

Model 755HS 38mm High Precision Hollow Bore Encoder



Ø38.1 mm

Features

- Miniature Size (38.1mm Diameter)
- Up to 30,000 Pulses per Revolution
- Hollow Bore sizes up to 14 mm
- Flex Mounting
- High Temperature Option

The Model 755HS is ideal for applications requiring a small, high precision, high performance encoder. Approximately 38.1mm in diameter and 38.1mm long, it will fit where many encoders cannot. All metal construction and shielded ball bearings provide years of trouble-free use. A variety of blind hollow bore sizes are available. Large bores allow for shafts up to 14 mm. Attaching directly to a motor is quick and simple with the innovative flex mount. This industry standard mount eliminates couplings and increases reliability, while reducing overall length and cost. Where critical alignment is required, a Slotted Flex Mount (SF) is available. A perfect replacement encoder where high reliability is required.

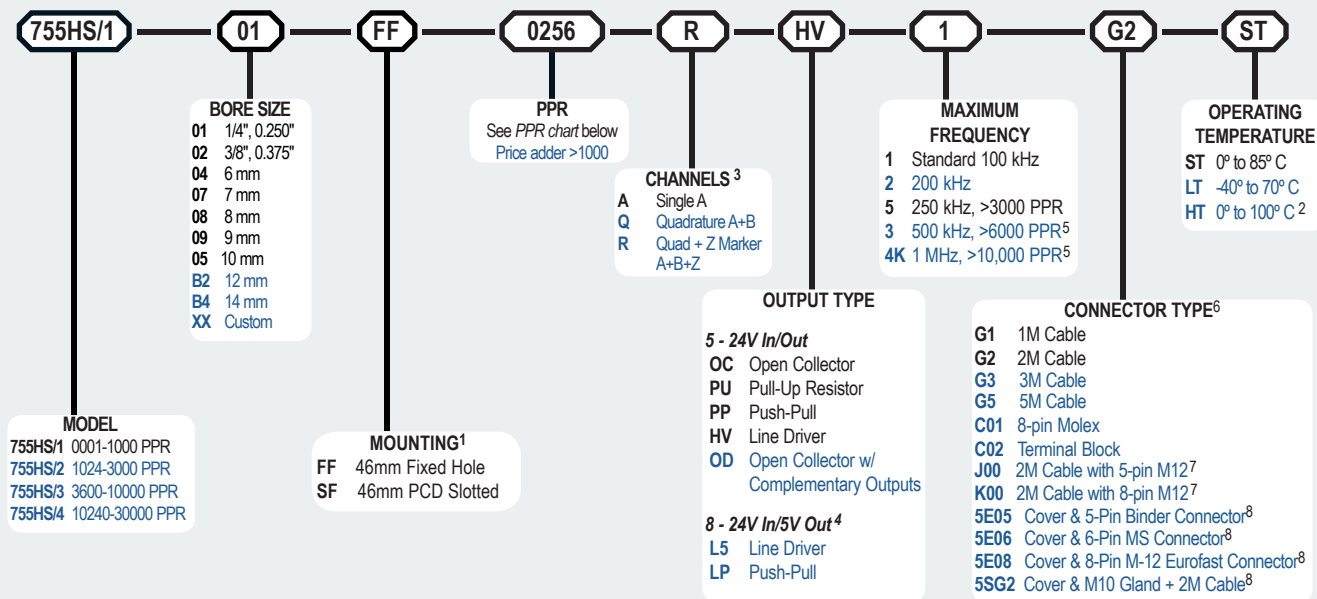
Common Applications

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

Model 755HS Ordering Guide

Blue type indicates price adder options. Not all configuration combinations may be available.

Contact Customer Service for details.



Model 755HS PPR Options

0001*	0002*	0004*	0005*	0006*	0007*	0008*	0010*	0011*
0012*	0014*	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	0889	1000
1024	1200	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 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 - Please see PPR options table.
- 3 Contact Customer Service for marker gating options.
- 4 Standard temperature, 60 to 3000 PPR only.
- 5 Standard cable lengths only.
- 6 For non-standard cable lengths, please call our sales office.
- 7 5-pin not available with Line Driver (HV, L5) outputs. Additional cable lengths available. Please consult Customer Service.
- 8 See 755 Special Covers page 3 for Cover Diagrams & options.

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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 *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 Vcc 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

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

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 14 mm

Bore Tolerance.....H7, Sliding fit for g6

User Shaft Tolerances

Radial Runout.....0.2mm max

Axial End Play.....±0.8mm max

Starting Torque.....9.886 x 10⁻⁴ typical
2.824 x 10⁻² typical for -40° C operation

Electrical Conn.....2M cable (foil and braid shield, 24 AWG conductors), 5- or 8-pin M12 (12 mm) in-line connector with 2M cable (braid shield), 8-pin Molex, Terminal Block, 5 Pin Cover, 6 Pin Cover, 8 Pin Cover, Gland Cover (See appendix sheet for cover options)

Housing.....Black non-corrosive finish

Bearings.....Precision ABEC ball bearings

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

Weight.....100 grams 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

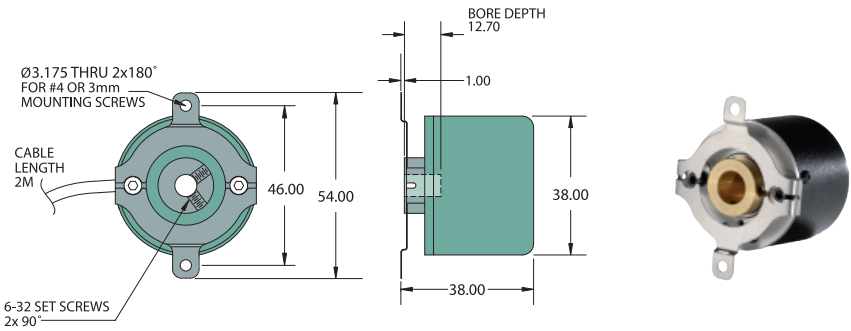
Humidity.....98% RH non-condensing

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

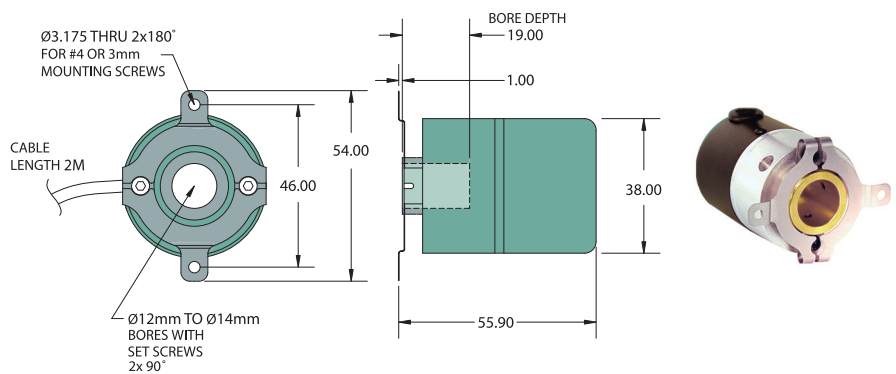
Shock.....50 g @ 11 ms duration

Sealing.....IP50 Standard

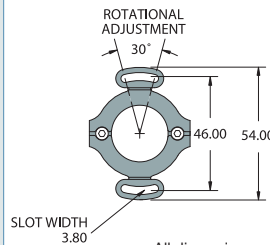
Model 755HS Flex Mount (FF)



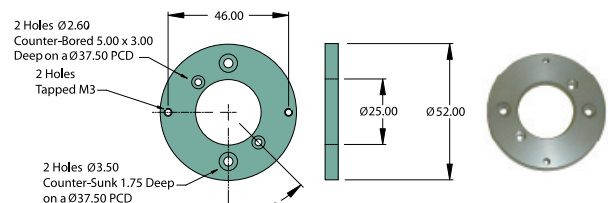
Model 755HS Large Bore



Optional Slotted Flex Mount (SF)



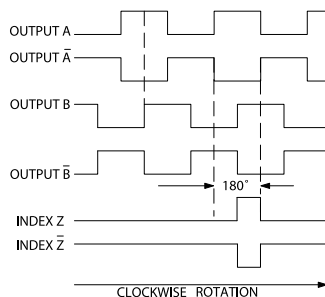
Also Available - PARVEX Flange Kit (M-9)



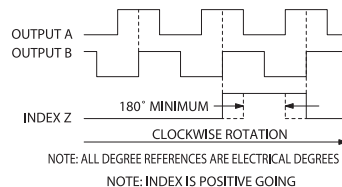
All dimensions are in mm with a tolerance of ±0.127 or ±0.254 unless otherwise specified

Waveform Diagrams

Line Driver (HV), Push-Pull (PP - No /A, /B & /Z)



Open-Collector, Pull-Up (OC, PU)



Wiring Table

(For different lid connector options see page 48)

Function	Gland Cable [†] Wire Color	Terminal Block	8-pin Molex	5-pin**	8 Pin M12**	6 Pin MS**
0 Volts	Black	7	2	3	7	A
+VCC	White	8	1	1	2	B
A	Brown	1	8	4	1	D
A'	Yellow	2	7	--	3	--
B	Red	3	4	2	4	E
B'	Green	4	3	--	5	--
Z	Orange	6	6	5	6	C
Z'	Blue	5	5	--	8	--
Shield	Bare ^{††}	--	--	Case	Case	Case

*CE: Cable shield (bare wire) is connected to internal case.

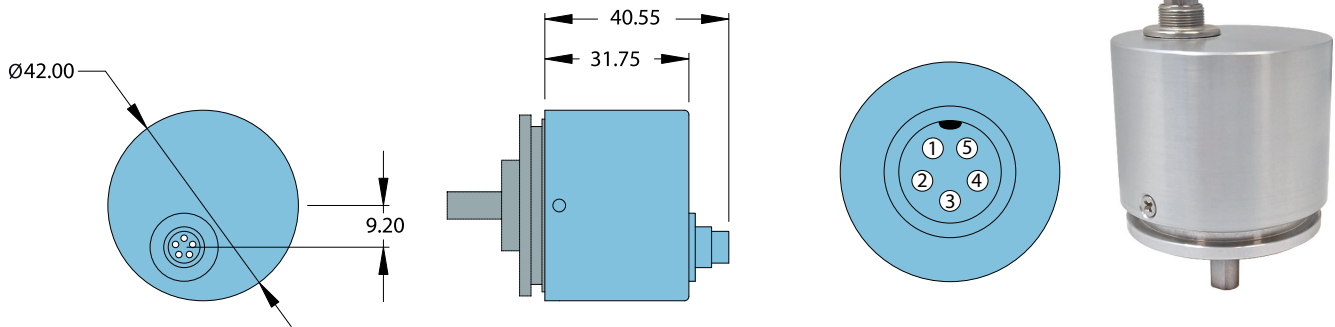
†Standard cable is 24 AWG conductors with foil and braid shield.

**CE: Shield is connected to connector case unless otherwise specified.

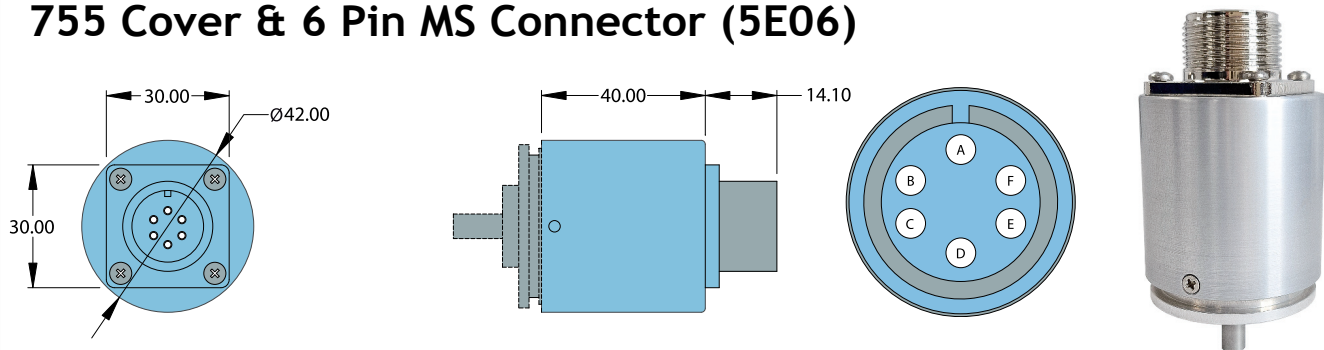
755HS and 755RG Special Covers

Please see Specific Model (755RG or 755HS) Ordering Guides for Options

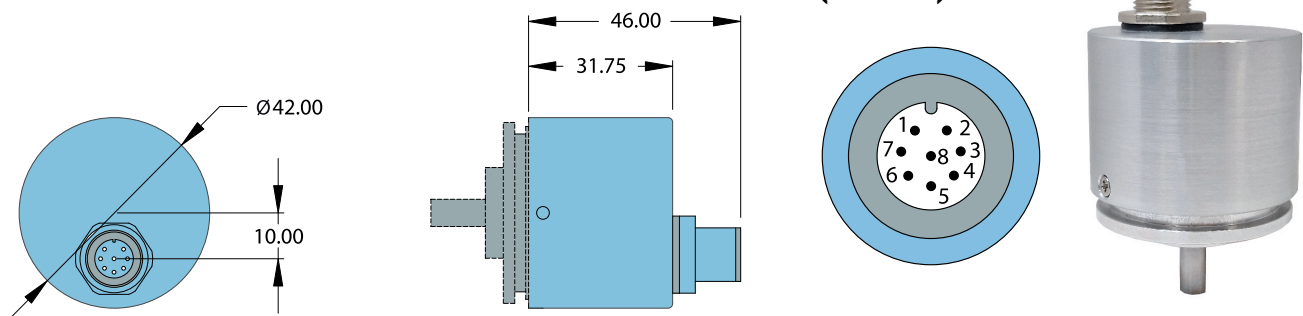
755 Cover & 5 Pin Binder Connector (5E05)



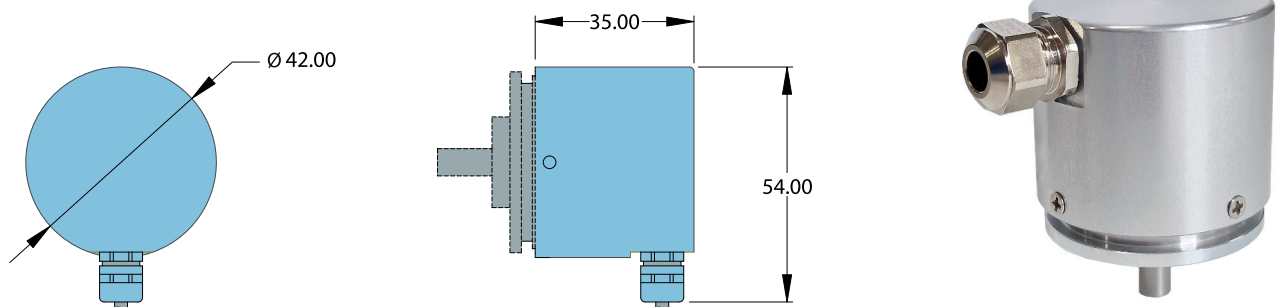
755 Cover & 6 Pin MS Connector (5E06)



755 Cover & 8 Pin EuroFast Connector (5E08)



755 Cover & M10 Gland + 2M Cable (5SG2)



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