

Power Ribbon-Wire Adjustable Resistors

**Low-Cost and High-Precision
Power Adjustment Resistors for High Energy Dissipation**

► **Preview**

Adjustable Ribbon-Wound Power Resistors have been a main product line at Token Electronics for years. Ribwound adjustable resistors are particularly useful where high energy is to be dissipated in the lower ohmic ranges and high power capacity. Precision winding design, provide uniform windings to be applied extremely close to each other resulting in significantly higher resistance values.

In significant savings in space and cost, Adjustable DQS Series is ideal replacements for many standard round-wire resistors.



Features :

- Resistance Tolerance: K($\pm 10\%$), J($\pm 5\%$), H($\pm 3\%$).
- Power-rib wirewound resistor with adjustable lug supplied.
- Suitable for high energy to be dissipated in the lower ohmic ranges.
- Design as heavy-duty resistors to withstand frequent start-stop cycles.
- Hollow core to permit secure fastening with spring-type clips or thru bolts with washers.
- Durability Flame resistant coating and all-welded construction.
- Terminals suitable for bolt connection or soldering.

Power Rating :

- Based on 25°C free air rating. The stated wattage rating applies only when the entire resistance is in the circuit.
- Setting the lug at an intermediate point reduces the wattage rating by approximately the same proportion.
- Example: If the lug is set at half resistance, the wattage is reduced by approximately one-half.
- Wattage is proportional to this adjusted resistance value.
- Adjustability is 10% to 90% of full resistance value.

Options :

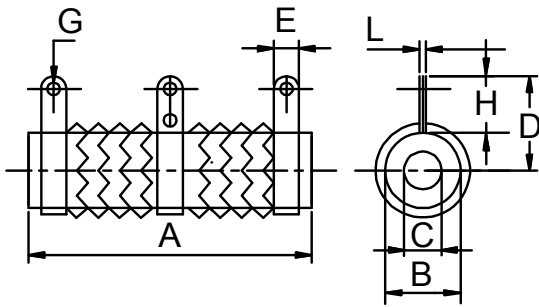
- Adjustable, fixed, or tapped styles are available.
- Special terminals available for non-standard applications.
- Single and double quick connect terminals can be specified.
- Standard lug terminals available with or without terminal hardware.
- Non-inductive Ayrton Perry windings can be specified.
- Special temperature coefficients, tolerances

To Calculate Max. Amperes :

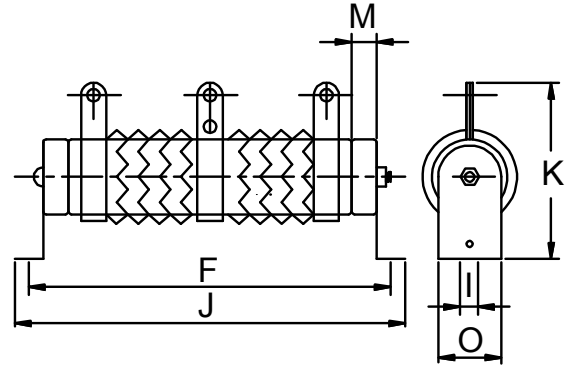
- Voltage = (Watts x Ohms)^{1/2}

The Power Adjustable DQS Resistor is RoHS compliant and lead free. For unusual technical requirements and custom special applications, please contact us.

▶ (DQS) 75W ~ 2000W Dimensions



Ribbon-Wire Adjustable Resistors (DQS)
N - No mount Dimensions



Ribbon-Wire Adjustable Resistors (DQS)
G - Horizontal mount Dimensions

Wattage Rating	Dimensions (mm)														Max. Resistance Range
	A	B	C	D	E	F	G	H	I	J	K	L	M	O	
75W	110	25	16	30	8	150	5	18	6	166	58	1.2	6	27	0.1~8Ω
90W	90	28	18	32	8	130	5	19	6	146	60	1.2	6	27	0.1~9Ω
120W	110	28	18	32	8	150	5	19	6	166	60	1.2	6	27	0.1~12Ω
150W	140	28	18	32	8	180	5	19	6	196	60	1.2	6	27	0.1~15Ω
180W	160	28	18	32	8	200	5	19	6	216	60	1.2	6	27	0.1~18Ω
225W	195	28	18	32	8	235	5	19	6	251	60	1.2	6	27	0.1~23Ω
240W	185	35	24	36	10	225	5	19	8	245	76	1.6	6	34	0.1~24Ω
300W	210	35	24	36	10	250	5	19	8	274	76	1.6	6	34	0.3~30Ω
375W	210	40	25	38	12	250	5	20	8	274	78	1.6	6	34	0.3~38Ω
450W	260	40	25	38	12	300	5	20	8	320	78	1.6	6	34	0.3~45Ω
600W	330	40	25	38	12	370	5	20	8	395	78	1.6	6	34	0.3~60Ω
750W	330	50	35	50	12	380	6	25	9	400	100	1.6	8	40	0.3~75Ω
900W	400	50	35	50	12	450	6	25	9	470	100	1.6	8	40	0.3~90Ω
1000W	460	50	35	50	12	510	6	25	9	530	100	1.6	8	40	0.5~100Ω
1200W	460	60	40	55	15	515	6	30	10	535	110	1.6	10	50	0.5~120Ω
1500W	540	60	40	55	15	595	6	30	10	615	110	1.6	10	50	0.5~150Ω
2000W	650	65	42	62	15	702	6	30	10	722	115	1.6	10	50	0.5~200Ω

► Characteristics

Test Item	Test Methods	Characteristics
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	±400PPM/°C MAX
Load rating	JIS-C-5202 5-4	ΔR/R ≤ ±(0.5%+0.1Ω) Surface temperature up 350°C MAX
Short-term overload	JIS-C-5202 5-5 500% rated wattage 5 seconds	Free of appearance or structural irregularity ΔR/R ≤ ±(2%+0.1Ω)
Insulation resistance	JIS-C-5202 5-6 500VDC	100MΩ min
Dielectric withstanding voltage	JIS-C-5202 5-7 1000VDC 1 minute Between terminal and anchor stand	Free of appearance or structural irregularity ΔR/R ≤ ±(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; 1.5m/m 10 ~ 50 ~ 10 Hz/min X-Y-Z 2 hours each	Free of appearance or structural irregularity Surface coating crack ΔR/R ≤ ±(1%+0.05Ω)
Thermal shock	JIS-C-5202 7-3 Room temp 30 minutes ON-55°C 15 minutes OFF	Free of structural irregularity ΔR/R ≤ ±(1%+0.05Ω)
Humidity	JIS-C-5202 7-5 40°C 90%RH 240 hours	Free of appearance or structural irregularity Surface coating crack ΔR/R ≤ ±(3%+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 ≤ ±(5%+0.1Ω)
Flame retardation	JIS-C-5202 7-13-3-2 100% - 600% rated wattage load	US UL-94 flame retardation test V-0 grade noncombustible
REMARKS:	1. Resistance and resistance tolerance were tested in-house with micro resistance meter. 2. Coating refers to UL-certified data provided by supplier	

► Application Notes

Determination of End Resistance Value of FVR, DQS, DSRA, DSRB, BSR, BSQ:

- Resistance Range means you can choose one maximum resistance value (End resistance value) at one of FVR, DQS, DSRA, DSRB, BSR, BSQ VR (Variable Resistor) type.
- After End Resistance Value confirmed, the minimum resistance (start resistance value) will be determined by depending on resistance of wire and wirewound type.

Power Rating of Variable Resistor:

The part Number formation of FVR, DQS, DSRA, DSRB, BSR, BSQ:

Product type - Rated Wattage - Resistance Value (Ω) - Resistance Tolerance

Product type means one of FVR, DQS, DSRA, DSRB, BSR, BSQ.
 Rated Wattage means power rating at End Resistance Value.
 Resistance Value (Ω) means maximum resistance value (End Resistance Value).
 Resistance Tolerance means precision range of End Resistance Value.

1. Power Rating of VR (Variable Resistor) is determined by the maximum resistance value (End Resistance Value).
2. Resistance and Power Rating should be decreased while you are adjusting the screw.

Notes:

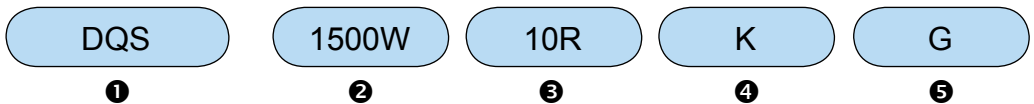
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- Example: If the lug is set at half resistance, the wattage is reduced by approximately one-half.

If you need current constant type or special specifications, please feel free to contact us.

▶ How to Order



❶ Part Number: DQS

❷ Rated Power (W): 75W~2000W

❸ Resistance Value (Ω):

Code	Resistance Value
0R1	0.1 Ω
1R	1 Ω
10R	10 Ω
100R	100 Ω

❺ Assembly Method

Code	Assembly Method
N	No mount.
C	Clip mount.
G	Horizontal mount.
Z	Vertical mount.

❹ Resistance Tolerance (%)

Code	Resistance Tolerance
H	$\pm 3\%$
J	$\pm 5\%$
K	$\pm 10\%$

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