

Model 755A

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.....100 kHz std; Up to 1 MHz optional. (See Ordering Guide for availability)

Noise Immunity.....Tested to BS EN61000-4-2; IEC801-3; BS EN61000-4-4; DENV 50141; DENV 50204; BS EN55022 (with European compliance option); BS EN61000-6-2; BS EN50081-2

Symmetry.....1 to 6000 CPR: 180° (±18°) electrical at 100 kHz output
 6001 to 20,480 CPR: 180° (±36°) electrical

Quad Phasing.....1 to 6000 CPR: 90° (±22.5°) electrical at 100 kHz output
 6001 to 20,480 CPR: 90° (±36°)

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

Shaft Size.....0.250", 5 mm, 6 mm

Shaft Rotation.....Bi-directional

Radial Shaft Load.....5 lb

Axial Shaft Load.....3 lb

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.....Servo or Optional Flange

Weight.....3.10 oz servo mount, 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.)

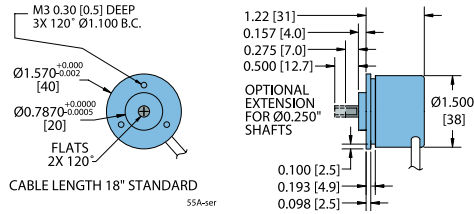
Storage Temp.....-25° to +85° C

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

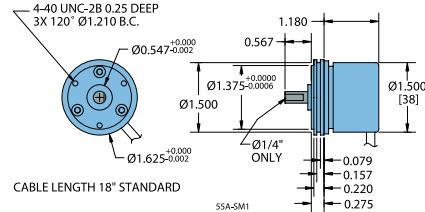
Vibration.....10 g @ 58 to 500 Hz

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

Model 755A Standard Servo Mount S



Model 755A Servo Mounts S1 and S2



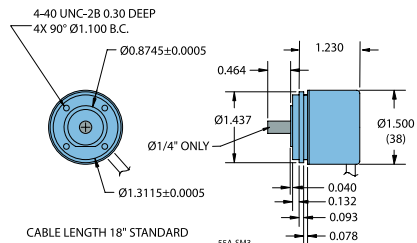
S1

S2 Pictured below has a 0.750" Boss. S1 has a 0.547" Boss. See www.encoder.com to download drawings

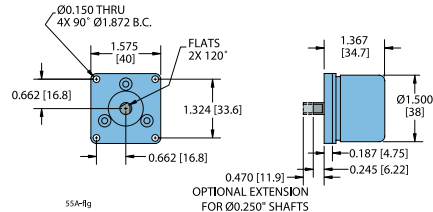


S2

Model 755A Servo Mount S3

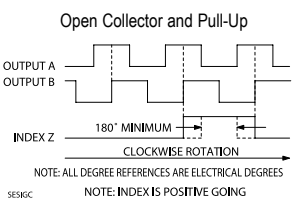
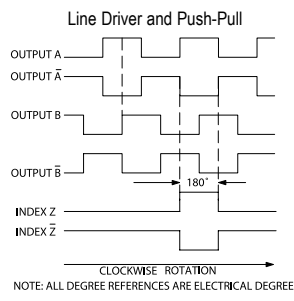


Model 755A Square Flange MF



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

Waveform Diagrams



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

Incremental Shaft Encoders