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**Renishaw HS20 laser encoder provides long term support for critical applications**

EMO 2013 will see the launch of a thoroughly updated successor to Renishaw’s long established HS10 long range laser encoder which, with a range of up to 60 m, has found multiple applications on large machine tools for the aerospace industry.

With many HS10s sold in the 1990s coming to the end of their serviceable lives, Renishaw has shown its commitment to this market through the introduction of the new HS20. This is a ‘drop-in’ replacement for the existing HS10 product, essential for existing users to minimise installation issues. Inside, the product is totally revised, using many proven components from Renishaw’s current XL-80 calibration laser. PCBs use the latest surface mount technology (produced in-house at Renishaw) for greater robustness and reliability.

HS20 also provides for external setting of configuration switches and an additional dedicated

24 volt power input for installations where there is significant distance between the laser and Renishaw’s RCU10 real-time quadrature compensator units; avoiding the ‘power drop’ associated with multi-core cables. The RCU10 units allow accuracy to be maintained even under varying environmental conditions.

**Background**

Determining any machine tool's capabilities before machining and subsequent post-process part inspection can greatly reduce the possibility of scrap and machine downtime; resulting in lower manufacturing costs.

On large machine tools (commonly found in aerospace and marine industries) this is even more so due to the size and cost of components being produced (inherent material cost plus the included cost of very stringent quality assurance & control procedures) and the cost of the machining process (many hours use of a very expensive machine). At the same time traditional linear scales can be difficult to lay accurately, are prone to the effects of thermal expansion and can be costly over long distances.

Laser encoders, however, bring the precision of laser measurement normally associated with calibration lasers directly to the machine tool. Their measurements are independent of machine thermal expansion and in use they deliver extremely high repeatability and reliability. Installation, set-up and alignment are straight forward.

The introduction of new large machines for aerospace applications (including high pressure water jet cutters for composite panels) means there is an ongoing market for new laser encoder systems and Renishaw is meeting this challenge with the HS20 laser encoder, ensuring ongoing support for this specialised sector of the machine tool market.

More information about Renishaw’s HS20 long range laser encoder can be found at [www.renishaw.com/HS20](http://www.renishaw.com/HS20)

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