Metal Clad Wire Wound Resistors

The IRV(V=vertical) & IRH(H=horizontal) models are our standard wire wound, metal-clad resistors. The ULV and ULH are UL approved versions of the IRV, IRH. These models have an extruded aluminum housing providing strong and rugged protection. Options include flying leads or tab terminals, inductive or non-inductive windings. The most common applications for theses models are : Motor drives, braking and snubber applications, charging for electric vehicles and power sources for industrial equipment.

GENERAL SPECIFICATIONS

Model	Rated Power [W]	*Resistance Range[Ω]				Tolerance [%]
		Inductive		Non-Inductive		
	On Heat Sink	Tab Terminals	Flying Leads	Tap Terminal	Flying Leads	
IRH/V 60	60	0.1 ~ 400		0.1 ~ 180		D[±0.5%] F[±1.0%] G[±2.0%] J[±5.0%] K[±10%]
ULH/V 60		0.1 ~ 375	0.1 ~ 400	0.1 ~ 180		
IRH/V 80	80	0.1 ~ 910		0.1 ~ 110		
ULH/V 80		0.1 ~ 281	0.1 ~ 910	0.1 ~ 110		
IRH/V 100	100	0.1 ~ 1.1K		0.1 ~ 240		
ULH/V 100		0.1 ~ 225	0.1 ~ 1.1K	0.1 ~ 225	0.1 ~ 240	
IRH/V 120	120	0.1 ~ 1.3K		0.1 ~ 300		
ULH/V 120		0.1 ~ 187	0.1 ~ 1.3K	0.1 ~ 187	0.1 ~ 300	
IRH/V 150	150	0.1 ~ 1.6K		0.1 ~ 390		
ULH/V 150		0.1 ~ 150	0.1 ~ 1.6K	0.1 ~ 150	0.1 ~ 390	
IRH/V 200	200	0.1 ~ 2.2K		0.1 ~ 1.0K		
ULH/V 200		0.1 ~ 450	0.1 ~ 2.2K	0.1 ~ 450	0.1 ~ 1.0K	
IRH/V 300	300	0.1 ~ 2.7K		0.1 ~ 1.5K		
ULH/V 300		0.1 ~ 300	0.1 ~ 2.7K	0.1 ~ 300	0.1 ~ 1.5K	
IRH/V 400	400	0.1~4.3K		0.1 ~ 2.2K		
ULH/V 400		0.1 ~ 225	0.1 ~ 4.3K	0.1 ~ 225	0.1 ~ 2.2K	
IRH/V 500	500	0.1~6.8K		0.1 ~ 3.0K		
ULH/V 500		0.1 ~ 180	0.1 ~ 6.8K	0.1 ~ 180	0.1 ~ 3.0K	

* Also available in extended ohmic ranges of 1mΩ to 750k Ω
* ULH = UL type of IRH / ULV = UL type of IRV

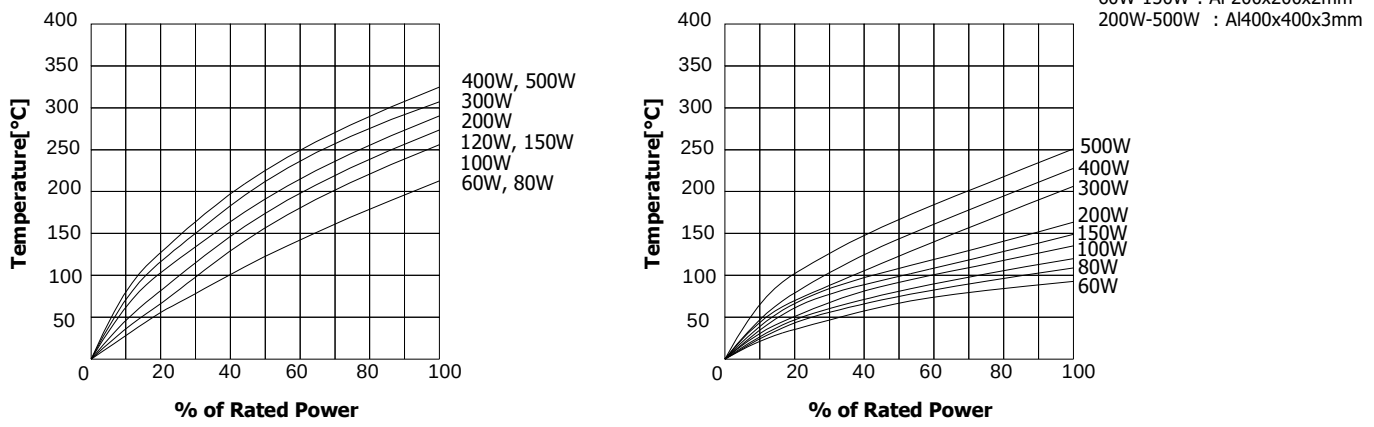
CHARACTERISTICS

Values in [] mean Change in Ω After Test

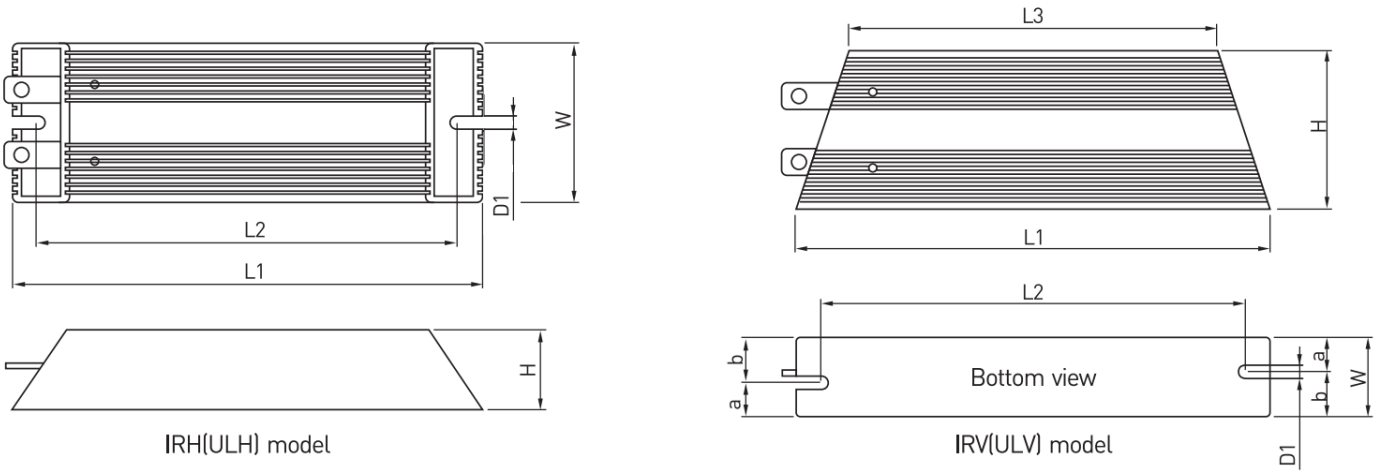
Operating Temp.		- 55 ~ +200℃
Insulation Resistance		20MΩ minimum
Dielectric Strength	IRH / IRV	Available options : AC1500V, 3500V, 4500V, 5400V for 1min (Max leakage current : 2mA)
	ULH / ULV	2200V for 1min. (input voltage Max 600V) [ULV/ULH dielectric strength options of AC 3500V, 4500V, 5400V are also availabe
Temperature Coefficient		Max ± 260ppm/℃
Short Time Overload	±[2%+0.05Ω]	60W : 5 x Power rating 5Sec, 80~500W :10 X Power rating, 5 sec
Moisture Resistance	±[3%+0.05Ω]	40℃ / RH95% 500 Hours, DC100V Case to Terminal
Thermal Shock	±[2%+0.05Ω]	Power Rating 30min, -25℃ 15Min
Vibration	±[1%+0.05Ω]	10Hz ~ 55Hz ~ 10Hz[1min], 2 hours each direction
Moisture Load Life	±[3%+0.05Ω]	40℃ / RH95% Power Rating x 0.1, 1.5 Hours On, 0.5 Hours Off for 500 Hours
Load Life	±[5%+0.05Ω]	Power rating 1.5 Hours on, 30 min Off 500 Hours

Note : ULV/H 60-150 Terminal type's System input Voltage : Max.150V, ULV/H 200-500 Terminal type's System input voltage : Max. 300V
ULV/H 60-500 Lead type's System input Voltage : Max. 600V

SURFACE TEMPERATURE INCREASE VERSUS POWER LOAD



DIMENSIONS[mm]



A mid-point bracket is required for 150W, 300W, 400W, 500W models to ensure sufficient contact with the heat sink

Model	Dimension[mm]								Weight	
	L1±2	L2±2	L3±2	W±0.5	H±0.5	D1±0.3	a±0.5	b±0.5	IRH/ULH	IRV/ULV
IRH/V 60	100	87	60	41[H] 22[V]	22[H] 41[V]	4.3	10	12	110	113
IRH/V 80	150	137	110	41[H] 22[V]	22[H] 41[V]	4.3	10	12	195	189
IRH/V 100	165	152	125	41[H] 22[V]	22[H] 41[V]	4.3	10	12	216	215
IRH/V 120	182	169	142	41[H] 22[V]	22[H] 41[V]	4.3	10	12	245	241
IRH/V 150	210	197	170	41[H] 22[V]	22[H] 41[V]	4.3	10	12	289	290
IRH/V 200	165	146	125	60[H] 30[V]	30[H] 60[V]	5.3	13	17	485	447
IRH/V 300	215	196	175	60[H] 30[V]	30[H] 60[V]	5.3	13	17	600	600
IRH/V 400	265	246	225	60[H] 30[V]	30[H] 60[V]	5.3	13	17	770	780
IRH/V 500	335	316	295	60[H] 30[V]	30[H] 60[V]	5.3	13	17	990	980

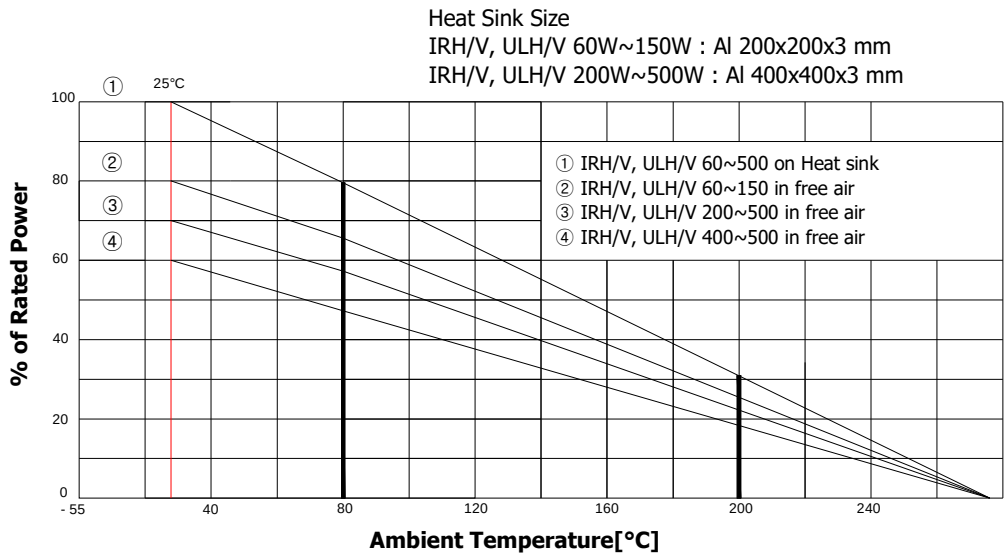
ULH = UL type of IRH, ULV = UL type of IRV (Dimension are same.)

FLYING LEADS

Model	$2mm^2$	$1.25mm^2$	UL3512 AWG10	UL3512 AWG14
IRH/V 60~150	0.1Ω ~ 0.99Ω	1Ω ~	X	X
IRH/V 200~500	0.38Ω ~	X	0.1Ω ~ 0.37Ω	X
ULH/V 60~120	X	X	X	0.1Ω ~
ULH/V 150	X	X	X	0.1Ω ~
ULH/V 200	X	X	0.1Ω ~ 0.15Ω	0.16Ω ~
ULH/V 300	X	X	0.1Ω ~ 0.22Ω	0.23Ω ~
ULH/V 400	X	X	0.1Ω ~ 0.30Ω	0.31Ω ~
ULH/V 500	X	X	0.1Ω ~ 0.37Ω	0.38Ω ~

Option : Other options of flying leads are also available. Please ask RARA for more info. On this

DERATING CURVES



ORDERING PROCEDURE EXAMPLE

	IRH120	N	50 Ω	J	FL XXXX
	Model #	Blank : Normal type (Inductive) N : Non-Inductive type	Resistance	Tolerance	Flying Leads (mm) Option
Ex)	IRH100 IRV100 ULH100 ULV100	- (Inductive Type) N (Non-Inductive type)	50Ω	F (±1%) G (±2%) J (±5%) K (±10%)	FL 300mm

Thermostat options are available for these models : internal and discreet connection. Please ask RARA for more info on this

If You require more detailed technical information please contact the RARA.