

# 200 Series

## Hollow Shaft Encoder

### Description:

#### MODEL 220C - SINGLE CHANNEL

The Model 220C Optical Encoder is designed to mount directly on a motor shaft. As the shaft rotates, a square wave output pulse is generated that varies at a rate proportional to shaft speed.

The Model 220C is ideal for motor speed control or tachometer feed back applications.

#### MODEL 230 - BI-DIRECTIONAL

The Model 230 Optical Encoder is designed to mount directly on a shaft for bi-directional applications. The encoder produces two symmetrical 50% duty cycle square wave output signals in quadrature relationship to each other. The signals lead or lag each other by 90 degrees depending upon the direction of rotation.



### Specifications

#### ELECTRICAL INPUT

	Model 220C	Model 230
Voltage .....	5 to 16 VDC (specify) .....	5 to 16 VDC (specify)
Current .....	25 Milliamperes .....	50 Milliamperes
Regulation .....	±10% .....	±10%

#### ELECTRICAL OUTPUT

Wave shape .....	Square Wave .....	Square Wave
Rise Time .....	Less than 1 microsecond .....	Less than 1 microsecond
Current .....	Sink 20 milliamperes .....	Sink 20 milliamperes/output
Pulse rate .....	0 to 6000 Hz .....	0 to 6000 Hz
Pulses per shaft revolution .....	1 to 600 (specify) .....	1 to 100 (specify)

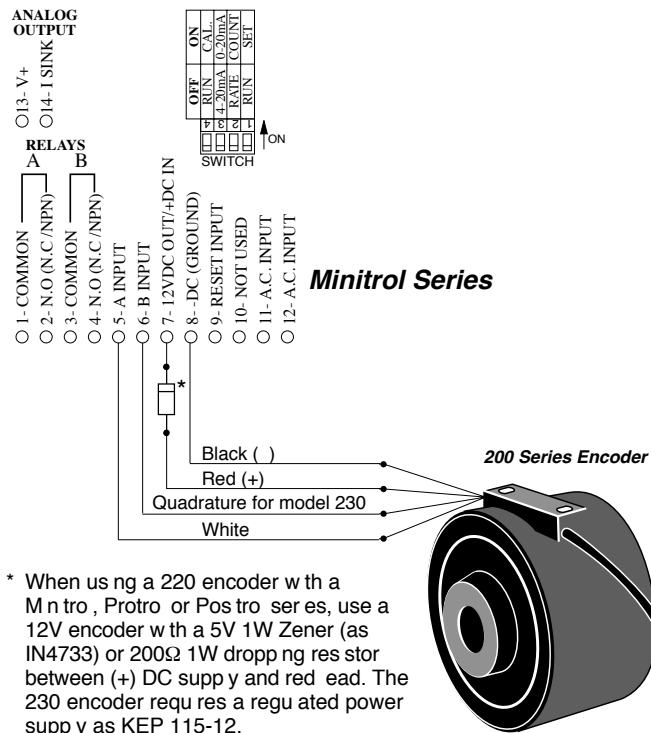
#### MECHANICAL

Hollow shaft speed .....	6000 RPM maximum .....	4000 RPM maximum
Hollow shaft rotation .....	Either direction .....	Either direction
Bearings .....	Sealed ball bearings .....	Sealed ball bearings
Bore size .....	.250"(6.35mm) to .875"(22.22mm) dia. (spec)	.250"(6.35mm) to .875"(22.22mm) dia. (spec)
Bore tolerance .....	+ .003"(.076mm)-.000"(.000mm) .....	+ .003"(.076mm)-.000"(.000mm)
Running torque .....	10 oz. inches (40.5gm-cm) .....	10 oz. inches (40.5gm-cm)
Operating life .....	100,000 hrs. .....	100,000 hrs.
Housing .....	Alum. black anodized finish .....	Alum. black anodized finish
Cable .....	3 conductor shielded, 6 ft. long w/ built-in strain relief	Two 3 conductor shielded, 6 ft. long w/ built-in strain relief
Weight .....	8 oz. (227 grams) .....	8 oz. (227 grams)

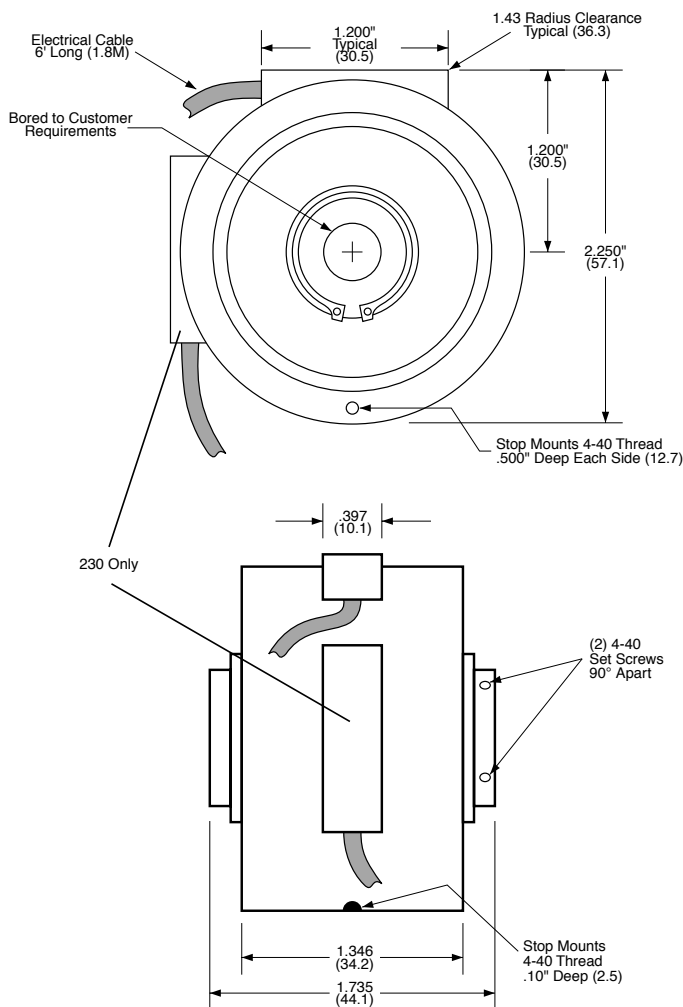
#### ENVIRONMENTAL

Temperature .....	-13°F (-25°C) to +167°F (+75°C) .....	+32°F (0°C) to +167°F (+75°C)
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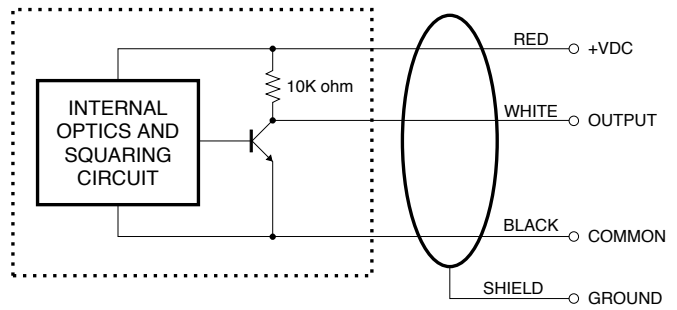
## Typical Application:



## Mounting:



## Circuit Diagram Per Channel:



A flexible housing stop must be provided to prevent improper bearing wear and overheating. Please do not mount outer housing rigidly.

## How To Order:

