*March 2019 – for immediate release Further information: Chris Pockett, +44 1453 524133*

New innovative encoder scale opens up new possibilities

Renishaw, the global metrology specialist, has launched a new substrate mastered encoder scale that adopts the thermal behaviour of the underlying substrate. The RKLC encoder scale is a robust, 6 mm wide stainless steel tape with a thickness of just 0.15 mm. This thin profile allows the scale, when rigidly fixed to a machine axis, to match the coefficient of thermal expansion (CTE) of the machine substrate. The scale is compatible with Renishaw’s VIONiC™, TONiC™ and QUANTiC™ incremental encoder families.

The narrow 6 mm wide RKLC scale facilitates installation in space constrained applications. Other features include a proven, robust stainless steel tape scale design with immunity to solvents, two scale pitch options (20 µm and 40 µm), two available accuracy grades (±5 µm/m and ±15 µm/m), and coilability for easy storage and cut-to-length convenience. The scale is installed onto the axis substrate by a self-adhesive backing tape and the scale ends are rigidly fixed by means of epoxy-fastened end clamps, eliminating the need to drill holes. A simple applicator tool is available for quick and straightforward scale installation.

Applications for RKLC scales include those involving precision measurements related to fixed positions on a machine, such as the co-ordinates of a rigid fixture. In a co‑ordinate measuring machine (CMM) application, scale may be mastered to a high thermal mass machine substrate (e.g. granite). This reduces the amplitude of short-term scale temperature fluctuations in a climate-controlled environment, where the room temperature slowly oscillates about a target value.

The RKLC scale is a robust, narrow, substrate mastered scale which offers improved metrology performance in certain position measurement applications. The launch of the RKLC scale enhances the range of capabilities of Renishaw’s encoder scales and allows the customer to choose an appropriate scale thermal behaviour for their application. Renishaw encoder systems have CE approval and are manufactured in‑house using strict quality-controlled processes that are certified to ISO 9001:2015 and backed by a truly responsive global sales and support network.

For further information on Renishaw’s encoder products, visit www.renishaw.com/opticalencoders

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