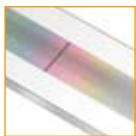


SIGNUM™ RELM high accuracy linear encoder



IN-TRAC™ auto-phase optical reference mark
Thermally stable, bi-directional reference mark



High performance operation
 ± 30 nm cyclic error and ± 1 μ m accuracy



Range of robust, high precision scales
Tough, low CTE material with fine pitch performance

The RELM high accuracy linear scale is an exciting new addition to Renishaw's **SIGNUM**™ range. With high accuracy, ultra-low cyclic error and advanced features including the **IN-TRAC**™ auto-phase optical reference mark, the **SIGNUM**™ range redefines encoder performance. The system comprises the SR readhead, Si interface and 20 µm RELM scale, which is offered in defined lengths. Currently available in Invar, offering a low CTE, the RELM scale is extremely robust yet offers a level of performance previously available only from more delicate fine pitch encoder systems. With ± 1 µm accuracy and resolution to 20 nm, RELM satisfies the most demanding precision motion requirements.

Capable of operation up to 12.5 m/s, the SR readhead benefits from Renishaw's unique filtering optics, which provide excellent immunity to dirt, dust and scratches. RELM scale is easy to install and can be mounted directly to the substrate using mechanical clips or a specially formulated adhesive backing tape. The Si interface can be mounted remotely and a small connector on the readhead can easily be fed through machines where access is restricted. Like all **SIGNUM**™ encoders, the RELM encoder system benefits from **SIGNUM**™ intelligent signal processing, which ensures excellent reliability and low cyclic error. In addition, comprehensive **SIGNUM**™ software enables optimum set-up and real-time system diagnostics via a PC's USB port.

- Non-contact open optical system
- **IN-TRAC**™ optical reference mark, bi-directionally repeatable at maximum speed
- Dual optical limit outputs available
- Accuracy grade: ± 1 µm
- Dynamic signal control ensures cyclic error as low as ± 30 nm
- System repeatability to 20 nm
- Available in defined lengths up to 1430 mm
- Robust, yet highly precise, scale
- Multiple **IN-TRAC**™ reference mark positions available
- Scale mounting options include mechanical clips or specially formulated adhesive backing tape
- Defined thermal behaviour: ≈ 0.6 µm/m/°C (0 °C to 30 °C)
- Speeds up to 12.5 m/s
- Integral LEDs for optimum set-up and system diagnostics
- Comprehensive multilingual software for ease of installation and real-time diagnostics via a PC's USB port
- Industry standard analogue and digital outputs with resolutions from 5 µm to 20 nm
- Patented filtering optics provide excellent dirt immunity
- Operating temperatures up to 85 °C
- Sealed to IP64 – 'recoverable readhead'



Coming soon:
RSLM ± 3 µm accuracy
stainless steel scale up to 5m

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

