BRITISH ENCODER PRODUCTS COMPANY

QAS INTERNATIONAL ISO 9001:2008 REGISTERED FIRM

QAS INTERNATIONAL BS OHSAS 18001:2007 REGISTERED FIRM

Model 25T/H

Incremental Thru/Hollow Bore Encoder

Model 25T/H

Advanced, Versatile, Reliable

The BEPC Model 25T/H embodies the latest advances in materials, sensor and signal technology, and more. These design features combine to provide a single replacement solution for 2.0" to 3.5" (50.8mm to 88.9mm) encoders, including HS20, HS25 and HS35 style encoders.

Features

- 63.5mm Opto-ASIC encoder with a low profile (50.8mm)
- Standard bore sizes ranging from 0.625" to 1.125"
- Metric bore sizes ranging from 6 mm to 28 mm
- Up to 1 MHz maximum frequency
- Resolutions to 10,000 PPR
- Temperature range from -40° C to +105° C
- Versatile flex-mount options
- RoHS compliant

Applications

Motor-Mounted Feedback and Vector Control | Specialty Machines | Robotics | Web Process Control | Paper and Printing | High Power Motors

IP66 Sealing for Shaft & Housing

For applications where water or heavy, fine dust is present. Standard seal rating is IP50.

Multiple Output Types

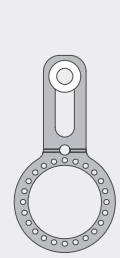
To allow for maximum versatility in new applications or retrofitting to existing systems, the 25T/H is equipped with six different output types: Open Collector, Push-Pull, Line Driver, Pull-Up Resistor. A 5V fixed output option is available with Line Driver or Push-Pull.

Wide Range of Disc Resolution

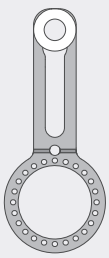
From coarse positioning to demanding precision feedback, the 25T/H can accommodate a wide range of application requirements. Resolution ranges from 1 to 10,000 Pulses Per Revolution.

Versatile Mounting Options

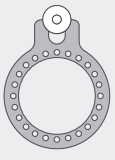
Anti-rotation flex-mounts accommodate a variety of mounting requirements for both OEM and retrofit applications.



FG Tether Arm Kit



FJ Tether Arm Kit



FH Tether Arm Kit

FE 3-point Flex Mount

Bore Sleeves

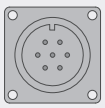
Our Bore Sleeve Kits allow the 25T/H to replace several encoders with just one encoder. Offering 22 bore sizes – ranging from 1/4" through 1 1/8" (6 mm to 28 mm) – the non-conducting ULTEM bore sleeve material provides thermal and ESD isolation.

Versatile Connectivity

With wide a range of choices, the 25T/H accommodates industry standard connectors.

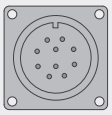
6-pin MS Style

10-pin Bayonet



7-pin MS Style

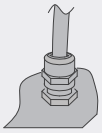
5-pin M12



10-pin MS Style

8-pin M12

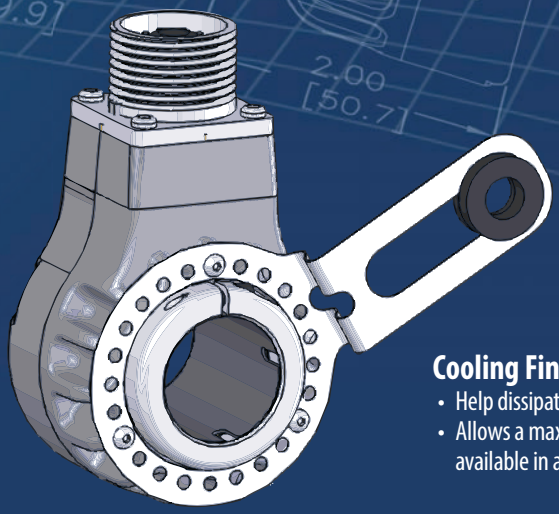
9-pin D-Sub



Cable Gland

Advanced Design for Superior Performance

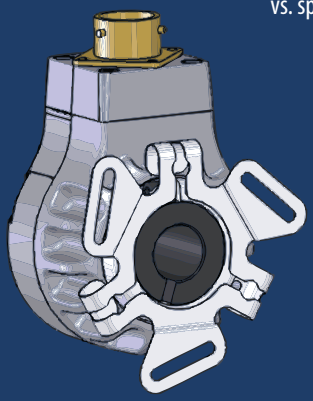
Housing Construction
- Comprised of a proprietary high-strength, lightweight composite
- Low mass results in reduced bearing wear on motors and other devices
- Embedded particles in the composite offer noise protection for internal circuitry

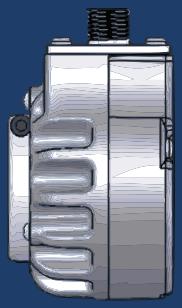


Bore Sleeve Material: ULTEM 1000
- Effective thermal barrier
- Provides electrical isolation from electrically induced bearing damage

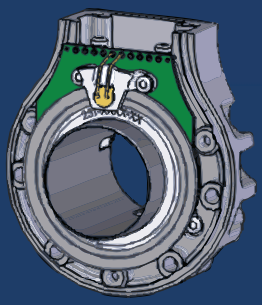
Cooling Fins
- Help dissipate heat away from the bearings and electronics
- Allows a max bore size of 1.125" diameter, the largest available in a 63.5mm (2.5") housing

Radial Ball Bearings
- Large, robust bearings with 30 mm internal diameter
- Polyrex EM grease for extended temperature vs. speed performance





Opto-ASIC Sensing and Signal Processing Technology
- "Board-on-a-chip" design reduces the number and size of components
- Highly stable over a broad thermal profile (-40° C to +105° C)
- Reduced susceptibility to shock and vibration
- Phased-array sensor provides for a clean, reliable signal
- Wide sensor-to-disk air gap



Additional Options

Corrosion Resistance

Your encoder can face tough enemies: washdown, chemicals, salts, acids, solvents and more. For applications in these conditions, specify the corrosion resistant option. This protects your encoder from caustic environments and corrosive atmospheres. You'll prolong encoder life, reduce downtime and ensure reliable feedback.

Corrosion resistant option includes:
- Stainless steel M12 connector
- Corrosion resistant gland/cable
- Non-corrosive nylon composite housing
- Stainless steel shaft collar and mounting hardware

Motor Kits

Simplify the process of selecting an encoder, mating connector, protective cover, and installation hardware with a 25T Motor Kit. Designed around popular motor style encoders and configurations, all the feedback components you need are bundled together, saving you time and ensuring compatibility. To protect this high performance encoder, our cage style 56C Protective Cover is included with every kit.

Model 25T Motor Kit includes:
- Flex-mount
- 56C Protective Cover
- Mating connector

Magnetic Couplings

When you need to install an encoder quickly and cost-effectively, self-centering magnetic couplings allow for simple integration to any ferrous rotating shaft, and they withstand up to 100 lbs shear force.

Model 25T/H Product Specifications

ENCODER PRODUCTS COMPANY

Visit www.encoder.co.uk to view
our full line of outstanding encoders.
For specification assistance
+44 (0)1978 262100

Electrical

Input Voltage	5 to 24 Vcc max
Input Current	100 mA max (65mA Typical) with no output load
Output Format	Incremental- Two square waves in quadrature with channel A leading B for clockwise shaft rotation, as viewed from the mounting face. See *Waveform Diagram*.
Output Types	Open Collector- 20 mA max per channel Pull Up - Open Collector with 2.2K ohm resistor, 20 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	Once per revolution. 361 to 10,000 PPR: Gated to output A 1 to 360 PPR: Ungated See *Waveform Diagram*.
Max Frequency	250 kHz for 1 to 2500 PPR 500 kHz for 2501 to 5000 PPR 1 MHz for 5001 to 10,000 PPR
CE Testing	Emissions tested per EN61000-6-3:2001 as applicable. Immunity tested per EN6100-6-2: 2005 as applicable
Min. Edge Sep	45° electrical min, 63° electrical or better typical
Quad Phasing	90° (±22.5º) electrical
Symmetry	180° (±18º) electrical
Rise Time	Less than 1 microsecond
Accuracy	Within 0.1° mechanical from one cycle to any other cycle, or 6 arc minutes.

Mechanical

Max Shaft Speed	6000 RPM, 8000 RPM intermittent 4000 RPM for IP66 seal option
Bore Size	0.250" through 28mm
Bore Tolerance	-0.00mm/+0.02mm
User Shaft Tolerances	
Radial Runout	0.127mm max
Axial Endplay	±1.27mm max
Starting Torque	IP50 sealing: 7.0 x 10^{-3} Nm IP66 sealing: 28.0 x 10^{-3} Nm Note: Add 7.0 x 10^{-3} for -20° C operation
Electrical Conn	6-, 7-, or 10-pin MS Style, 5- or 8-pin M12 (12 mm), 10-pin Bayonet or gland with 2 Metres of cable (foil and braid shield, 24 AWG conductors), 9-pin D-Sub
Housing	Proprietary nylon composite
Mounting	57.1mm to 69.8mm PCD 3-point flex mount 88.9mm to 149.8mm PCD tether arm kit, 88.9mm to 205.7 PCD tether arm kit and 69mm to 86.8mm PCD tether arm kit. See mechanical drawing for dimensions
Weight	226 grams typical

Environmental

Operating Temp	-20° to 85° C for standard models -20° to 105° C for high temperature option
Storage Temp	-20° to +85° C
Humidity	98% RH non-condensing
Vibration	20 g @ 5 to 2000 Hz
Shock	80 g @ 11 ms duration
Sealing	IP50, IP66 with shaft seals at both ends