

Model 86A Extra Heavy Duty Machine Tool Encoder



Principle Engineering



Features

- Standard 68mm Diameter Package
- Up to 3000 PPR, Opto-Asic Technology
- Square Flange Mounting
- IP65 Double O-Ring Sealed

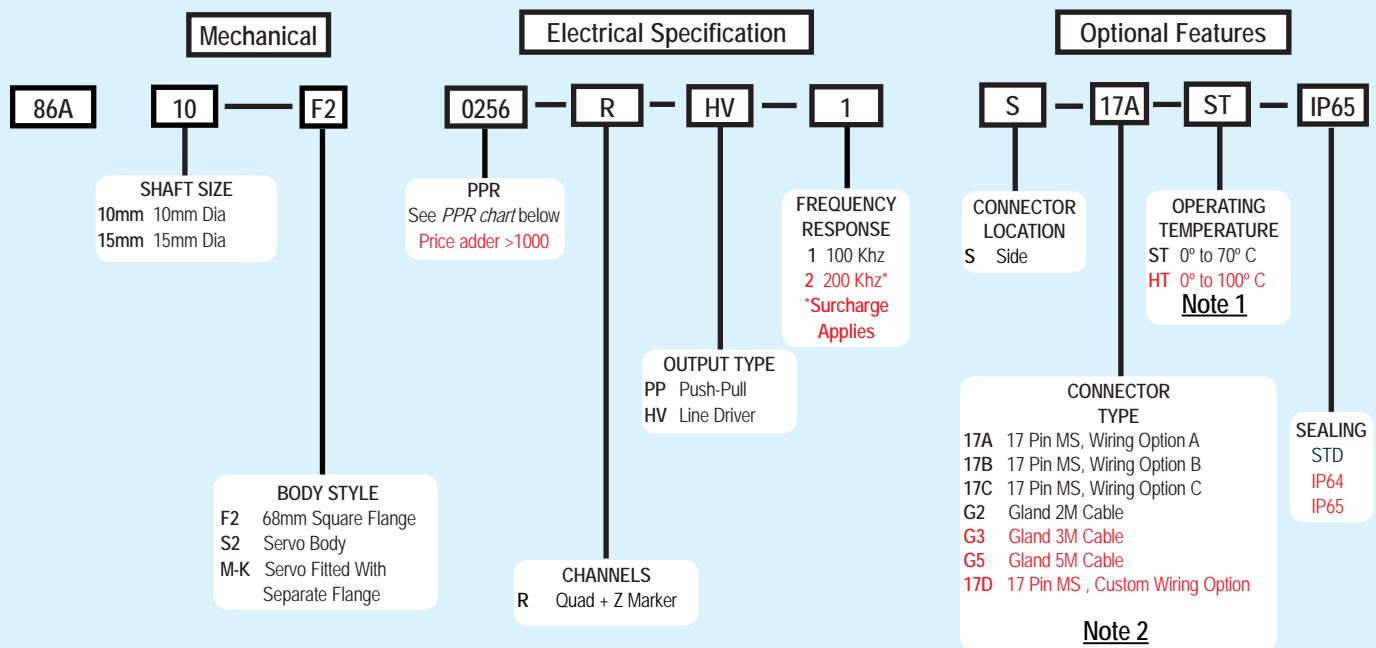
Model 86A is an extra heavy duty unit which employs a highly reliable Opto-Asic encoder module mounted within a rugged mechanical housing. The heavy duty sealed bearings, together with double O-Ring sealing makes this encoder a serious and reliable alternative to a wide range of machine tool encoders, and at an advantageous price.

Common Applications

Motion Control Feedback, Conveyors, Elevator Controls, Machine Control, Food Processing, Process Control, Robotics, Material Handling, Textile Machines

Model 86A Ordering Guide

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



For specification assistance call Customer Service

Model 86A PPR Options

0500 0512 1000 1024 1250 2000 2048 2500 2540 3000

NOTES:

- 1 24 VCC max for high temperature option.
- 2 For Non-Standard Cable Lengths Contact the sales office.

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Model 86A Specifications

Electrical

Input Voltage.....4.75 to 24 VCC max for temperatures up to 70° 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* below.
 Output Types.....Push-Pull- 20 mA max per channel
 Line Driver- 20 mA max per channel (Meets RS 422 at 5 VCC supply)
 Index.....Occurs once per revolution. The index is Ungated. See *Waveform Diagrams* below.
 Freq Response.....Up to 200 KHz
 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.....180° (±18°) electrical at 100 kHz output
 Quad Phasing.....1 to 2540 PPR: 90° (±22.5°) electrical at 100 kHz output
 Min Edge Sep.....1 to 2540 PPR: 67.5° electrical at 100 kHz output
 Rise Time.....Less than 1 microsecond
 Accuracy.....Instrument and Quadrature Error: For 0500 to 2540 PPR, 0.017° mechanical (1.0 arc minutes) from one cycle to any other cycle.

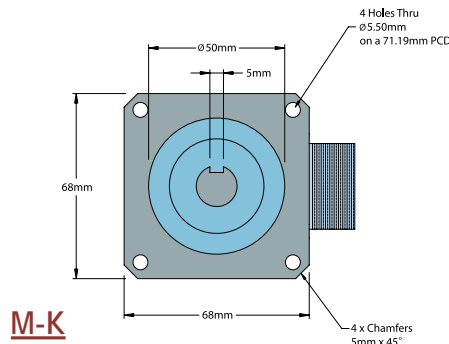
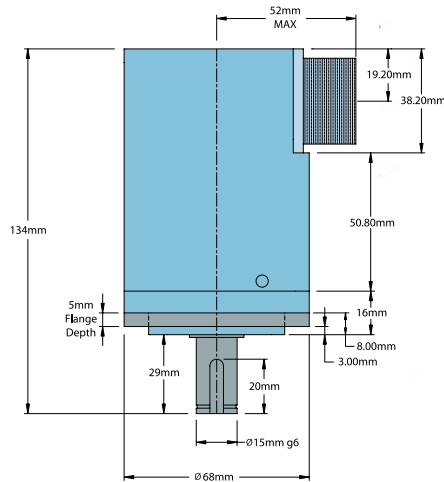
Mechanical

Max Shaft Speed.....3600 RPM. Higher shaft speeds may be achievable, contact Customer Service.
 Shaft Size.....See order code
 Shaft Material.....303 stainless steel
 Shaft Rotation.....Bi-directional
 Radial Shaft Load.....35kg max
 Axial Shaft Load.....35kg max
 Starting Torque..... 2.118×10^{-2} Nm typical.
 Max Acceleration..... 1×10^5 rad/sec²
 Electrical Conn.....17-pin MS Style, or gland with 2M of cable (foil and braid shield, 24 AWG conductors)
 Housing.....Anodised Aluminium
 Bearings.....Precision ABEC ball bearings
 Mounting.....Square Flange with 4 Holes 5.50mm Dia on a 71.19 PCD
 Weight.....800gms typical

Environmental

Operating Temp.....0° to 70° C for standard models
 0° to 100° C for high temperature option
 Storage Temp.....-25° to +85° C
 Humidity.....95% RH non-condensing
 Vibration.....10 g @ 58 to 500 Hz
 Shock.....50 g @ 11 ms duration
 Sealing.....IP64, (IP65 optional)

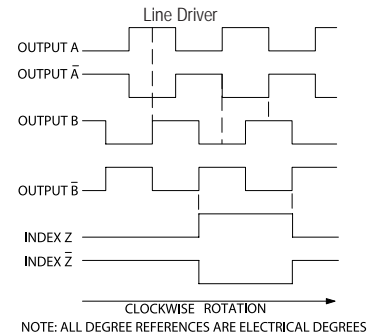
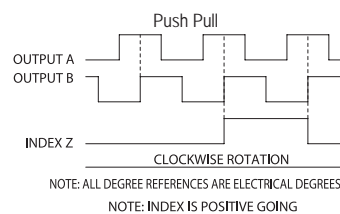
Model 86A



F2

S2

Waveform Diagrams



Wiring Tables

17 Pin Connector

17 pin Conn	Option A	Option B	Option C
A	A	A	A
B	Z	B	Z
C	B	+Vcc	B
D	---	/A	---
E	---	/B	---
F	---	Z	---
G	---	/Z	---
H	+Vcc	Screen	+Vcc
J	---	+Vcc	---
K	0 Volts	+Vcc	0 Volts
L	---	---	---
M	---	---	0 Volts
N	/A	0 Volts	---
P	/Z	0 Volts	---
R	/B	---	---
S	---	---	---
T	---	0 Volts	Case

Cable Colours

Cable Colours	Function
Black	0 Volts
White	+Vcc
Brown	A
Yellow	/A
Red	B
Green	/B
Orange	Z
Blue	/Z
Drain	Screen