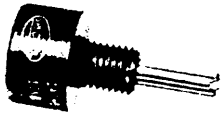


MODELS 140, 142

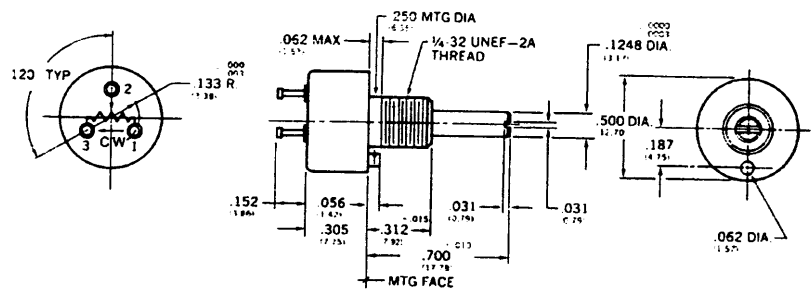
ACTUAL SIZE



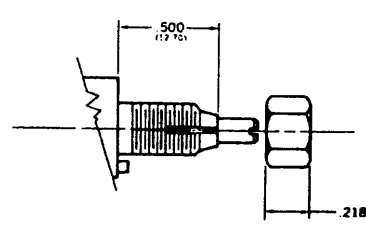
**Model 140
 Bushing Mount**



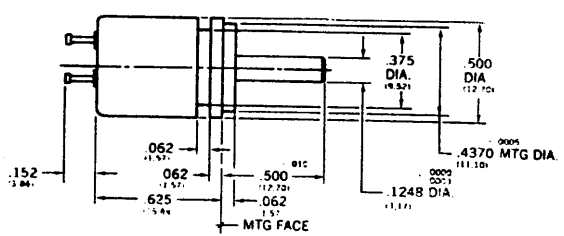
**Model 142
 Servo Mount**



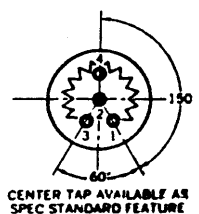
BUSHING MOUNT



INTEGRAL SHAFT LOCK



SERVO MOUNT



**CENTER TAP AVAILABLE AS
 SPEC STANDARD FEATURE**

TOLERANCES: UNLESS OTHERWISE NOTED.
 DECIMALS ± .005 ANGLES ± 2°
 BASIC DIMENSIONS ARE IN INCHES
 MILLIMETER DIMENSIONS IN PARENTHESES

SPECIFICATIONS (MIL-R-12934 Test Procedures Apply)

ELECTRICAL

TOTAL RESISTANCE Standard Range 50Ω to 50KΩ, Special to 70KΩ
 ±5% tolerance.

ABSOLUTE MINIMUM RESISTANCE Linearity x Total Resistance or 0.5Ω, whichever is greater.

LINEARITY (INDEPENDENT) ±1.0%.

NOISE 100 ohms ENR

POWER RATING 2 watts at 40°C ambient derated linearly to zero at 125°C.

INSULATION RESISTANCE 1,000 megohms min., 500 volts DC.

DIELECTRIC STRENGTH 1,000 volts RMS, 60 Hz.

ROTATION 320° ± 5° (140) 350° ± 0° - 4° (142)

END VOLTAGE Linearity x total applied voltage for total resistances above 20Ω; 2.0% of total applied voltage for 20Ω and below.

MECHANICAL

	140	142
ROTATION	330° ± 5°	360° continuous
BEARING TYPE	Sleeve Bearing	Ball Bearing
TORQUE (MAXIMUMS)	Starting 0.2 (14,40)	0.075 (5,40)
oz-in (gm-cm)	Running 0.2 (14,40)	0.05 (3,60)
	Traversing Not applicable	0.20 oz. in (14,40)
	Dead Zone 0.1 oz. max. (2,84 gm)	0.3 oz (8,50 gm) max.
WEIGHT		
STOP STRENGTH	5 in.-lbs. (5.76 kgm-cm) static (140 only)	

MECHANICAL (Con't.)

RUNOUTS (MAXIMUM)		140	142
	Shaft	.002 (0,05) TIR	.002 (0,05) TIR
	Pilot Dia.	.002 (0,05) TIR	.002 (0,05) TIR
	Lateral	.003 (0,08) TIR	.002 (0,05) TIR
	Shaft end play	.006 (0,15)	.004 (0,10)
	Shaft radial play	.003 (0,08)	.002 (0,05)

ENVIRONMENTAL

VIBRATION 20G through 2,000 Hz

SHOCK 50G

SALT SPRAY 96 hours

ROTATIONAL LIFE 500,000 shaft revolutions

LOAD LIFE 900 hours

TEMPERATURE RANGE -55°C to +125°C (operating)

MATERIALS

SHAFT Stainless steel, non magnetic, passivated.

HOUSING Aluminum, anodized

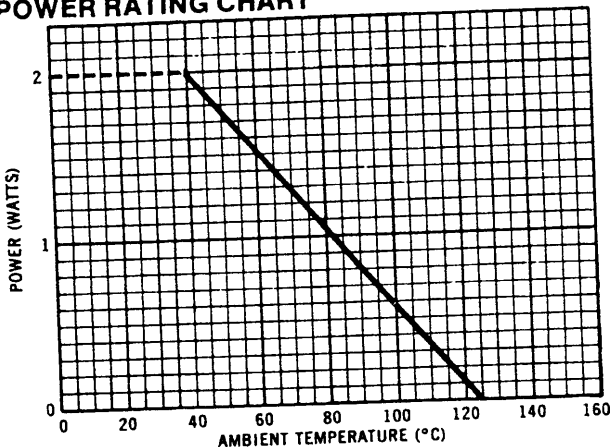
REAR LID Molded glass filled thermoset plastic.

TERMINALS Brass, gold plated.

MOUNTING HARDWARE (MODEL 140 ONLY) Lockwasher: internal tooth, steel, nickel plated.
 Panel nut: brass, nickel plated.

MARKING Units shall be marked with manufacturer's name, model number, resistance value & tolerance, circuit diagram, terminal identification, linearity & date code.

POWER RATING CHART

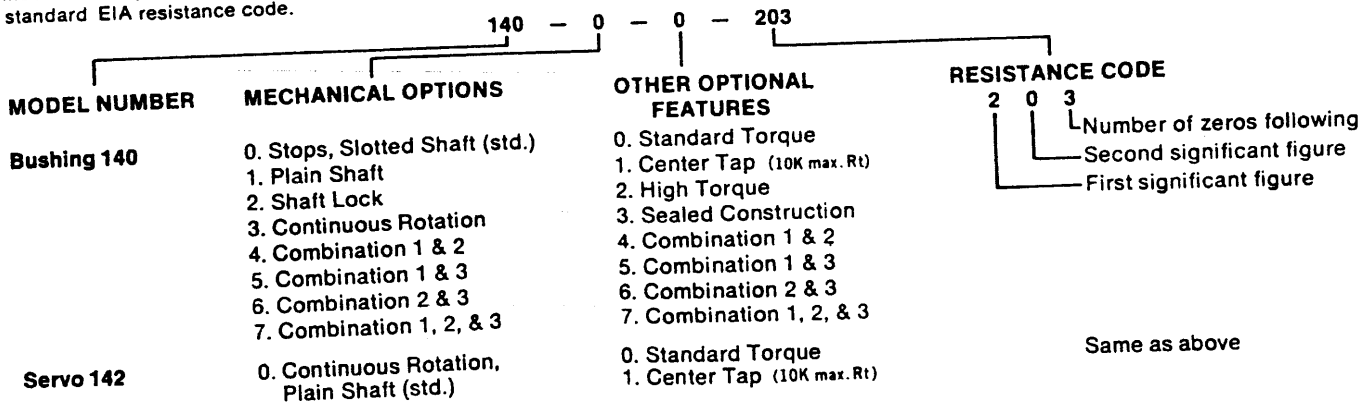


STANDARD RESISTANCE ELEMENT DATA

STD RESISTANCE VALUES (OHMS)	RESOLUTION %	OHMS PER TURN	MAX CURRENT AT 40°C AMBIENT (MILLIAMPS)	MAX VOLTAGE ACROSS COIL (VOLTS)	WIRE TEMP COEF PPM/°C
50	.542	.271	200.	10.0	20
100	.431	.431	141.	14.1	20
200	.361	.722	100.	20.0	20
500	.312	1.56	63.2	31.6	20
1K	.255	2.55	44.7	44.7	20
2K	.197	3.94	31.6	63.2	20
5K	.170	8.50	20.0	100.	20
10K	.147	14.7	14.1	141.	20
20K	.105	21.0	10.0	200.	20
50K	.091	45.6	6.32	316.	20

HOW TO ORDER THE MODEL 140 & 142

This part number consists of four groups of digits. The first group is the SPECTROL Model number. The second digit describes the mechanical options available. The third digit describes the other optional features which can be supplied. The fourth group is the standard EIA resistance code.



Example:
 Part number 140-0-0-203 describes bushing mount model 140 with stops, slotted shaft, standard torque and resistance of 20K Ω.

SPECTROL ELECTRONICS GROUP



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