TIMKEN

THS25 INDUSTRIAL PACKAGE MAGNETIC ENCODER

Timken® magnetic encoder technology offers clear operational and cost benefits over other commonly used technologies. Our superior sensing products provide reliable speed and position data even in harsh operating environments.

In almost every application, patented Timken® magnetic encoder technology provides the needed resolution with higher reliability at a comparable cost to optical encoders.

The THS25 high-resolution, magnetic, hollow-shaft, incremental encoder, like all Timken encoders, relies on the interaction between a sensor and magnetic target. This approach doesn't require a clear line of target-to-sensor sight like optical encoders.

Durability

As a result, Timken encoders operate reliably even in environments filled with dirt, dust, oil, water or other contaminants.

A patented differential magnetic sensor circuit design also protects it from high-frequency electrical noise and interfering magnetic fields.

Timken Design

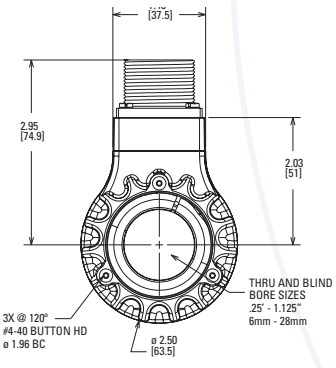
The Timken design combines a direction-sensing Hall Effect encoder with an integrated index pulse and a high-accuracy resolution multiplying circuit. The encoder produces and processes the Hall Effect signals to create high-resolution quadrature output signals that provide zero-speed and direction sensing.

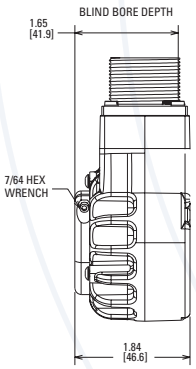
Customers with unique application requirements can rely on Timken application engineers to provide expertise and experience.

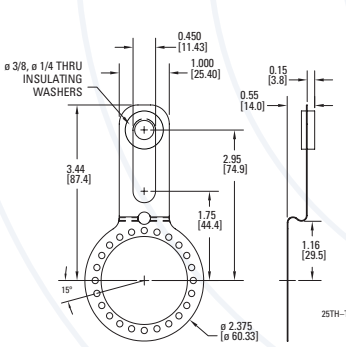
The Attraction of Magnetic Encoders

- Fully integrated on-chip Hall Effect sensor technology generates industry-standard digital, high-resolution signals and synchronized index pulse signals
- Use as a drop in replacement for current optical encoder applications
- Resistant to shock and vibration
- Standard high-temperature capability up to 105°C
- Sensing for magnetics is not impeded by contamination
- Compact packages for shaft sizes more commonly addressed by bulkier competitor models up to 1.125 in. and 28 mm.
- Range of resolutions from 100 CPR to 2,560 CPR
- Speeds for Quadrature signals up to 200 kHz/channel (800kHz data rate)

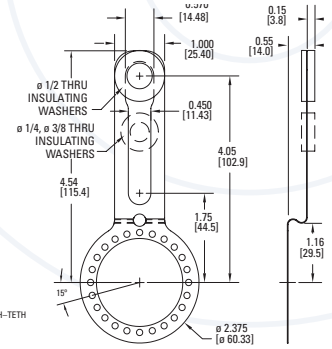
More details regarding specifications, installation and instructions available at www.timkenencoders.com







3-in. Tether Arm



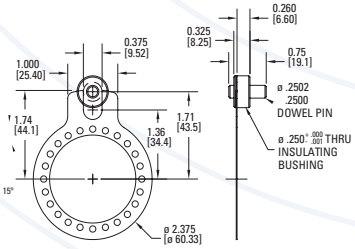
4-in. Tether Arm

To Order

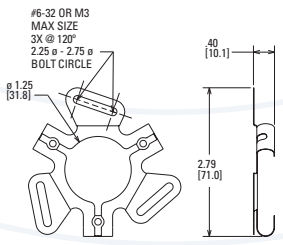
The part numbering for the Timken Modular Magnetic Encoder provides the information to select the best encoder for your needs. Use the chart below to determine the proper part number for your order.

THS25 – ____ – ____ – ____ – ____ – ____ – ____

MOUNTING	BORE		SEAL	CHANNEL	ELECTRICAL	CONNECTIONS
1 - 3 point flex mount 2 - 4.5 in. C-face tether arm 3 - 8.5 in. C-face tether arm 4 - block & pin	41 - 0.25 in. 31 - 0.3125 in. 37 - 0.375 in. 50 - 0.500 in. 62 - 0.625 in. 75 - 0.75 in. 87 - 0.875 in. 90 - 1.00 in. 91 - 1.125 in. 6 - 6mm 8 - 8mm	10 - 10mm 11 - 11mm 12 - 12mm 14 - 14mm 15 - 15mm 19 - 19mm 20 - 20mm 24 - 24mm 25 - 25mm 28 - 28mm	1 - through shaft IP50 2 - through shaft IP66 3 - blind shaft IP50 4 - blind shaft IP66	1 - quadrature 2 - quadrature w/index	1 = open collector 2 = line driver	0 - gland w/24 in. cable 1 - 6 pin MS style 2 - 7 pin MS style 3 - 10 pin MS style 4 - 5 pinM12 5 - 8 pinM12 6 - 10 pin bayonet



Block and Pin



3-Point Flex Mount

Optimum Applications

- Feedback and vector control
- Robotics
- Web processing
- Specialty machines
- Printing

Specifications and Features

Mechanical

- Shaft bore: Diameters up to 28 mm and 1.125 in. Inserts supplied for smaller diameters
- Allowable misalignment: 0.01 mm (0.005 in.) T.I.R. on mating shaft, 19.05 mm (0.75 in.) from shaft end
- Bore run out: -0.0000 in. / +0.0008 in. (-0.000 mm / +0.020 mm) T.I.R. maximum
- Starting torque at 25°C (75 F): 1 in-oz (7 mN•m), max. IP50; 4 in-oz (28 mN•m), max. IP66 seal
- Shaft material: 304 stainless steel
- Bearing housing: Polymer
- Design bearing life: 6.3x1010 revs
- Maximum RPM: 6,000 RPM standard; intermittent to 8,000; 4,000 RPM for IP66 seal
- IP50 package in rugged polymer housing standard, with IP66

Electrical*

- Output format: Two channels in quadrature with gated index
- Cycles per shaft turn: 100 to 2560 (see nomenclature chart)
- Supply voltage: 5-28 VDC
- Current requirements: 65mA + output load (80mA total max.)
- Output device: Open collector or line driver
- Protection level: Over voltage, reverse voltage and output short circuit
- Frequency response: 200 kHz

Environmental

- Enclosure rating: IP50 standard/P66 optional
- Operating temperature: -20° to 105° C (68° to 221° F)**
- Storage temperature: –25° to 125° C (-13° to 257° F)
- Shock: 100 g for 11 msec duration
- Vibration: 5 to 2000 Hz @ 30gs IEC 60068-2-6
- Humidity: 98% RH without condensation

Consult Timken for other electrical options.
***Not available at all voltages or configurations. Contact your Timken representative.*

TIMKEN

The Timken team applies their know-how to improve the reliability and performance of machinery in diverse markets worldwide. The company designs, makes and markets high-performance steel as well as mechanical components, including bearings, belts, gears, chain and related mechanical power transmission products and services.

www.timken.com

Stronger. **Commitment.** Stronger. **Value.** Stronger. **Worldwide.** Stronger. **Together.** | **Stronger.** By Design.

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