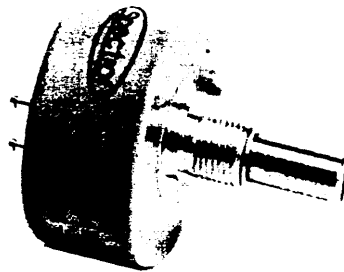


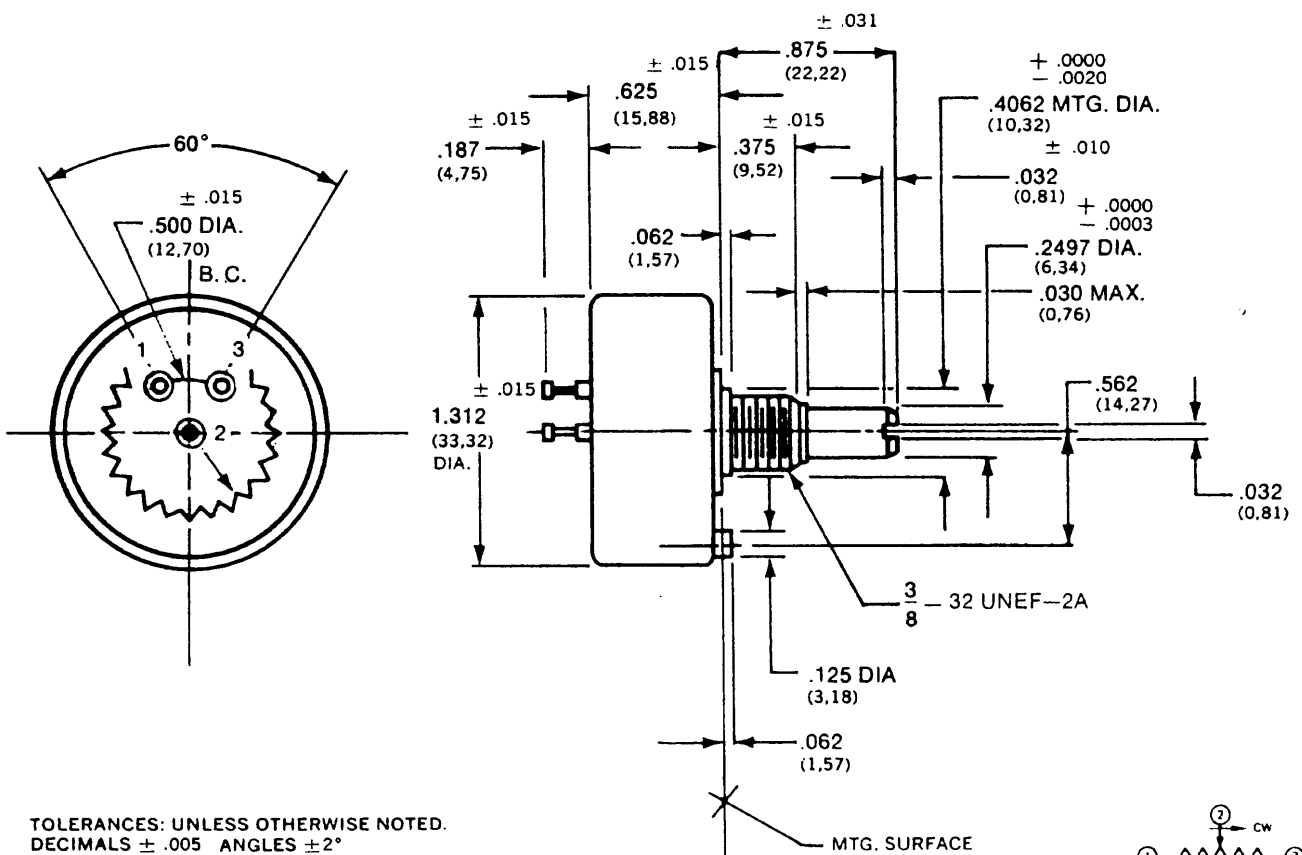
MODELS 132, 138, 139

- CHOICE OF THREE ELEMENTS FOR BROAD RESISTANCE RANGE
- CENTER TAP AVAILABLE
- CONTINUOUS ROTATION & MECHANICAL STOPS BOTH STANDARD
- HIGH POWER RATING (139)

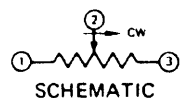
ACTUAL SIZE



Models 132, 138, 139
Bushing Mount



TOLERANCES: UNLESS OTHERWISE NOTED.
DECIMALS $\pm .005$ ANGLES $\pm 2^\circ$
BASIC DIMENSIONS ARE IN INCHES
MILLIMETER DIMENSIONS IN PARENTHESIS



SPECIFICATIONS

(MIL-R-12934 and MIL-R-39023 Test Procedures Apply)

(Unless otherwise noted, specifications are applicable to all models)

ELECTRICAL

TOTAL RESISTANCE	Model 132 Wirewound Standard Range: 5Ω to 20KΩ Special to 35KΩ Tolerance: Standard ±3% Special ±1% 50Ω and above: ±3% ±1% Below 50Ω: ±5% ±3%	Model 138 Conductive Plastic Standard Range: 1KΩ to 50KΩ Tolerance Standard: ±10% Special to ±5%	Model 139 Cermet Standard Range: 500Ω to 2 megohms Tolerance: Standard ±10% Special to ±5%
LINEARITY (INDEPENDENT)	(132) Total Resistance Standard ±1.0% Best Practical ±0.75% 5Ω to 20Ω ±1.0% ±0.50% 20Ω to 200Ω ±1.0% ±0.25% 200Ω and above ±0.5% ±0.25% (138 & 139) ±0.5% ±0.25%		
NOISE	(132) 100 ohms ENR		
OUTPUT SMOOTHNESS	(138 & 139) 0.1% maximum		
POWER RATING @ 40°C AMBIENT	Model 132 2.75 watts All Models derated to zero at 125°C	Model 138 2 watts	Model 139 5 watts
ELECTRICAL ROTATION (CONTINUOUS)	Model 132 352° ±2°	Model 138 345° ±4°	Model 139 345° ±4°
(STOPS)	336° ±2°	336° ±4°	336° ±4°
INSULATION RESISTANCE	1000 megohms min., at 500 VDC		
DIELECTRIC STRENGTH	1000 V RMS, 60 Hz, terminals to shaft		
ABSOLUTE MINIMUM RESISTANCE	1.0% of total resistance or 0.5Ω whichever is greater (132 only)		
MINIMUM VOLTAGE	0.5% maximum		
TEMPERATURE COEFFICIENT OF RESISTANCE	(132) refer to standard resistance element data (138) ±500 PPM/°C maximum (139) ±100 PPM/°C maximum		

MECHANICAL

ROTATION	360° continuous; 340° ±5° Stops
BEARING TYPE	Sleeve
TORQUE (MAXIMUMS)	OZ-IN (gm-cm) Starting: 1.0 (72 gm-cm) Running: 0.7 (50.40 gm-cm)
RUNOUTS (MAXIMUMS)	Shaft T.I.R. .002 (0,05) Pilot dia. T.I.R. .003 (0,08) Lateral T.I.R. .005 (0,13) Shaft end play .008 (0,20) Shaft radial play .003 (0,08)
WEIGHT	1.0 oz. maximum (28,35 gm)
STOP STRENGTH	8.0 in-lbs. (9,21 kgm-cm) (Stop Version Only)

MATERIALS

HOUSING	Molded glass filled thermoplastic
REAR LID	Glass filled thermoset plastic
SHAFT	Stainless steel, non magnetic, passivated
TERMINALS	Brass, gold plated
MOUNTING HARDWARE	Lockwasher: internal tooth; steel, nickel plated Panel nut, brass, nickel plated

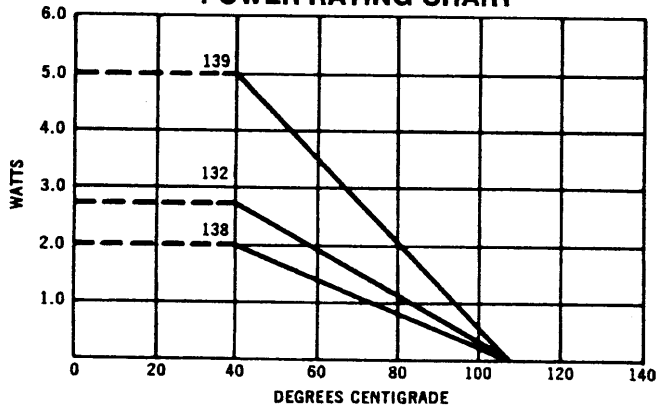
ENVIRONMENTAL

VIBRATION	15 G's thru 2000 Hz
SHOCK	50G
SALT SPRAY	48 hours
ROTATIONAL LIFE	Shaft Revolutions: Model 132 500,000 Model 138 2 million Model 139 2 million
OPERATING TEMPERATURE	-55°C to +125°C
HUMIDITY	120 Hours

MARKING

Units shall be marked with Spectrol name, model number, resistance and tolerance, linearity, terminal identification, and date code.
Applicable test procedures: Model 132, MIL-R-12934; Model 138 & 139, MIL-R-39023.

POWER RATING CHART



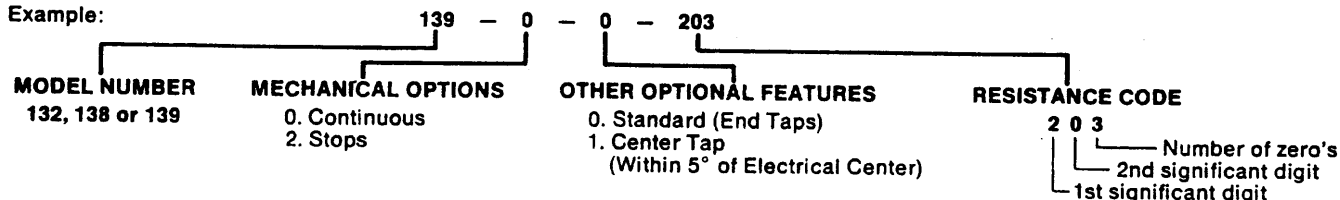
RESISTANCE ELEMENT DATA FOR 132-0-X-XXX MODELS ONLY

RESISTANCE VALUES (ohms)	RESOLUTION (%)	OHMS PER TURN	MAX CURRENT AT 40°C AMBIENT (milliamps)	MAX VOLTAGE ACROSS COIL (volts)	WIRE TEMP COEF (PPM/°C)
5	.419	.021	742	3.71	800
10	.327	.032	524	5.24	800
20	.280	.056	371	7.42	800
50	.290	.145	234	11.7	20
100	.251	.251	166	16.6	20
200	.212	.424	122	24.4	20
500	.161	.806	74.2	37.1	20
1K	.150	1.50	52.4	52.4	20
2K	.132	2.64	37.1	74.2	20
5K	.107	5.34	23.4	117	20
10K	.080	7.98	16.6	166	20
20K	.067	13.4	12.2	244	20
35K	.057	20.0	8.88	311	20

HOW TO ORDER THE MODELS 132, 138, 139

The Models 132, 138 and 139 can be ordered from this specification sheet by stating:

Example:



Other characteristics will be standard as described on this specification sheet. If special characteristics are required such as: special linearity tolerance, special resistance tolerance, non-linear functions, etc., please state these on your order.

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