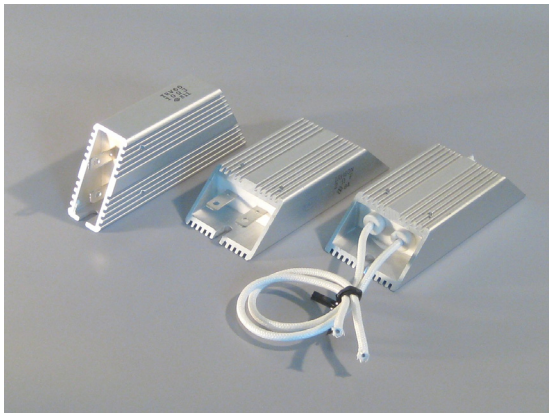
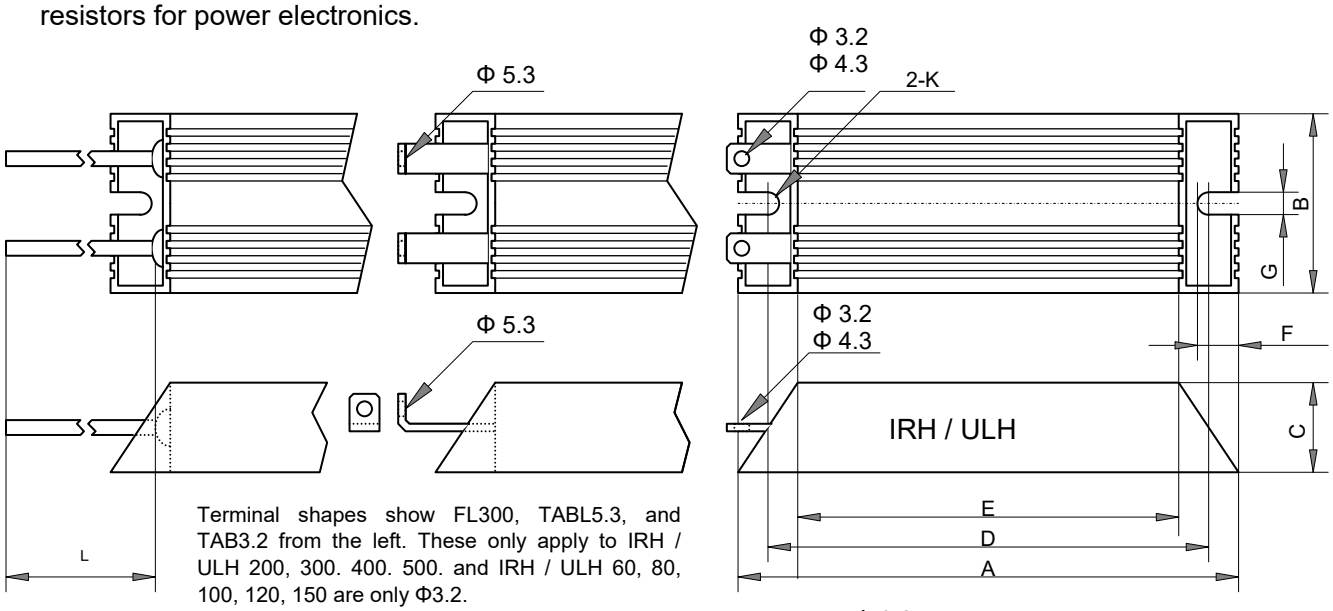
Metal Clad Wire Wound Resistors
IRV, IRH, ULV, ULH

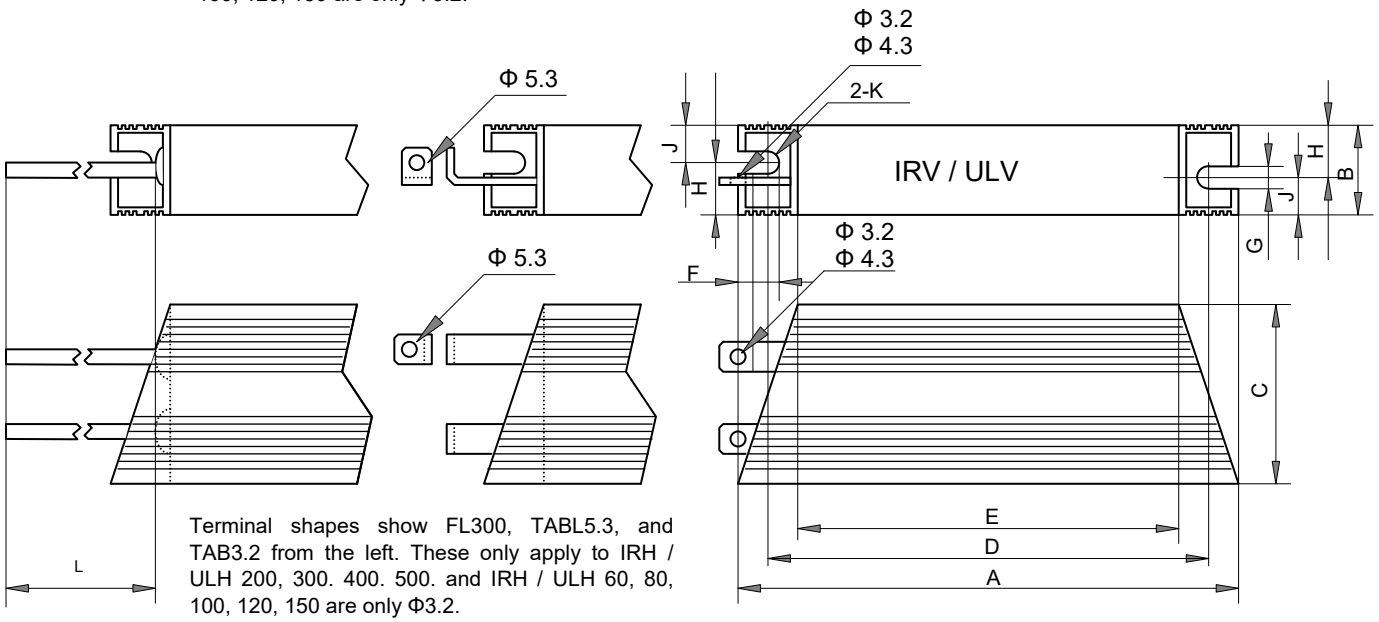


Features and Applications

Overload durable, metal clad wire wound power resistor.
60W to 500W rating power, heat conductive cement filled, aluminum housed resistors.
Flying leads, metal tab and L type metal tab terminals are available.
Dielectric strength of 1500V to 5400V available.
Surge protection resistors, recycling resistors, braking resistors for motor control, and current detection resistors for power electronics.



Terminal shapes show FL300, TABL5.3, and TAB3.2 from the left. These only apply to IRH / ULH 200, 300. 400. 500. and IRH / ULH 60, 80, 100, 120, 150 are only Φ3.2.



Terminal shapes show FL300, TABL5.3, and TAB3.2 from the left. These only apply to IRH / ULH 200, 300. 400. 500. and IRH / ULH 60, 80, 100, 120, 150 are only Φ3.2.

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Dimensional Specifications (mm)

	IRV60	IRV80	IRV100	IRV120	IRV150	IRV200	IRV300	IRV400	IRV500
A±2	100	150	165	182	210	165	215	265	335
B±0.5	22	22	22	22	22	30	30	30	30
C±0.5	41	41	41	41	41	60	60	60	60
D±2	87	137	152	169	197	146	196	246	316
E±2	60	110	125	142	170	125	175	225	295
F±0.5	8.65	8.65	8.65	8.65	8.65	12	12	12	12
G±0.5	4.3	4.3	4.3	4.3	4.3	5.3	5.3	5.3	5.3
H	12	12	12	12	12	17	17	17	17
J	10	10	10	10	10	13	13	13	13
K	2.15R	2.15R	2.15R	2.15R	2.15R	2.65R	2.65R	2.65R	2.65R
Weight (g)*	113	189	215	241	290	447	600	780	980

	IRH60	IRH80	IRH100	IRH120	IRH150	IRH200	IRH300	IRH400	IRH500
A±2	100	150	165	182	210	165	215	265	335
B±0.5	41	41	41	41	41	60	60	60	60
C±0.5	22	22	22	22	22	30	30	30	30
D±2	87	137	152	169	197	146	196	246	316
E±2	60	110	125	143	170	125	175	225	295
F±0.5	9.65	9.65	9.65	9.65	9.65	12	12	12	12
G±0.5	4.3	4.3	4.3	4.3	4.3	5.3	5.3	5.3	5.3
H	-	-	-	-	-	-	-	-	-
J	-	-	-	-	-	-	-	-	-
K	2.15R	2.15R	2.15R	2.15R	2.15R	2.65R	2.65R	2.65R	2.65R
Weight (g)*	110	195	216	245	283	485	600	770	990

* Weight does not contains flying wire lead. Weight of the single wire (5.5SQmm) estimates to be 20g/m.

Power, Resistance, Terminals

	IRV60 IRH60	IRV80 IRH80	IRV100 IRH100	IRV120 IRH120	IRV150 IRH150	IRV200 IRH200	IRV300 IRH300	IRV400 IRH400	IRV500 IRH500
Rating Power(W)/Chassis	60	80	100	120	150	200	300	400	500
Rating Power(W)/Free Air	48	64	80	96	120	140	210	240	300
Resistance(ohm) inductive	0.1-400	0.1-910	0.1-1.1K	0.1-1.3K	0.1-1.6K	0.1-2.2K	0.1-2.7K	0.1-4.3K	0.1-6.8K
Resistance(ohm) no-induct.	0.1-180	0.1-110	0.1-240	0.1-300	0.1-390	0.1-1.0K	0.1-1.5K	0.1-2.2K	0.1-3.0K
Tolerance (%)	+/-0.5%(D), +/-1.0%(F), +/-2.0%(G), +/-5.0%(J), +/-10%(K)								
Terminal Wire of 1.25 mm^2	Over 1.0 Ω					x	x	x	x
Terminal Wire of 2 mm^2	0.1Ω - 0.99Ω					over 0.38 Ω			
Terminal Wire of 5.5 mm^2	x	x	x	x	x	(option 0.1Ω -0.99Ω)			
Terminal Wire UL3512 AWG10	x	x	x	x	x	0.1Ω – 0.37Ω			
Tab Terminals 3.2D	O	O	O	O	O	x	x	x	x
Tab Terminals 4.3φ	x	x	x	x	x	O	O	O	O
Metal terminals L 5.3Φ	x	x	x	x	x	O	O	O	O

* O available, X: not available

Power, Resistance, Terminals (UL)

	ULV60 ULH60	ULV80 ULH80	ULV100 ULH100	ULV120 ULH120	ULV150 ULH150	ULV200 ULH200	ULV300 ULH300	ULV400 ULH400	ULV500 ULH500
Rating Power(W)/Chassis	60	80	100	120	150	200	300	400	500
Rating Power(W)/Free Air	48	64	80	96	120	140	210	240	300
Resistance(tab) inductive	0.1-375	0.1-281	0.1-225	0.1-187	0.1-150	0.1-450	0.1-300	0.1-225	0.1-180
Resistance(tab) no-induct.	0.1-180	0.1-110	0.1-225	0.1-187	0.1-150	0.1-450	0.1-300	0.1-225	0.1-180
Resistance(fly) inductive	0.1-400	0.1-910	0.1-1.1K	0.1-1.3K	0.1-1.6K	0.1-2.2K	0.1-2.7K	0.1-4.3K	0.1-6.8K
Resistance(fly) no-induct.	0.1-180	0.1-110	0.1-240	0.1-300	0.1-390	0.1-1.0K	0.1-1.5K	0.1-2.2K	0.1-3.0K
Tolerance (%)	+/-2.0%(G), +/-5.0%(J), +/-10%(K)								

Specifications and Performance

TCR(ppm/K)	±260ppm/K(H)
Tolerance (%), not UL	±0.5%(D), ±1.0%(F), ±2.0%(G), ±5.0%(J), ±10%(K)
Dielectric Strength	AC1500V, AC2500V, AC3000V, AC4500V and AC5400V are available at leakage current 2mA.
Temperature Range	-55 C to +200 C
Insulation Resistance	< 20Mohms
Short Time Over Load	±2%, (Rating power×10 in 5 seconds interval) (IRH/V60, Rating power×5 in 5 seconds interval)
Moisture Resistance	±3%, (40C,95%RH, DC100V case / terminal, 500hours)
Thermal Shock(%-ohms)	±2%, (After power with rating for 30 minutes, -15C, 15 minutes)
Vibration(%-ohms)	±1%, (10Hz-55Hz-10Hz, 1minute cycle, for 2 hours with x-y direction)
Humidity(%-ohms)	±3%, (40C,95%-RH, 0.1*power rating , 1.5hours on, 0.5hours off, 500hours)
Load Life(%-ohms)	±5%, (Power rating , 1.5hours on 0.5hours off, 500hours)
Filling	Cement

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Metal Clad Wire Wound Resistors IRV, IRH, ULV, ULH

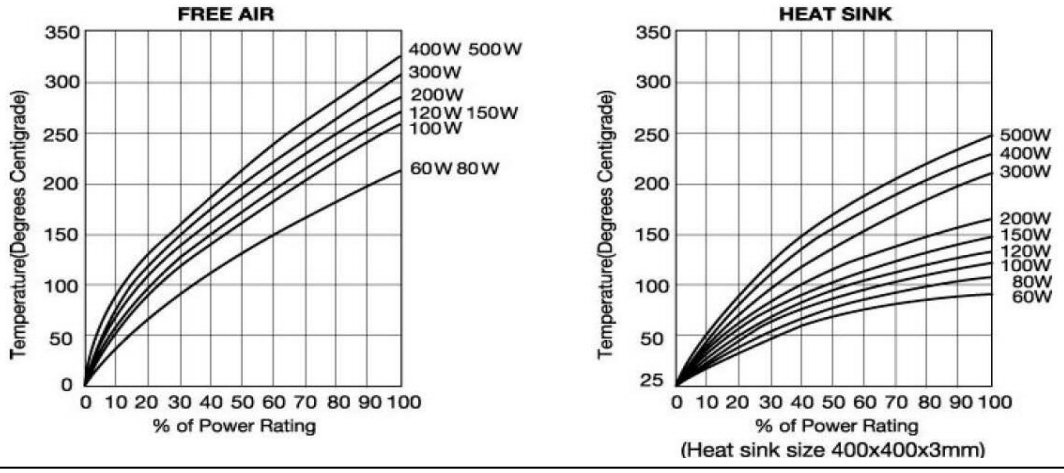
Ordering Information

Type	Power	Winding	Resistance	Tolerance	Terminals	Insulation
IRV	500	-	0.1 ohm	J	FL300mm	4500V
|	|	|	|	|	|	|
IRV	60	- (inductive)	See table	0.5% (D)	Flying Lead	1500Vac
IRH	80	N (non-induct.)		1.0% (F)	TAB 3.2D	2500Vac*
|	100			2.0% (G)	TAB 4.3DD	3500Vac
|	120			5.0% (J)	TAB-L 5.3D	4500Vac
|	150			10% (K)		5400Vac
|	200			-UL-		
ULV	300			2.0% (G)		Standard
UHV	400			5.0% (J)		2500Vac
	500			10% (K)		

Wire Terminal Indications

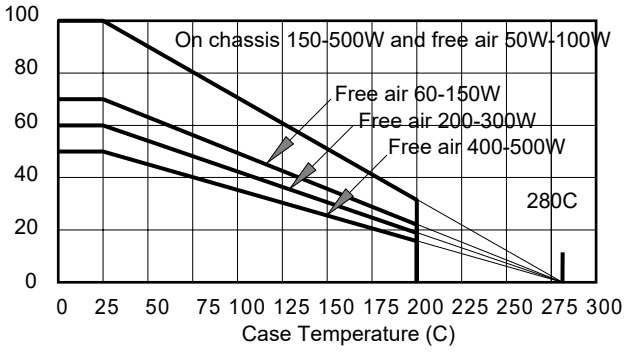
Type	5.5 mm^2	2 mm^2	1.25mm^2	UL3512 AWG10 (5.5SQ)	UL3512 AWG14 (2.0SQ
IRH60-150 / IRV 60-150	X	0.1 Ω – 0.99 Ω	1.0 Ω - -	X	X
IRV200-500 / IRH 200-500	(0.1Ω - 4.99Ω) option	0.38 Ω - -	X	0.1Ω – 0.37Ω	X
ULH60-120 / ULV 60-120	X	X	X	X	0.1 Ω - -
ULH150 / ULV 150	X	X	X	X	0.11 Ω - -
ULH200 / ULV 200	X	X	X	0.1Ω - 0.15 Ω	0.16 Ω - -
ULH300 / ULV 300	X	X	X	0.1Ω - 0.22 Ω	0.23 Ω - -
ULH400 / ULV 400	X	X	X	0.1Ω - 0.30 Ω	0.31 Ω - -
ULH500 / ULV 500	X	X	X	0.1Ω - 0.37 Ω	0.38 Ω - -

Surface Temperature Rise, under Free Air and on Heat Sink



Derating.

% Rating Power



Chassis size 150-200W: 200*200*3mm
Chassis size 250-500W: 400*400*3mm

Note

(1) When specifying the terminal as insulated wires, please specify the wire length in mm, such as FL300.
(2) If the terminal designation is left blank, it will be a metal terminal (quick connect or 3.2Φ metal terminal).
(3) Screw hole terminal holes are not cut, so connect them with bolts and nuts.
(4) Be sure to specify the insulation withstand voltage. If not specified, the dielectric strength is 1500VAC.
(5) A thermostat element can be built in the resistor. Please contact info@nikkohm.co.jp.
(6) For reliable specification, please request a procurement specification or product specification to info@nikkohm.co.jp.
(7) For the marking on the resistor surface of UL certified, the manufacturer code is not the N mark but the RARA mark of the UL certified applicant.
(8) County origins at South Korea.

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