

# Model 755HS 38mm High Precision Hollow Blind Bore



**BRITISH  
ENCODER**  
PRODUCTS COMPANY



## Features

- Miniature Size (38.1mm Diameter)
- Up to 30,000 Cycles Per Revolution
- Flex Mounting
- Hollow Bore Option (up to 10mm)
- High Temperature Option

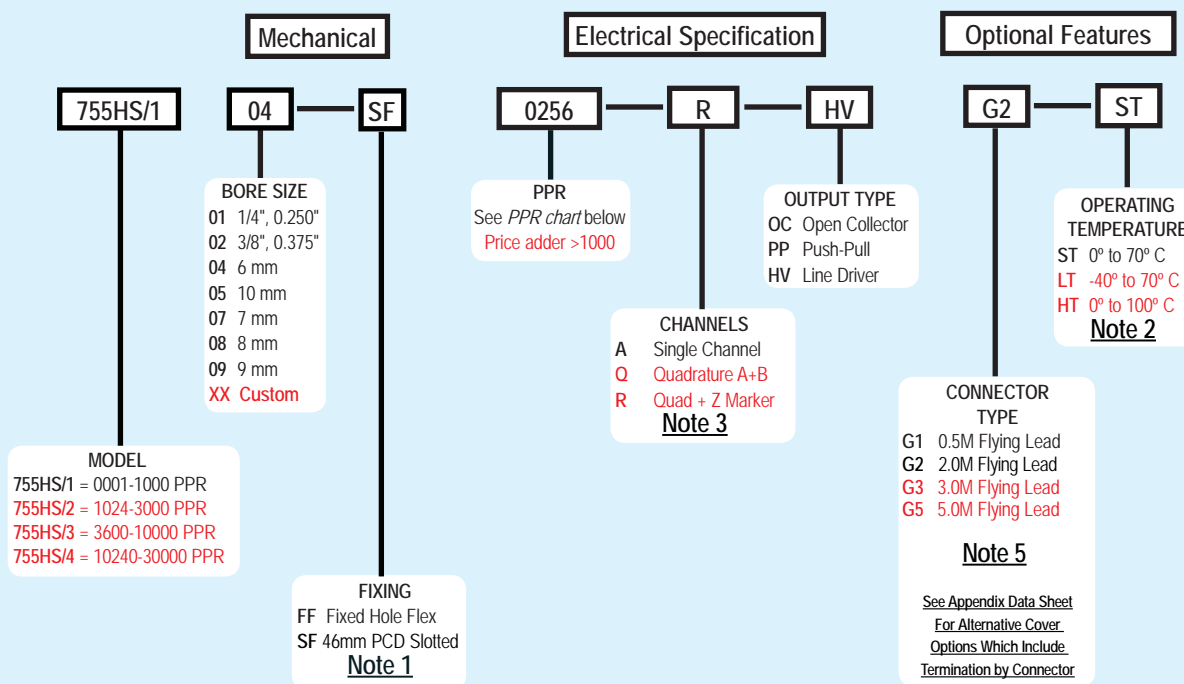
The Model 755HS Size is ideal for applications requiring a small, high precision, high performance encoder. Approximately 38.1mm in diameter and 38mm long, it will fit where many encoders cannot. All metal construction and shielded ball bearings provides years of trouble-free use. A variety of blind hollow bore sizes are available, for shafts up to 10mm. Attaching directly to a motor is quick and simple with the innovative flex mount, first developed by us. 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 755HS Ordering Guide

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



## Model 755HS PPR Options Note 4

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 <sup>a</sup>
1250 <sup>a</sup>	1270 <sup>a</sup>	1440	1500	1800	2000	2048	2400 <sup>a</sup>	2500
2540 <sup>a</sup>	2880 <sup>a</sup>	3000 <sup>a</sup>	3600 <sup>a</sup>	4000 <sup>a</sup>	4096 <sup>a</sup>	5000 <sup>a</sup>	6000 <sup>a</sup>	7200 <sup>a</sup>
7500 <sup>a</sup>	9000 <sup>a</sup>	10,000 <sup>a</sup>	10,240 <sup>a</sup>	12,500 <sup>a</sup>	14,400 <sup>a</sup>	15,000 <sup>a</sup>	18,000 <sup>a</sup>	20,000 <sup>a</sup>
20,480 <sup>a</sup>	25,000 <sup>a</sup>	30,000 <sup>a</sup>						

\* Contact Customer Service for High Temperature Option.

<sup>a</sup> High Temperature Option (H) limited to 85° C maximum for these PPR options.

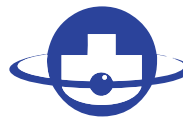
Contact Customer Service to determine all currently available PPR values. Special disk resolutions are available upon request. A one-time NRE fee may apply.

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

## NOTES:

- 1 See 755 Appendix sheet for flange options or 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 Standard temperature, 60 to 3000 PPR only.
- 5 For non-standard cable lengths, please call our sales office.

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## Model 755HS 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 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 <i>Waveform Diagrams</i> 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)
Index .....	Occurs once per revolution. The index for units >3000 PPR is 90° gated to Outputs A and B. See <i>Waveform Diagrams</i> 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
Symmetry .....	1 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)

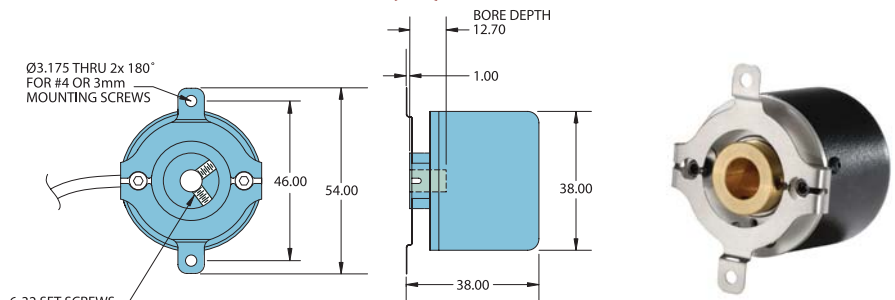
### Mechanical

Max Shaft Speed.....	7500 RPM. Higher shaft speeds may be achievable, contact Customer Service.
Bore Size.....	Up to 10mm ( See order code )
Bore Tolerance .....	H7, Sliding fit for g6 host shaft
User Shaft Tolerances	
Radial Runout .....	0.2 max
Axial End Play.....	±0.8° max
Starting Torque .....	9.886 x 10 <sup>-3</sup> Nm typical 2.824 x 10 <sup>-2</sup> Nm typical for -40° C operation
Max Acceleration.....	1 x 10 <sup>5</sup> rad/sec <sup>2</sup>
Electrical Conn .....	2M 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.....	Flex, and Slotted Flex Mounting
Weight.....	100gm typical

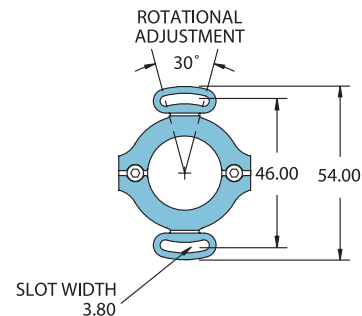
### Environmental

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

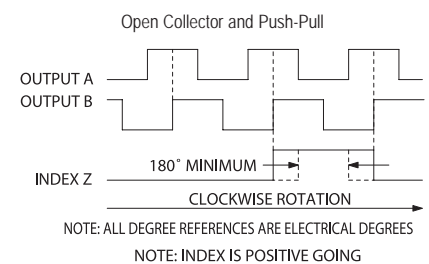
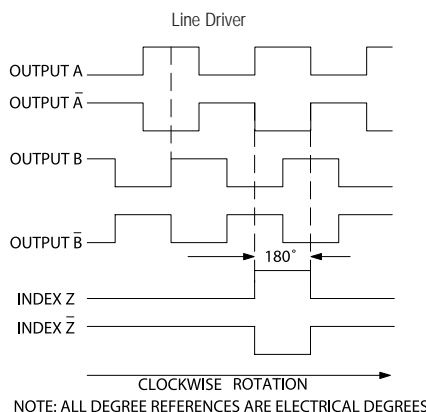
## Model 755HS Flex Mount (FF)



## Optional Slotted Flex Mount (SF)



## 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.