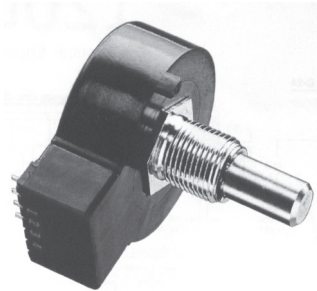


Optical Encoder



FEATURES

- Long Life: 10 Million Revolutions Minimum (Contactless)
- Cost Effective: Elimination of A/D Converters
- Stainless Steel Shafts and Nickel-Plated Bushing in Various Lengths
- Stability: - 40°C to + 65°C Operating Temperature
- Variability: Cable and Printed Circuit Terminations Available

The Model 120E is a light-duty optical encoder that can be manually. This unique device outputs two square waves at a maximum rate of 128 pulses in quadrature with other resolutions as low as 10 pulses available. Typical applications includes Motion sensing and control, Motor control, Flow control, Low-to-high input for test and measurement, Medical instrumentation, Robotics and Computer Peripherals.

ELECTRICAL SPECIFICATIONS			
PARAMETER	MINIMUM	NOMINAL	MAXIMUM
VCC Range (V)	4.75	5	5.25
Supply Current (mA)	–	–	30
Voh (V)	2.4	–	–
Vol (V)	–	–	0.4
Pull-up Resistor (kΩ)	–	10	–
Output	Channel A leads Channel B by 90° electrically, CCW direction		

MECHANICAL SPECIFICATIONS	
PARAMETER	
Vibration	10 to 2000Hz, 15G Mil Std, - 202 Method 204 Test Condition C
Shock	100G at 6ms Mil Std. 202, Method 213 Test Condition C
Rotational Torque	Sleeve 1.5 oz. in 0.25 oz. in. max. Other torque ranges available
Operating Speed	300 RPM
Rotational Life	10.000.000 revolutions
Shaft End Play	0.005 maximum
Shaft Radial Play	0.010 at 1 in.
Shaft Axial Force	15 lbs. push/pull
Terminal Strength	2 lbs.

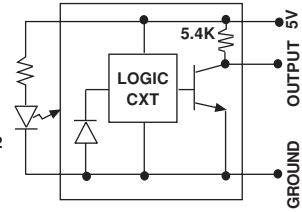
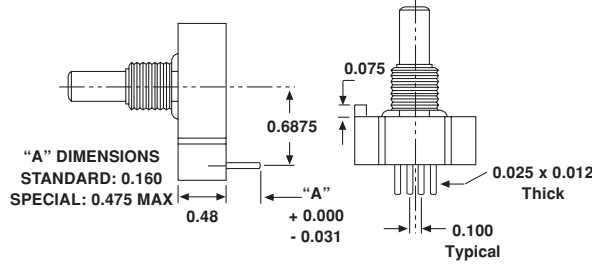
ORDERING INFORMATION				
120 MODEL	E PRODUCT ID	N SHAFT & BUSHING SIZE	128 PULSES PER RESOLUTION	CBL TERMINATION
Sleeve-bearing Construction with two channel quadrature output	E = Encoder	N = 1/4 in. (6.35mm) diameter by 0.875 in (22.23mm) long shaft 3/8 in (9.53mm) diameter x 32 NEF 2A by 3/8 in. (9.53mm) long bushing	Number of pulses per revolution	B66 = PC Terminal Type B-66 Horizontal mounting C24 = PC Terminal Type C-24, vertical mounting CBL = 7.5 IN. (190.5mm) Long cable CN1 = Cable with Connector.

DIMENSIONS in millimeters

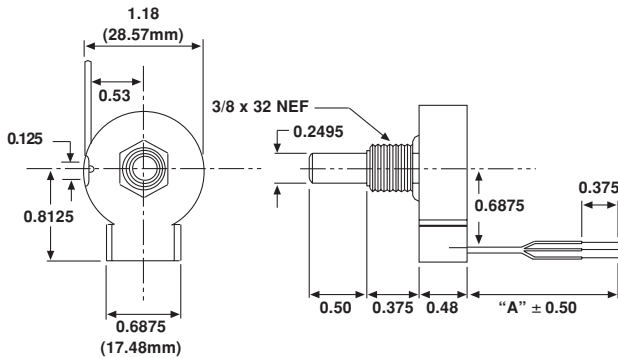
120E Series

PC Terminals: Type C-24

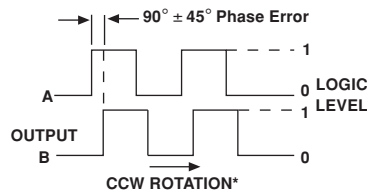
Block Diagram One Output



Cable Style



Output Waveform

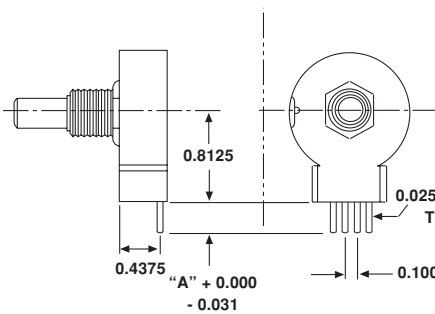


*Channel A leads channel B by 90° electrically in CCW direction

PC Terminals: Type B-66

TERM #	FUNCTION
1	5VDC ± 5% at 30ma Max
2	"A" Out
3	Ground
4	"B" Out

"A" DIMENSIONS	
Standard	0.160
Special	0.400 Max



Dimension Tolerances, Unless Otherwise Specified

FRACTIONS = ± 1/64 (0.40mm)

DECIMALS = ± 0.005

GRDS = ± 0.010 (0.25mm)

NOTES:

- "A" Cable Length Standard 7.50 ± 0.50. Other lengths available, specified by customer.
- "A" and "B" Outputs are TTL compatible on all models.

COLOR	FUNCTION
Red	5VDC ± 5% @ 30ma Max
Green	Ground
Yellow	"A" Out
Orange	"B" Out

ENVIRONMENTAL SPECIFICATIONS

PARAMETER	MINIMUM	NOMINAL	MAXIMUM
Operating Temperature (°C)	- 40°C	-	+ 65°C
Storage Temperature (°C)	- 55°C	-	+ 110°C
Humidity	85% RH @ 40°C, 240 hrs	-	-

TERMINAL

Terminal	Description
B66:	PC Terminals, horizontal mounting
C24:	PC Terminals, vertical mounting
CBL:	7.5 including cable
CN1:	7.5 including cable with connector



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