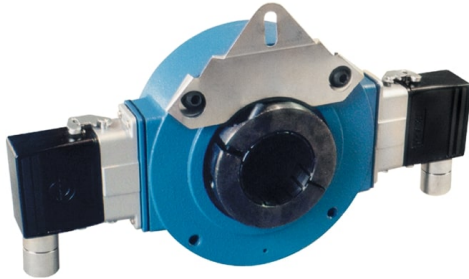


## Avtron M3 Large-Bore Encoders (M3-6/9, M3-G/J)



### Durable Optical Large-Bore Encoder

#### Optical Precision in a Robust Encoder

Mill Duty

Wide-Gap Technology: Up to 8X larger gap between sensor and rotor

Up to 2500 PPR

No couplings required

Heavy duty bearings and seals

Rugged cast housing

Dust and liquid tight

Available in thru shaft and end of shaft models

Fits large motor and load shafts directly

### M3

Avtron M3 large bore hollow shaft mill duty optical hollow shaft encoders fit motor or load shaft from 1 1/2" to 2 3/8" [48mm-60mm].

Looking for solid shaft M3-1 and M3-2 models or small-bore M3 models? Use our [cross reference page](#) to replace these models with the latest Avtron models.

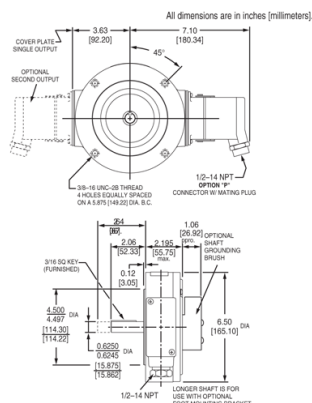
Forget tiny hollow shaft encoders that require shaft reduction and special protection! M3 mill duty encoders can accommodate up to a 2 3/8" shaft directly and are designed for use in rougher applications than ordinary optical encoders.

M3 has bigger bearings than light duty and commercial grade encoders to withstand more shaft vibration and stress. M3 encoders are designed with bigger, heavy-duty seals to keep contamination out of the encoder and keep your machines working.

M3 encoders offer a large variety of connector and mounting options to replace virtually any existing encoder or tachometer. When you install an Avtron M3, you've upgraded to the most durable optical encoder available anywhere!

Also available: Heavy mill duty [HS45](#) and severe duty [AV685](#) encoders.

## OUTLINE DRAWING



## MORE M3 ADVANTAGES

- Highly resistant to electrical and magnetic motor and brake noise
- Auxiliary channel offers separate low frequency outputs (1/4) at no extra charge on each output
- Marker Pulse Standard
- Available C-Face tether kits (4.5" to 16")
- Available threaded rod torque arm
- Optional OSHA finger guard
- Optional shaft grounding brush
- Optional dual output for backup, complete isolation between outputs
- 1 Year No-Hassle Warranty

## MORE M3 SPECIFICATIONS

**Operating Power:** 5-24 VDC, 5-18V, 12-24V; Current 120mA, no load

**Output Format:** A, /A, B, /B, C, /C; Marker Z, /Z

**Frequency Range:** 0 to 150 kHz

**PPR:** 80-2500

**Speed:**

5000 RPM Max. Std., shafts 1 1/2" to 1 5/8"

3600 RPM Max. Std., shafts 2" to 2 3/8"

(for higher speeds, consult factory)

**Temperature:** -40°\* to 85°C (\*-20° standard)

**Chemical:** Polyurethane enamel paint protects against salt spray, mild acids, and bases

**Weight:** 7 lbs.

All dimensions are in inches [millimeters].

Specifications and features are subject to change without notice.

\* See instruction sheet for full list.

Check out our website for more detailed specifications, drawings, and installation instructions. [www.avtronencoders.com](http://www.avtronencoders.com)



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Features and specifications are subject to change without notice. EU-SMART™, SMARTSafe™, SMARTTach™, THIN-LINE™, WIDE-GAP™, SAFETach™, and BULLSEYE32™ are trademarks of Nidec Industrial Solution. All other trademarks and registered trademarks are the property of their respective owners. Nidec Industrial Solutions' standard warranty applies. All dimensions approximate.

## SELECTION GUIDE

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MODEL	HOLLOW SHAFT BORE SIZE	MOUNTING	LINE DRIVER	OUTPUTS	PPR	CONNECTOR OPTIONS	MODIFICATIONS
M3-	8 - 1-1/2 inch Hollow Shaft 9 - 1-5/8 inch Hollow Shaft 6 - 2 inch Hollow Shaft J - 2-1/8 inch Hollow Shaft 7 - 2-3/8 inch Hollow Shaft D - 48mm Hollow Shaft G - 52mm Hollow Shaft E - 58mm Hollow Shaft H - 60mm Hollow Shaft K - 50mm Hollow Thru-Shaft, h7 tolerance	S - Standard End-of-Shaft Mounting G - Shaft Grounding with Standard End-of-Shaft Mounting T - Through Shaft Mounting w/ Seal	1 - 5-24V In/Out (7272) 2 - 5-18V In/Out (Hi-Power Outputs) 3 - 18-24V In/Out (Hi-Power Outputs) 4 - 5-24V In, 5V Out (7272)	L - Left (Single) Output R - Right (Single) Output D - Dual Outputs	80 - 80 PPR 120 - 120 PPR 180 - 180 PPR 240 - 240 PPR 256 - 256 PPR 360 - 360 PPR 480 - 480 PPR 512 - 512 PPR 600 - 600 PPR 1024 - 1024 PPR 1200 - 1200 PPR 2000 - 2000 PPR 2048 - 2048 PPR 2500 - 2500 PPR	A - 10 Pin MS Connector w/o Plug B - 10 Pin MS Connector w/ Flex Conduit Adapter C - 10 Pin MS Connector w/ Plug K - 10 Pin MS Connector w/ Flex Conduit Adapter on Box L - 10 Pin MS Connector w/ Plug on Box M - 10 Pin MS Connector w/o Plug on Box R - 10 Pin Mini MS Connector w/o Plug S - 10 Pin Mini MS Connector on 3' Cable P - 10 Pin EPIC w/ Plug Q - 18" Flex Cable, 10 Pin EPIC w/ Plug and Adapter Block V - 10 Pin EPIC w/o Plug D - 6 Pin MS Connector w/ Plug on Box (M940 Equivalent) E - 5 Pin MS Connector w/o Plug on Box (M737 Equivalent) F - 5 Pin MS Connector w/ Plug on Box (M737 Equivalent) H - 5 Pin MS Connector w/o Plug on Box (M727 Equivalent) J - 5 Pin MS Connector w/ Plug on Box (M727 Equivalent) N - Conduit Box w/ Bare Wires T - Conduit Box w/ Terminal Box W - 3' Flexible Cable, Sealed X - 3' Flexible Cable, EPIC w/o Plug Z - 3' Flexible Cable, EPIC w/ Plug	000 - Include A25954 Tether w/ standard bolt 002 - Insulated Conduit Adapter (P/N 431023) 003 - 12" Threaded Rod Torque Arm (P/N B27239) 004 - Insulated Conduit Adapter (P/N 431023) & 12" Threaded Rod Torque Arm Mount (P/N B27239) 005 - -40°C/F Operating Temperature Modifications, 1-2 pieces 008 - NEMA 56C Face Tether Bracket Kit (P/N A24492) 009 - Delete Phase C divide by 4 output (Northstar Pinout) 011 - 4 - 1/2" Tether Kit for Gainesville / Flowery Branch Motors (P/N A25681) 013 - 320-449 frame XSD Installation Kit w/15" Tether and Stub Shaft 014 - 5-18V DC and 5-24V DC Line Drivers on a Dual Output M3/M4 016 - 8.5" C-Face Mount 017 - 4.5" tether bracket and 18" cable with 1" Connector (P/N A24492) 018 - 5-18V DC Line Driver with 8" Cable Assembly 020 - XSD 140 Frame Installation Kit (P/N A25052-12 + P/N A29209) 021 - XSD 180 Frame Installation Kit (P/N A25052-12 + P/N A29210) 022 - XSD 210-280 Frame Installation Kit (P/N A25052-13 + P/N A29210) 023 - XSD 140 Frame Tether Kit (P/N A29209) 024 - XSD 180-280 Frame Tether Kit (P/N A29210) 025 - XSD 320-449 Frame 15" Tether and T-Bolt (P/N A29331) 026 - 'A' Connector w/ 5" Flexible Conduit w/ pigtail leads (P/N A29332) 027 - 12.5" Flange Tether Bracket (P/N A27410) + -40°C/F Operating Temperature Modifications, 1-2 pieces 028 - 12.5" Flange Tether Bracket (P/N A27410) 029 - 8.5" C-Face Mount + -40°C/F Operating Temperature Modifications, 1-2 pieces 030 - Dynapar Small Encoder (H23, HS20, etc.) Connector Pinout for A, B, C, K, L and M Connector Options 037 - Special Anti-Rotation Arm and Shaft Grounding Assembly (request special quote) 038 - 15" Fan Cover Tether Bracket and Insulated Conduit Adapter (P/N A29331) + T-bolt mount 039 - Tether Bracket and Insulated Conduit Adapter (P/N A24492) 040 - Insulated Conduit Adapter & Northstar Pinout 041 - 15" Fan Cover Tether Bracket (A29331) and -40°C/F operation, adder for 1-2 pieces each 042 - All Tether Bracket Options (P/N A24492 and P/N A24493) and Finger Guard (P/N A27661) 043 - Adapt 2" Hollow Shaft (Shaft Code 6) bore to 1 3/8" Hollow Shaft