

Model 755A Hollow Bore



Ø1.5"

Features

- Miniature Size (1.5" Diameter)
- Up to 30,000 Cycles Per Revolution
- Flex Mounting
- Large Hollow Bore Option (up to 0.750")
- High Temperature Option

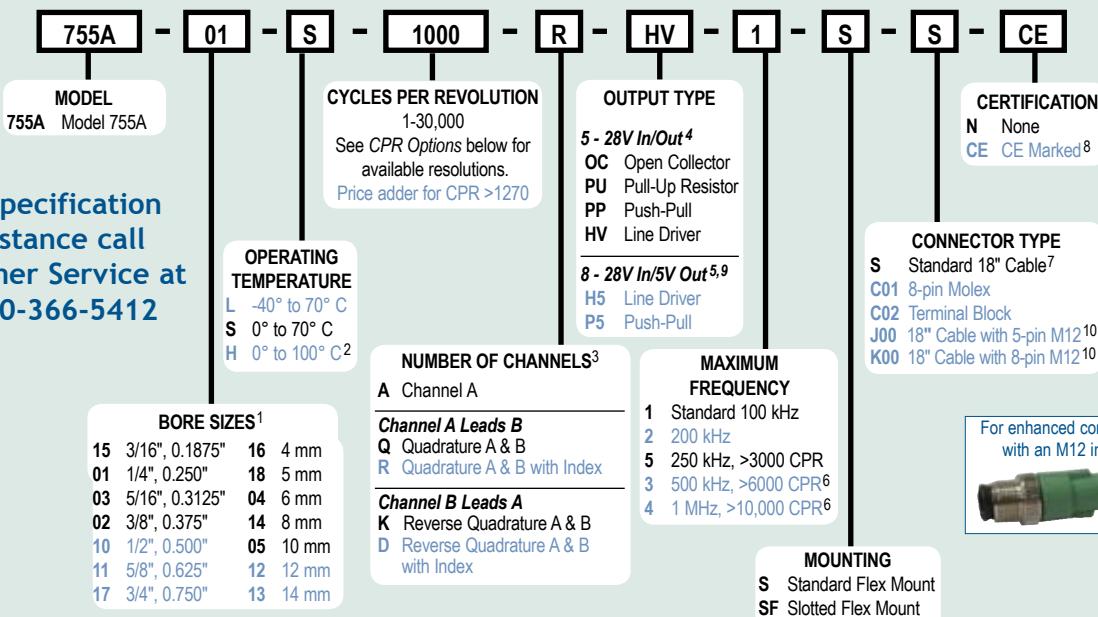
The Model 755A Size 15 Accu-Coder™ is ideal for applications requiring a small, high precision, high performance encoder. Approximately 1.5" in diameter and 1.5" long, it will fit where many encoders cannot. All metal construction and shielded ball bearings provides years of trouble-free use. A variety of blind hollow bore sizes are available. Large bores allow for shafts up to 0.750" or 14 mm. Attaching directly to a motor is quick and simple with the innovative flex mount, first developed by EPC. This industry standard mount eliminates couplings, increases reliability, while reducing overall length and cost. Where critical alignment is required, a Slotted Flex (SF) is available. A perfect replacement encoder where high reliability is required.

Common Applications

Robotics, Assembly Machines, Motor-Mounted Feedback, Phototypesetters, Printers & Digital Plotters, Elevator Controls, Medical Diagnostic Equipment

Model 755A Ordering Guide

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



Model 755A CPR Options

0001*	0002*	0004*	0005*	0006*	0007*	0008*	0010*	0011*
0012*	0020	0021*	0024*	0025*	0028*	0030*	0032*	
0033*	0034*	0035*	0038*	0040*	0042*	0045*	0050*	0060
0064*	0100	0120	0125	0128*	0144*	0150*	0160*	0192*
0200	0240*	0250	0254*	0256*	0300	0333*	0360	0400
0500	0512	0600	0625*	0635	0665*	0720	0768*	0800
0889	0900*	1000	1024	1200	1201*a	1203*a	1204*a	1250*a
1270 ^a	1440	1500	1800	2000	2048	2400 ^a	2500	2540 ^a
2880 ^a	3000 ^a	3600 ^a	4000 ^a	4096 ^a	5000 ^a	6000 ^a	7200 ^a	7500 ^a
9000 ^a	10,000 ^a	10,240 ^a	12,000 ^a	12,500 ^a	14,400 ^a	15,000 ^a	18,000 ^a	20,000 ^a
20,480 ^a					25,000 ^a	30,000 ^a		

* Contact Customer Service for High Temperature Option.

^a High Temperature Option (H) limited to 85° C maximum for these CPR options.

New CPR values are periodically added to those listed. Contact Customer Service to determine all currently available CPR values. Special disk resolutions are available upon request. A one-time NRE fee may apply.

NOTES:

- 1 Contact Customer Service for additional options.
- 2 0° to 85° C for certain resolutions, see CPR Options.
- 3 Contact Customer Service for index gating options.
- 4 24 VDC max for high temperature option.
- 5 Standard temperature, 60 to 3000 CPR only.
- 6 Standard cable lengths only. For details, please refer to Technical Bulletin TB116: *Noise and Signal Considerations* at www.encoder.com.
- 7 For non-standard cable lengths, add a forward slash (/) plus cable length expressed in feet. Example: S/6 = 6 feet of cable.
- 8 Please refer to Technical Bulletin TB100: *When to Choose the CE Option*.
- 9 H5 and P5 outputs are not available with CE option.
- 10 5-pin not available with Line Driver (HV, H5) outputs. Additional cable lengths available. Please consult Customer Service.

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Model 755A 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 encoder 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.....Occurs once per revolution. The index for units >3000 CPR is 90° gated to Outputs A and B. See *Waveform Diagrams* below.

Max Frequency.....Up to 1 MHz

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

Symmetry1 to 6000 CPR: 180° ($\pm 18^\circ$) electrical at 100 kHz output
6001 to 20,480 CPR: 180° ($\pm 36^\circ$) electrical

Quad Phasing.....1 to 6000 CPR: 90° ($\pm 22.5^\circ$) electrical at 100 kHz output
6001 to 20,480 CPR: 90° ($\pm 36^\circ$)

Min Edge Sep.....1 to 6000 CPR: 67.5° electrical at 100 kHz output
6001 to 20,480 CPR: 54° electrical

>20,480 CPR: 50° electrical

Rise Time.....Less than 1 microsecond

Accuracy.....Instrument and Quadrature Error: For 200 to 1999 CPR, 0.017° mechanical (1.0 arc minutes) from one cycle to any other cycle. For 2000 to 3000 CPR, 0.01° mechanical (0.6 arc minutes) from one cycle to any other cycle. Interpolation error (units > 3000 CPR only) within 0.005° mechanical. (Total Optical Encoder Error = Instrument + Quadrature + Interpolation)

Mechanical

Max Shaft Speed.....7500 RPM. Higher shaft speeds may be achievable, contact Customer Service.

Bore Size.....0.1875", 0.250", 0.3125", 0.375", 0.500", 0.625", 0.750", 4 mm, 5 mm, 6 mm, 8 mm, 10 mm, 12 mm, 14 mm

Bore Tolerance.....-0.0000" / +0.0006"

User Shaft Tolerances

Radial Runout.....0.007" max

Axial End Play..... $\pm 0.030"$ max

Starting Torque.....0.14 oz-in typical
4.0 oz-in typical for -40° C operation

Moment of Inertia..... 2.8×10^{-4} oz-in-sec²

Max Acceleration..... 1×10^5 rad/sec²

Electrical Conn.....18" cable (foil and braid shield, 24 AWG conductors), 5- or 8-pin M12 (12 mm) in-line connector with 18" cable (braid shield), 8-pin Molex, Terminal Block

Housing.....Black non-corrosive finish

Bearings.....Precision ABEC ball bearings

Mounting.....Flex, and Slotted Flex Mounting

Weight.....3.50 oz 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 85° C for certain resolutions, see CPR Options.)

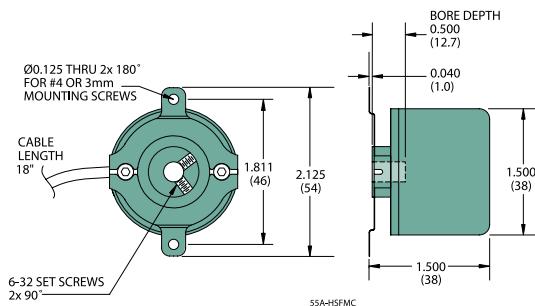
Storage Temp.....-25° to +85° C

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

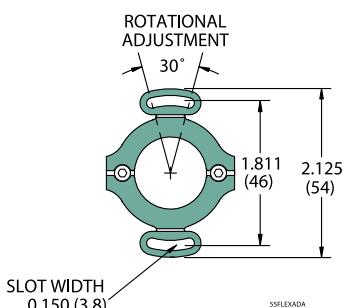
Vibration.....10 g @ 58 to 500 Hz

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

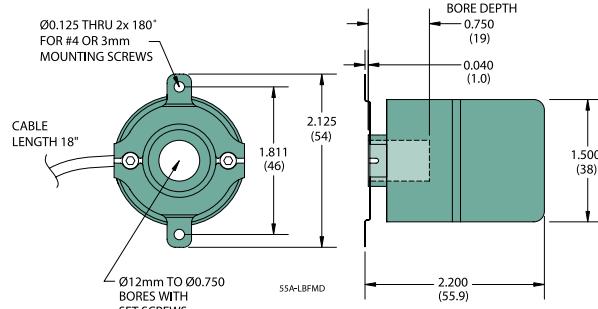
Model 755A Flex Mount (S)



Optional Slotted Flex Mount (SF)



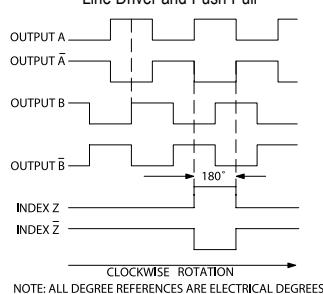
Model 755A Large Bore Flex Mount (S)



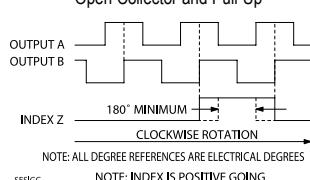
All dimensions are in inches with a tolerance of $\pm 0.005"$ or $\pm 0.01"$ unless otherwise specified
Metric dimensions are given in brackets [mm]

Waveform Diagrams

Line Driver and Push-Pull



Open Collector and Pull-Up



Wiring Table

Function	Cable Wire Color	Terminal Block	8-pin Molex	5-pin M12 ²	8-pin M12 ²
Com	Black	7	2	3	7
+VDC	White	8	1	1	2
A	Brown	1	8	4	1
A'	Yellow	2	7	----	3
B	Red	3	4	2	4
B'	Green	4	3	----	5
Z	Orange	6	6	5	6
Z'	Blue	5	5	----	8
Shield	Bare ¹	----	----	----	----

¹CE Option: Cable shield (bare wire) is connected to internal case

²CE Option: Read Technical Bulletin TB111