

Model 260 Ultra Versatile Commutated Encoder



Ø50.8 mm

Features

- Low Profile 30.30mm
- Up to 12 Pole Commutation
- Thru-Bore and Hollow Bore (Blind) Styles
- Simple, Innovative Flexible Mounting System
- Incorporates Opto-ASIC Technology

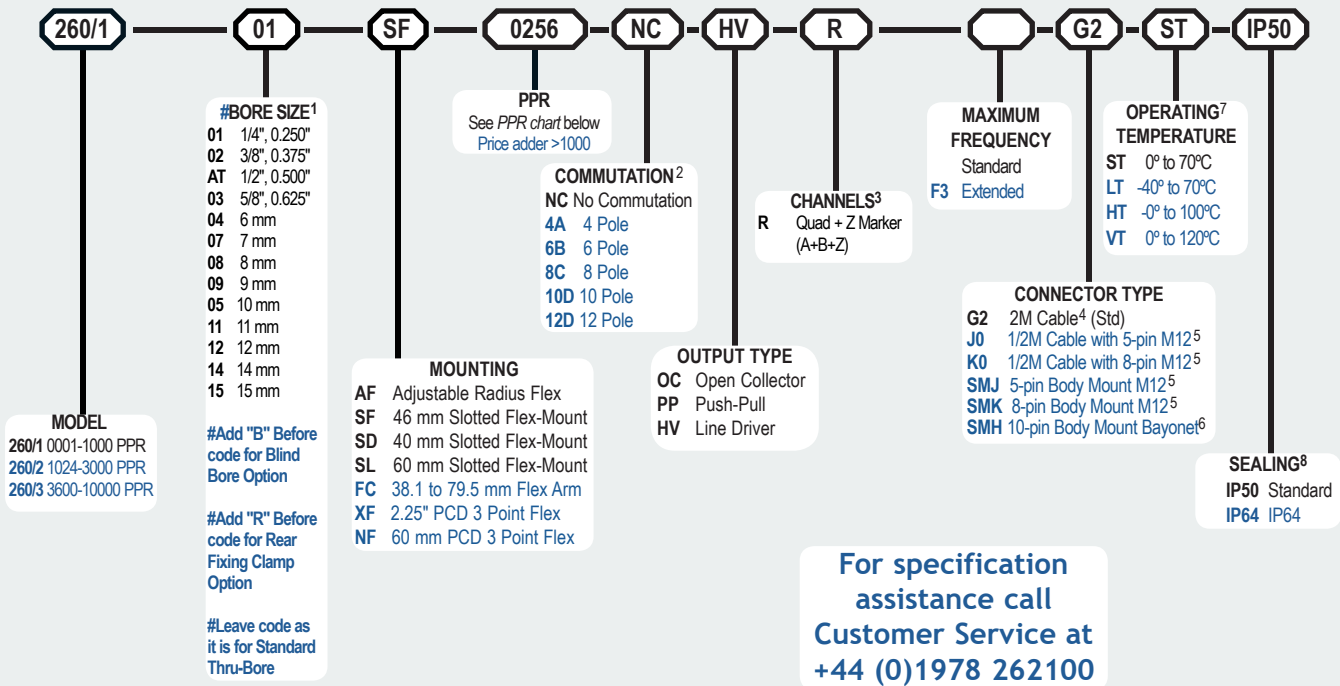
The Model 260's larger bore (up to 15.87mm) and low profile make it the perfect solution for many machine and motor applications. Available in two distinct formats - a Hollow Bore and a complete Thru-Bore - the Model 260 uses pioneering Opto-ASIC design. The Model 260 uses innovative anti-backlash mounting system, allowing simple, reliable, and precise encoder attachment. Unlike traditional kit or modular encoder designs, its integral bearing set provides stable and consistent operation without concerns for axial or radial shaft runout. For brushless servo motor applications, the Model 260 can be specified with three 120° electrical phase tracks to provide up to 12 pole commutation feedback. The optional extended temperature capability allows servo motors to operate at higher power outputs and duty cycles.

Common Applications

Servo Motor Control, Robotics, Speciality Assembly Machines, Digital Plotters, High Power Motors

Model 260 Ordering Guide

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



Model 260 PPR Options

0001 thru 0189*	0200	0250	0254	0256
0300	0360	0400*	0500	0512
0720	0800	1000	1024	1200
1270	1500	1800*	2000	2048
2540	3000	3600*	4000	4096
6000	7200*	8192	10,000	5000

* Contact customer service for availability

Contact Customer Service for other disc resolutions; not all disc resolutions available with every commutation option.

NOTES:

- 1 Contact Customer Service for additional options not shown.
- 2 Not available in all configurations, Contact Customer Service for availability.
- 3 Contact Customer Service for non-standard marker gating or phase relationship options.
- 4 For non-standard cable lengths contact sales for availability and cost.
- 5 Not available with commutation or extreme temperature (VT) Option. 5-Pin not available with Line Driver (HV) output. Additional cable lengths available. Please consult customer service.
- 6 Not available with commutation.
- 7 5 to 16 Vcc supply only for HT option. 5 Vcc supply only for VT option.
- 8 Increased starting torque with IP64 Option.

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Model 260 Specifications

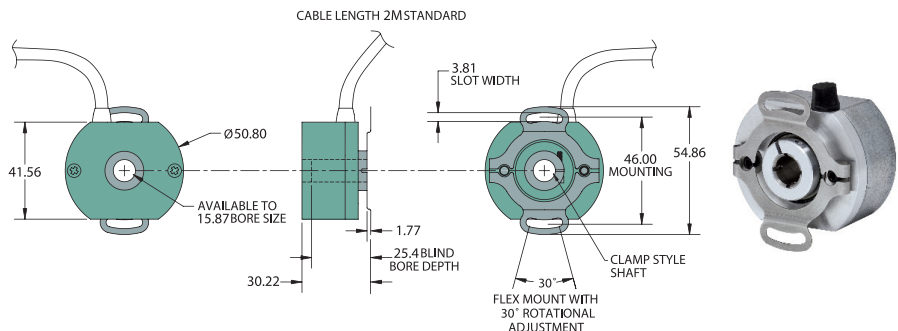
Electrical

Input Voltage.....	5 to 24 Vcc for temperatures up to 70° C 5 to 16 Vcc for 0° to 100° C operating temperature 5 Vcc for 0° to 120° C operating temperature
Input Current.....	130 mA max (< 100 mA Typical) with no output load
Output Format.....	Incremental- Two square waves in quadrature with channel A leading B for clockwise shaft rotation, as viewed from the mounting face. See <i>Waveform Diagrams</i> .
Output Types.....	Open Collector- 20 mA max per channel Push-Pull- 20 mA max per channel Line Driver- 20 mA max per channel (Meets RS 422 at 5 Vcc supply)
Index.....	Once per revolution gated to channel A. See <i>Waveform Diagrams</i> .
Max. Frequency.....	Standard Frequency Response is 200 kHz for PPR 1 to 2540 500 kHz for PPR 2541 to 5000 1 MHz for PPR 5001 to 10,000 Extended Frequency Response (optional) is 300 kHz for PPR 2000, 2048, 2500, and 2540
Noise Immunity.....	Tested to BS EN61000-6-2; BS EN50081-2; BS EN61000-4-2; BS EN61000-4-3; BS EN61000-4-6, BS EN55011
Symmetry.....	180° (±18°) electrical
Quad. Phasing.....	90° (±22.5°) electrical
Min. Edge Sep.....	67.5° electrical
Accuracy.....	Within 0.01° mechanical from one cycle to any other cycle, or 0.6 arc minutes.
Commutation.....	Up to 12-pole. Contact Customer Service for availability.
Comm. Accuracy.....	1° mechanical

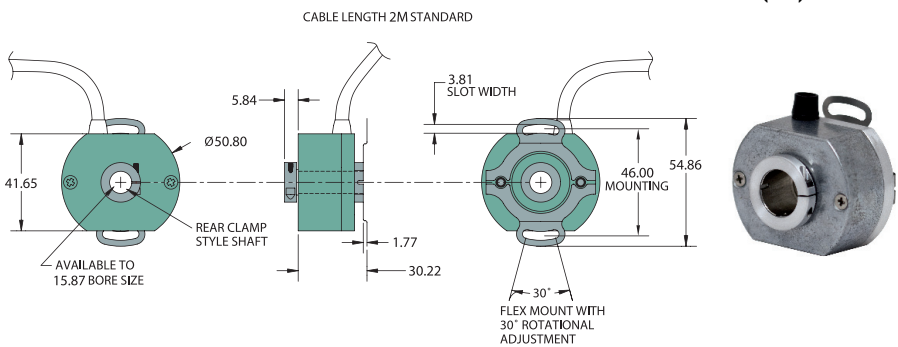
Mechanical

Max Shaft Speed.....	7500 RPM. Higher shaft speeds may be achievable, contact Customer Service. Note: For extreme temperature operation, de-rate temperature by 5° C for every 1000 RPM above 3000 RPM
Bore Size.....	0.250" through 0.625" 5 mm through 15 mm
Bore Tolerance.....	H7 (Sliding fit for g6)
User Shaft Tolerances	
Radial Runout.....	0.2mm max
Axial Endplay.....	±0.75mm max
Starting Torque.....	IP50 Thru-Bore: 3.53×10^{-3} Nm IP50 Hollow Bore: 2.12×10^{-3} Nm IP64 Thru-Bore: 1.765×10^{-2} Nm IP64 Hollow Bore: 1.141×10^{-2} Nm Note: Add 38.84×10^{-3} Nm for -40° C operation
Electrical Conn.....	2M cable (foil and braid shield, 24 AWG conductors non-commutated, 28 AWG commutated), 5- or 8-pin M12 (12 mm) in-line connector with 0.5M cable (foil and braid shield), 5- or 8-pin M12 body mount, 10-pin Bayonet
Housing.....	Non-Corrosive material
Mounting.....	Slotted Flex Mount standard, additional flex mount options available (see Ordering Guide)
Weight.....	200 grams typical
Environmental	
Operating Temp.....	0° to 70° C for standard models -40° to 70° C for low temperature option 0° to 100°C for high temperature option 0° to 120° C for extreme temperature option
Storage Temp.....	-40° to +100° C
Humidity.....	98% RH non-condensing
Vibration.....	10 g @ 58 to 500 Hz
Shock.....	50 g @ 11 ms duration
Sealing.....	IP50; IP64 available

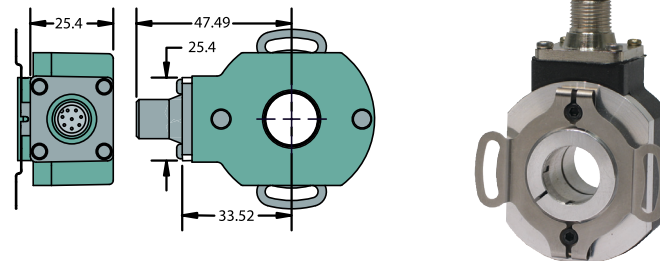
Model 260 with Front Shaft Clamp (Standard) With 46mm PCD Slotted Flex (SF)



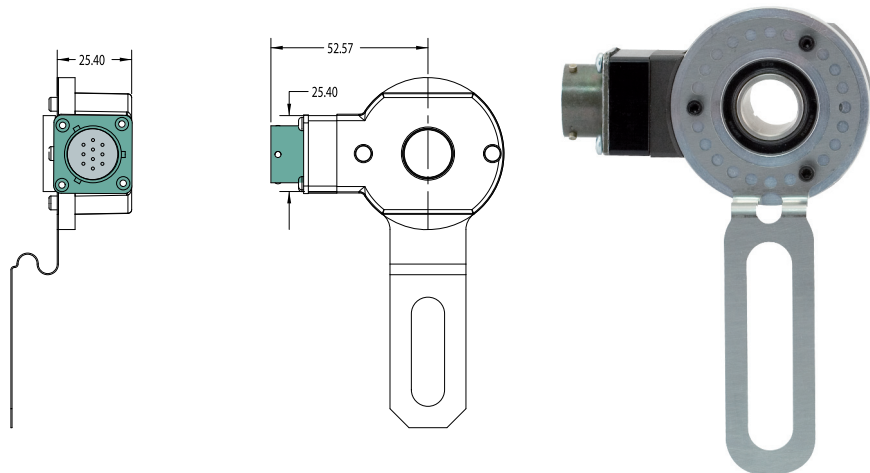
Model 260 with Rear Fixing Clamp With 46mm PCD Slotted Flex (SF)



Body Mount M12 (SMJ & SMK)



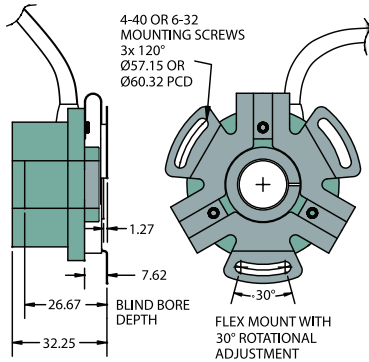
Body Mount 10-Pin Bayonet (SMH)



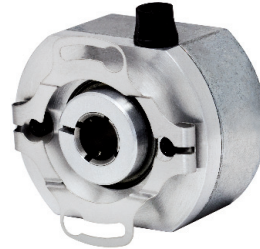
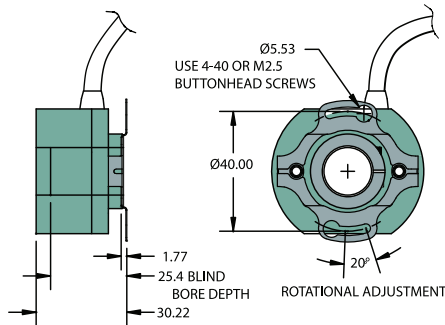
All dimensions are in mm with a tolerance of ±0.127mm or ±0.254 unless otherwise specified

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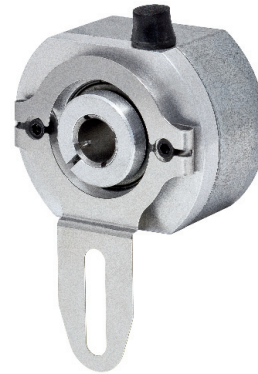
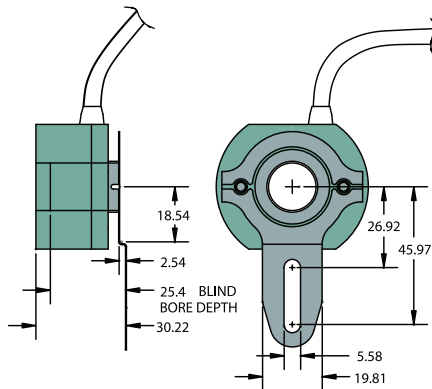
Three Point Flex Mount (XF,NF)



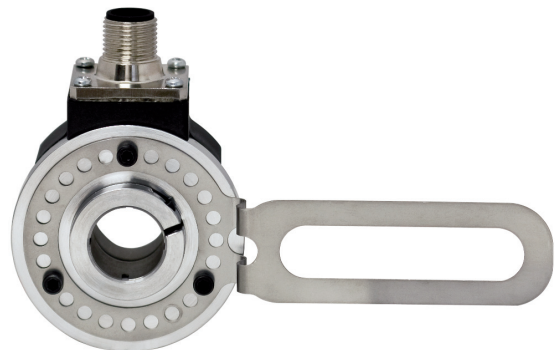
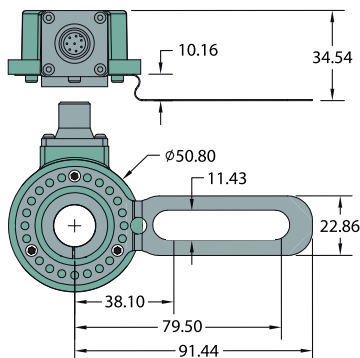
40mm PCD Flex Mount (SD)



Adjustable Radius Flex Arm (AF)



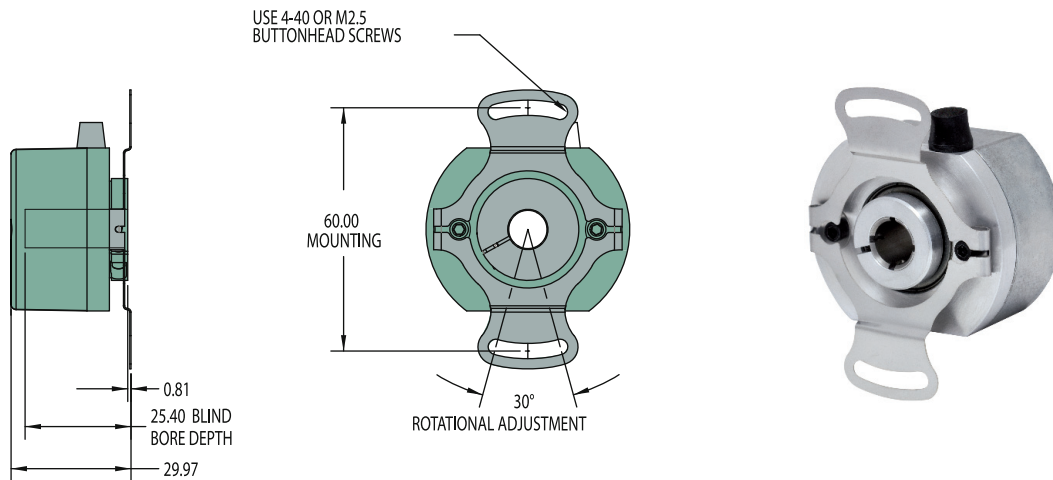
38.1 to 79.5mm Flex Arm (FC)



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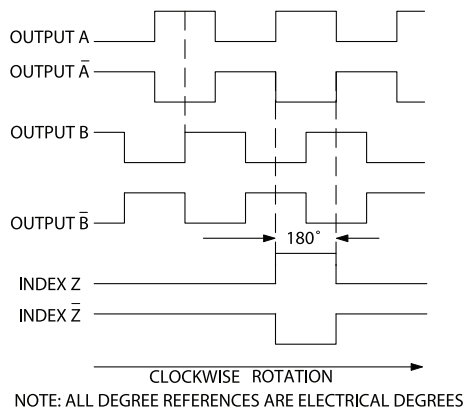
60mm PCD Flex Mount (SL)



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Model 260 Connector Options

Waveform Diagrams



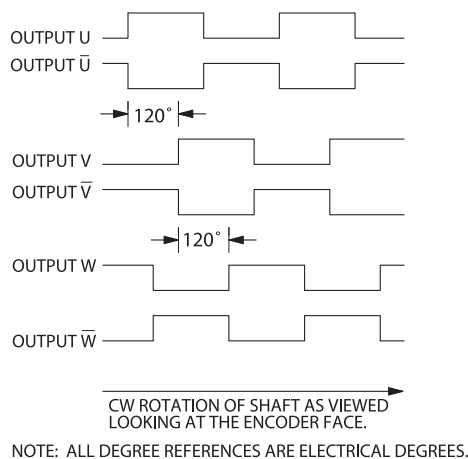
Wiring Table

Function	Gland Cable† Wire Color	5-pin M12** PP,OC,PU	8-pin M12** HV,OD	8-pin M12** OC,PP,PU	10 Pin Bayonet HV,OD
0 Volts	Black	3	7	7	F
+VCC	White	1	2	2	D
A	Brown	4	1	1	A
A'	Yellow	--	3	--	H
B	Red	2	4	4	B
B'	Green	--	5	--	J
Z	Orange	5	6	6	C
Z'	Blue	--	8	--	K
U	Violet	--	--	--	--
U'	Gray	--	--	--	--
V	Pink	--	--	--	--
V'	Turquoise	--	--	--	--
W	Red/Green	--	--	--	--
W'	Red/Yellow	--	--	--	--
Shield	Bare ¹	Case	Case	8	G

*CE: Cable shield (bare wire) is connected to internal case.

†Standard cable is 24 AWG conductors with foil and braid shield.

**CE: Shield is connected to connector case unless otherwise specified.



Connector Pin-Outs

