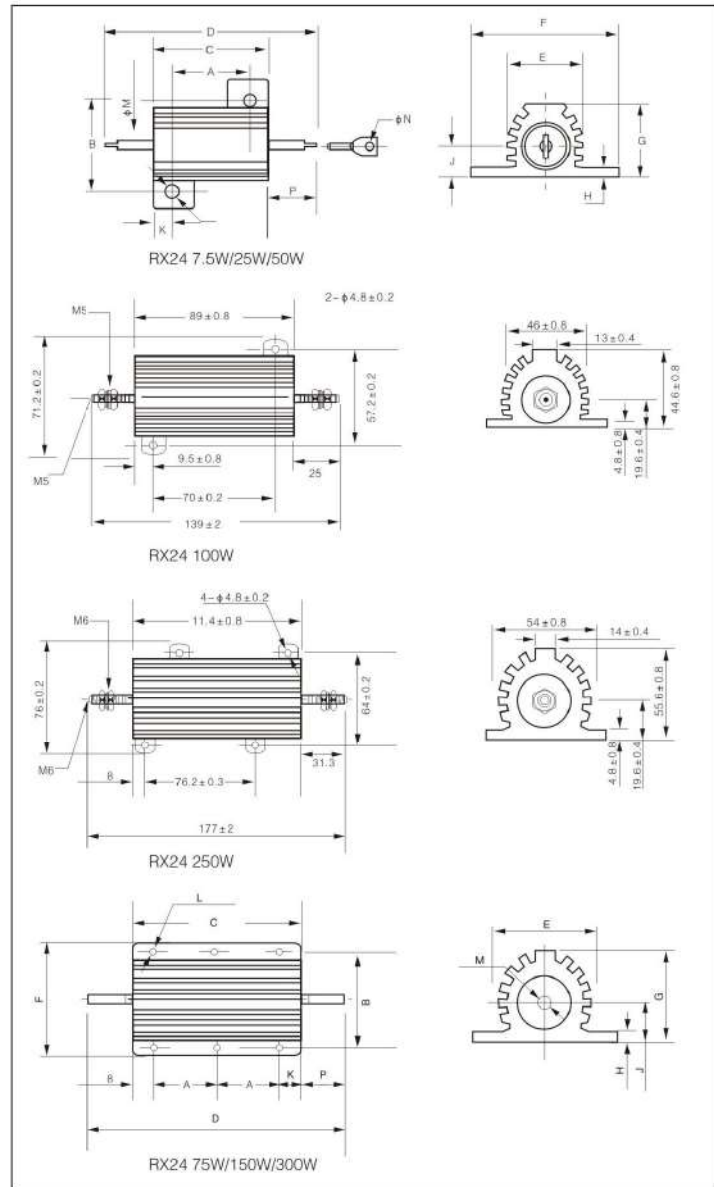


# RX24 aluminium encased power wire-wound resistors



## Construction(mm)



## Features

- High power and rugged, shock-proof
- Good heat-sink
- Low TCR, and good linearity

## Applications

- Used in large-size machinery
- Load test, power supply and electricity
- Frequency inverter
- Serve motor and other harsh industry environment

## Reference Standards

Q/ATK035-2002

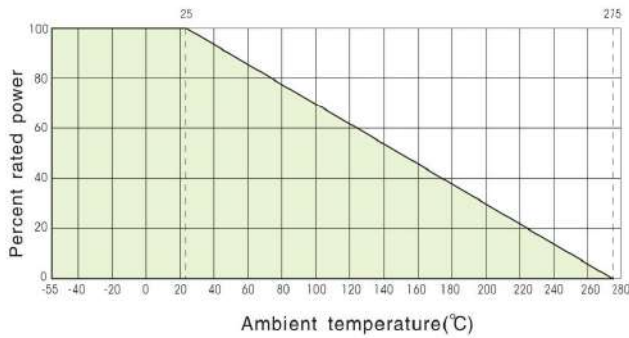
## Dimensions(mm)

Type	Dimensions(mm)													
	A±0.1	B±0.1	C±0.2	D±1.5	E±0.4	F±0.1	G±0.4	H±0.2	J±0.2	K±0.2	L±0.1	M±0.02	N±0.1	P±0.1
RX24 7.5W	11.2	12.5	15.2	28.6	8.5	16.4	8.1	1.7	3.8	2	2.4	1.5	1.3	6.7
RX24 12.5W	14.2	15.9	19	34.9	10.7	20.3	9.9	1.9	4.2	2.4	2.4	2	2.2	7.95
RX24 25W	18.2	19.8	27	49.2	14	27.4	13.9	1.9	5.9	4.4	3.2	2	2.2	11.1
RX24 50W	40	21.4	50	70.6	16	29	15.5	2.2	6.6	5	3.2	2	2.2	10.3
RX24 75W	23.5	37	65.5	93.5	27	48	26	3.5	11.5	9.2	4.4	M3/3	—	14
RX24 150W	52	37	130	158	27	48	26	3.5	11.5	13	4.4	M3/3	—	14
RX24 300W	51	58	130	170	46.5	73	45	5	21	14	5.5	M6	—	20

# RX24 aluminium encased power wire-wound resistors



## Derating Curve of Heatsink

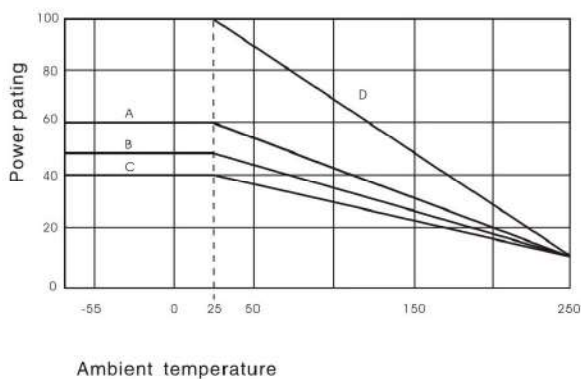


## Rated Power

(RX resistor power ratings are to be mounted with the following heat sink):

- RX24 7.5W/12.5W: 102 × 152 × 51 × 1mm(832cm<sup>2</sup>)
- RX24 25W: 127 × 178 × 51 × 1mm(1077cm<sup>2</sup>)
- RX24 50W: 305 × 305 × 1.5mm(1877cm<sup>2</sup>)
- RX100W/250W: 305 × 305 × 3.2mm(1896cm<sup>2</sup>)
- RX24 75W: 305 × 305 × 1.5mm(1877 cm<sup>2</sup>)
- RX24 150W: 305 × 305 × 3.2mm(1896 cm<sup>2</sup>)
- RX24 300W: 3750cm<sup>2</sup> × 3.2mm

## Derating Curve



## Ambient Temperature vs Derating Curve

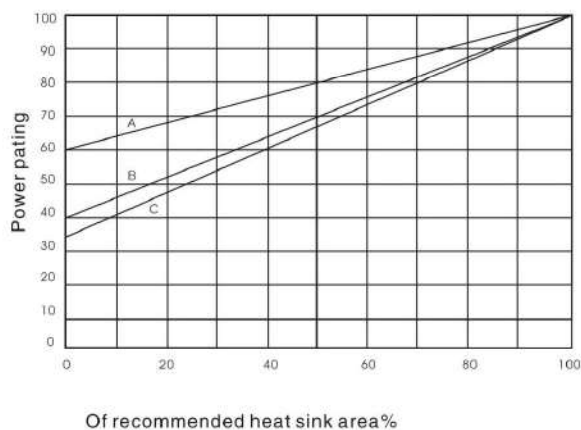
(Derating is required for ambient temperatures above 25, see the following graph.)

(Curves A,B,C apply to operation of unmounted resistors;)

(Curves D applies to all types mounted with specified heat sink.)

- A: RX24 7.5W/12.5W unmounted
- B: RX24 75W resistor without mounting
- C: RX24 150W; 300W resistor without mounting
- D: mounted with recommended aluminum heat sink.

## Derating Curve of Heatsink



## Reduced Heat Sink Derating Curve

Derating is also required when recommended heat sink area is reduced.

- A: RX24 7.5W/12.5W
- B: RX24 25W
- C: RX24 50W/100W/250W

# RX24 aluminium encased power wire-wound resistors



## Technical Specifications

Type	MIL-PR F-18546TYPE	P25°C Rated power(W)		Resistance Range			( AC )	(10 <sup>-6</sup> /K)	
		(Civil)	(Military)	± 0.25%	± 0.5%	± 1%, ± 5%, ± 10%			
RX24 7.5W	- RE60G	7.5(5)	5	R50~1K2	R10~1K2	R10~3K32	1000V	± 20	
RX24 7.5WN	- RE60N	7.5(5)	5	1R0~200R	1R0~860R	1R~1K65			
RX24 12.5W	- RE65G	12.5(10)	10	R50~2K7	R10~2K7	R10~5K62			
RX24 12.5WN	- RE65N	12.5(10)	10	1R0~1K2	1R0~1K2	1R0~2KB			
RX24 25W	- RE70N	25	20	R10~3K9	R10~3K9	10R~12K1			
RX24 25WN	- RE70N	25	20	1R0~2K7	1R0~2K7	1R0~6K04			
RX24 50W	- RE75G	50	30	R10~5K6	R10~5K6	10R~39K2	2000V		± 50
RX24 50WN	- RE75N	50	30	1R0~3K9	1R0~3K9	1R0~19K6			
RX24 75W	- RE77G	100	50	R05~30K	R5~12K	R5~29K4	4500V		± 100
RX24 75WN	- RE77N	100	50	R05~20K	1R0~5K6	1R0~14K7			
RX24 120W	- RE80G	120	60	R10~27K	R10~27K	R10~35K7			
RX24 120WN	- RE80N	120	60	1R0~8K2	1R0~8K2	1R0~17K4			
RX24 150W		150	75	R05~30K					
RX24 150WN		150	75	R05~20K					
RX24 300W		300	150	R05~35K					
RX24 300WN		300	150	R05~18K					

NOTE: Figures in parentheses on RX24 7.5W/12.5W is wattage, same as that value on parts, wattage printed on parts, new construction allows these resistors to be rated at higher wattage but will only be printed with the higher wattage on customer request. Please contact us for the production of non-standard resistors with the higher tolerance or 0.1%.

## Material Specifications

Material Specifications

Element: Copper-nickel alloy or nickel-chromium alloy depending on resistance value

Core: Ceramic, steatite, depending on physical size

Encapsulant: Silico molded materials

Housing: aluminium with hard anodic coating

Standard Terminals: Tinned Copperwires on RX24 7.5W CMEL

RX24 50W Threaded stainless steel terminals on

RX24 100W/250W

Part Marking: VTM, Model, Wattage, Value, Tolerance, Date Code

## Special Modifications

Some modifications one available on customer request the details as follow:

Terminal configurations and materials

Resistance values and tolerances

Low TCR

Housing configuration

Thread of mounting hole

Pre-processing and other additional testing

# RX24 aluminium encased power wire-wound resistors



## ■ MIL

### APPLICABLE MIL SPECIFICATIONS

MIL-PRF-18546 is the military specification covering aluminum housed, chassis mount, power resistors.

## ■ Non-inductive resistance

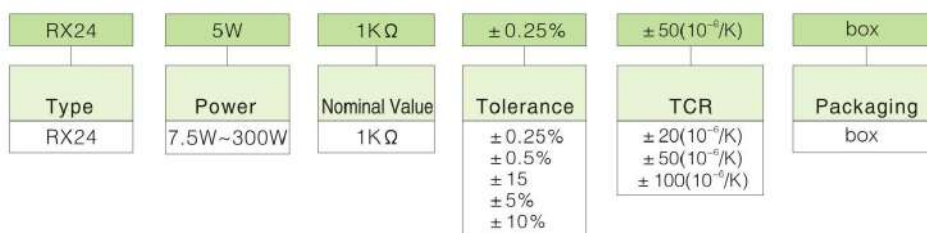
Same physical and electrical characteristics as the normal one are available for non-inductive resistor, also, they are defined by adding another letter N after the model number (RE605N, for example)

## ■ Performance

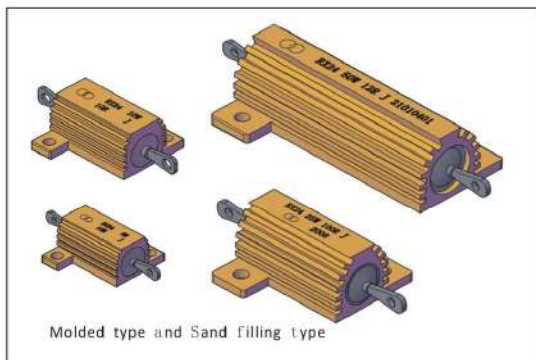
Test Item	Specifications	Test Methods
Thermal shock	$\Delta R \leq \pm (0.5\%R + 0.05\Omega)$	$P_R / -55^\circ\text{C}$ , 15min
Short time overload	$\Delta R \leq \pm (0.5\%R + 0.05\Omega)$	$5P_R$ , 5S
Dielectric withstanding voltage	$\Delta R \leq \pm (0.2\%R + 0.05\Omega)$	RX24 7.5W-RX24 25W 1000V <sub>AC</sub> RX24 50W-2000V <sub>AC</sub> RX24 100W-RX24 250W 4500V <sub>AC</sub>
Moisture proof	$\Delta R \leq \pm (1.0\%R + 0.05\Omega)$	40°C, RH93 ± 3%, 240h
Shock proof	$\Delta R \leq \pm (0.2\%R + 0.05\Omega)$	100g, 6ms, 10cycles
Vibration with high frequency	$\Delta R \leq \pm (0.2\%R + 0.05\Omega)$	10~200HZ, 20g, 6h
Load life	$\Delta R \leq \pm (1.0\%R + 0.05\Omega)$	25°C, $P_R$ , 1000h

## ■ How To Order

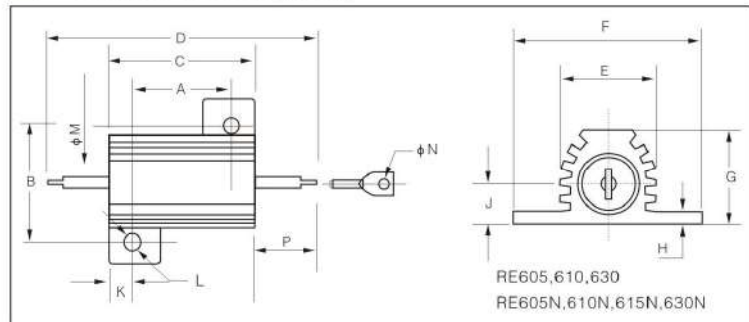
### Example



# RX24 aluminium encased power wire-wound resistors

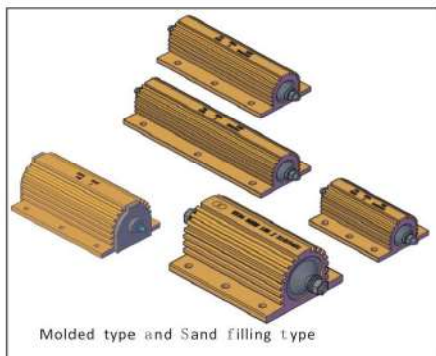


## Construction(mm)

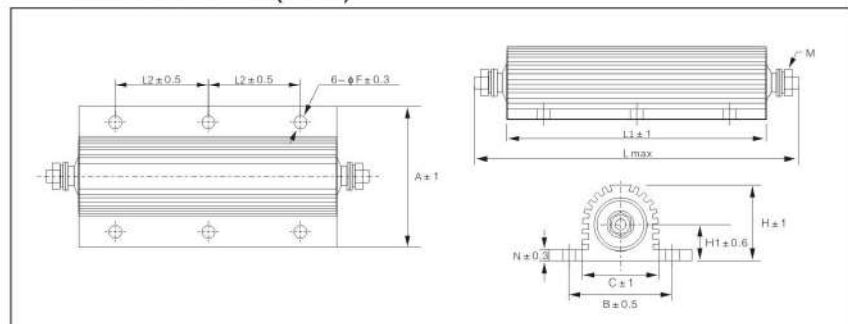


## Dimensions(mm)

Type	Dimensions(mm)													
	A±0.1	B±0.1	C±0.2	D±1.5	E±0.4	F±0.1	G±0.4	H±0.2	J±0.2	K±0.2	L±0.1	M±0.02	N±0.1	P±0.8
RX24-5W	11.2	12.5	15.2	28.6	8.5	16.4	8.1	1.7	3.8	2	2.4	1.5	1.3	6.7
RX24-10W	14.2	15.9	19	34.9	10.7	20.3	9.9	1.9	4.2	2.4	2.4	2	2.2	8.0
RX24-25W	18.2	19.8	27	49.2	14	27.4	13.1	1.9	5.9	4.4	3.5	2	2.2	11.1
RX24-50W	40	21.4	50	70.6	16	29	15.5	2.2	6.6	5	3.2	2	2.2	10.3



## Construction(mm)



## Dimensions(mm)

Type	Dimensions(mm)										
	L	L1	L2	A	B	C	H	H1	F	N	M
RX24-75W	90	65.4	23.5	48	37	27	26	13.3	4.5	3.4	4
RX24-100W	124	98	35	48	37	27	26	13.3	4.5	3.4	4
RX24-150W	155	130	52	48	37	27	26	13.3	4.5	3.4	4
RX24-200W	133	92	35	73	58	46	45	21	5.4	5	6
RX24-250W	154	112	45	73	58	46	45	21	5.4	5	6
RX24-300W	174	130	51	73	58	46	45	21	5.4	5	6

## Technical Specifications

Type	带散热板 25°C功率	无散热板 25°C功率	阻值范围	最大工作电压 DC/AC有效值	绝缘电压(V)	散热板面积 cm <sup>2</sup>	散热板厚度 cm
RX24-5	5W	3W	R1-3K	142	1000	832	1
RX24-10	10W	6W	R1-4K7	245	1000	832	1
RX24-25	25W	12.5W	R1-10K0	500	1000	1077	1
RX24-50	50W	20W	R1-12K	1000	2000	1877	1.5
RX24-75	75W	45W	R2-15K	1400	2000	995	3
RX24-100	100W	50W	R5-18K	1900	2000	995	3
RX24-150	150W	55W	R5-20K	2500	2000	995	3
RX24-200	200W	60W	R5-25K	1900	4000	3750	3
RX24-250	250W	65W	R5-28K	2200	4500	3750	3
RX24-300	300W	75W	R5-30K	2500	5000	5780	3

# RX24 aluminium encased power wire-wound resistors



## ■ Features

- Molded construction, strong
- Resistance to vibration, shock and humidity
- Good heat dissipation
- Small volume and high power
- Beautiful appearance, easy to install

## ■ Reference Standards

Q/WCD29-2019

## ■ Applications

- Loadtest,powersupply
- Inverter,servodrive
- Instrumentation,automaticcontrol
- Railtransit,newenergyelectricvehicles

## ■ Performance

Characteristics	Specifications	Test Methods
Short-term overload	$\Delta R \leq \pm (2\%R + 0.05\Omega)$	5 times rated power, 5s
Withstanding Voltage	No breakdown flying arc	1000Vac~5000Vac 60s leakage current:1mA
Insulation resistance	$\geq 1G\Omega$	Test Voltage:500Vdc $\pm$ 50Vdc 60s
Temperature coefficient	$\leq \pm 250\text{ppm}/^\circ\text{C}$	GB/T 5729-2003 Article 4.8
Vibration	$\Delta R \leq \pm (1\%R + 0.05\Omega)$	10Hz-500Hz 0.75mm or acceleration 98m/s <sup>2</sup> (whichever is less) 6h
Shock	$\Delta R \leq \pm (1\%R + 0.05\Omega)$	Acceleration 490m/s <sup>2</sup> half sine wave 11ms total 18 times
Rapid temperature change	$\Delta R \leq \pm (1\%R + 0.05\Omega)$	-55 $^\circ\text{C}$ 30min 155 $^\circ\text{C}$ 30min
Steady state damp heat	$\Delta R \leq \pm (5\%R + 0.10\Omega)$	40 $^\circ\text{C}$ $\pm$ 2 $^\circ\text{C}$ Humidity 90%-95% 21 days
Room temperature durability	$\Delta R \leq \pm (5\%R + 0.10\Omega)$	Rated power 1000h 1.5h on, 0.5h off
Surface temperature rise	$\leq 175\text{K}$	GB/T 5729-2003 Article 4.14 rated power to achieve thermal equilibrium

## ■ Derating Curve

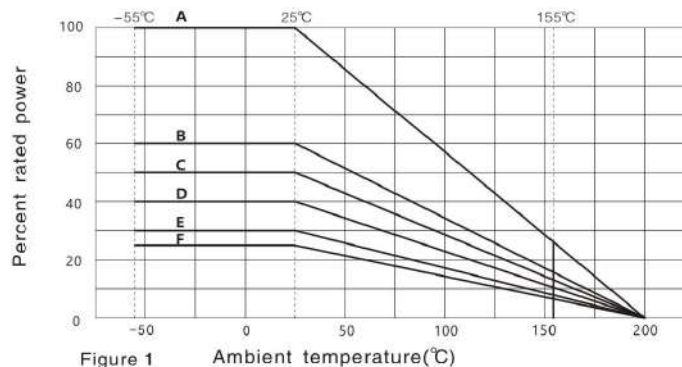


Figure 1 Ambient temperature( $^\circ\text{C}$ )

Curve A in Figure 1 shows the power reduction curve for the Rx24 with the standard heat sink installed. Curves B, C, D, E, and F in Figure 1 apply to the power reduction curves without the standard heat sinks.

- B: RX24-5W、RX24-10W不安装
- C: RX24-25W不安装
- D: RX24-75W、RX24-100W、RX24-150W不安装
- E: RX24-50W、RX24-200W不安装
- F: RX24-250W、RX24-300W不安装