 400	<ul style="list-style-type: none"> • Grid resistors • DC/DC converters • AC/DC inverters • High-voltage bleeders • Dynamic braking • Bias supplies • Motor speed controls • Voltage divider networks • Capacitor charging / discharging regulation • Filament dropping • Voltage dropping • Electrical loads • Crowbar circuits • Current shunts
	CMS20	CMS-20	20	1.0 Ω to 95.0 k Ω			
	CMS22	CMS-22	22	1.0 Ω to 105 k Ω			
Vishay Huntington FS	FS-003	FS-3	3	0.1 Ω to 6.0 k Ω	$\pm 5\%$, $\pm 10\%$	± 260 , ± 400	<ul style="list-style-type: none"> • Grid resistors • DC/DC converters • AC/DC inverters • High-voltage bleeders • Dynamic braking • Bias supplies • Motor speed controls • Voltage divider networks • Capacitor charging / discharging regulation • Filament dropping • Voltage dropping • Electrical loads • Crowbar circuits • Current shunts
	FS-05A	FS-5A	5	0.1 Ω to 15.0 k Ω			



INDUSTRIAL WIREWOUND RESISTORS

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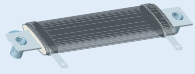
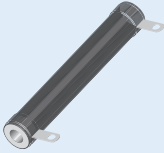
Product	Global Model	Historical Model	Wattage	Resistance Range	Tol.	TCR* ppm/°C	Applications
Vishay Huntington FS 	FS-005	FS-5	7	0.1 Ω to 17.5 kΩ	± 5 %, ± 10 %	± 260, ± 400	<ul style="list-style-type: none"> • Grid resistors • DC/DC converters • AC/DC inverters • High-voltage bleeders • Dynamic braking • Bias supplies • Motor speed controls • Voltage divider networks • Capacitor charging / discharging regulation • Filament dropping • Voltage dropping • Electrical loads • Crowbar circuits • Current shunts
	FS-05S	FS-5S	8	0.1 Ω to 20.5 kΩ			
	FS-010	FS-10	10	0.1 Ω to 29.0 kΩ			
	FS-10S	FS-10S	12	0.1 Ω to 58.0 kΩ			
	FS-020	FS-20	20	0.1 Ω to 60.0 kΩ			
	FS-20S	FS-20S	20	0.1 Ω to 95.0 kΩ			
Vishay Huntington FSE 	FSE0050	FSE-50	50	0.1 Ω to 4.1 Ω	± 5 %, ± 10 %	± 260, ± 400	
	FSE0090	FSE-90	90	0.1 Ω to 14.1 Ω			
	FSE0100	FSE-100	100	0.1 Ω to 12.2 Ω			
	FSE0110	FSE-110	110	0.1 Ω to 15.4 Ω			
	FSE0120	FSE-120	120	0.1 Ω to 18.4 Ω			
	FSE0155	FSE-155	155	0.1 Ω to 22.4 Ω			
	FSE0240	FSE-240	240	0.1 Ω to 44.75 Ω			
	FSE0300	FSE-300	300	0.1 Ω to 62.5 Ω			
	FSE0375	FSE-375	375	0.1 Ω to 80.5 Ω			
	FSE0420	FSE-420	420	0.1 Ω to 92.0 Ω			
	FSE0500	FSE-500	500	0.1 Ω to 121.0 Ω			
	FSE0750	FSE-750	750	0.1 Ω to 83.0 Ω			
	FSE1000	FSE-1000	1000	0.1 Ω to 108.5 Ω			
FSE1500	FSE-1500	1500	0.1 Ω to 151.0 Ω				
Vishay Huntington FSOT Miniature 	FSOT10	FSOT-10	10	0.1 Ω to 15.0 kΩ	± 5 %, ± 10 %	± 260, ± 400	
	FSOT10-NI	FSOT-10-NI	10	1.0 Ω to 1.8 kΩ			
	FSOT15	FSOT-15	15	0.1 Ω to 26.0 kΩ			
	FSOT15-NI	FSOT-15-NI	15	1.0 Ω to 3.6 kΩ			
	FSOT20	FSOT-20	20	0.1 Ω to 71.0 kΩ			
	FSOT20-NI	FSOT-20-NI	20	1.0 Ω to 9.8 kΩ			
Vishay Huntington FSOT Standard 	FSOT30	FSOT-30	30	0.1 Ω to 11.0 kΩ	± 5 %, ± 10 %	± 260, ± 400	
	FSOT30-NI	FSOT-30-NI	30	1.0 Ω to 1.2 kΩ			
	FSOT40	FSOT-40	40	0.1 Ω to 26 kΩ			
	FSOT40-NI	FSOT-40-NI	40	1.0 Ω to 3.0 kΩ			
	FSOT55	FSOT-55	55	0.1 Ω to 54 kΩ			
	FSOT55-NI	FSOT-55-NI	55	1.0 Ω to 6.8 kΩ			
	FSOT65	FSOT-65	65	0.1 Ω to 77.0 kΩ			



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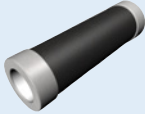
Product	Global Model	Historical Model	Wattage	Resistance Range	Tol.	TCR* ppm/°C	Applications
Vishay Huntington FSOT Standard 	FSOT65-NI	FSOT-65-NI	65	1.0 Ω to 9.4 kΩ	± 5 %, ± 10 %	± 260, ± 400	<ul style="list-style-type: none"> • Grid resistors • DC/DC converters • AC/DC inverters • High-voltage bleeders • Dynamic braking • Bias supplies • Motor speed controls • Voltage divider networks • Capacitor charging / discharging regulation • Filament dropping • Voltage dropping • Electrical loads • Crowbar circuits • Current shunts
	FSOT75	FSOT-75	75	0.1 Ω to 99.9 kΩ			
	FSOT75-NI	FSOT-75-NI	75	1.0 Ω to 12.4 kΩ			
Vishay Huntington FST 	FST005	FST-5	5	0.1 Ω to 20.5 kΩ	± 5 %, ± 10 %	± 260, ± 400	
	FST005...NI	FST-5-...-NI	5	1.0 Ω to 750.0			
	FST010	FST-10	12	0.1 Ω to 22.3 kΩ			
	FST010...NI	FST-10-...-NI	12	1.0 Ω to 2.79 kΩ			
	FST020	FST-20	20	0.1 Ω to 95.0 kΩ			
	FST020...NI	FST-20-...-NI	20	1.0 Ω to 4.8 kΩ			
	FST025	FST-25	25	0.1 Ω to 44.6 kΩ			
	FST025...NI	FST-25-...-NI	25	1.0 Ω to 6.18 kΩ			
	FST25A	FST-25A	30	0.1 Ω to 56.0 kΩ			
	FST25A...NI	FST-25A-...-NI	30	1.0 Ω to 7.25 kΩ			
	FST25B	FST-25B	30	0.1 Ω to 49.0 kΩ			
	FST25B...NI	FST-25B-...-NI	30	1.0 Ω to 6.8 kΩ			
	FST050	FST-50	50	0.1 Ω to 114 kΩ			
	FST050...NI	FST-50-...-NI	50	1.0 Ω to 15.1 kΩ			
	FST50A	FST-50A	60	0.1 Ω to 149 kΩ			
	FST50A...NI	FST-50A-...-NI	60	1.0 Ω to 19.1 kΩ			
	FST50B	FST-50B	70	0.1 Ω to 173 kΩ			
	FST50B...NI	FST-50B-...-NI	70	1.0 Ω to 22.1 kΩ			
	FST075	FST-75	75	0.1 Ω to 276 kΩ			
	FST075...NI	FST-75-...-NI	75	1.0 Ω to 35.0 kΩ			
	FST75A	FST-75A	90	0.1 Ω to 238 kΩ			
	FST75A...NI	FST-75A-...-NI	90	1.0 Ω to 31.0 kΩ			
	FST100	FST-100	100	0.1 Ω to 267 kΩ			
FST100...NI	FST-100-...-NI	100	1.0 Ω to 34.0 kΩ				
FST130	FST-130	130	0.1 Ω to 387 kΩ				
FST130...NI	FST-130-...-NI	130	1.0 Ω to 49.3 kΩ				
FST160	FST-160	175	0.1 Ω to 510 kΩ				
FST160...NI	FST-160-...-NI	175	1.0 Ω to 78.8 kΩ				
FST200	FST-200	225	0.1 Ω to 651 kΩ				
FST200...NI	FST-200-...-NI	225	1.0 Ω to 85.4 kΩ				



INDUSTRIAL WIREWOUND RESISTORS

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Product	Global Model	Historical Model	Power P _{25°C} (W)	Resistance Range (Ω)	Tol (±%)	TCR* (ppm/°C)	Applications
Vishay Huntington FST with Ferrule Caps  Refer to datasheet for ordering with ferrule cap termination option	FST-5	FST005	5	0.1 Ω to 20.5 k Ω	± 5 %, ± 10 %	± 260, ± 400	<ul style="list-style-type: none"> • Grid resistors • DC/DC converters • AC/DC inverters • High-voltage bleeders • Dynamic braking • Bias supplies • Motor speed controls • Voltage divider networks • Capacitor charging / discharging regulation • Filament dropping • Voltage dropping • Electrical loads • Crowbar circuits • Current shunts
	FST-5-...-NI	FST005...NI	5	1.0 Ω to 750.0 kΩ			
	FST-10	FST010	12	0.1 Ω to 22.3 kΩ			
	FST-10-...-NI	FST010...NI	12	1.0 Ω to 2.79 kΩ			
	FST-25A	FST25A	30	0.1 Ω to 56.0 kΩ			
	FST-25A-...-NI	FST25A...NI	30	1.0 Ω to 7.25 kΩ			
	FST-50-A	FST50A	60	0.1 Ω to 149 kΩ			
	FST-50A-...-NI	FST50A...NI	60	1.0 Ω to 19.1 kΩ			
	FST50B	FST50B	70	0.1 Ω to 176 kΩ			
	FST-50B-...-NI	FST50B...NI	70	1.0 Ω to 22.1 kΩ			
	FST75A	FST75A	90	0.1 Ω to 238 kΩ			
	FST-75A-...-NI	FST75A...NI	90	1.0 Ω to 31.0 kΩ			
	FST100	FST100	100	0.1 Ω to 267 kΩ			
	FST-100-...-NI	FST100...NI	100	1.0 Ω to 34.0 kΩ			

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



INDUSTRIAL WIREWOUND RESISTORS

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