MODEL 702 - INCREMENTAL MOTOR MOUNT

Features:
- Up to 30,000 CPR
- IP66 Sealing Available
- Mounting Flange Available with Boss

The compact, industry standard 2-inch diameter Model 702 Motor Mount Accu-Coder™ is designed to withstand harsh factory and plant floor environments. The mounting flange, with integral shaft and coupling, allows for easy installation on a motor or shaft assembly, without the need for additional brackets or couplings. With the ability to handle shaft speeds of up to 8000 RPM and withstand the shock and vibration of high speed servo motors, the Model 702 Motor Mount Accu-Coder™ is heavy duty, ultra-rugged, and reliable.

Common Applications:
- Servo & Stepper Motor Control
- Robotics
- X-Y Positioning Tables
- Machine Tools

Model 702 Ordering Guide:
Blue type indicates price adder options. Not all configuration combinations may be available. Contact Customer Service for details.

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<th>MODEL 702</th>
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Operating Temperature:
- S: 0° to 70° C
- H: 0° to 100° C

Cycle per Revolution:
1-30,000
See CPR Options below for available resolutions. Price adder for CPR >1270

Number of Channels:
A: Channel A
Channel A Leads B
Q: Quadrature A & B
R: Quadrature A & B with Index
Channel B Leads A
K: Reverse Quadrature A & B
D: Reverse Quadrature A & B with Index

Maximum Frequency:
1. 100 Hz (Standard)
2. 200 Hz ≤ 3000 CPR
3. 250 kHz, >3000 CPR
4. 500 kHz, >6000 CPR
5. 1 MHz, >10,000 CPR

# Model 702 Motor Mount CPR Options

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*Contact Customer Service for High Temperature Option.

New CPR values are periodically added to those listed. Contact Customer Service to determine all currently available CPR values. Special disk resolutions are available upon request. A one-time NRE fee may apply.

Model 702 Motor Mount CPR Options:
- **IP66 Sealing Available**
- **Mounting Flange Available with Boss**

Common Applications:
- Servo & Stepper Motor Control
- Robotics
- X-Y Positioning Tables
- Machine Tools

Notes:
1. 0° to 85° C for certain resolutions, see CPR Options.
2. Contact Customer Service for non-standard index gating options.
3. 24 VDC max for high temperature option.
4. Line Driver not available with 5-pin M12 or 6-pin MS connector. Available with 7-pin MS connector only without Index Z.
5. Standard temperature, 60 to 3000 CPR only. Not available with 2540 CPR.
6. H5 and P5 outputs are not available with CE option.
8. For mating connectors, cables, and cordsets see Accessories or visit www.encoder.com. For Pin Configuration Diagrams, see Technical Information or visit www.encoder.com.
9. For non-standard cable lengths, add a forward slash (/) plus cable length expressed in feet. Example: G/6 = 6 feet of cable.
MODEL 702 MOTOR MOUNT SPECIFICATIONS

Electrical

- **Input Voltage**: 4.75 to 28 VDC max for temperatures up to 70° C; 4.75 to 24 VDC for temperatures between 70° C and 100° C.
- **Input Current**: 100 mA max with no output load.
- **Input Ripple**: 100 mV peak-to-peak at 0 to 100 kHz.
- **Output Format**: Incremental – Two square waves in quadrature with channel A leading B for clockwise shaft rotation, as viewed from the encoder mounting face. See Waveform Diagrams.
- **Output Types**: Open Collector – 100 mA max per channel. Pull-Up – Open Collector with 2.2 K ohm internal resistor, 100 mA max per channel. Push-Pull – 20 mA max per channel. Line Driver – 20 mA max per channel (Meets RS 422 at 5 VDC supply).
- **Index**: Occurs once per revolution. The index for units > 3000 CPR is 90° gated to Outputs A and B. See Waveform Diagrams.
- **Max Frequency**: Up to 1 MHz.
- **Electrical Protection**: Reverse voltage and output short circuit protected. NOTE: Sustained reverse voltage may result in permanent damage.
- **Noise Immunity**: Tested to BS EN61000-4-2; IEC801-3; BS EN61000-4-4; DDENV 50141; DDENV 50204; BS EN55022 (with European compliance option); BS EN61000-6-2; BS EN50081-2.
- **Symmetry**: 1 to 6000 CPR: 180° (±36°) electrical at 100 kHz output. 6001 to 20,480 CPR: 180° (±36°) electrical.
- **Quad Phasing**: 1 to 6000 CPR: 90° (±36°) electrical at 100 kHz output. 6001 to 20,480 CPR: 90° (±36°) electrical.
- **Min Edge Sep**: 1 to 6000 CPR: 67.5° electrical at 100 kHz output. 6001 to 20,480 CPR: 54° electrical. 20,480 CPR: 50° electrical.
- **Rise Time**: Less than 1 microsecond.
- **Mechanical Accuracy**: For 200 to 1999 CPR, 0.01° mechanical (0.6 arc minutes) from one cycle to any other cycle. For 2000 to 3000 CPR, 0.005° mechanical (0.6 arc minutes) from one cycle to any other cycle. Interpolation error (units > 3000 CPR) only within 0.005° mechanical. (Total Optical Encoder Error = Instrument + Quadrature + Interpolation)

Environmental

- **Storage Temp**: -25° to 85° C.
- **Humidity**: 20 g @ 58 to 500 Hz.
- **Shock**: 75 g @ 11 ms duration.
- **Sealing**: IP66 (NEMA 13 and 4/4X) with shaft seal; IP64 available.

WAVEFORM DIAGRAMS

For EPC-supplied mating cables, refer to wiring table provided with cable.

WIRING TABLE

For EPC-supplied mating cables, refer to wiring table provided with cable.

*CE Option: Cable shield (bare wire) is connected to internal case.
*Standard cable is 24 AWG conductors with foil and braid shield.
**CE Option: Use cable cordset with shield connected to M12 connector coupling nut.