

## Wirewound Power Resistor, Braking Resistors

TYPE: EMDR Series

TYPE: EMQR Series

TYPE: EMSR Series

**Power Rating: 15W-20KW**

**Resistance Value: 0.01  $\Omega$  -100K  $\Omega$**

**Resistance Tolerance:  $\pm 0.1\%$ ,  $\pm 0.5\%$ ,  $\pm 1\%$ ,  $\pm 5\%$ ,  $\pm 10\%$**



### ● Construction:

1. A tubular ceramic has two terminals, and is wound with copper wire or chromium alloy wire to provide the resistance and then coated with high temperature, non-flammable resin.
2. After the semi-finished resistor is cool and dry, insulation is applied through a temperature process and then the mounts are attached.

### ● Features:

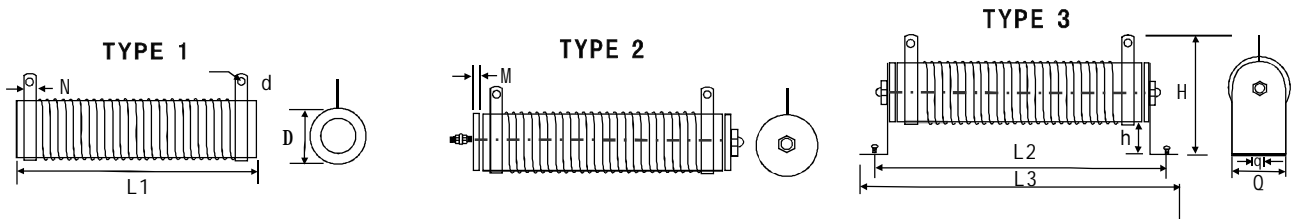
1. Multi-terminal and multi-resistance, fixed, adjustable are available, out wire's length are available following customer requirement; Special terminals are available for unusual applications.
2. Element consisting of a wave-shaped alloy ribbon or non-wave shaped alloy wire.
3. Good dissipation, high stability, high power rating, high over load and long life.
4. Delivery: 5-7 days
5. Conforms to the ROHS standard and the LEAD-FREE non-lead standard.

### ● Applications:

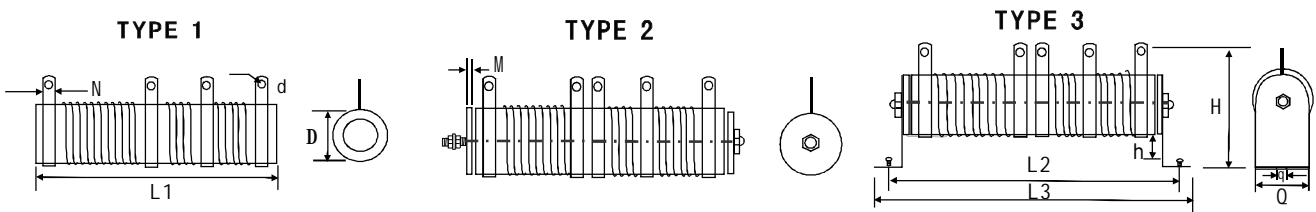
DR Series is suitable for educational modeling applications, load testing, industrial machinery, electric power distribution, instruments, automation control installations, lift trucks, overhead cranes, elevators, arc and spot welders, battery chargers, machine tools, conveyors, and UPS systems.

---

● EMDR & EMNR Type Dimensions (15W-20000W) EMNR : Non-Inductive



● EMRD & EMRH Type Dimensions (30W-20000W) EMRH : Non-Inductive



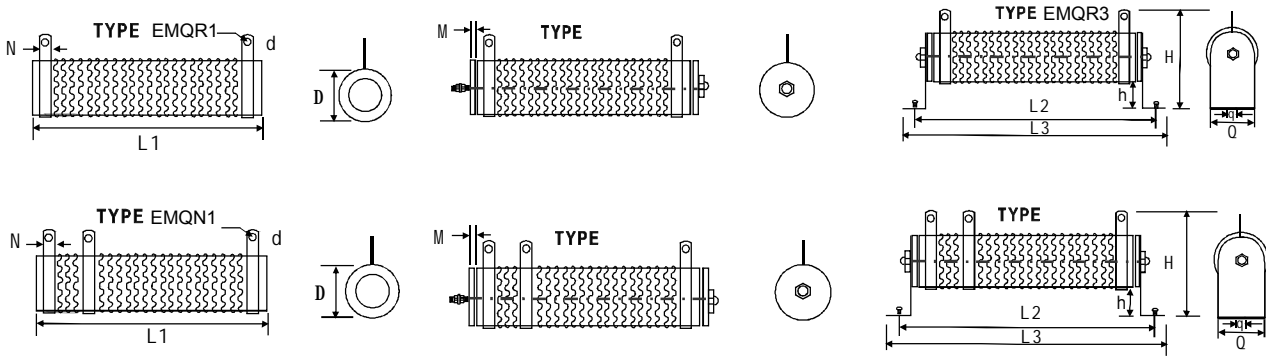
POWER RATING	DIMENSIONS (mm)										
	D	L1	L2	L3	h	H	N	d	q	Q	M
15W	15	45	66	85	13	40	6	3.5	4.5	15	3.5
20W	15	50	71	90	13	40	6	3.5	4.5	15	3.5
25W	20	50	80	100	15	50	6	3.5	5	20	5
30W	20	70	100	120	15	50	6	3.5	5	20	5
40W	20	87	115	137	15	50	6	3.5	5	20	5
50W	28	90	122	143	20	68	9	4.5	6	28	5.5
80W	28	90	122	143	20	68	9	4.5	6	28	5.5
100W	28	170	202	223	20	68	9	4.5	6	28	5.5
150W	28	215	247	268	20	68	9	4.5	6	28	5.5
200W	28	267	299	320	20	68	9	4.5	6	28	5.5
250W	28	267	299	320	20	68	9	4.5	6	28	5.5
300W	40	267	305	343	20	90	10	4.5	6	40	6
400W	40	330	367	406	20	90	10	4.5	6	40	6
500W	50	330	370	415	20	98	10	6	8	50	8.5
600W	50	330	370	415	20	98	10	6	8	50	8.5
700W	50	400	440	485	20	95	10	6	8	50	8.5
800W	70	300	331	362	30	135	15	8	8	70	/
1000W	70	300	331	362	30	135	15	8	8	70	/
1500W	70	415	446	477	30	135	15	8	8	70	/
2000W	70	510	541	572	30	135	15	8	8	70	/
2500W	70	600	631	662	30	135	15	8	8	70	/
3000W	70	600	631	662	30	135	15	8	8	70	/
4000W	100	430	468	521	50	185	15	8	8	100	/
5000W	100	500	538	591	50	185	15	8	8	100	/
6000W	100	600	638	691	50	185	15	8	8	100	/
10000W	150	600	640	720	100	260	30	8	10	152	/
12000W	150	660	700	780	100	260	30	8	10	152	/
15000W	150	660	700	780	100	260	30	8	10	152	/
20000W	150	1000	1040	1120	100	260	30	8	10	152	/

We can do the resistors following customer special requirement.

# EMHEATER

## ● EMQR & Type Dimensions

: Non-Inductive Wirewound Resistor



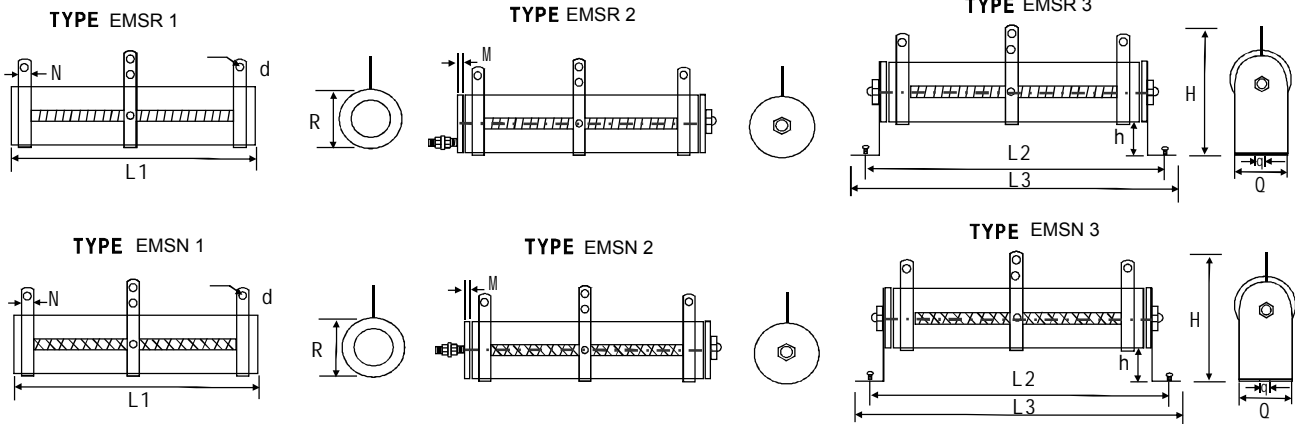
POWER RATING	DIMENSIONS (mm)										
	D	L1	L2	L3	h	H	N	d	q	Q	M
30W	20	70	100	120	15	50	6	3.5	5	20	5
40W	20	87	115	137	15	50	6	3.5	5	20	5
50W	28	90	122	143	20	68	9	4.5	6	28	5.5
80W	28	90	122	143	20	68	9	4.5	6	28	5.5
100W	28	170	202	223	20	68	9	4.5	6	28	5.5
150W	28	215	247	268	20	68	9	4.5	6	28	5.5
200W	28	267	299	320	20	68	9	4.5	6	28	5.5
250W	28	267	299	320	20	68	9	4.5	6	28	5.5
300W	40	267	305	343	20	90	10	4.5	6	40	6
400W	40	330	367	406	20	90	10	4.5	6	40	6
500W	50	330	370	415	20	98	10	6	8	50	8.5
600W	50	330	370	415	20	98	10	6	8	50	8.5
700W	50	400	440	485	20	95	10	6	8	50	8.5
800W	70	300	331	362	30	135	15	8	8	70	/
1000W	70	300	331	362	30	135	15	8	8	70	/
1500W	70	415	446	477	30	135	15	8	8	70	/
2000W	70	510	541	572	30	135	15	8	8	70	/
2500W	70	600	631	662	30	135	15	8	8	70	/
3000W	70	600	631	662	30	135	15	8	8	70	/
4000W	100	430	468	521	50	185	15	8	8	100	/
5000W	100	500	538	591	50	185	15	8	8	100	/
6000W	100	600	638	691	50	185	15	8	8	100	/
10000W	150	600	640	720	100	260	30	8	10	152	/
12000W	150	660	700	780	100	260	30	8	10	152	/
15000W	150	660	700	780	100	260	30	8	10	152	/
20000W	150	1000	1040	1120	100	260	30	8	10	152	/

We can do the resistors following customer special requirement.

## ● EMSR & EMSN Type Dimensions

EMSR : Variable Wirewound Resistor

EMSN : Non-Inductive Variable Resistor



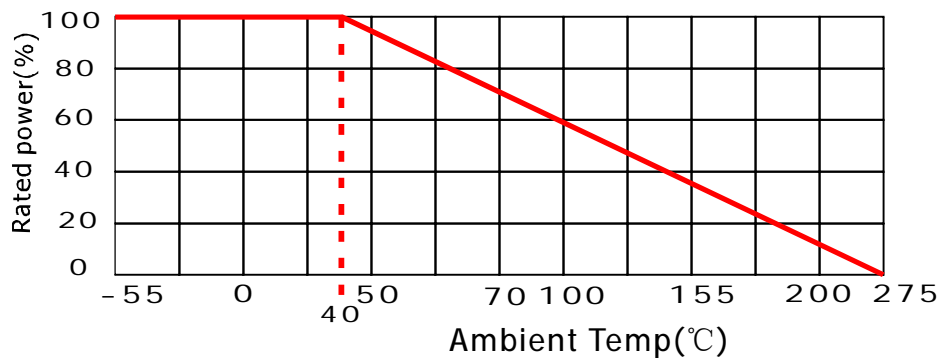
POWER RATING	DIMENSIONS (mm)										
	D	L1	L2	L3	h	H	N	d	q	Q	M
30W	20	70	100	120	15	50	6	3.5	5	20	5
40W	20	87	115	137	15	50	6	3.5	5	20	5
50W	28	90	122	143	20	68	9	4.5	6	28	5.5
80W	28	90	122	143	20	68	9	4.5	6	28	5.5
100W	28	170	202	223	20	68	9	4.5	6	28	5.5
150W	28	215	247	268	20	68	9	4.5	6	28	5.5
200W	28	267	299	320	20	68	9	4.5	6	28	5.5
250W	28	267	299	320	20	68	9	4.5	6	28	5.5
300W	40	267	305	343	20	90	10	4.5	6	40	6
400W	40	330	367	406	20	90	10	4.5	6	40	6
500W	50	330	370	415	20	98	10	6	8	50	8.5
600W	50	330	370	415	20	98	10	6	8	50	8.5
700W	50	400	440	485	20	95	10	6	8	50	8.5
800W	70	300	331	362	30	135	15	8	8	70	/
1000W	70	300	331	362	30	135	15	8	8	70	/
1500W	70	415	446	477	30	135	15	8	8	70	/
2000W	70	510	541	572	30	135	15	8	8	70	/
2500W	70	600	631	662	30	135	15	8	8	70	/
3000W	70	600	631	662	30	135	15	8	8	70	/
4000W	100	430	468	521	50	185	15	8	8	100	/
5000W	100	500	538	591	50	185	15	8	8	100	/
6000W	100	600	638	691	50	185	15	8	8	100	/
10000W	150	600	640	720	100	260	30	8	10	152	/
12000W	150	660	700	780	100	260	30	8	10	152	/
15000W	150	660	700	780	100	260	30	8	10	152	/
20000W	150	1000	1040	1120	100	260	30	8	10	152	/

We can do the resistors following customer special requirement.

## ● Performance Specifications

Test item	Test condition	Specifications
Resistance tolerance	JIS-C-5202 5-1	Resistance Nominal Tolerance 1≤R 1>R ±5%(J)±10%(K)
Temperature coefficient	JIS-C-5202 5-2	±350PPM/°C Max
Power rating load	JIS-C-5202 5-4 40°C, power rating 1H	ΔR≤±(1%+0.1Ω) Surface temperature ≤350°C
Short-term over load	JIS-C-5202 5-5 1000% rated power 5s	Free or appearance or structural irregularity ΔR≤±(2%+0.1Ω)
Insulation resistance	JIS-C-5202 5-6 1000V DC	100 MΩ Min
Dielectric withstanding voltage	JIS-C-5202 5-7 1000VDC 1 minute Between terminal and anchor stand	Free or appearance or structural irregularity ΔR≤±(0.1%+0.05Ω)
Terminal strength	JIS-C-5202 6-1 8kg 30 seconds	Free of appearance or structural irregularity
Vibration	JIS-C-5202 6-3 1.5mm, 10-50-10Hz/min X-Y-Z2 hours each	Free or appearance or structural irregularity ΔR≤±(1%+0.05Ω)
Thermal shock	JIS-C-5202 7-3 Room temp 30 min ON-55°C 15 min OFF	Resistor free of structural irregularity crack of silicon cement surface ΔR≤±(2%+0.1Ω)
humidity	JIS-C-5202 7-5 40°C 90%RH 240 hours	Free or appearance or structural irregularity Surface coating crack ΔR/R≤±(31%+0.1Ω)
Load life	JIS-C-5202 7-10 90 minutes ON - 30 minutes OFF 500 hours	Free of appearance or structural irregularity Surface coating crack ΔR/R≤±(1%+0.05Ω)

## ● Derating



## ● How to order

EMDR	1000W	50R	J
Type	Rated Power (w)	Resistance Value (Ω)	Tolerance (%)
EMDR	15W-20KW	0.01 Ω - 100K Ω	B=±0.1%
EMRD	30W-20KW	0.01 Ω - 100K Ω	D=±0.5%
EMRH / EMNR	15W-20KW	0.01 Ω - 50K Ω	F=±1%
EMQR / EMQN	30W-20KW	0.1 Ω - 1K Ω	J=±5%
EMSR / EMSN	30W-20KW	0.1 Ω - 20K Ω	K=±10%