

BOURNS®

Features

- Two channel quadrature output
- Bushing or servo mount
- Square wave signal
- Index channel available
- Small size
- Resolution to 256PPR

- CMOS and TTL compatible
- Long life
- High operating speed

Rotary Optical Encoder

Electrical Characteristics

Output	2-bit gray code, Channel A leads Channel B by 90° (electrical) with clockwise rotation
Supply Voltage	5.0 VDC ±0.25 VDC*
Supply Current	26 mA maximum
Output Voltage	
Low Output	0.8V maximum
High Output	4V minimum
Output Current	
Low Output	25mA minimum
Insulation Resistance (500 VDC)	1,000 megohms
Rise/Fall Time	200ns (typical)
Shaft RPM (Ball Bearing)	3,000 rpm maximum
Power Consumption	136 mW maximum
Pulse Width (Electrical Degrees, Each Channel)	180° ±45° TYP.
Pulse Width (Index Channel)	360° ±90°
Phase (Electrical Degrees, Channel A to Channel B)	90° ±45° TYP.
Index Channel Centered on 1-1 State Combination of A and B Channels	0° ±45°

*Consult factory for other voltages up to 15 VDC.

Environmental Characteristics

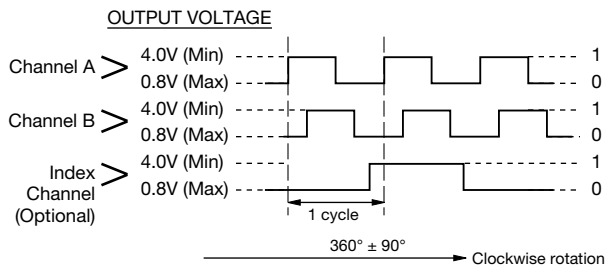
Operating Temperature Range (Standard)	-40°C to +85°C
Vibration	5G
Shock	50G
Humidity	MIL-STD-202, Method 103B, Condition B

Mechanical Characteristics

Torque (Starting and Running)	
A & C Bushings (Spring Loaded for Optimum Feel)	1.5 oz-in. maximum
W, S & T Bushings (Ball Bearing Shaft Support)	0.1 oz-in. maximum
Mechanical Rotation	Continuous
Shaft End Play	0.012" T.I.R. maximum
Shaft Radial Play	0.005" T.I.R. maximum
Rotational Life	
A & C Bushings (300 rpm maximum)**	10,000,000 revolutions
W, S & T Bushings (3,000 rpm maximum)**	200,000,000 revolutions
Weight	0.4 oz.

**For resolutions ≤ 128 quadrature cycles per shaft revolution.

OUTPUT TABLE



STANDARD RESOLUTIONS AVAILABLE

(Full quadrature output cycles per shaft revolution)

25*	125
50*	128
64	200
100	256

For Non-Standard Resolutions—
Consult Factory

* Channel B leads Channel A

