



## ROTARY MOTION | PRECISION SENSOR

MODELS 1201 / 1301 / 1501 / 1601 / 1701 / 1801



### Features

- Servo Model / Ball Bearing
- 7/8" to 3" Diameter Servo Mount
- Wirewound Single-Turn Precision Potentiometers

## SPECIFICATIONS

### Electrical

	1201	1301	1501	1601	1701	1801
<b>Actual Electrical Travel</b>	354°±2°			354°±1°	356°±1°	358°±1°
<b>Normal Resistance Range</b>	100Ω to 25K	100Ω to 30K	100Ω to 50K	100Ω to 60K	100Ω to 75K	100Ω to 100K
<b>Extended Resistance Range <sup>(1)</sup></b>	15Ω to 75K	25Ω to 100K	25Ω to 125K	25Ω to 150K	25Ω to 200K	25Ω to 250K
<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>	1.25	2.0	3.0	4.0	5.0	7.0
<b>Linearity, Independent, Tolerance, Standard %</b>	±0.5	±0.4	±0.3	±0.25	±0.2	±0.15
<b>Best Practical %</b>	±0.2	±0.15	±0.12	±0.09	±0.08	±0.05
<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>Dielectric Withstanding Voltage (Volts RMS)</b>	1000					
<b>Max. Applied Voltage(Volts DC)<sup>(2)</sup></b>	400					
<b>Temperature Coefficient Of Potentiometer, Max. % / °C</b>	±.007					

## Mechanical

	1201	1301	1501	1601	1701	1801
<b>Total Mechanical Travel</b>	360° Continuous					
<b>Mechanical Life, Shaft Revolutions</b>	2 million					
<b>Ganged Cups, Max. (Number)</b>	6		8			
<b>Taps, Max., Excluding End Terminations</b>	9		19	24	26	41
<b>Moment Of Inertia, Per Cup (gm-cm<sup>2</sup>)</b>	0.2		4.0	4.5	5.0	8.5
<b>Weight: Single Cup (oz.)</b>	0.6	0.8	2.2	2.8	3.3	6.5
<b>Each Additional Cup (oz.)</b>	0.2	0.5	0.7	0.9	1.0	1.4
<b>Torque, Max. Per Cup (oz.-in)</b>	0.1	0.15	0.6	0.7	0.8	1.0
<b>Pilot Diameter Runout, Max.</b>	.0015					
<b>Lateral Runout, Max.</b>	.0015		.002		.003	
<b>Shaft Runout, Max.</b>	.001					
<b>Shaft Radial Play, Max</b>	.002					
<b>Shaft End Play, Max</b>	.004					
<b>Dimension For Each Additional Cup</b>	.500±.002		.537±.002	.562±.002		

## Environmental

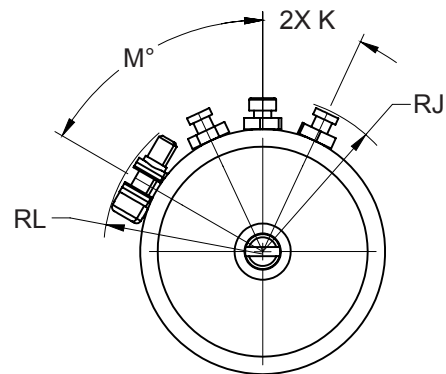
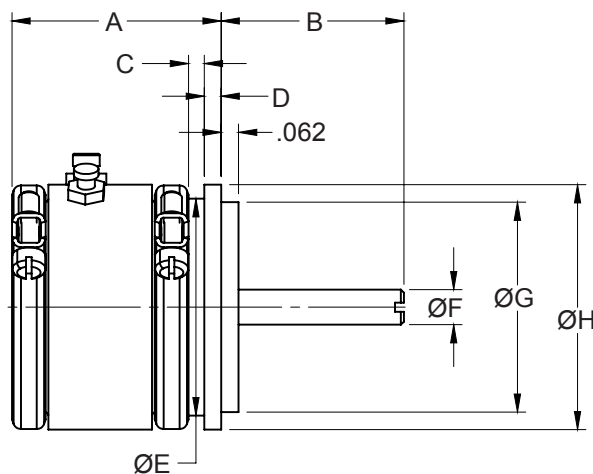
<b>Temperature Range (°C) Standard</b>	-55 to +125
--	-------------

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

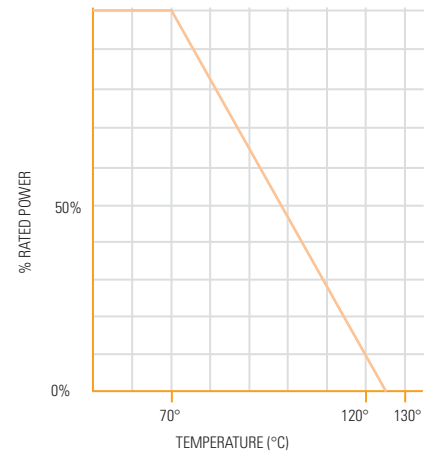


DIM / SERVO MODEL	1201	1301	1501	1601	1701	1801
<b>A</b>	.747 ±.006		.962 ±.008	.970 ±.008		
<b>B</b>	1/2 ±1/32			5/8 ±1/32		
<b>C</b>	.062			.073 MIN.		
<b>D</b>	.062			.093		
<b>E</b>	Ø.781 MAX.	Ø.965 MAX.	Ø1.285	Ø1.600	Ø1.850	Ø2.850
<b>F</b>	Ø.1247 +0/- .0003			Ø.2497 +0/- .0003		
<b>G</b>	Ø.7500 +0/- .0005	Ø.9688 +0/- .0005	Ø1.3125 +0/- .0005	Ø1.562 +0/- .001	Ø1.875 +0/- .001	Ø2.875 +0/- .001
<b>H</b>	Ø.875	Ø1.062	Ø1.437 +0/- .005	Ø1.750	Ø2.000	Ø3.000
<b>J</b>	R5/8 MAX	R23/32 MAX	R29/32 MAX	R1-1/16 MAX	R1-3/16 MAX	R1-11/16 MAX
<b>K</b>	30°		20°	16°	15°	9°
<b>L</b>	R9/16 MAX	R43/64 MAX	R59/64 MAX	R1-5/64 MAX	R1-13/64 MAX	R1-45/64 MAX
<b>RM</b>	60° ±10°		55° ±10°	45° ±10°		

## 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.



Page 3

Sensata Technologies, Inc. ("Sensata") data sheets are solely intended to assist designers ("Buyers") who are developing systems that incorporate Sensata products (also referred to herein as "components"). Buyer understands and agrees that Buyer remains responsible for using its independent analysis, evaluation and judgment in designing Buyer's systems and products. Sensata data sheets have been created using standard laboratory conditions and engineering practices. Sensata has not conducted any testing other than that specifically described in the published documentation for a particular data sheet. Sensata may make corrections, enhancements, improvements and other changes to its data sheets or components without notice.

Buyers are authorized to use Sensata data sheets with the Sensata component(s) identified in each particular data sheet. HOWEVER, NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE TO ANY OTHER SENSATA INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY THIRD PARTY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT, IS GRANTED HEREIN. SENSATA DATA SHEETS ARE PROVIDED "AS IS". SENSATA MAKES NO WARRANTIES OR REPRESENTATIONS WITH REGARD TO THE DATA SHEETS OR USE OF THE DATA SHEETS, EXPRESS, IMPLIED OR STATUTORY, INCLUDING ACCURACY OR COMPLETENESS. SENSATA DISCLAIMS ANY WARRANTY OF TITLE AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, QUIET ENJOYMENT, QUIET POSSESSION, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS WITH REGARD TO SENSATA DATA SHEETS OR USE THEREOF.

All products are sold subject to Sensata's terms and conditions of sale supplied at [www.sensata.com](http://www.sensata.com) SENSATA ASSUMES NO LIABILITY FOR APPLICATIONS ASSISTANCE OR THE DESIGN OF BUYERS' PRODUCTS. BUYER ACKNOWLEDGES AND AGREES THAT IT IS SOLELY RESPONSIBLE FOR COMPLIANCE WITH ALL LEGAL, REGULATORY AND SAFETY-RELATED REQUIREMENTS CONCERNING ITS PRODUCTS, AND ANY USE OF SENSATA COMPONENTS IN ITS APPLICATIONS, NOTWITHSTANDING ANY APPLICATIONS-RELATED INFORMATION OR SUPPORT THAT MAY BE PROVIDED BY SENSATA.

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