



ROTARY MOTION | PRECISION SENSOR

MODELS 1221 / 1321 / 1521 / 1621 / 1721 / 1821



Features

- Servo Mount / Ball Bearing
- 7/8" TO 3" Diameter Servo Mount
- Conductive Plastic Single-turn Precision Potentiometers



SPECIFICATIONS

Electrical

	1221	1321	1521	1621	1721	1821
Theoretical Electrical Travel	320°		340°		350°	
Normal Resistance Range	400Ω to 25K	500Ω to 35K	700Ω to 45K	900Ω to 60K	1.2K to 75K	2K to 125K
Extended Resistance Range ⁽¹⁾	400Ω to 75K	500Ω to 100K	500Ω to 125K	500Ω to 150K	600Ω to 200K	750Ω to 300K
Resistance Tolerance: Standard %	±10					
Best Practical %	±5					
Power Rating At 70°C, Derating to 0 At 125°C (Watts)	0.5	0.75	1.0	1.5	2.0	3.0
Linearity, Independent, Tolerance, Standard%	±0.5	±0.4	±0.3	±0.25	±0.2	±0.15
Best Practical%	±0.2	±0.15	±0.10	±0.075	±0.06	±0.04
Output Smoothness Max. (% Of Total Applied Voltage)	0.1					
End Voltage Max. (%Of Applied Voltage)	0.5					
Insulation Resistance At 500 VDC, Min. (Megohms)	1000					
Dialectric Withstanding Voltage (Volts RMS)	1000					
Max. Applied Voltage(Volts DC)⁽²⁾	400					
Temperature Coefficient Of Potentiometer, Max. % / C°	±.007					

Mechanical

	1221	1321	1521	1621	1721	1821
Total Mechanical Travel	360° Continuous					
Mechanical Life, Shaft Revolutions	50 million					
Ganged Cups, Max. (Number)	6			8		
Taps, Max., Excluding End Terminations	9		19	24	26	41
Moment Of Inertia, Per Cup (gm-cm²)	0.2		4.0	4.5	5.0	8.5
Weight: Single Cup (oz.)	0.6	0.8	2.2	2.8	3.3	6.5
Each Additional Cup (oz.)	0.2	0.5	0.7	0.9	1.0	1.4
Torque, Max. Per Cup (oz. in)	0.1	0.15	0.6	0.7	0.8	1.0
Pilot Diameter Runout, Max.	.0015					
Lateral Runout, Max.	.0015		.002		.003	
Shaft Runout, Max.	.001					
Shaft Radial, Max.	.002					
Shaft End, Max.	.0015					
Dimension For Each Additional Cup	.500±.002		.537±.002	.562±.002		

Environmental

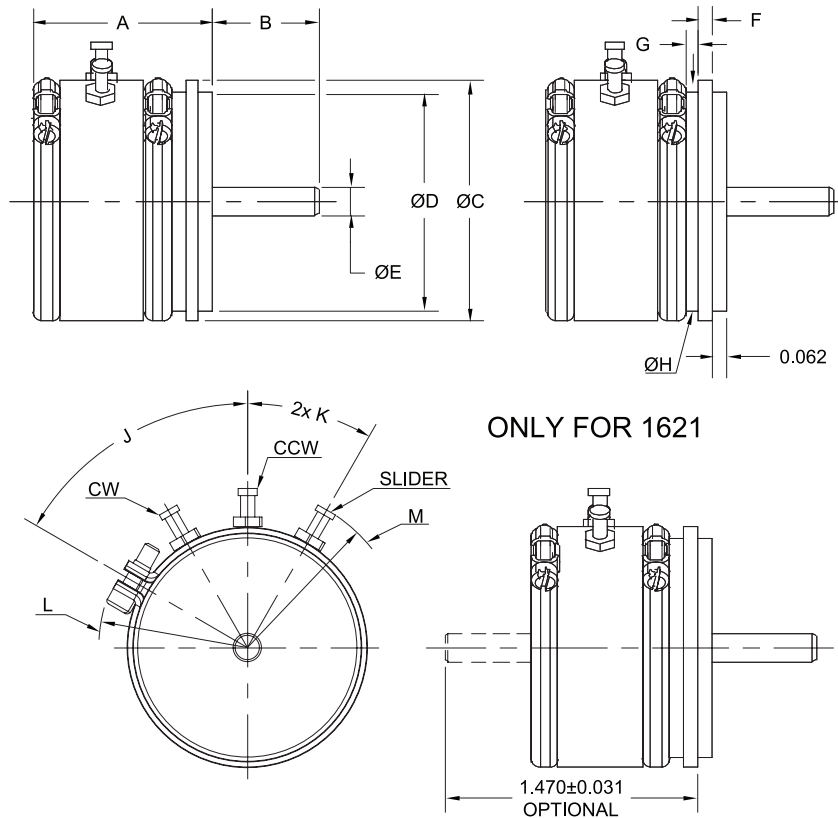
Temperature Range (°C) Standard	-55 to + 125
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THEORETICAL RESOLUTION- For typical coll characteristics by model number and resistance value, see Resolution Tables.
 ALL MODELS are manufactured to meet or exceed applicable characteristics of MIL-R-12934. 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	1221	1321	1521	1621	1721	1821
A	0.747 ± 0.006		0.747 ± 0.006	0.970 ± 0.008		
B	1/2 ± 1/32		5/8 ± 1/32			
C	0.875	1.062	1.437	1.750	2.000	3.000
D	0.750 +0/-0.005	0.9688 +0/-0.005	1.3125 +0/-0.005	1.562 +0/-0.001	1.875 +0/-0.001	2.875 +0/-0.001
E	0.1248 +0/-0.003		0.2497 +0/-0.003			
F	0.062		0.093			
G	0.062		0.073			
H	0.781	0.965	1.285	1.600	1.850	2.850
J	60°±10°		55°±10°	45°±10°		
K	30°		20°	16°	15°	9°
L (Radius MAX)	9/16	43/64	59/64	1.078	1-13/64	1-45/64
M (Radius MAX)	5/8	23/32	29/32	1.0625	1-3/16	1-11/16

Notes:

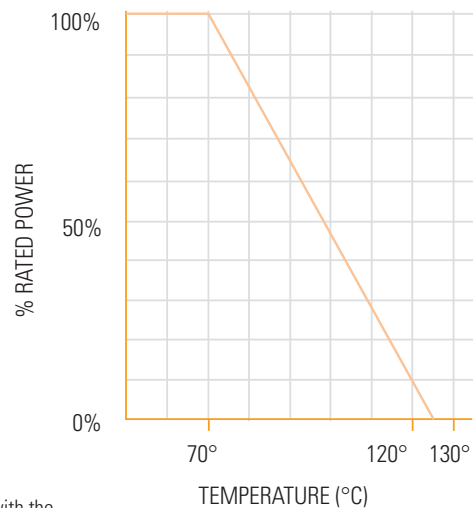
(1) All specifications listed apply to units with a total resistance within the normal resistance range. Higher or lower resistances may require some degradation of listed specifications because of resistance wire composition or size

(2) Not to exceed specified power rating.



Specifications subject to change without notice.

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Mailing Address: Sensata Technologies, Inc., 529 Pleasant Street, Attleboro, MA 02703, USA.

CONTACT US

Americas

+1 (800) 350 2727
sensors@sensata.com

Europe, Middle East & Africa

+33 (3) 88 20 8080
position-info.eu@sensata.com

Asia Pacific

sales.isasia@list.sensata.com
China +86 (21) 2306 1500
Japan +81 (45) 277 7117
Korea +82 (31) 601 2004
India +91 (80) 67920890
Rest of Asia +886 (2) 27602006
ext 2808