

SIGNUM™ RESM angle encoder



IN-TRAC™ auto-phase optical reference mark

Thermally stable, bi-directional reference mark



High speed, high temperature operation

Capable of operation up to 85 °C and over 4,500 rev/min



Exceptional metrology

Better than ± 0.5 arc second accuracy and ± 30 nm tangential cyclic error

Renishaw's new **SIGNUM**™ encoder range offers high speed, reliable, non-contact performance combined with advanced features including the **IN-TRAC**™ auto-phase optical reference mark. The RESM angle encoder comprises the RESM ring, the SR readhead and Si interface. The RESM is a one-piece stainless steel ring with 20 µm graduations marked axially on the periphery. It features the **IN-TRAC**™ optical reference mark, which repeats, regardless of direction, at speeds over 4,500 rev/min (Ø52 mm) and up to 85 °C. The low-profile ring has a large internal diameter, which enables flexible integration, whilst Renishaw's patented taper mount minimises installation errors. RESM offers impressive performance; with accuracy to ±0.5 arc second and resolution to 0.0038 arc second, it suits the most demanding precision applications.



Capable of operation up to 85 °C and over 4,500 rev/min, the SR readhead is sealed to IP64, enabling a quick recovery from coolant splashes or brief immersions. Like all Renishaw readheads, it benefits from unique filtering optics, which provide excellent immunity to dirt, dust and scratches. The RESM encoder system uses **SIGNUM**™ intelligent signal processing, which ensures excellent reliability and low cyclic error, whilst comprehensive software enables optimum set-up and real-time system diagnostics via a PC's USB port. The Si interface can be mounted remotely and a small connector on the readhead can easily be fed through machines where access is restricted.



- Non-contact open optical system
- **IN-TRAC**™ bi-directional reference mark and dual limit outputs
- Graduation accuracy to ±0.5 arc second
- System repeatability to 0.0038 arc second
- Ø52 mm to Ø550 mm with line counts from 8,192 to 86,400
- Patented taper mount minimises installation errors and simplifies integration
- Large internal diameter for ease of integration
- Ultra-low inertia versions available
- Operating temperatures up to 85 °C
- Speeds over 4,500 rev/min
- Sealed to IP64 – 'recoverable readhead'
- Dynamic signal control ensures cyclic error typically better than ±30 nm
- Integral LEDs for optimum set-up and system diagnostics
- Comprehensive multilingual software for ease of installation and real-time diagnostics via USB
- Industry standard analogue and digital outputs with resolutions from 40 to 0.0038 arc seconds
- Patented filtering optics provide excellent dirt immunity
- High-flex UL approved cable
- Multiple mounting options for readhead and interface



For worldwide contact details, please visit our main website at www.renishaw.com/contact

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