

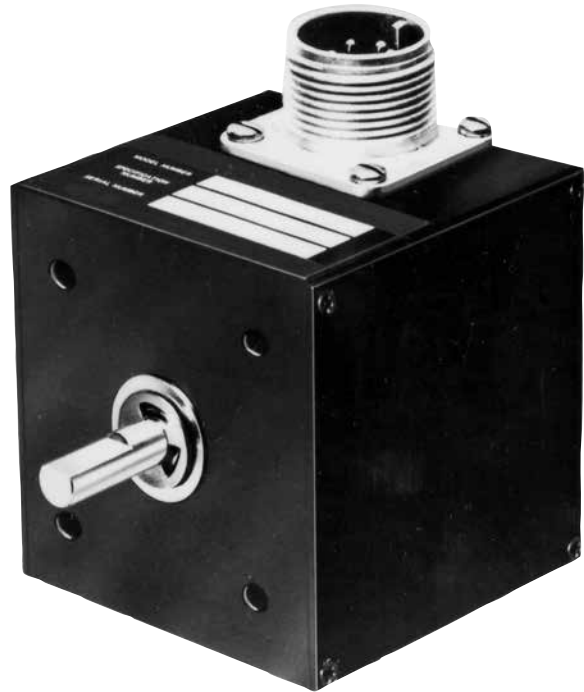
700 Series

Optical Shaft Encoder

DESCRIPTION:

The 700 optical incremental shaft encoders convert input shaft rotation into square wave output pulses to provide an accurate means of digitizing position, rate or direction of rotation. They are designed specifically for industrial applications.

The shaft encoder produces an output signal by rotating a shatter-proof plastic disc with clear and opaque segments between a light emitting diode and a photo-transistor sensor. The output signal from the sensor is then converted into a square wave signal by an internal squaring circuit. The number of output pulses per shaft revolution is determined by the number of clear and opaque segments on the disc. Bidirectional models have a second LED and sensor positioned to produce two square wave signals in quadrature.



SPECIFICATIONS:

ELECTRICAL SPECIFICATIONS

INPUT:

Voltage5 VDC, or 8 to 30 VDC (Specify Choice)
Current50 mA \pm 10%
Ripple2%
Regulation \pm 5%

OUTPUT

Amplitude80% of input voltage (min.)
CurrentSink up to 20 milliamperes (10 milliamperes on multi-output units). 1.5K pull up to input voltage
PolarityPositive
Wave ShapeSquare wave, 50% "on" and 50% "off"
Pulse Rate0 to 20,000 pulses per second
Rise TimeLess than 1 microsecond
Pulses per Rev.1 to 1270 (Specify choice)
AccuracyWithin \pm 0.1 degrees from one pulse to any other pulse.

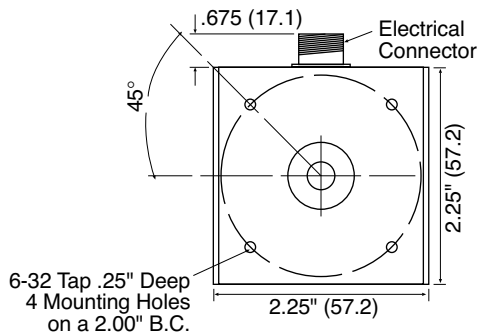
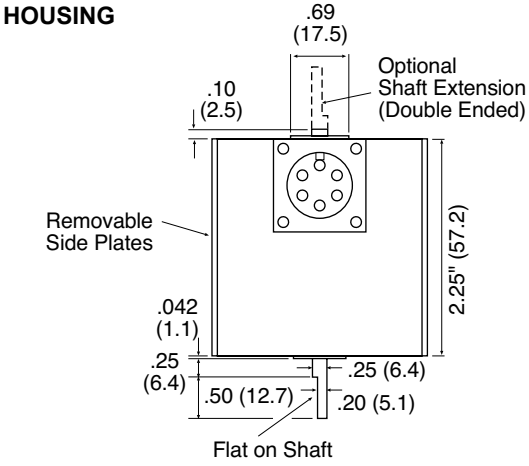
ENVIRONMENTAL SPECIFICATIONS

Temperature0 to 75 degrees C (+32°F to 167°F)
Vibration3 g's at 5 to 1000 CPS
Shock20 g's, 10 milliseconds

MECHANICAL SPECIFICATIONS

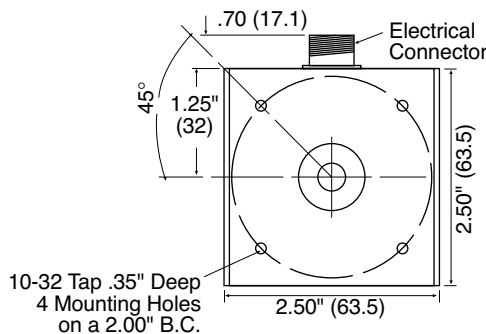
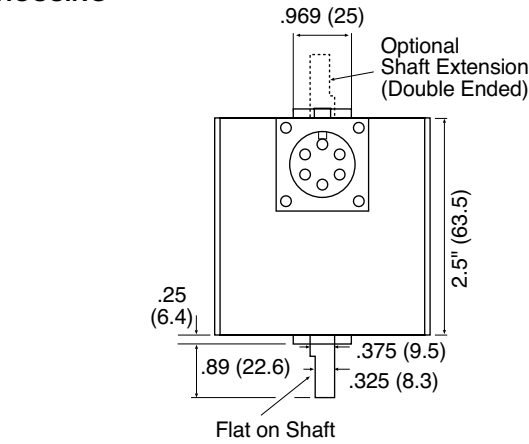
Shaft Speed6,000 RPM maximum
Shaft RotationEither direction
BearingsSealed ball bearings
Starting Torque0.10 ounce-inches
Moment of Inertia0.0025 ounce-inches seconds squared
Radial Loading10 pounds operating
Axial Loading5 pounds operating
Shaft Size250" or .375" diameter (Specify choice)
Shaft TypeSingle or double ended (Specify choice)
Operating Life100,000 hours average
HousingAluminum with black anodized finish. Sealed against dust, oil vapor and moisture.
MountingProvisions for either base or face mounting
WeightA-10 oz., B- 3.75 lbs., C- 3.25 lbs., D- 6 lbs.
Connector Type6-pin MS Connector or Solder Terminals

A HOUSING



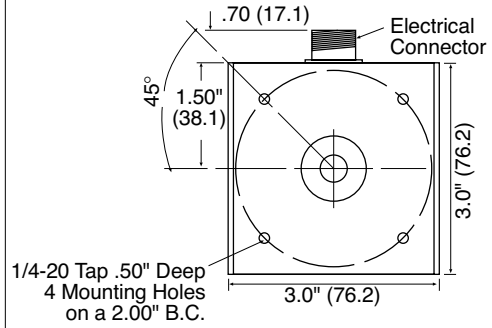
The same mounting hole pattern is also provided on the opposite end and the base.

B HOUSING

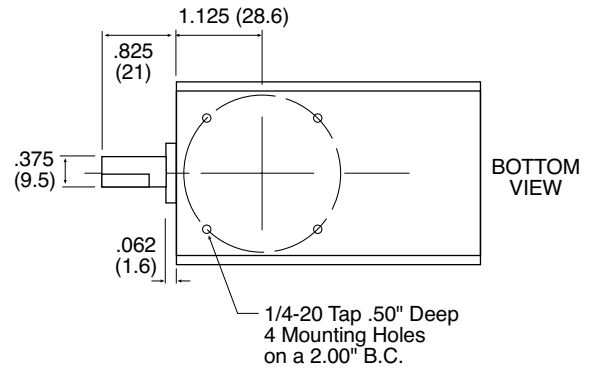
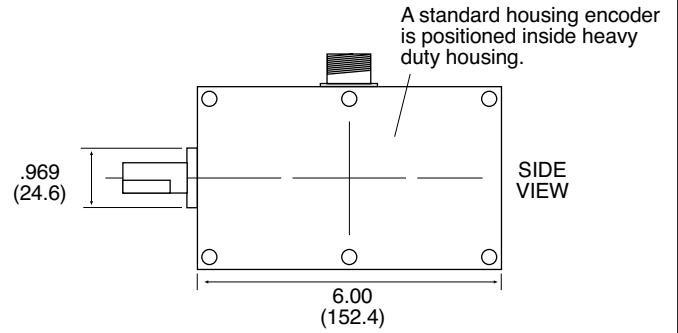


The same mounting hole pattern is also provided on the opposite end and the base.

C HOUSING

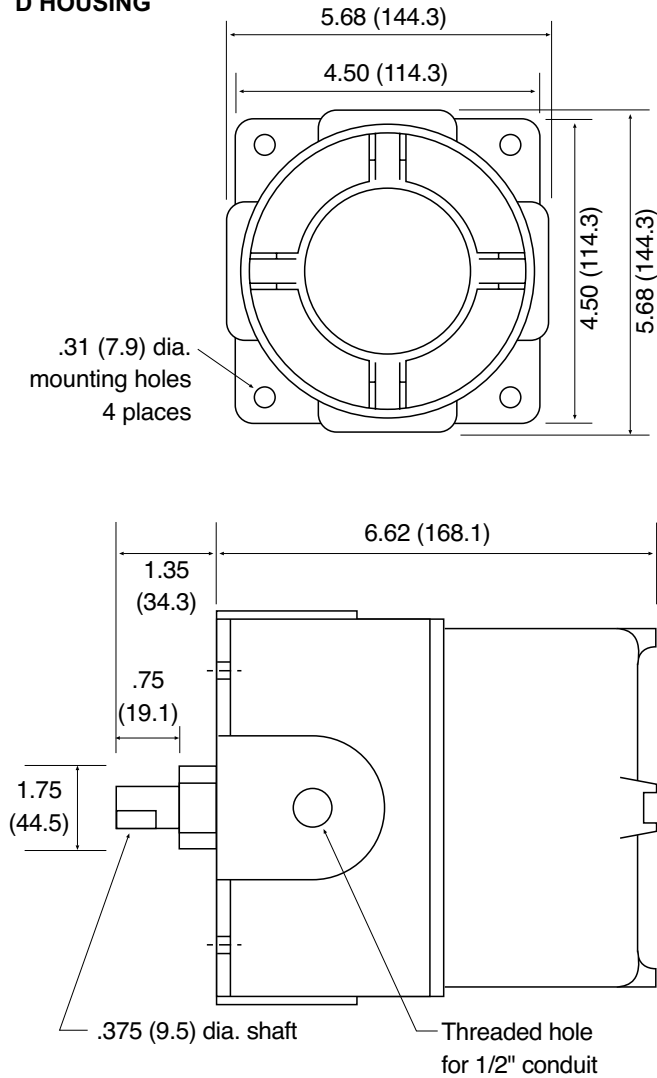


The same mounting hole pattern is also provided on the opposite end and the base.

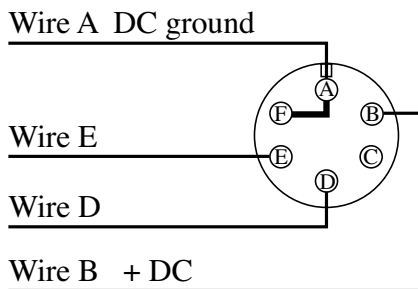


Standard Encoders for Faster Delivery

D HOUSING



WIRING



Encoder Model #	Wire D	Wire E
711	pulses	N/C
715-1	CW pulses	CCW pulses
715-2	pulses	hi-cw/lo-ccw
716	Quad "A"	Quad "B"
717	pulses	N/C

Type

Order Number

Single Channel **711 12VDC 600PPR A1**
 Square Wave Pulse **711 12VDC 1200PPR A1**

Dual Channel **716 12VDC 600PPR A1**
 Quadrature **716 12VDC 1200PPR A1**

How To Order Special Encoders:

EX: 715-1 12VDC 200PPR 50US 500RPM A1 L2.3

Series

- 711 (Single Square Wave Pulse)
- 712 (711 with Reference Pulse)
- 713 (2 Different Square Waves)
- *715-1 (Bi-Directional; 2 Channels)
- *715-2 (Bi-Directional; 1 Channel plus direction)
- 716 (Quadrature)
- *717 (High Resolution 711I)

Input Voltage

- 5 VDC
- 12 VDC
- 15 VDC
- 24 VDC

Pulses Per Rev.

Over 600PPR

(Model 713 ex.: 100/200 PPR)

*Pulse Width (if required)

- ms = milliseconds
- us = microseconds

Shaft Maximum RPM (specify)

Housing Type

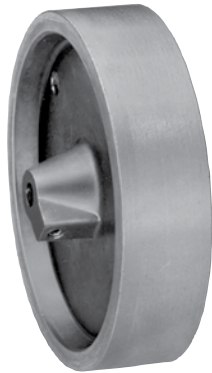
- A. Standard
 - A1. Single Shaft
 - A2. Dual Shaft
- B. Industrial:
 - B1. Single Shaft
 - B2. Dual Shaft
- C. Heavy Duty Housing:
 - C1 (with mating connector)
 - C2 (with mating connector & shaft seal)
 - C3 (with 1/2" conduit thread & terminal strip)
 - C4 (with shaft seal, 1/2" conduit thread & terminal strip)
 - C5 (extra heavy duty up to 50lb. radial load : 10mm shaft)
- D. Explosion Proof
 (Class 1, Groups C & D / Class 2 Groups E, F, G / NEMA 7 & NEMA 9)

Other Options

- L- Custom Shaft
- B - 3/8" shaft option
- ENC MS: Extra mating connector
- ENC-CABLE##: Extra mating connector with 4-conductor cable
- Reference Pulse - Add 1N (neg. pulse) or 1P (pos. pulse) after PPR

See the following page for Mounting Brackets and Measuring Wheels.

ENCODER ACCESSORIES

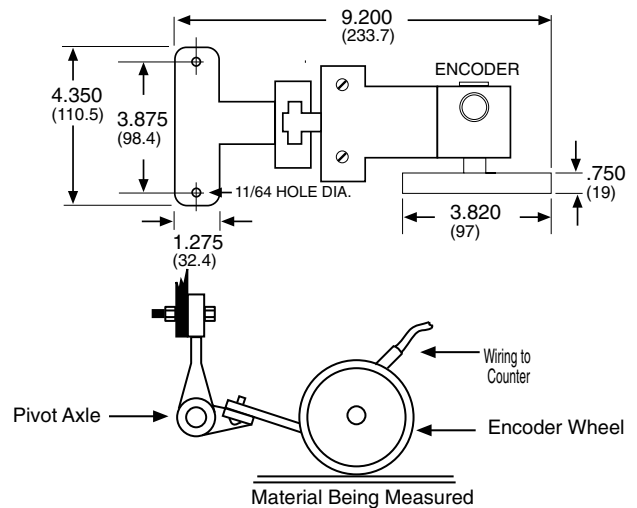
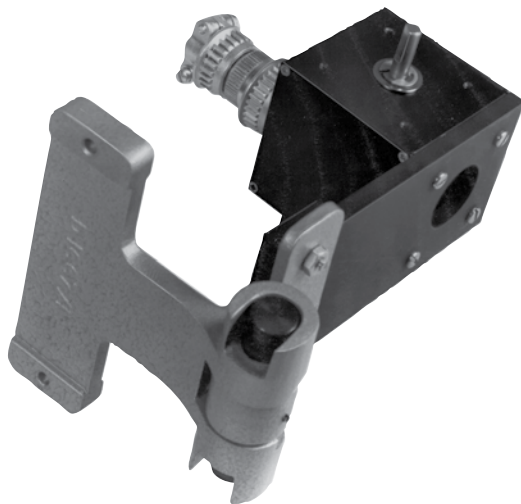


Part number	Circum.	Rim Type	Bore	Width
15537-530	12"	Rubber	1/4"	1"
15537-070	12"	Rubber	1/4"	0.50"
15537-535	12"	Knurled	1/4"	1"
15537-510	12"	Knurled	1/4"	0.50"
15537-525	12"	Smooth	1/4"	0.70"

ENCODER BRACKET

Plate Mount Model 7005

Use with 700 series Encoders

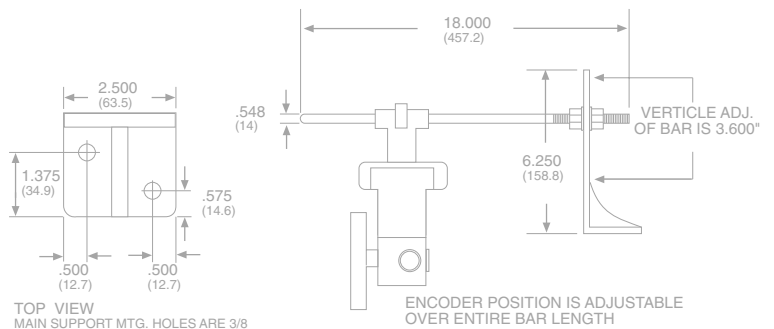
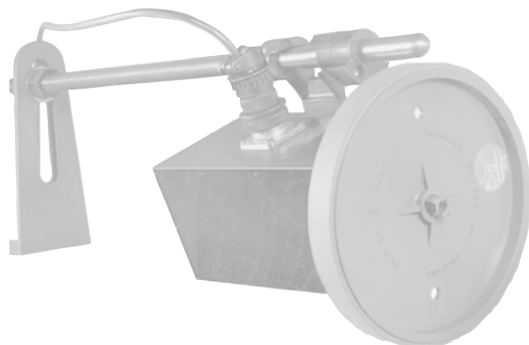


ENCODER BRACKET

Surface Mount Model 7006

Use with 700 series Encoders

DISCONTINUED



ENCODERS