



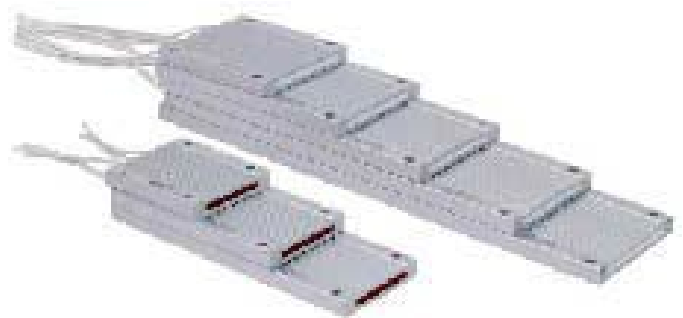
ULN, ULF

DYNAMIC BRAKING 50 W TO 500 W (UL® RECOGNIZED)

The ULN and ULF models are wire-wound, high-power, metal-clad low inductance resistors designed for industrial and other applications where space is at a premium and performance is a must. The extruded aluminum housing provides rugged and strong protection while the flat design allows for excellent heat dissipation. These models are supplied with flying leads. The most common applications for these models are motor drives, dynamic braking, snubber circuits and power sources for industrial equipment. Both models are recognized UL508 components.

GENERAL SPECIFICATIONS

Model	Wattage Rating On Heat Sink	Resistance Range (Ω)	Tolerance
ULN50	50	1-420	
ULN100	100	1-1.1K	
ULN150	150	1-1.75K	
ULF100	100	1-1.1K	±0.5 (D)
ULF150	150	1-1.75K	±1.0 (F)
ULF200	200	1-2.2K	±2.0 (G)
ULF250	250	1-2.79K	±5.0 (J)
ULF300	300	1-3.5K	±10.0 (K)
ULF400	400	1-3.08K	
ULF500	500	1-2.46K	

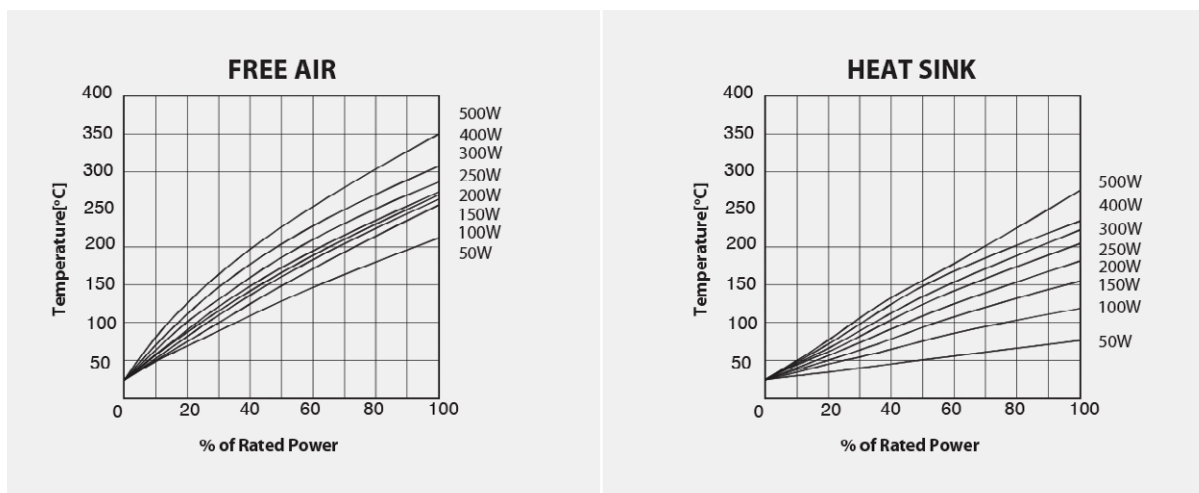


CHARACTERISTICS

Values in [] indicate change in Ω after test

Temperature Range	Cement: -55°C to 200°C
Insulation Resistance	20M Ω minimum
Dielectric Strength	Available Options: AC 1500V (Standard), 2500V, 3500V, 4500V (Max. leakage current: 2mA)
Temperature Coefficient	±260 ppm/°C maximum
Short Time Overload	± [1% + 0.05 Ω] 50W:5x power rating (5 sec.); 100 to 500W:10x power rating (5 sec.)
Moisture Resistance	± [2% + 0.05 Ω] 40°C, 95% Rh, DC 100C case to terminal (500 hours)
Thermal Shock	± [1% + 0.05 Ω] power rating 30 minutes, -25°C, 15 minutes
Vibration	± [1% + 0.05 Ω] 10Hz-55Hz-10Hz (1 minute) 2 hours each direction
Moisture Load Life	± [2% + 0.05 Ω] 40°C, 95% Rh, 0.1x power rating, 1.5 hours on, 30 minutes off, 500 hours
Load Life	± [3% + 0.05 Ω] power rating, 1.5 hours on, 30 minutes off, 500 hours

SURFACE TEMPERATURE INCREASE VERSUS POWER LOAD





ISABELLENHÜTTE

ULN, ULF

HIGH POWER METAL CLAD RESISTORS (UL® RECOGNIZED)

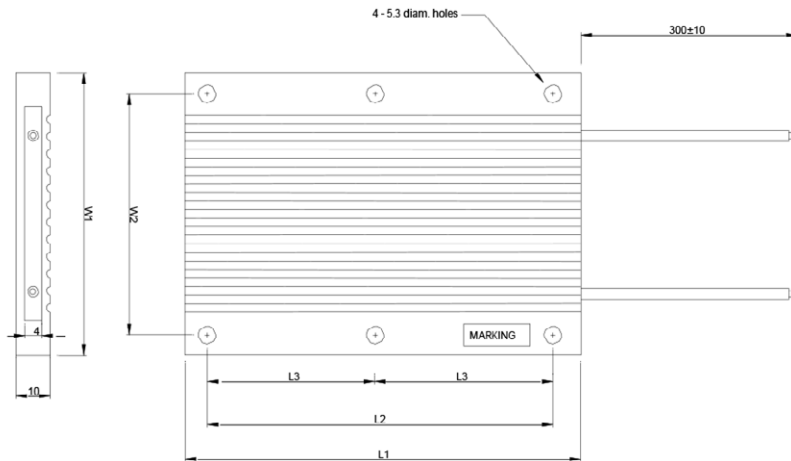
DIMENSIONS

Model	Dimensions [mm]				Weight [g]	* Lead Wire	
	L1 ±1	L2 ±0.3	W1 ±0.3	W2 ±0.3		1.25 mm ²	2 mm ²
ULN50	70	50	60	50	100	1Ω -	NA
ULN100	120	100	60	50	160	1Ω -	NA
ULN150	170	150	60	50	220	1Ω -	NA
ULF100	90	70	80	70	155	1Ω -	NA
ULF150	120	100	80	70	200	1Ω -	NA
ULF200	150	130	80	70	245	4.1Ω -	1Ω - 4Ω
ULF250	180	160	80	70	290	5.1Ω -	1Ω - 5Ω
ULF300	210	190	80	70	335	6.1Ω -	1Ω - 6Ω
ULF400	270	250	80	70	430	8.1Ω -	1Ω - 8Ω
ULF500	330	310	80	70	525	10.1Ω -	1Ω - 10Ω

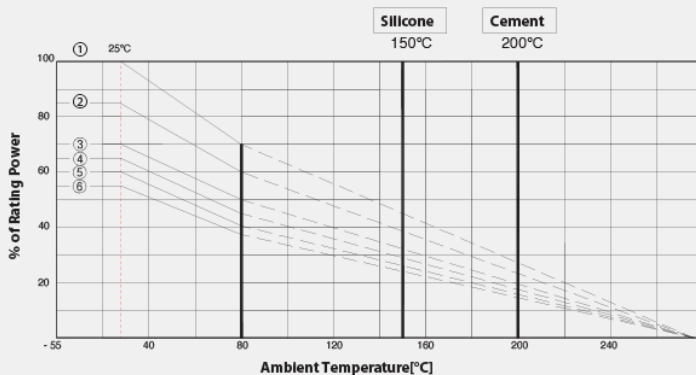
* ULN and ULF models utilize glass braided, silicone rubber lead wire.
UL3512 AWG 16

1.25mm² (AWG #16)
2.00mm² (AWG #14)

ULF300, 400 and 500 have 6 mounting holes. Exact locations for the additional holes are shown in between the corner mounting holes. L3 = L2/2



DERATING CURVE AND ORDERING PROCEDURE EXAMPLE



ULF Model 500 Wattage S Potting Compound 100Ω Resistance J Tolerance S-Silicone C-Cement

- ① IRN, IRF, ULN, ULF 100~500 on heat sink
IRN, ULN 50 in free air
- ② IRN, IRF, ULN, ULF 100 in free air
- ③ IRN, IRF, ULN, ULF 150 in free air
- ④ IRF, ULF 200 ~ 300 in free air
- ⑤ IRF, ULF 400 in free air
- ⑥ IRF, ULF 500 in free air

Heat sink size : IRN, IRF, ULN, ULF 50~200 : AL 200×200×3mm
IRF, ULF 250~400 : AL 400×400×3mm
IRF, ULF 500 : AL 600×600×3mm

This curve is for cement filled resistors only.
For silicone filled resistors, care must be taken to maintain the surface temperature below 150°C. In some applications, mounting on a heat sink is advisable.