

Model 755HS 38mm High Precision Hollow Blind Bore



Principle Engineering



Features

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

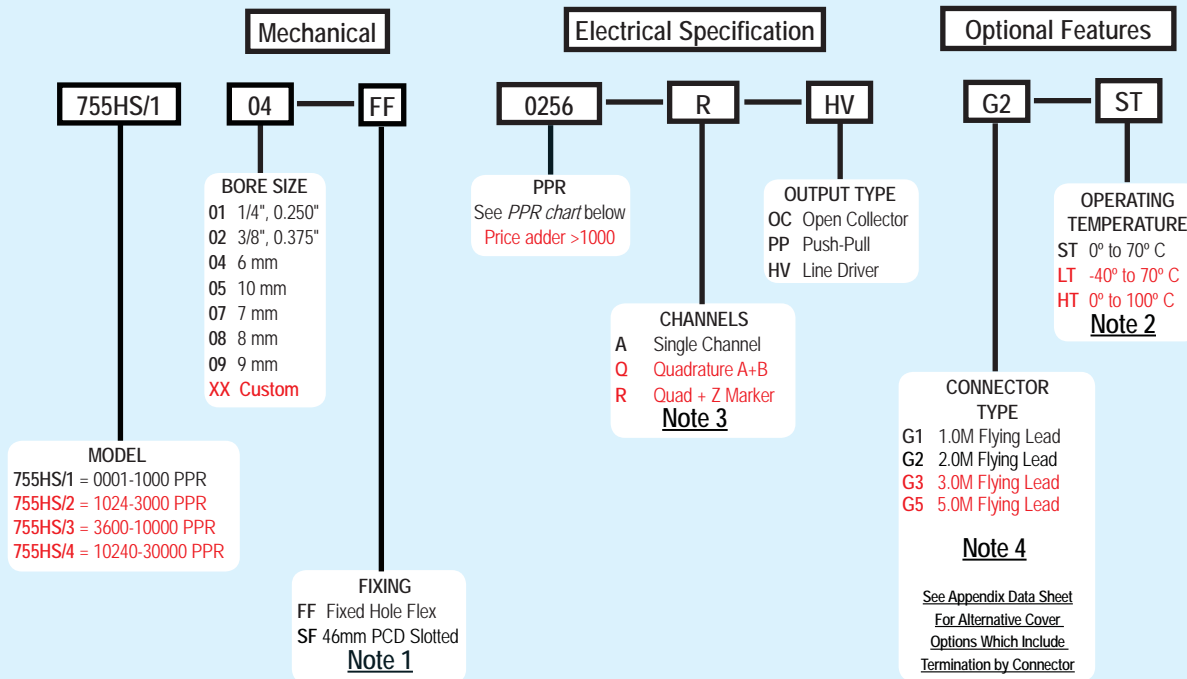
The Model 755HS Size is ideal for applications requiring a small, high precision, high performance encoder. Approximately 38.1mm in diameter and 38mm long, it will fit where many encoders cannot. All metal construction and shielded ball bearings provides years of trouble-free use. A variety of blind 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

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

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 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 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.

Bore Size.....Up to 10mm (See order code)

Bore ToleranceH7, Sliding fit for g6 host shaft

User Shaft Tolerances
 Radial Runout0.2mm max
 Axial End Play.....±0.8mm 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.....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

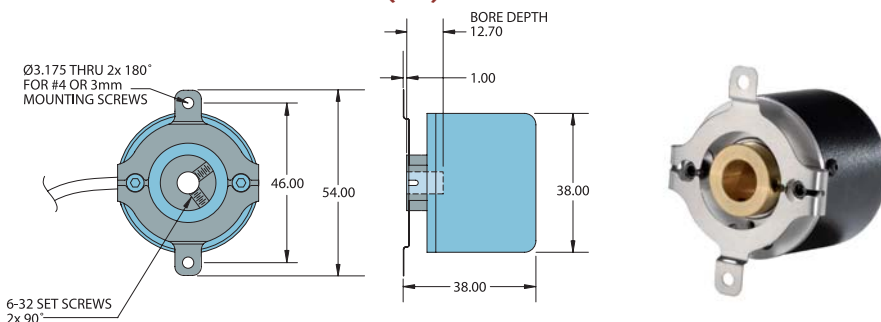
Humidity.....98% RH non-condensing

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

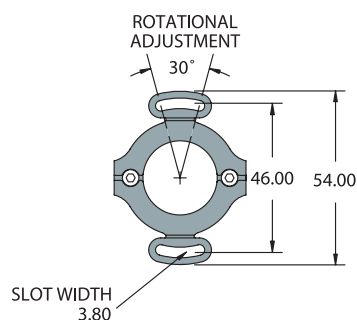
Shock.....50 g @ 11 ms duration

Sealing.....IP50 standard

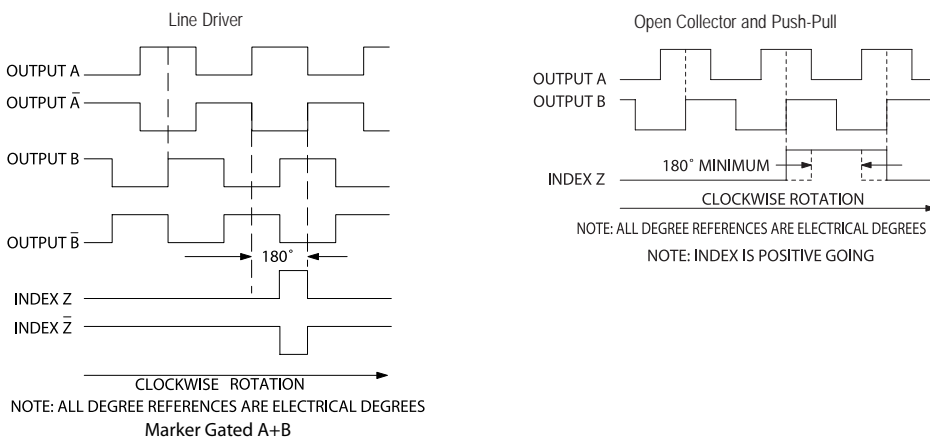
Model 755HS Flex Mount (FF)



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.