

MODEL 865T - STAINLESS STEEL ENCODER



Ø6.5"

FEATURES

C-Face thru-bore encoder with stainless steel housing
 Fits NEMA Size 56C thru 184C motor faces (4.5" AK)
 Slim profile – only 1.00" deep
 Incorporates Opto-ASIC technology
 Resolutions to 4096 CPR

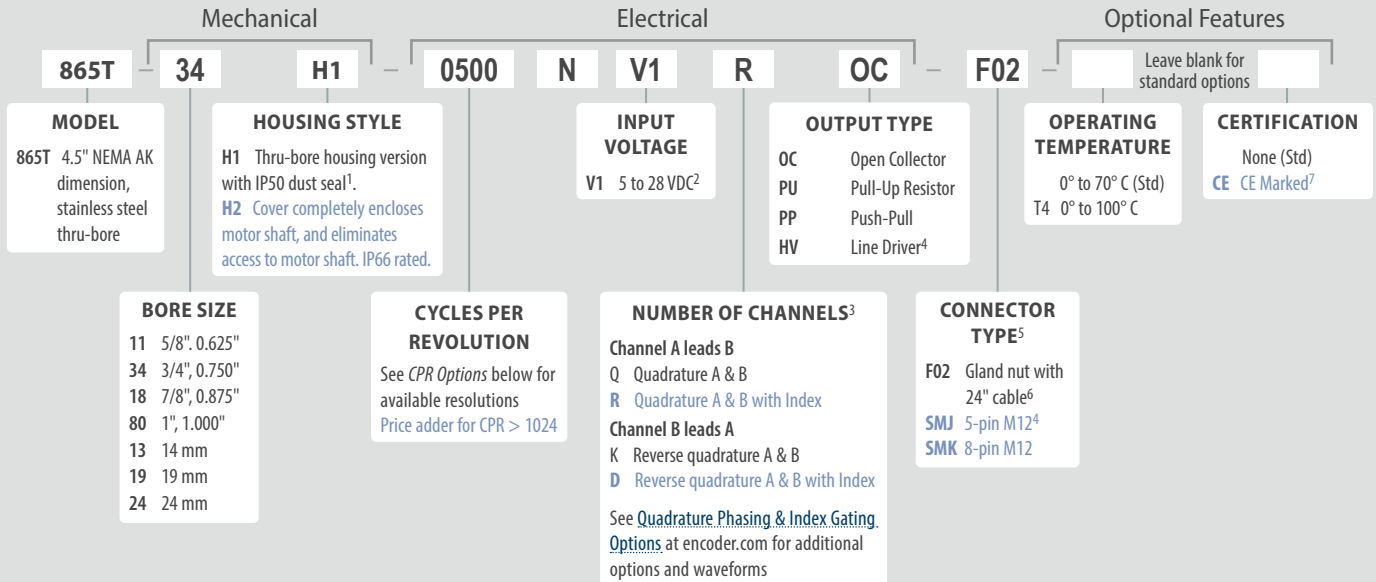
The Model 865T C-Face encoder is a rugged, high resolution encoder designed to mount directly on NEMA C-Face motors. Both sides of the encoder are C-Face mounts, allowing additional C-Face devices to be mounted to this encoder. Unlike many C-Face kit type encoders, the Model 865T contains precision bearings 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 1.00" thick model 865T provides speed and position information for drive feedback in a slim profile. 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 Type 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 Machine

MODEL 865T ORDERING GUIDE

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



MODEL 865T CPR OPTIONS

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

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

NOTES:

- Housing style H1 Thru-Bore version equipped with IP50 dust seal. Unit must be mounted between two C-Face devices with supplied gasket to be IP66 sealed.
- 5 to 24 VDC max for high temperature option.
- Contact Customer Service for index gating options.
- Line Driver Output not available with 5-pin M12 connector.
- For mating connectors, cables, and cordsets see [Accessories](#) at [encoder.com](#). For Connector Pin Configuration Diagrams, see Technical Information or see [Connector Pin Configuration Diagrams](#) at [encoder.com](#).
- For non-standard cable lengths enter 'F' plus cable length expressed in feet. Example: F06 = 6 feet of cable.
- Please refer to Technical Bulletin [TB100: When to Choose the CE Mark](#) at [encoder.com](#).

MODEL 865T - STAINLESS STEEL ENCODER

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 and 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.
Output Types.....	Open Collector – 100 mA max per channel
.....	Pull-Up – Open Collector with 2.2K ohm internal resistor, 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.
.....	.0001 to 0512 CPR: Ungated
.....	.0513 to 4096 CPR: Gated to output A
.....	See Waveform Diagrams.
Max Frequency.....	200 kHz
Electrical Protection.....	Reverse voltage and output short circuit protected. NOTE: Sustained reverse voltage may result in permanent damage.
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
Quadrature.....	67.5° electrical or better is typical,
Edge Separation.....	54° electrical minimum at temperatures > 99° C
Rise Time.....	Less than 1 microsecond

Mechanical

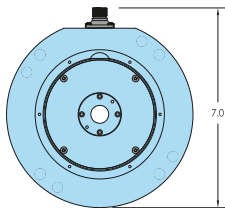
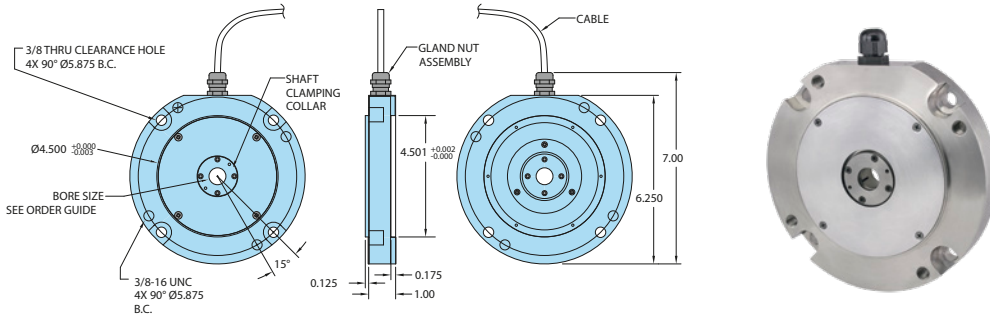
Max Shaft Speed.....	6000 RPM. Higher shaft speeds may be achievable, contact Customer Service.
Bore Tolerance.....	+0.0015"/-0.000"
User Shaft Tolerances	
Radial Runout.....	0.005"
Axial Endplay.....	±0.050"
Moment of Inertia.....	3.3 x 10 ⁻³ oz-in-sec ² typical
Housing.....	Type 316 Stainless Steel
Weight.....	.6 lb typical

Environmental

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.

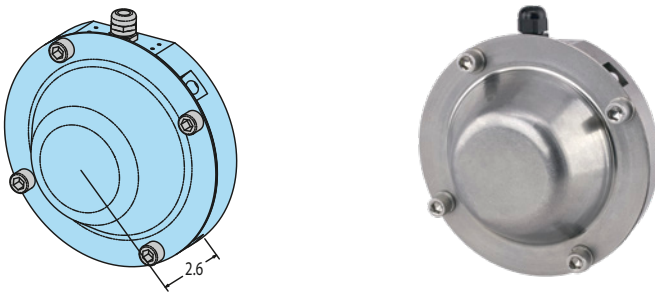
MODEL 865T - STAINLESS STEEL ENCODER

MODEL 865T CONNECTOR OPTIONS



Model 865T shown with M12 connector option. Specify 5-pin or 8-pin using Ordering Guide.

MODEL 865T OPTIONAL HOUSING COVER (H2)



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

MODEL 865T - STAINLESS STEEL ENCODER

WIRING TABLE

For EPC-supplied mating cables, refer to wiring table provided with cable.
Trim back and insulate unused wires.

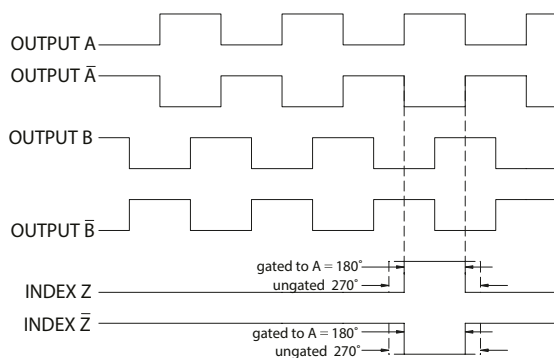
Function	Gland Cable Wire Color†	5-pin M12* PU, PP, OC	8-pin M12*
Com	Black	3	7
+VDC	Red	1	2
A	White	4	1
A'	Brown	--	3
B	Blue	2	4
B'	Violet	--	5
Z	Orange	5	6
Z'	Yellow	--	8
Shield	Bare	--	--

*CE Option: Use cable cordset with shield connected to M12 connector coupling nut.

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

WAVEFORM DIAGRAMS

Line Driver and Push-Pull



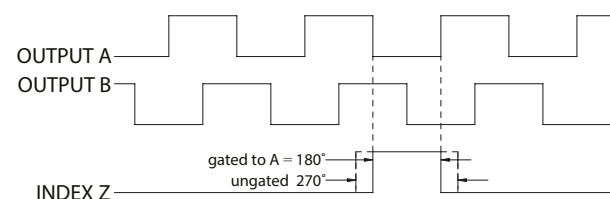
Clockwise rotation as viewed from the mounting face.

NOTE: All degree references are electrical degrees.

Waveform shown with optional complementary signals.

A, B, Z for HV output only.

Open Collector and Pull-Up



Clockwise rotation as viewed from the mounting face.

NOTE: All degree references are electrical degrees. Index is positive going.