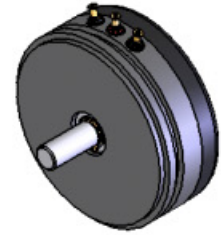




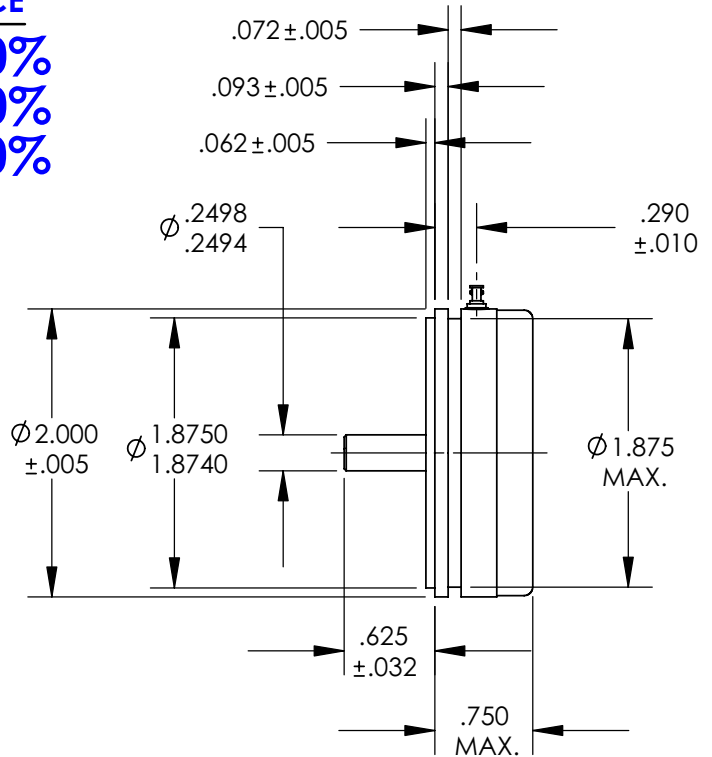
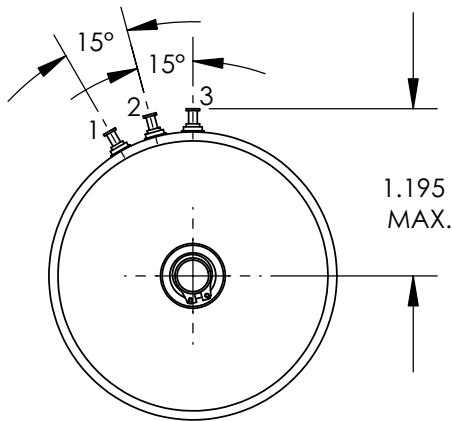
# 6020 SERIES

2 In. Dia. Servo Mount  
PRECISION POSITION  
SENSORS



## STANDARD PRODUCT OFFERING

SS&C PART NUMBER	RESISTANCE
6020-1000-030	1KΩ ±10%
6020-1002-030	5KΩ ±10%
6020-1003-030	10KΩ ±10%



### STANDARD MODEL ELECTRICAL CHARACTERISTICS

RESISTANCE:	1kΩ to 10kΩ ±10%
ACTIVE ELECTRICAL ANGLE:	350°
ELECTRICAL CONTINUITY ANGLE:	354° MIN.
INDEPENDENT LINEARITY:	±0.5%
END VOLTAGE:	0.5% MAX.
VOLTAGE RESOLUTION:	VIRTUALLY INFINITE
OUTPUT SMOOTHNESS:	0.1% MAX.
RESISTANCE TEMP. COEFFICIENT:	400PPM/°C MAX.
POWER RATING @ 70°C:	3.0 WATTS MAX.
WIPER CONTACT CURRENT:	10 MilliAmps MAX.
DIELECTRIC STRENGTH:	1000 VRMS @ 60Hz
INSULATION RESISTANCE:	100 MegΩ MIN. @ 500VDC

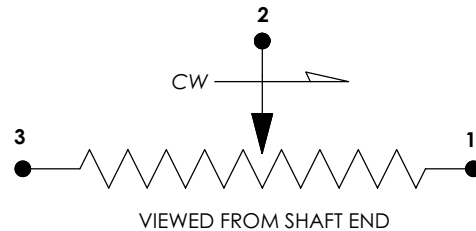
### STANDARD ENVIRONMENTAL CHARACTERISTICS

OPERATING TEMP. RANGE:	-65°C To +125°C
ROTATIONAL OPERATING LIFE:	100 x 10 <sup>6</sup> REVOLUTIONS MIN.

### STANDARD MODEL MECHANICAL CHARACTERISTICS

MECHANICAL ROTATION:	CONTINUOUS
STARTING TORQUE:	0.50 Oz.-In. MAX.
RUNNING TORQUE:	0.40 Oz.-In. MAX.
TOTAL WEIGHT (1-GANG):	3.5 Oz. MAX.
PILOT RUNOUT:	0.001 In. TIR
SHAFT RUNOUT:	0.001 In. TIR
SHAFT END PLAY:	0.003 MAX.
SHAFT RADIAL PLAY:	0.001 In. TIR
LATERAL RUNOUT:	0.002 In. TIR

### SCHEMATIC DIAGRAM



### ALL OTHER GENERAL REQUIREMENTS IN ACCORDANCE WITH MIL-PRF-39023

### STANDARD MATERIALS OF CONSTRUCTION

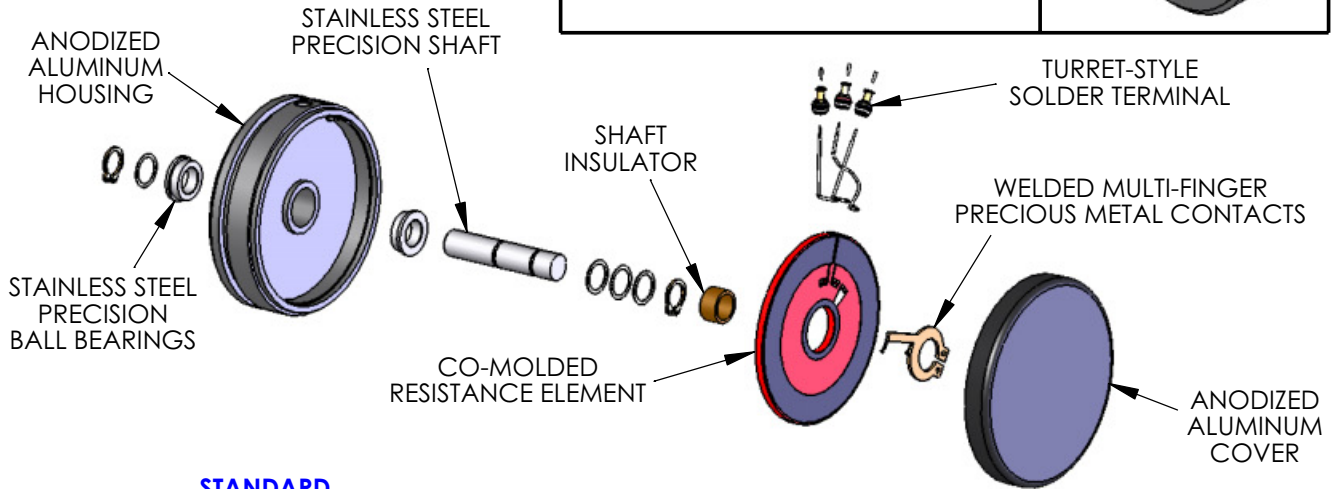
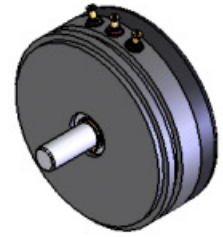
HOUSING AND COVER:	ANODIZED ALUMINUM
SHAFT AND BALL BEARINGS:	STAINLESS STEEL
RESISTANCE ELEMENT:	CO-MOLDED CONDUCTIVE PLASTIC
ELECTRICAL CONTACTS:	MULTI-FINGER PRECIOUS METAL
SOLDER TERMINALS:	GOLD PLATED BRASS

### CONTACT:

SPECTRUM SENSORS & CONTROLS, INC.  
424 CROWN POINT CIRCLE, GRASS VALLEY, CA 95945  
(800) 880-7730 (530) 273-4608 FAX: (530) 273-0769  
E-MAIL: sales@specsensors.com

# 6020 SERIES

## 2 In. Dia. Servo Mount PRECISION POSITION SENSORS



### STANDARD ELECTRICAL CHARACTERISTICS

RESISTANCES ( $\pm 10\%$ ):	1K $\Omega$ , 5K $\Omega$ , and 10k $\Omega$
ACTIVE ELECTRICAL ANGLE:	350°
ELECTRICAL CONTINUITY ANGLE:	352° MIN.
INDEPENDENT LINEARITY:	$\pm 0.5\%$
END VOLTAGE:	0.5% MAX.
VOLTAGE RESOLUTION:	VIRTUALLY INFINITE
OUTPUT SMOOTHNESS:	0.1% MAX.
RESISTANCE TEMP. COEFFICIENT:	400PPM/°C MAX.
POWER RATING @ 70°C:	3.0 WATTS MAX.
WIPER CONTACT CURRENT:	10 MilliAmps MAX.
DIELECTRIC STRENGTH:	1000 VRMS @ 60Hz
INSULATION RESISTANCE:	100 Meg $\Omega$ MIN. @ 500VDC

### STANDARD MECHANICAL CHARACTERISTICS

MECHANICAL ROTATION:	CONTINUOUS
STARTING TORQUE:	0.50 Oz.-In. MAX.
RUNNING TORQUE:	0.40 Oz.-In. MAX.
TOTAL WEIGHT (1-GANG):	2.0 Oz. MAX.
PILOT RUNOUT:	0.001 In. TIR
SHAFT RUNOUT:	0.001 In. TIR
SHAFT END PLAY:	0.003 MAX.
SHAFT RADIAL PLAY:	0.001 In. TIR
LATERAL RUNOUT:	0.002 In. TIR

### STANDARD ENVIRONMENTAL CHARACTERISTICS

OPERATING TEMP. RANGE:	-65°C To +125°C
ROTATIONAL OPERATING LIFE:	100 x 10 <sup>6</sup> REVOLUTIONS MIN.

### STANDARD MATERIALS OF CONSTRUCTION

HOUSING AND COVER:	ANODIZED ALUMINUM
SHAFT AND BALL BEARINGS:	STAINLESS STEEL
RESISTANCE ELEMENT:	CO-MOLDED CONDUCTIVE PLASTIC
ELECTRICAL CONTACTS:	MULTI-FINGER PRECIOUS METAL
SOLDER TERMINALS:	GOLD PLATED BRASS

### ALL OTHER GENERAL REQUIREMENTS IN ACCORDANCE WITH MIL-PRF-39023

### AVAILABLE OPTIONS

- CUSTOM RESISTANCE VALUES (500 $\Omega$  TO 100k $\Omega$ ) AND TOLERANCES AS LOW AS  $\pm 5\%$
- SPECIAL LINEARITIES AS LOW AS 0.05%. ABSOLUTE (INDEXED) OR INDEPENDENT OVER SPECIFIED REGIONS.
- ADDITIONAL TAPS, CURRENT OR VOLTAGE
- CURRENT LIMIT RESISTORS AND OTHER INTERNAL CIRCUIT COMPONENTS (CAPS, DIODES, ETC.)
- SPECIAL ELECTRICAL ANGLES UP TO 356° MAX.
- WIRE LEADS OR CABLE IN PLACE OF TERMINALS
- SPECIAL TRANSFER FUNCTIONS:  
NON-LINEAR OUTPUTS  
LOAD COMPENSATION  
TRIG, LOG, AND EXPONENTIAL OUTPUTS
- MULTI-GANG CONSTRUCTION (UP TO 6) ON A COMMON SHAFT OR CONCENTRIC SHAFTING (ADD .320 LENGTH PER GANG).
- SPECIAL SHAFT LENGTHS AND FEATURES SUCH AS REAR EXTENSIONS, FLATS, SLOTS, AND STEPS.
- SPECIAL TORQUE OR DETENT REQUIREMENTS
- SPECIAL MOUNTING DIMENSIONS OR FEATURES INCLUDING ANTI-ROTATION PINS, BOLT FLANGES, AND THREADED HOLES.
- ROTATIONAL STOPS LIMITING SHAFT TRAVEL.
- ANCILLIARY DEVICES SUCH AS SPRING RETURNS, CLUTCHES, BRAKES, AND SWITCHES.
- SPECIAL ENVIRONMENTAL CAPABILITIES SUCH AS MOISTURE SEALS, HIGH SHOCK AND VIBRATION.