Non-Flammable Wire Wound Fixed Resistors

GENERAL SPECIFICATIONS

Model	Power Rating[W]	Resistance Range[Ω]		Resistance Tolerance (%)
		Standard	S Type	
KH KHIS KZG	15	1~15K	3K	1Ω ≤ R : J [±5] 1Ω > R :K [±10]
	20	1~20K	4K	
	30	1.5~30K	4K	
	40	2~40K	6K	
	50	2~50K	8K	
	60	1.5~60K	12K	
	80	2~80K	15K	
	100	2.5~100K	20K	
	120	3~120K	25K	
	150	4~150K	30K	
	200	5~200K	40K	
	300	8~200K	60K	
	400	10~300K	80K	
	500	10~400K	90K	
	600	10~500K	100K	
	800	10~600K	110K	
	1000	10~900K	120K	
	1200	10~1000K	130K	
	1500	10~1100K	140K	
	2000	10~1200K	150K	

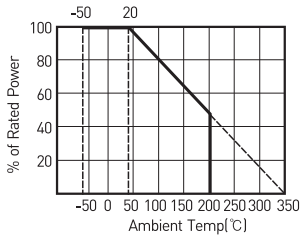
CHARACTERISTICS

Values in [ ] mean change in Ω after test

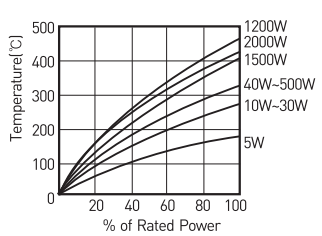
Temperature Coefficient		±200ppm/℃ maximum
Power Rating Load	±[1%+0.05Ω]	(JIS-C-5202, 5-4) 350℃ maximum
Short time Overload	±[2%+0.05Ω]	1000% rated power 5 seconds
Insulation Resistance		100MΩ minimum, DC 500V
Dielectric Withstanding Voltage		KH: AC 1500V 1 minute, KZG: AC 3000V 1 minute
Terminal Strength		5~20W: 4.5kgf, H20~40W: 6kgf, 60~200W: 8kgf, 300~400W: 10kgf - 30seconds
Resistors Strength		5W~40W: 20kgf, 60W~400W: 30kgf - 30seconds
Vibration		Mount: KZG 1.5mm 10~55Hz/1minute, X,Y,Z 2hours each direction
Solderability	75% coverage minimum	270℃ 5 seconds
Heat Resistance		350℃ 2 hours
Thermal Shock	±[2%+0.05Ω]	Power rating load 30minutes, -55℃ 15minutes
Humidity (Steady State)	±[2%+0.05Ω], 10MΩ minimum	40℃, 95% RH, DC100V 500 hours
Moisture Load Life	±[2%+0.05Ω]	0.1×Power rating, 90minutes on, 30 minutes off, 40℃, 95% RH, 500 hours
Load Life	±[10%+0.05Ω]	Power rating, 90 minutes on, 30 minutes off, 500 hours
Flame Retardant	no evidence of flaming or arcing	100%~600% rated power load

NOTE : Applied voltage : AC RMS voltage

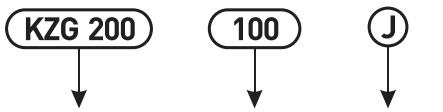
DERATING CURVE



TEMPERATURE RISE



ORDERING PROCEDURE



SHORT TIME OVERLOAD RATING

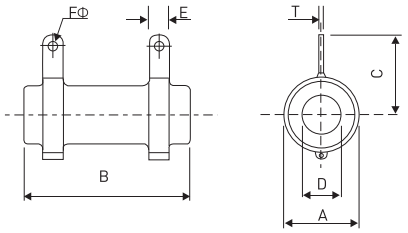
Load time(second)	1	2	3	4	5	10	30	60	180	300	600	900
Max. Rated Load(%)	2600	2000	1600	1400	1300	1000	600	450	200	150	120	110

When loading for a short time with a cycle of over 30 minutes, the load can be more than the rated power.
To avoid short circuits between cables, do not exceed the maximum capable voltage between terminals.

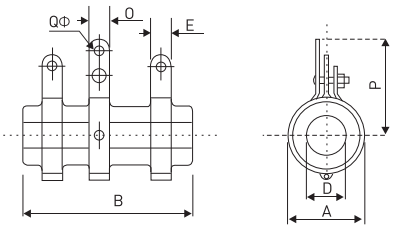
Tel: 82-32-817-4325 Fax: 82-32-817-4329

DIMENSIONS [mm]

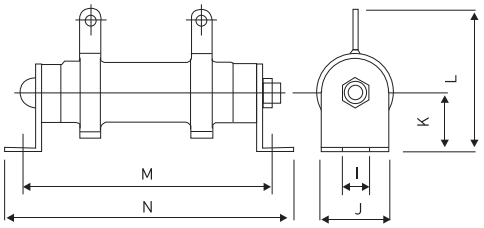
KH type



KHIS type



KZG type



Model	Power Rating(W)	Dimensions [mm]±2															
		A	B	C	D	E	F	I	J	K	L	M	N	P	Q	O	T
	15	17	50	20	8.5	5	2.8	4.2	18	22	41	71	86	26	3.5	6	0.5
	20	17	50	20	8.5	5	2.8	4.2	18	22	41	71	86	26	3.5	6	0.5
	30	17	75	20	8.5	5	2.8	4.2	18	22	41	99	110	26	3.5	6	0.5
	40	17	90	20	8.5	5	2.8	4.2	18	22	41	115	124	26	3.5	6	0.5
	50	28	75	33	14	8	4	6	26	30	62	110	133	35	4.2	8.5	1.4
	60	28	90	33	14	8	4	6	26	30	62	128	148	35	4.2	8.5	1.4
	80	28	115	33	14	8	4	6	26	30	62	150	173	35	4.2	8.5	1.4
KH	100	28	140	33	14	8	4	6	26	30	62	175	198	35	4.2	8.5	1.4
KHIS	120	28	165	33	14	8	4	6	26	30	62	200	221	35	4.2	8.5	1.4
	150	28	195	33	14	8	4	6	26	30	62	230	253	35	4.2	8.5	1.4
KZG	200	28	254	33	14	8	4	6	26	30	62	290	313	35	4.2	8.5	1.4
	300	42	254	45	24	12	5.5	6.5	40	40	86	300	330	52	5	12	1.6
	400	42	330	45	24	12	5.5	6.5	40	40	86	380	407	52	5	12	1.6
	500	52	300	57	29	15	9	6.5	54	41	99	345	362	53	5	12	2.2
	600	52	330	57	29	15	9	6.5	54	41	99	375	392	53	5	12	2.2
	800	65	330	65	46	20	10	10	65	59	126	385	404	72	10	20	2.2
	1000	77	330	71	47	20	10	10	75	63	130	388	408	80	10	20	2.2
	1200	77	330	71	47	20	10	10	75	63	130	388	408	80	10	20	2.2
	1500	77	420	71	47	20	10	10	75	63	130	478	498	80	10	20	2.2
	2000	77	500	71	47	20	10	10	75	63	130	558	578	80	10	20	2.2

PERCENTAGE POWER DECREASE IN GROUP COFIGURATIONS

Interval	State	2EA	3EA	4EA	5EA	6EA	7EA	8EA	9EA	10EA	11EA	12EA
40mm	Open	63	56	51	48	45	43	40	38	36	34	32
	Close	54	47	43	41	38	36	34	32	31	29	27
45mm	Open	70	64	60	56	53	50	48	46	44	42	40
	Close	60	54	51	47	45	42	41	39	37	36	34
50mm	Open	73	68	64	60	58	56	55	54	52	50	49
	Close	62	58	54	51	49	47	46	45	44	43	42
55mm	Open	77	70	67	64	63	60	59	58	57	56	56
	Close	65	59	57	54	53	51	50	49	48	47	47
75mm	Open	82	76	72	68	66	65	64	63	62	61	60
	Close	70	64	61	58	56	55	54	53	52	51	50