# Model 225A/Q - Incremental Encoder

## Features
- **Single Channel & Quadrature Models**
- **Easy to Mount Economical Thru-Bore Design**
- **Metal Construction**
- **Bore Sizes to 0.875” or 22 mm**

Controlling motor speed is essential for many production assembly machines or robotic equipment. For tachometer feedback, or motor speed control applications, the Model 225 Accu-Coder™ is the ideal encoder choice. The Model 225 Accu-Coder™ is a thru-bore encoder available in both single channel (225A) and quadrature (225Q) models that provides a cost-effective solution for simple measurement. Features including an all metal housing, a variety of connector options, and easy installation due to the thru-bore design, make the Model 225 Accu-Coder™ ideal for many motion control and manufacturing applications.

## Common Applications
- Brushless Servo Motor Commutation, Robotics, Motor-Mounted Feedback, Assembly Machines, Digital Plotters, High Power Motors

## Model 225A/Q Ordering Guide

Blue type indicates price adder options. Not all configuration combinations may be available. Contact Customer Service for details.

![Model 225A/Q Ordering Guide Diagram](image)

### Model 225A/Q CPR Options

**225A**
- 1-600 CPR, all resolutions

**225Q**
- 001 002 003 004 005 006 010 011
- 015 016 022 025 030 032 040
- 048 050 060 062 080 083 090 099
- 100

Contact Customer Service for other disk resolutions.

### Notes:
1. Shaft speed limited to 400 RPM.
2. For mating connectors, cables, and cordsets see Accessories at encoder.com. For Connector Pin Configuration Diagrams, see Technical Information or see Connector Pin Configuration Diagrams at encoder.com.
3. For Non-Standard Cable Lengths add a forward slash (/) plus cable length expressed in feet. Example: S/12 = 12 feet of cable.
MODEL 225A SPECIFICATIONS
SINGLE CHANNEL

**Electrical**
- Input Voltage: 4.75 to 24 VDC
- Input Current: 32 mA max with Pull-Up option
- Input Ripple: 100 mV peak-to-peak at 0 to 100 kHz
- Output Format: Square wave 50% duty cycle
- Output Types: Open Collector – 100 mA max
  Pull-Up – Open Collector with 1.5K ohm internal resistor, 20 mA max per channel
- Max Frequency: 0 to 6 kHz
- Rise Time: Less than 1 microsecond
- Cycles per Rev: 1 to 600

**Mechanical**
- Max. Shaft Speed: 4000 RPM
- Bore Tolerance: Bore H7 fit for g6 shaft Class LC5 per ANSI B-4.I Standard
- Running Torque: 10 oz-in typical
- Housing: Black non-corrosive finish
- Bearings: Precision ABEC ball bearings
- Weight: 8 oz typical

**Environmental**
- Storage Temp: -25° to 85° C
- Humidity: 95% RH non-condensing
- Vibration: 3 g @ 5 to 1000 Hz
- Shock: 20 g @ 10 ms duration

MODEL 225Q SPECIFICATIONS
QUADRATURE

**Electrical**
- Input Voltage: 4.75 to 24 VDC
- Input Current: 64 mA max with Pull-Up option
- Input Ripple: 100 mV peak-to-peak at 0 to 100 kHz
- Output Format: Square wave 50% duty cycle in quadrature
- Output Types: Open Collector – 100 mA max per channel
  Pull-Up – Open Collector with 1.5K ohm resistor, 20 mA max per channel
- Max Frequency: 0 to 6 kHz
- Electrical Protection: Reverse voltage and output short circuit protected. NOTE: Sustained reverse voltage may result in permanent damage.
- Rise Time: Less than 1 microsecond
- Cycles Per Rev: 1 to 100

**Mechanical**
- Max. Shaft Speed: 4000 RPM
- Bore Tolerance: Bore H7 fit for g6 shaft Class LC5 per ANSI B-4.I Standard
- Running Torque: 10 oz-in typical
- Housing: Black non-corrosive finish
- Bearings: Precision ABEC ball bearings
- Weight: 10 oz typical

**Environmental**
- Storage Temp: -25° to 85° C
- Humidity: 95% RH non-condensing
- Vibration: 3 g @ 5 to 1000 Hz
- Shock: 20 g @ 10 ms duration