

# Model 865T



## Features

- A C-Face Thru-Bore Encoder With Stainless Steel Housing
- Fits NEMA Size 56C Thru 184 C Motor Faces (4.5" AK)
- Slim Profile - Only 1.00" Deep
- Incorporates Opto-ASIC Technology
- Resolutions to 4096 CPR

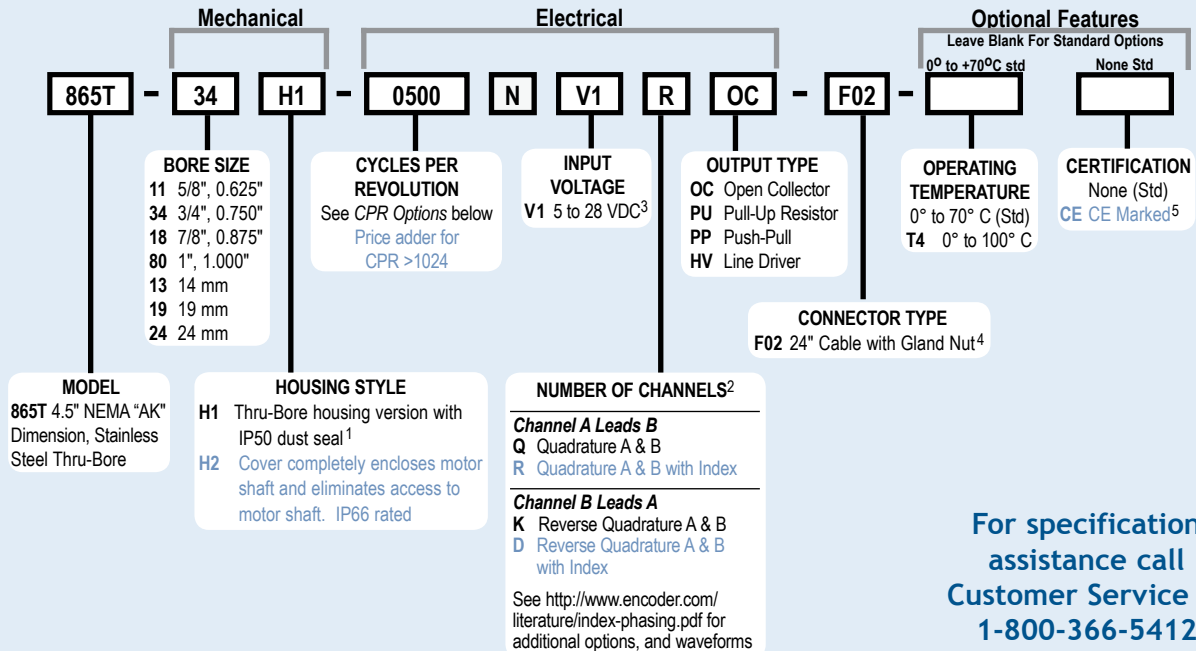
The Model 865T C-face encoder is a rugged, high resolution encoder designed to mount directly on NEMA C-face motors. Both sides of the encoder are C-face mounts, allowing additional C-face devices to be mounted to this encoder. Unlike many C-face kit type encoders, the Model 865T contains precision bearings and an internal flex mount, virtually eliminating encoder failures and inaccuracies induced by motor shaft runout or axial endplay. The advanced Opto-ASIC design provides advanced noise immunity necessary for many industrial applications. This encoder is ideal for applications using induction motors and flux vector control. The Model 865T provides speed and position information for drive feedback in a slim profile - only 1.00" thick. The Thru-Bore design allows fast and simple mounting of the encoder directly to the accessory shaft or to the drive shaft of the motor, using the standard motor face (NEMA sizes 56C - 184C). The tough, 316 stainless steel housing resists the corrosion and hazards of a caustic industrial environment.

## Common Applications

**Motor Feedback, Velocity & Position Control, Conveyors, Variable Speed Drives, Mixing & Blending Motors, Assembly & Specialty Machines**

## Model 865T Ordering Guide

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



**For specification assistance call Customer Service at 1-800-366-5412**

### Model 865T CPR Options

0060	0100	0120	0240	0250	0256
0500	0512	0600	1000	1024	2048
2500	4096				

Contact Customer Service for other disk resolutions; not all disk resolutions available with all output types

### NOTES:

- 1 Housing style H1 Thru-Bore version equipped with IP50 dust seal; unit must be mounted between two C-face devices with supplied gasket kit to be IP66 sealed.
- 2 Contact Customer Service for index gating options.
- 3 5 to 24 VDC max for high temperature option.
- 4 For non-standard cable lengths enter 'F' plus cable length expressed in feet. Example: F06 = 6 feet of cable.
- 5 Please refer to Technical Bulletin TB100: *When to Choose the CE Option* at www.encoder.com.

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## Model 865T 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 to 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 mounting face. See *Waveform Diagrams* below.

Output Types .....Open Collector- 100 mA max per channel  
 Pull-Up- 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 .....Once per revolution.  
 0475 to 4096 CPR: Gated to output A  
 0001 to 0474 CPR: Ungated  
 See *Waveform Diagrams* below.

Max Frequency.....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

Quad. Phasing.....90°(±22.5°) electrical

Min. Edge Sep.....67.5° electrical

Rise Time.....Less than 1 microsecond

### Mechanical

Max Shaft Speed.....6000 RPM. Higher shaft speeds may be achievable, contact Customer Service.

Bore Size.....0.625", 0.750", 0.875", 1.000", 14 mm, 19 mm, and 24 mm

Bore Tolerance .....+0.0015"/-0.000"

User Shaft Tolerances  
 Radial Runout.....0.005"  
 Axial Endplay.....±0.050"

Moment of Inertia.....3.3 x 10<sup>-3</sup> oz-in-sec<sup>2</sup> typical

Electrical Conn .....Gland nut with 24" cable (foil and braid shield, 24 AWG conductors)

Housing.....Type 316 Stainless Steel

Mounting.....NEMA 56C to 184C

Weight.....6 lb typical

### Environmental

Operating Temp.....0° to 70° C for standard models  
 0° to 100° C for high temperature option

Storage Temp .....-25° to 100° C

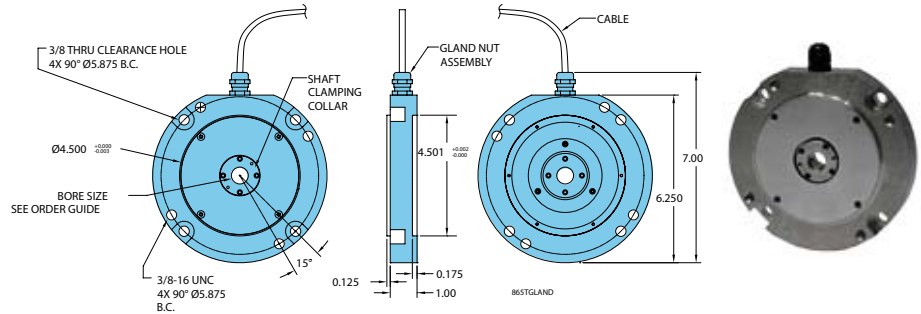
Humidity.....98% RH non-condensing

Vibration.....10 g @ 58 to 500 Hz

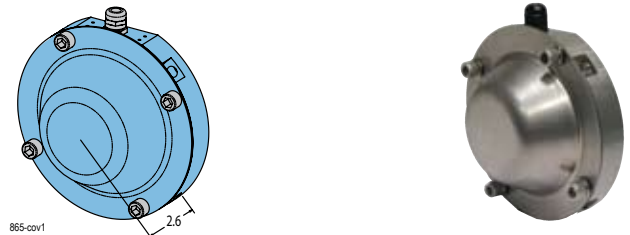
Shock.....50 g @ 11 ms duration

Sealing.....IP66 when mounted between two C-face devices with supplied gasket kit, or with H1 cover. IP50 if not installed in either manner.

## Model 865T With Gland Nut (P)

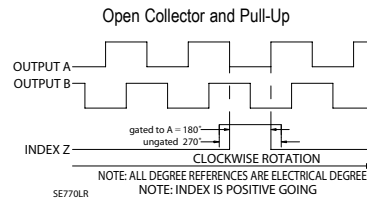
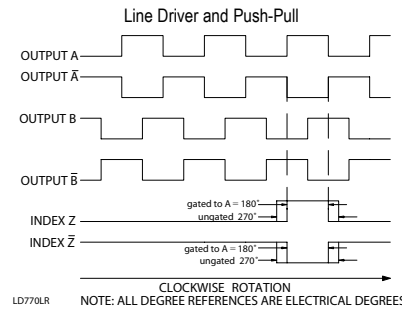


## Model 865T Optional Housing Cover (H2)



All dimensions are in inches with a tolerance of ±0.005" or ±0.01" unless otherwise specified

### Waveform Diagrams



### Wiring Table

Function	Gland Cable Wire Color
Com	Black
+VDC	Red
A	White
A'	Brown
B	Blue
B'	Violet
Z	Orange
Z'	Yellow
Shield	Bare*

\*CE Option: Cable Shield (bare wire) is connected to internal Case