Model 755HS 38mm High Precision Hollow Blind Bore

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.

### Mechanical

- **Model**
  - 755HS/1 = 0001-1000 PPR
  - 755HS/2 = 1024-3000 PPR
  - 755HS/3 = 3600-10000 PPR
  - 755HS/4 = 10240-30000 PPR

- **Fixing**
  - FF Fixed Hole Flex
- **Bore Size**
  - 01 1/4", 0.250"
  - 02 3/8", 0.375"
  - 04 6 mm
  - 05 10 mm
  - 07 7 mm
  - 08 8 mm
  - 09 9 mm
  - XX Custom

- **Note 1**
  - See PPR chart below

### Electrical Specification

- **Output Type**
  - OC Open Collector
  - PP Push-Pull
  - HV Line Driver

- **Channels**
  - A Single Channel
  - Q Quadrature A+B
  - R Quad + Z Marker

- **Connectors**
  - G2
  - ST

- **Operating Temperature**
  - ST 0º to 70º C
  - LT -40º to 70º C
  - HT 0º to 100º C

### Optional Features

- **Price Adder >1000**
- **Price Adder Options**
  - For Alternative Cover
  - For Channel Options Which Include Termination by Connector

### Model 755HS PPR Options

- **Channels**
  - A
  - Q
  - R

- **Connector**
  - G2

- **Operating Temperature**
  - ST 0º to 70º C
  - LT -40º to 70º C
  - HT 0º to 100º C

### 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. 0º to 85º 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.

BRITISH ENCODER PRODUCTS Co., UNIT 33 WHITEGATE INDUSTRIAL ESTATE, WREXHAM, LL13 8UG, UNITED KINGDOM
TEL: +44 (0)1978 262100 - FAX: +44 (0)1978 262101 - WEB: WWW.ENCODER.CO.UK - EMAIL: SALES@ENCODER.CO.UK

Page 28
**Model 755HS Specifications**

**Electrical**
- **Input Voltage**: 4.75 to 28 VCC max for temperatures up to 70º C.
  4.75 to 24 VCC for temperatures between 70º C to 100º 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- 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 90º 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 EN61000-4-2; BS EN50081-2
- **Symmetry**: 1 to 6000 PPR: 180º (±18º) electrical at 100 kHz output.
  6001 to 20,480 PPR: 180º (±36º) electrical.
- **Quad Phasing**: 1 to 6000 PPR: 90º (±22.5º) electrical at 100 kHz output.
  6001 to 20,480 PPR: 90º (±36º) electrical.
- **Min Edge Sep**: 1 to 6000 PPR: 67.5º electrical at 100 kHz output.
  6001 to 20,480 PPR: 54º electrical.
  >20,480 PPR: 50º electrical.
- **Rise Time**: Less than 1 microsecond.
- **Accuracy**: Instrument and Quadrature Error: For 200 to 1999 PPR, 0.017º mechanical (1.0 arc minutes) from one cycle to any other cycle. For 2000 to 3000 PPR, 0.01º mechanical (0.6 arc minutes) from one cycle to any other cycle. Interpolation error (units >3000 PPR only) within 0.005º 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 0.2mm max.
  Axial End Play ±0.8mm max.
- **Starting Torque**: 9.886 x 10-³ Nm typical.
  2.824 x 10-² Nm typical for -40º C operation.
- **Max Acceleration**: 1 x 10⁵ rad/sec².
- **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**: 0º to 70º C for standard models.
  -40 to 70º C for low temperature option.
  0º to 100º C for high temperature option (0º to 85º C for certain resolutions, see PPR Options.)
- **Storage Temp**: -25º to +85º C.
- **Humidity**: 98% RH non-condensing.
- **Vibration**: 10 g @ 50 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**

See appendix Data Sheet for Connector Cover options.
755 Accessories
Cover & Connector Types / Flanges

755 Cover & 5 Pin Binder Connector

755 Cover & 6 Pin MS Connector

755 Cover & M12 EuroFast Connector

755 Cover & M10 Gland + 2M Cable
755 Accessories
Cover & Connector Types / Flanges

### 755 MHH Flange (M-1)

- **Dimensions:**
  - Thickness: 7.00
  - Diameter: Ø58.00
  - Diameter: Ø49.91/49.78

- **Details:**
  - M4 x 0.50 on a Ø42.00 PCD at 120° Apart

### 755 Parvex Flange (M-9)

- **Dimensions:**
  - Diameter: 46.00
  - Diameter: Ø25.00

- **Details:**
  - 2 Holes Ø2.60 Counter-Bored 5.00 x 3.00 Deep on a Ø37.50 PCD
  - 2 Holes Tapped M3
  - 2 Holes Ø3.50 Counter-Sunk 1.75 Deep on a Ø37.50 PCD

### 755 Square Flange (M-A)

- **Dimensions:**
  - Length: 4.75
  - Width: 40.00

- **Details:**
  - Ø3.80 THRU
  - 3 x 90° on a Ø47.50 PCD

### 755 Special Covers & Connector Types

<table>
<thead>
<tr>
<th>Connector Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5E05</td>
<td>5 Pin DIN (Binder)</td>
</tr>
<tr>
<td>5E06</td>
<td>6 Pin MS (Crown)</td>
</tr>
<tr>
<td>5E08</td>
<td>8 Pin M12 (EuroFast)</td>
</tr>
<tr>
<td>5SG2</td>
<td>M10 Gland &amp; 2M Cable</td>
</tr>
</tbody>
</table>