

Model 755RG 38mm High Precision Servo or Square Flange Mount



**BRITISH
ENCODER**
PRODUCTS COMPANY



Features

- Miniature Size (38mm Diameter)
- Up to 30,000 Cycles Per Revolution
- Servo or Square Flange
- 1 MHz Frequency Response Available
- Extended Temperature Operating Range Available

The Model 755RG Size Encoder is ideal for applications requiring a small, high precision, high performance encoder. Approximately 38mm in diameter and 38mm long, it will fit where many encoders cannot. Designed with all metal construction and shielded ball bearings, it will provide years of trouble-free use.

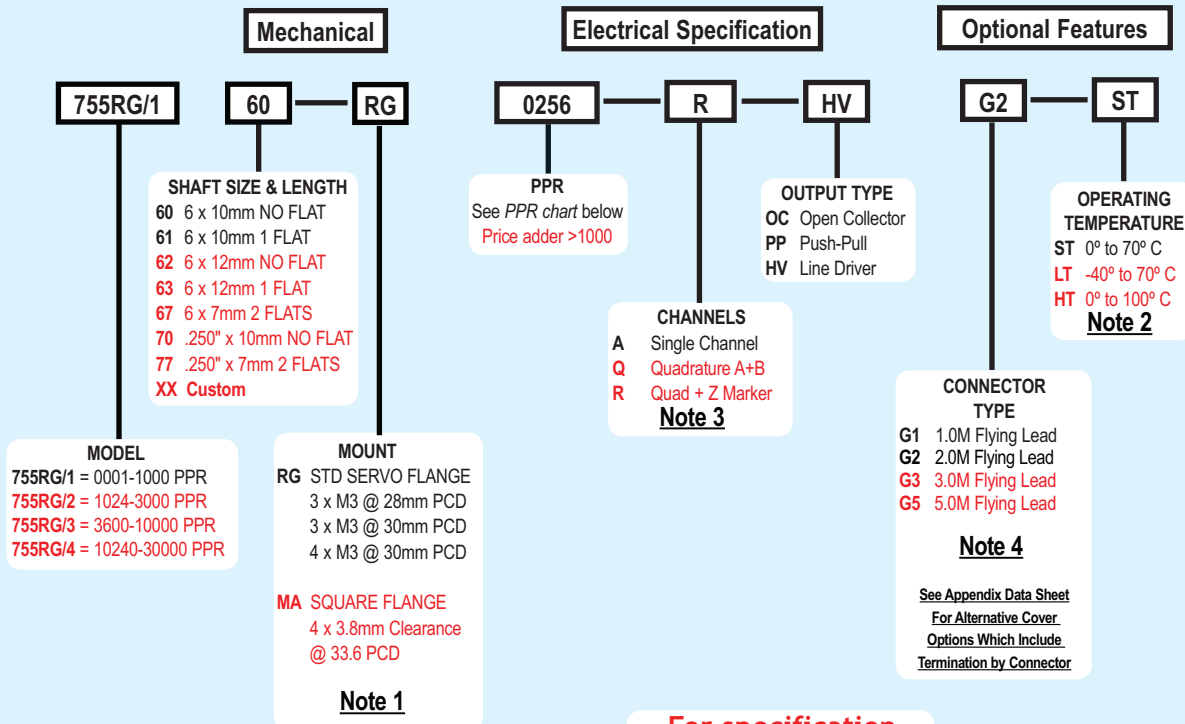
The standard servo mount (RG) version is available with a variety of shaft sizes and lengths, and 3 unique sets of fixing hole patterns. The optional flange mounting (MF) is ideal for applications requiring a bolt-on, high precision encoder. With its high reliability and quick delivery, the Model 755RG encoder is the perfect replacement encoder for less reliable encoders of this size.

Common Applications

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

Model 755RG Ordering Guide

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



Model 755RG PPR Options

0001*	0005*	0010*	0020	0025*	0030*	0040*	0050*	0060
0100	0120	0125	0128*	0144*	0150*	0160*	0200	0240*
0250	0254*	0256*	0300	0333*	0360	0400	0500	0512
0600	0625*	0635	0720	0800	0900*	1000	1024	1200 ^a
1250 ^a	1270	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	12,500 ^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 PPR options.

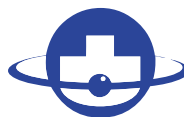
Contact Customer Service to determine all currently available PPR values. Special disk resolutions are available upon request. A one-time NRE fee may apply.

For specification
assistance call
Customer Service at
+44 (0)1978 262100

NOTES:

- 1 Contact Customer Service for additional options.
- 2 0° to 85° C for certain resolutions, see PPR Options.
- 3 Contact Customer Service for index gating options.
- 4 For non-standard cable lengths, please call our sales office.

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Model 755RG Specifications

Electrical

Input Voltage.....4.75 to 28 VCC max for temperatures up to 70° C
4.75 to 24 VCC for temperatures between 70° C to 100° C

Input Current.....100 mA max with no output load
Input Ripple100 mV peak-to-peak at 0 to 100 kHz

Output FormatIncremental- 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- 50 mA max per channel
Push-Pull- 20 mA max per channel
Line Driver- 20 mA max per channel (Meets RS 422 at 5 VCC supply)

IndexOccurs once per revolution. The index for units >3000 PPR is 90° gated to Outputs A and B. See *Waveform Diagrams* below.

Freq Response.....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 PPR: 180° (±18°) electrical at 100 kHz output
6001 to 20,480 PPR: 180° (±36°) electrical

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

Min Edge Sep.....1 to 6000 PPR: 67.5° electrical at 100 kHz output
6001 to 20,480 PPR: 54° electrical
>20,480 PPR: 50° electrical

Rise Time.....Less than 1 microsecond

Accuracy.....Instrument and Quadrature Error: For 200 to 1999 PPR, 0.017° mechanical (1.0 arc minutes) from one cycle to any other cycle. For 2000 to 3000 PPR, 0.01° mechanical (0.6 arc minutes) from one cycle to any other cycle. Interpolation error (units > 3000 PPR 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.

Shaft SizeUp to 0.250" Diameter (See order code)

Shaft Tolerance.....g6, Sliding fit for H7 host bore

User Shaft Tolerances
Radial Shaft Load2.25 Kg max
Axial Shaft Load1.36 Kg max
Starting Torque9.886 x 10⁻³ Nm typical
2.824 x 10⁻² Nm typical for -40° C operation

Max Acceleration.....1 x 10⁵ rad/sec²

Electrical Conn2M cable (foil and braided shield, 24 SWG conductors) 5 Pin, 6 Pin or 8 Pin connectors available - see Appendix data sheet for connector cover options

Housing.....Black non-corrosive finish

Bearings.....Precision ABEC ball bearings

Mounting.....3 x M3 on a 30mm PCD, 4 x M3 on a 30mm PCD, 3 x M3 on a 28mm PCD / Square Flange

Weight.....100gm 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 PPR Options.)

Storage Temp.....-25° to +85° C

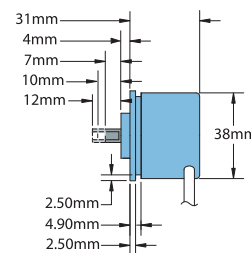
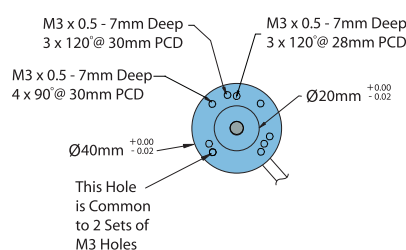
Humidity.....98% RH non-condensing

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

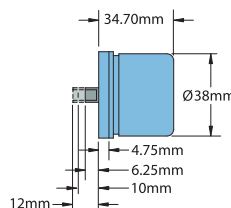
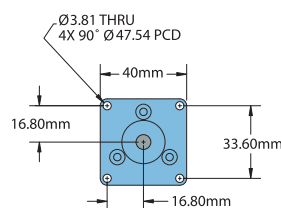
Shock.....50 g @ 11 ms duration

Sealing.....IP50 standard

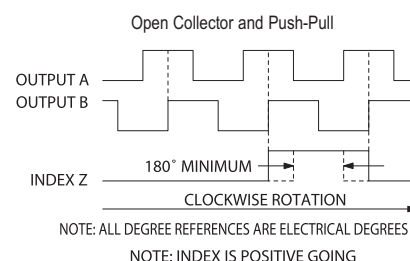
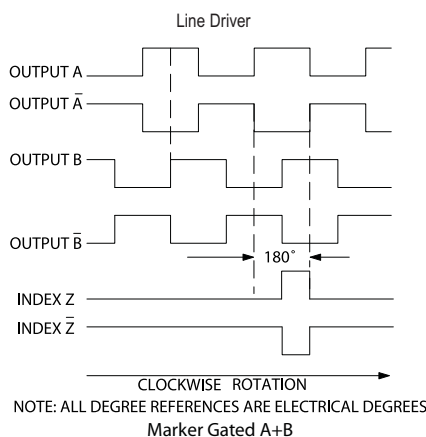
Model 755RG Servo Mount (RG)



Model 755RG Mounting Flange Option (MA)



Waveform Diagrams



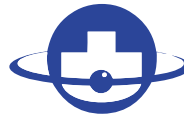
Wiring Table

Function	Cable Wire Color	6-pin MS	5-pin Binder	8-pin M12
Com	Black	A	3	7
+VCC	White	B	1	2
A	Brown	D	4	1
A'	Yellow	-----	-----	3
B	Red	E	2	4
B'	Green	-----	-----	5
Z	Orange	C	5	6
Z'	Blue	-----	-----	8
Shield	Bare	-----	-----	-----

See appendix Data Sheet for Connector Cover options.

755 Accessories

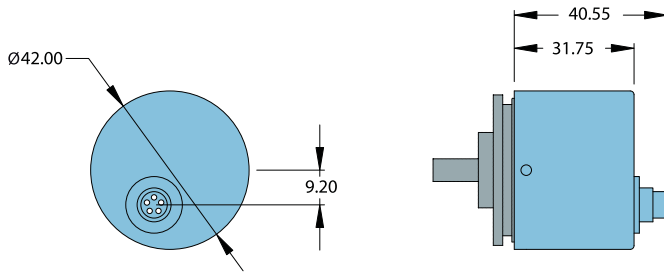
Cover & Connector Types / Flanges



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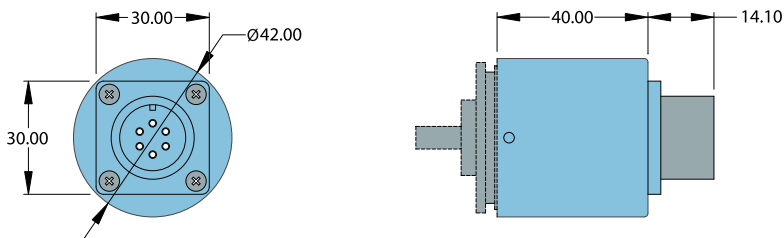


755 Cover & 5 Pin Binder Connector



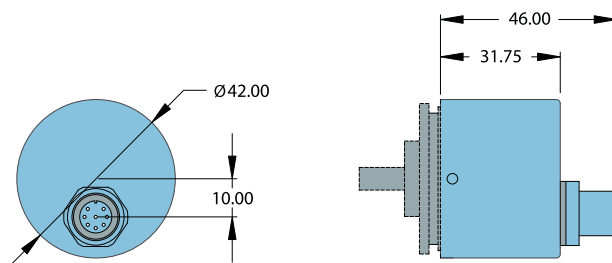
5E05

755 Cover & 6 Pin MS Connector



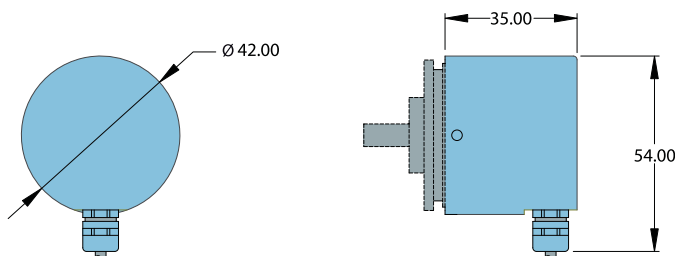
5E06

755 Cover & M12 EuroFast Connector



5E08

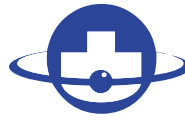
755 Cover & M10 Gland + 2M Cable



5SG2

755 Accessories

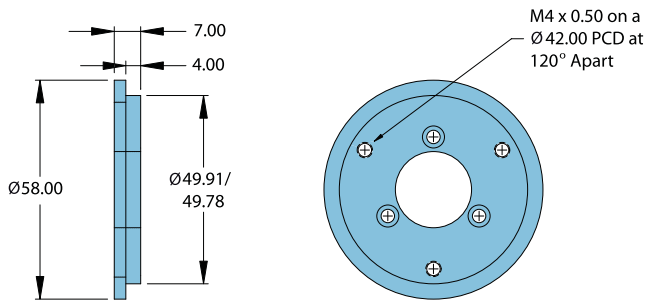
Cover & Connector Types / Flanges



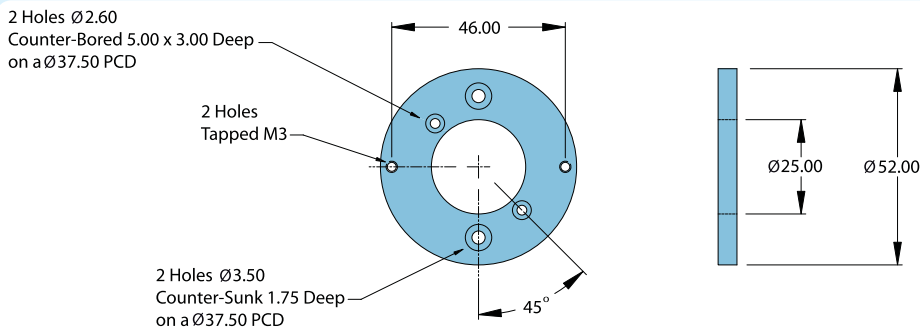
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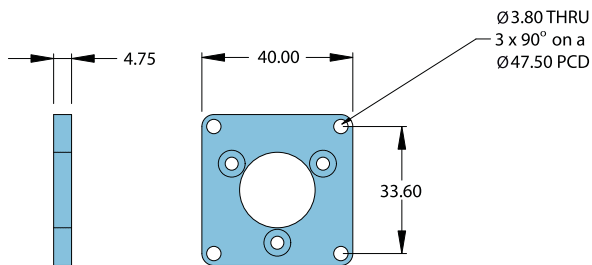
755 MHH Flange (M-1)



755 Parvex Flange (M-9)



755 Square Flange (M-A)



755 Special Covers & Connector Types

Connector Code	Description
5E05	5 Pin DIN (Binder)
5E06	6 Pin MS (Crown)
5E08	8 Pin M12 (EuroFast)
5SG2	M10 Gland & 2M Cable