



BEI Sensors Model 9970 Hall Effect rotary position sensor is available in two standard output configurations (0-5 V ratiometric or 4-20 mA) for ease of specification and use. Both versions use a standard Amp, Superseal three terminal connector and are available with 12 active angle ranges, 30 degrees up to 360 degrees (in 30 degree increments) in a single output device. Unlike comparable sensors the 9970 can use the full 360 degree travel range making it extremely versatile.

Packaged in a well-sealed, IP67 and IP69K package and using non-contacting Hall Effect technology ensures an exceptionally rugged and reliable sensor. The Model 9970 is ideal for such harsh environments as steering and pedal position for off highway construction and agricultural vehicles as well as mining, marine and material handling equipment. It is also suitable for valve position indication or control in processing applications.

Mechanical Specifications

Range: Continuous up to 360 degrees
Mounting: 50mm mounting centers
Shaft: 6mm shaft with flat and 2mm cross-drilled hole
Termination: Three terminal AMP Superseal Connector
Housing: Glass Filled PBT
Life: 35 M cycles

Electrical Specifications

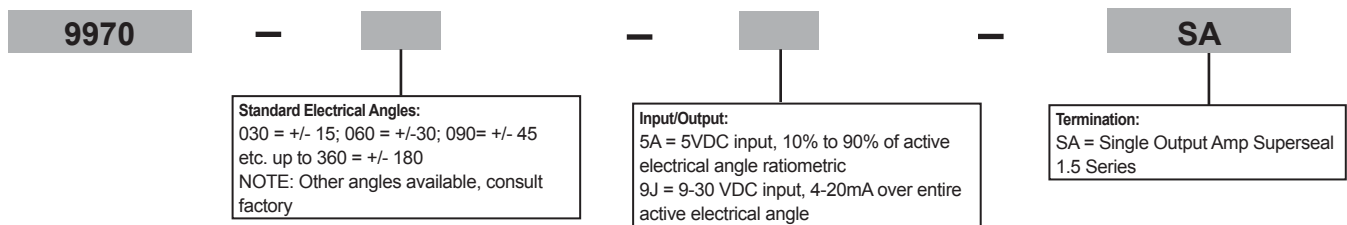
Active Electrical Angle: 30 (+/- 15) degrees through 360 (+/- 180) degrees in 30 degree increments. Other angles available, consult factory.
Input Voltage: 5VDC +/- 5% or 9-30 VDC
Overvoltage Protection: Yes
Reverse Polarity Protection: Yes
Short Circuit Protection: Yes
Output Signal:
 Voltage: Ratiometric 10% to 90%
 Current: 4 – 20 mA (uses 9-30 VDC input)
Resolution: 12 bits
Accuracy: +/-0.6% of active electrical angle
EMC: 200V/m ISO 11452-3 & EN61000-4-20
ESD: 8kV per ISO 10605

Environmental Specifications

Sealing: IP67 and IP69K per DIN 40050-9
Vibration: 10g rms 20 – 2000 Hz
Humidity: 95% RH @ 40° C
Liquid Exposure: Salt water, cola, motor oil, ethylene glycol, paint, diesel fuel
RoHS: Yes
Operating Temperature: -40°C to +125°C
Storage Temperature: -40°C to +125°C

9970 Series Ordering Options for assistance, call 800.350.2727

Use this diagram, working from left to right to construct your model number

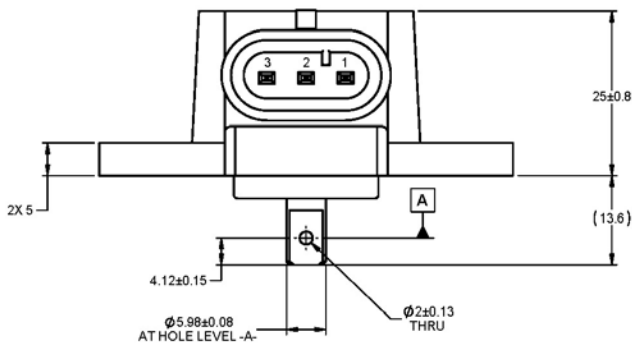
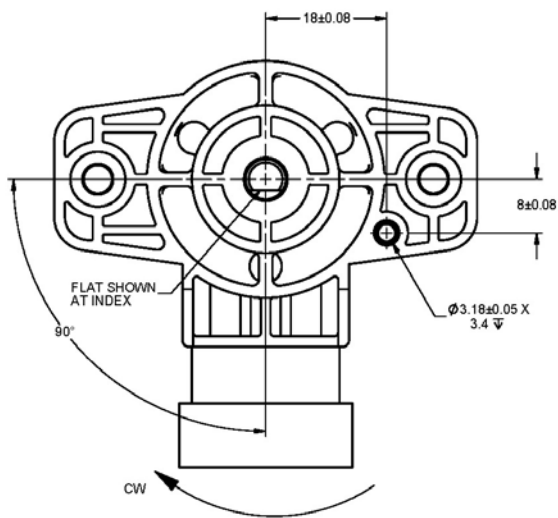
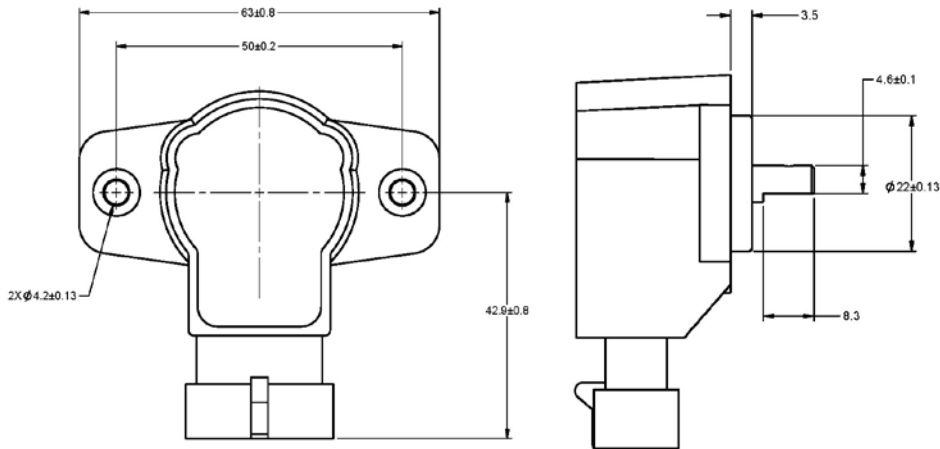


Cross Over Table

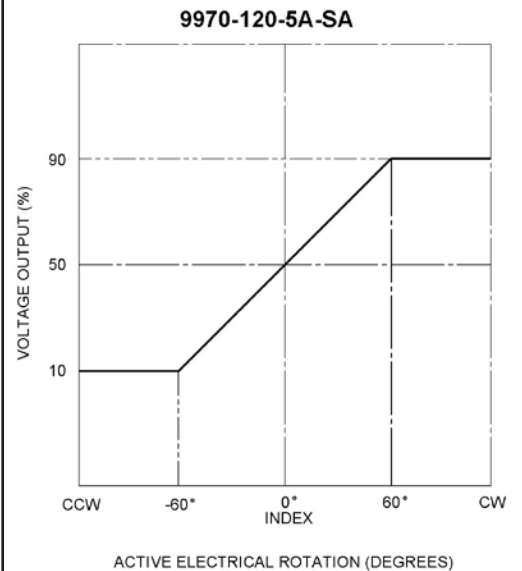
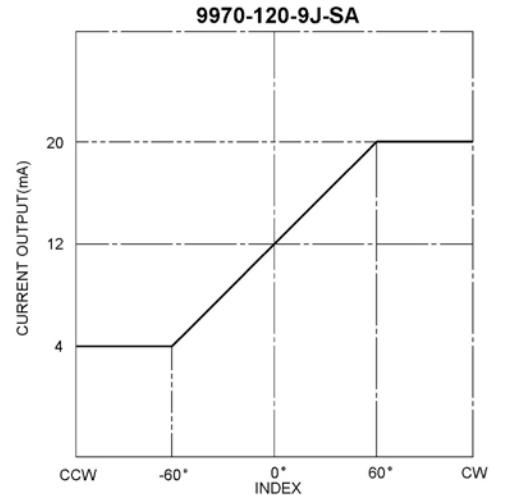
| BEI SENSORS | ELOBAU | HONEYWELL |
|----------------------|------------|----------------|
| 9970 - XXX - 5A - SA | 424A06AXXX | RPNSXXXGC1A11X |
| 9970 - XXX - 9J - SA | 424A02AXXX | RPNSXXXDD1A21X |

Dimensions

Metric



Output Examples



Connector Pin Out

| PIN | FUNCTION |
|-----|----------|
| 1 | GROUND |
| 2 | SUPPLY |
| 3 | OUTPUT |

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