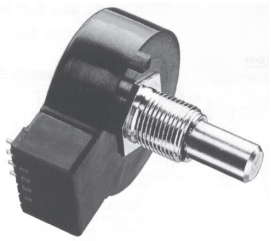
Model 120E

Vishay Spectrol

Incremental Optical Encoder Contactless Technology (128 Pulses per Turn)



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

RoHS COMPLIANT

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 2000 Hz, 15 G mil std., - 202 method 204 test condition C
Shock		100 G at 6 ms mil std. 202, method 213 test condition C
Rotational Torque	Sleeve Bearing	1.5 oz. in **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"
Shaft Axial Force		15 lbs. push/pull
Terminal Strength		2 lbs.

ORDERING INFORMATION/DESCRIPTION

120	E	N	128	CBL	BO100	e4
MODEL	PRODUCT ID	SHAFT AND BUSHING SIZE	PULSES PER RESOLUTION	TERMINATION	PACKAGING	LEAD FINISH
Sleeve-bearing construction with two channel quadrature output	**E** = Encoder	**N** = 1/4" (6.35 mm) diameter by 0.875" (22.23 mm) long shaft 3/8" (9.53 mm) diameter x 32 NEF 2A by 3/8" (9.53 mm) 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" (190.5 mm) long cable **CN1** = Cable with connector	Box of 100 pieces	

SAP PART NUMBERING GUIDELINES

120EN	128	CBL	B30
MODEL	PULSES PER REVOLUTION	TERMINAL CONFIGURATION	PACKAGING

For technical questions, contact: sfer@vishay.com

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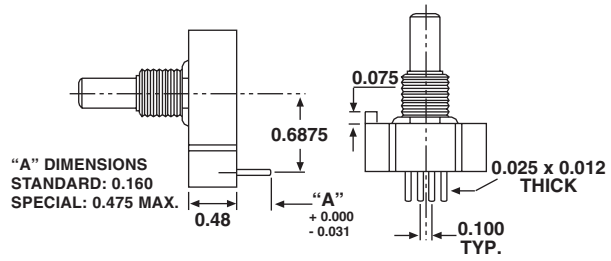
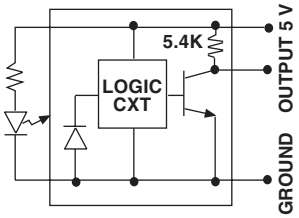
DIMENSIONS in inches (millimeters)

120E SERIES

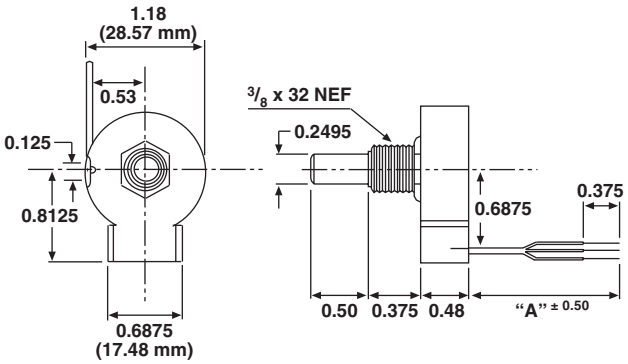
PC TERMINALS: TYPE C-24



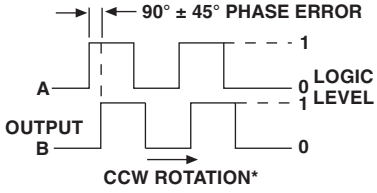
BLOCK DIAGRAMM ONE OUTPUT



CABLE STYLE

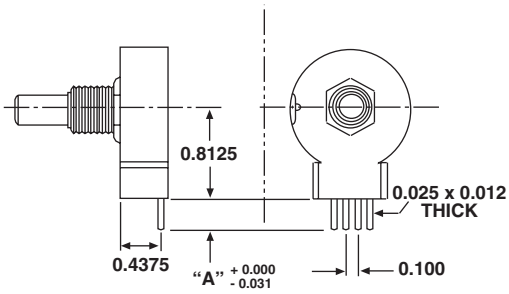


OUTPUT WAVEFORM



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

PC TERMINALS: TYPE B-66



TERM #	FUNCTION
1	5 V_{DC} ± 5 % at 30 ma 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 (0.40 mm) DECIMALS = ± 0.005 GRDS = ± 0.010 (0.25 mm)

Notes:

(1) "A" cable length standard 7.50 ± 0.50. Other lengths available, specified by customer.

(2) "A" and "B" outputs are TTL compatible on all models.

COLOR	FUNCTION
Red	5V_{DC} ± 5 % at 30 ma 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 at 40 °C, 240 h	-	-

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

Disclaimer

All product specifications and data are subject to change without notice.

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