

DSi Dual **siGNUM**™ Interface - Better than ± 1 arc second total installed accuracy!

Renishaw's new DSi combines two **siGNUM™ SR readheads on a RESM ring and outputs a customer located, angularly repeatable *propoZ*™ reference (index) position, which is completely unaffected by bearing wander or power cycling.**

Precision rotary axes often demand very high accuracy without calibration or error-map. The DSi allows the addition of a second readhead to eliminate odd error harmonics including eccentricity and compensate for the effect of both static and dynamic bearing wander. The result is total installed error of typically ± 2.0 arc second (209 mm diameter RESM). For ultimate precision, DSi combined with the new ultra-high accuracy REXM ring offers better than ± 1 arc second total installed accuracy.



DSi provides the customer located and angularly repeatable *propoZ*™ reference (index) output, which is completely unaffected by bearing wander or power cycling. The customer selects the desired *propoZ*™ reference position by driving the axis to the chosen angle and simply pressing a button. This feature makes alignment of the encoder's reference position (to the T-slots on a machine tool rotary table, for example), faster and more precise. The selected angle is then stored in the DSi's memory so the patented *propoZ*™ reference (index) is locked to that angle, ensuring perfect angular repeatability... even if the centre of rotation of the axis moves whilst the DSi is switched off.

DSi makes adding a second SR readhead very easy. By combining the incremental signals from the two readheads and using patented reference mark processing, the DSi appears to the controller as a single very high accuracy encoder.

Furthermore, DSi maintains the dynamic advantages of **siGNUM**™ encoders. As a non-contact system, **siGNUM**™ RESM rings are taper locked to the rotor shaft, ensuring a compact axis design and the elimination of coupling losses, oscillation, shaft torsion and other hysteresis errors that plague enclosed encoders.

Like the rest of the Renishaw **siGNUM**™ encoder range, DSi is capable of operating at speeds up to 4,500 rev/min and temperatures up to 85°C. **siGNUM**™ also benefits from rugged IP64 sealed readheads, dynamic signal processing for excellent reliability, and ultra-low cyclic error (± 30 nm). In addition, comprehensive **siGNUM**™ software enables optimum set-up and real-time diagnostics via a PC's USB port.

As with all Renishaw products, the **siGNUM**™ range is backed up by a worldwide team offering truly responsive global support

