### Mechanical
- **Shaft Speed**: 6000 RPM maximum
- **Shaft Direction**: Bidirectional
- **Standard Shaft Sizes (Dia.)**: 0.2497", 0.3747"
- **Shaft Extension(s)**: 0.80" with .50x.05" flat
- **Shaft Seals**: Nitrile or PTFE Options
- **Mounting**: Refer to dimensional drawings
- **Bearings**: ABEC 5 Shielded
- **Radial Loading**: 30 lbs. Operating
- **Axial Loading**: 15 lbs. Operating
- **Accuracy**: ±0.1° of Shaft Rotation Typical
- **Housing**: Black Anodized Aluminum
- **Weight**: Standard: 14 oz., Sealed: 19 oz.
- **Connector**: 6 Pin MS3102 or 18" Cable Out

### Electrical
- **Pulse Rate**: 10 kHz, up to 200 kHz
- **Outputs**: NPN w/ pullup; NPN open collector; PNP sourcing
  - Line Drivers (5Vdc/TTL level, 8 to 15 Vdc)
  - All line drivers have complementary outputs.
- **Open Collector Transistor**: 40 Vdc maximum
- **Line Drivers**: 8-15 Vdc
  - 5 Vdc TTL
  - 5.5 Vdc maximum
- **Supply Voltage**: 8 to 28 Vdc
- **Supply Current**: 30 mA typical, 50 mA maximum
- **Current Sinking**: 250 mA maximum
- **Ouput Duty Cycle**: 50/50 w/ ±20% typical tolerance
  - Tighter to ±5% by spec
- **Pulsed Outputs**: 5-10 µsec or 25-35 µsec
- **Rise/Fall Times**: 1 µsec typical, other options available

### Environmental
- **Operating Temp.**: -20° to +70°C (-4° to +158°F)
- **Shock**: 50 g’s for 11 milliseconds
- **Vibration**: 5 to 2000 Hertz at 20 g’s
- **Humidity**: 100% Relative Humidity
- **Enclosures (Sealed)**: NEMA 4 type — Water-tight
  - (Std) NEMA 12/13 equiv. — Dust-, Oil-Tight

### Electrical Connections

<table>
<thead>
<tr>
<th>Function</th>
<th>6 Pin</th>
<th>Cable Out</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>+V</td>
<td>B</td>
<td>D</td>
<td>Red</td>
</tr>
<tr>
<td>Common</td>
<td>A</td>
<td>F</td>
<td>Black</td>
</tr>
<tr>
<td>Channel A</td>
<td>D</td>
<td>A</td>
<td>Blue</td>
</tr>
<tr>
<td>Channel B</td>
<td>E</td>
<td>B</td>
<td>Brown</td>
</tr>
<tr>
<td>Channel C</td>
<td>C</td>
<td>E</td>
<td>White</td>
</tr>
<tr>
<td>Channel D</td>
<td>F</td>
<td>G</td>
<td>Green</td>
</tr>
<tr>
<td>Index</td>
<td>C or E*</td>
<td>C</td>
<td>White</td>
</tr>
<tr>
<td>Index</td>
<td>F</td>
<td>G</td>
<td>Green</td>
</tr>
</tbody>
</table>

* C is standard; for outputs “K1” or “L1” (line driver with index), index pin is E

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**Dimensional Drawings**

**Series 2000 Standard**

- Shaft Diameter: 1=1/4" (0.2497)"  
  3=3/8" (0.3747)"
- Shaft Extension: 1=Single  
  2=Double

**Series 2000 Sealed**

- Shaft Diameter: 1=1/4" (0.2497)"  
  3=3/8" (0.3747)"
- Shaft Extension: 1=Single  
  2=Double

**Ordering Information**

<table>
<thead>
<tr>
<th>Series</th>
<th>A</th>
<th>Q</th>
<th>0600</th>
<th>AQ 0120</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shaft Diameter</td>
<td>Encoder Type</td>
<td>Channel Outputs</td>
<td>Channel Types</td>
<td>Optional Index Channel or Add. Encoder</td>
</tr>
</tbody>
</table>
| 1=1/4" (0.2497)"  
  3=3/8" (0.3747)" | 0=Standard Encoder  
  S=Sealed (Elastomer)  
  T=Sealed (PTFE) | A=NPN w/3.3K Pullup  
  B=NPN O pen Collector  
  D=1.5K Pullup, N o Ser. R  
  F=5V dc TTL N PN w/Pullup  
  G=5V dc TTL N PN O C  
  H=PN P Sourcing O utput  
  K=5V dc Line D river  
  L=8 to 15 V dc Line D river | S=Single Channel  
  Q=Quadrature O utputs  
  I=Index Pulse | PPR (Pulses per Revolution) |  |
| 1=1/4" (0.2497)"  
  3=3/8" (0.3747)" | Shaft Ends & Base  
  2=Flanged Base  
  (10-32BH C on Shaft Ends) | 0025 0030 0050 0060  
  0090 0093 0100 0120  
  0125 0128 0150 0180  
  0186 0250 0256 0300  
  0360 0372 0500 0512  
  0600 | Consult factory for PPR not listed |  |