



## ROTARY MOTION | PRECISION SENSOR

MODELS 3201 / 3204 / 3207 / 3501 / 3504 / 3507 / 3704 / 3701



### Features

- Servo Mount / Ball Bearing
- 7/8" to 2" Diameter Servo Mount
- Wirewound 3, 5 and 10-Turn Precision Potentiometers

### SPECIFICATIONS

#### Electrical

	3204	3504	3704	3207	3507	3201	3501	3701
<b>Actual Electrical Travel</b>	1080° +4°-0°	1080° +1°-0°	1080° +1°-0°	1800° +4°-0°	1800° +1°-0°	3600° +4°-0°	3600° +1°-0°	3600° +1°-0°
<b>Normal Resistance Range</b>	50 Ω to 30K	50Ω to 50K	50Ω to 100K	50Ω to 50K	50Ω to 100K	100Ω to 100K	100Ω to 200K	100Ω to 300K
<b>Extended Resistance Range <sup>(1)</sup></b>	5Ω to 75K	5Ω to 150K	5Ω to 250K	5Ω to 125K	5Ω to 250K	10Ω to 250K	10Ω to 500K	10Ω to 830K
<b>Resistance Tolerance: Standard %</b>	±3							
<b>Best Practical %</b>	±1							
<b>Power Rating At 70°C, Derating to 0 At 125°C (Watts)</b>	1.5	3.0	5.0	2.0	4.0	2.5	5.0	7.0
<b>Linearity, Independent, Tolerance, Standard%</b>	±0.5	±0.25	±0.2	±0.35	±0.2	±0.15	±0.15	±0.1
<b>Best Practical%</b>	±0.1	±0.05	±0.04	±0.07	±0.04	±0.05	±0.03	±0.02
<b>Equivalent Noise Resistance (ENR) Max. (Ohms)</b>	100							
<b>End Voltage Max. (% Of Total Applied Voltage)</b>	Within linearity tolerance							
<b>Insulation Resistance At 500 VDC, Min. (Megohms)</b>	1000							
<b>Dialectric Withstanding Voltage (Volts RMS)</b>	1000							
<b>Max. Applied Voltage(Volts DC)<sup>(2)</sup></b>	1000							
<b>Temperature Coefficient Of Potentiometer, Max. % / C°</b>	±0.07							
<b>Tap Spacing Minimum</b>	30°	16°	13°	30°	16°	30°	16°	13°

## Mechanical

	3204	3504	3704	3207	3507	3201	3501	3701
<b>Total Mechanical Travel</b>	1080° +4°-0°					3600° +4°-0°		
<b>Mechanical Life Shaft Revolutions</b>	2 million							
<b>Ganged Cups, Max. (Number)</b>	3					2		
<b>Taps, Max., Excluding End Terminations</b>	10	35	52	22	55	46	110	135
<b>Moment Of Inertia, Per Cup (gm-cm<sup>2</sup>)</b>	0.25	6.5	7	0.3	9	0.4	11	12
<b>Weight: Single Cup (oz.)</b>	0.9	3.0	3.3	1.0	3.3	1.3	4.0	4.5
<b>Each Additional Cup (oz.)</b>	0.7	1.9	1.6	0.8	2.1	1.0	2.5	2.7
<b>Torque, Max. Per Cup (oz. in)</b>	0.5	1.0	1.2	0.5	1.0	0.5	1.0	1.2
<b>Pilot Diameter Runout, Max.</b>	.0015	.001		.0015	.001	.0015	.001	
<b>Lateral Runout, Max.</b>	.002	.0015		.002	.0015	.002	.0015	
<b>Shaft Runout, Max.</b>	.001							
<b>Shaft Radial, Max.</b>	.002	.001		.002	.001	.002	.001	
<b>Shaft End, Max.</b>	.005		.004	.005				.004
<b>Dimension For Each Additional Cup</b>	.823±.002	.963±.002	.943±.005	.966±.002	1.185±.002	1.323±.002	1.740±.002	1.720±.005
<b>Stop Strength Static (oz.-in)</b>	128	750	1000	128	750	128	750	1000

## Environmental

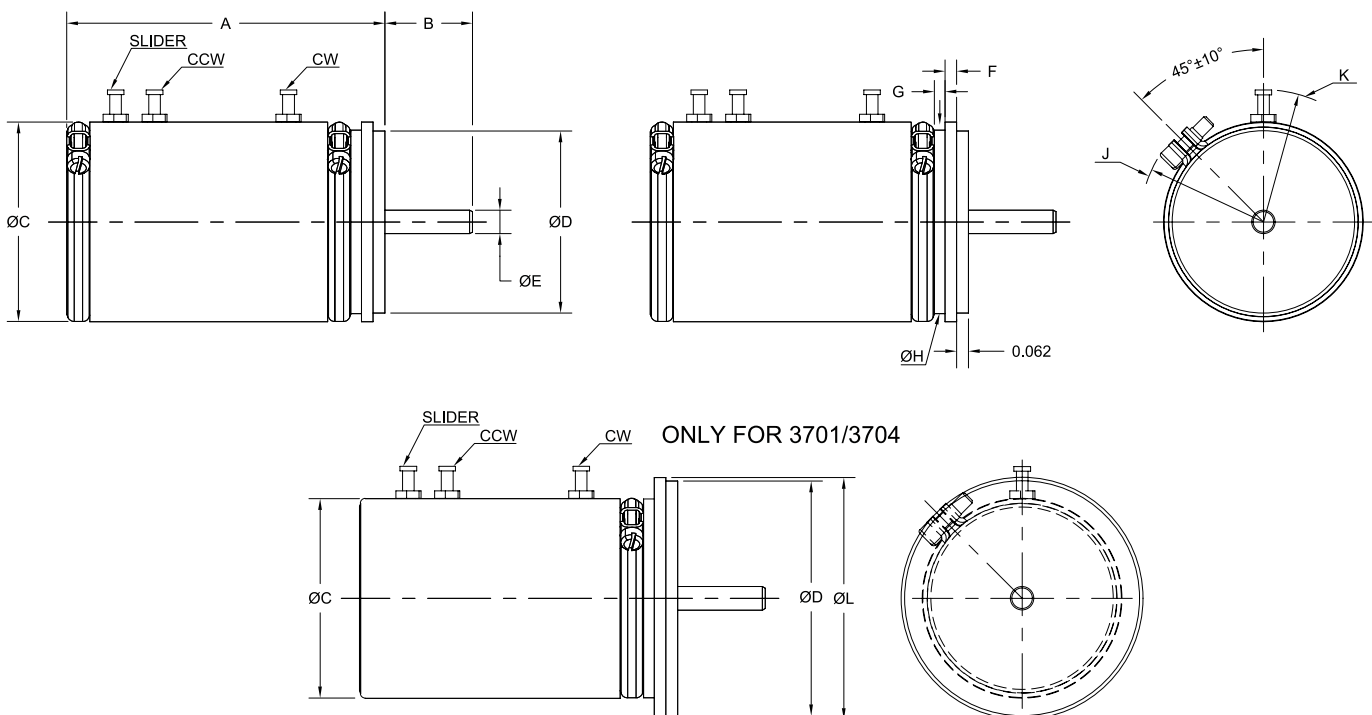
<b>Temperature Range (°C) Standard</b>	-55 to +125
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THEORETICAL RESOLUTION- For typical coil characteristics by model number and resistance value, see Resolution Tables.  
 ALL MODELS are manufactured to meet or exceed applicable characteristics of MIL-R-12934. For MILITARY-APPROVED (QPL) Listings.



## DIMENSIONS

TOLERANCES UNLESS OTHERWISE SPECIFIED:  
 FRACTIONAL: ±1/64" DECIMAL: ±.005" ANGULAR: ±1°  
 Dimensions are in in[mm]

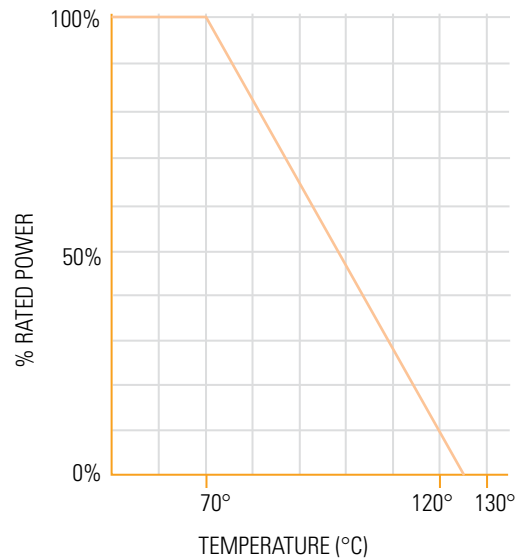


DIM / SERVO MODEL	3201	3204	3207	3501	3504	3507	3701	3704
<b>A</b>	1.570 ± 0.006	1.070 ± 0.006	1.213 ± 0.006	2.165 ± 0.007	1.388 ± 0.007	1.610 ± 0.007	2.008 ± 0.007	1.231 ± 0.007
<b>B</b>	3/8 ± 1/32			11/16 ± 1/32			5/8 ± 1/32	
<b>C</b>	0.875			1.437			1.750	
<b>D</b>	0.625 +0/-0.001			1.3125 +0/-0.0005			1.875	
<b>E</b>	0.1248 +0/-0.0003			0.2497 +0/-0.0003				
<b>F</b>	0.062			0.093				
<b>G</b>	0.062			0.073				
<b>H</b>	0.781			1.285			N/A	
<b>J (Radius MAX)</b>	9/16			59/64			1-5/64	
<b>K (Radius MAX)</b>	5/8			29/32			1-1/16	
<b>L</b>				N/A			2.000	

## Notes:

(1) All specifications listed apply to units with a total resistance within the normal resistance range. Higher or lower resistances may require some degradation of listed specifications because of resistance wire composition or size

(2) Not to exceed specified power rating.



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