

# ST-EP-DR-86A series Extra Heavy Duty Machine Tool Encoder



## Features

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

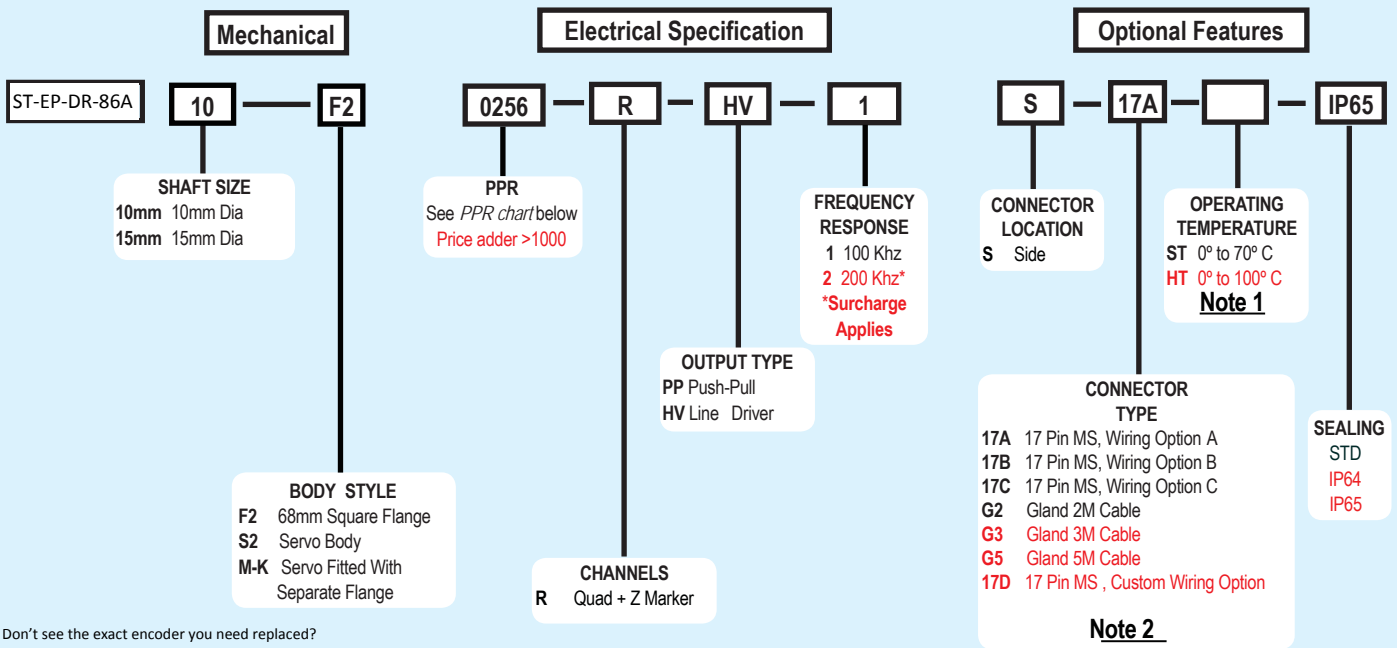
ST-EP-DR-86A series encoders is an extra heavy duty unit which employs a highly reliable Opto-Asic encoder module mounted within a rugged mechanical housing. The heavy duty sealed bearings, together with double O-Ring sealing makes this encoder a serious and reliable alternative to a wide range of machine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

## ST-EP-DR-86A Ordering Guide

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



Don't see the exact encoder you need replaced?  
Contact us and we will be happy to cross-reference any encoder that you need replaced.  
(866) 807 3786

Servotech Part Number:	CPR
ST-EP-DR-86A-1024-N-15	1024
ST-EP-DR-86A-2048-N-15	2048

This Direct Replacement Encoder provided by:



Servotech Inc  
478 Timber Ridge Road  
Middletown CT, 06457  
(866) 807 3786  
Sales@servotechUSA.com

## Model ST-EP-DR-86A PPR Options:

0500 0512 1000 1024\* 1250 2000 2048\* 2500 2540  
3000

\*In house ready to ship CPR counts; call for other CPR counts

## NOTES:

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

# ST-EP-DR-86A series Extra Heavy Duty Machine Tool Encoder



## ST-EP-DR-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.

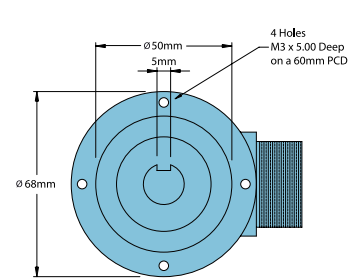
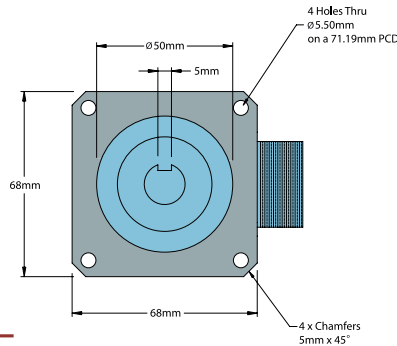
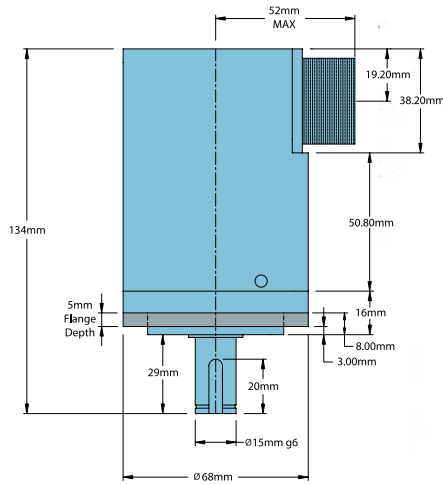
### Mechanical

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 x 10<sup>-2</sup> Nm typical.  
 Max Acceleration.....1 x 10<sup>5</sup> rad/sec<sup>2</sup>  
 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

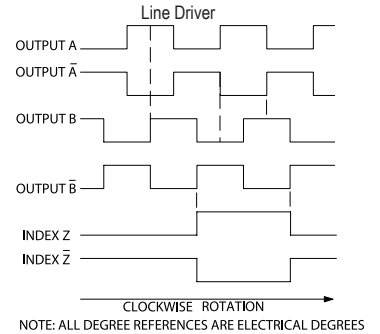
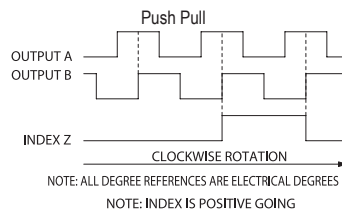
### Environmental

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)

## ST-EP-DR-86A Series Encoders



### 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