*August 2020 – for immediate release Further information: Chris Pockett, +44 1453 524133*

**RESOLUTE™ position encoders support faster, more accurate and reliable motion control with Mitsubishi’s new MELSERVO-J5 servo amplifiers**

Renishaw’s industry-proven RESOLUTE optical encoders offer superior motion control performance in applications with high speed machine axes.

The launch of Mitsubishi’s MELSERVO-J5 servo amplifiers will enable machine designers to leverage the strengths of the RESOLUTE encoder to achieve higher machine speeds, better accuracy and lower maintenance costs.

A true absolute system, the RESOLUTE encoder is designed to provide position feedback for the motion control of linear and rotary axes. It consists of three elements: a precision graduated scale, an electro-optical readhead and a serial interface. RESOLUTE encoders are compatible with a wide range of communication protocols, including the Mitsubishi serial protocol.

The new MELSERVO-J5 series servo amplifiers feature a 3.5 kHz frequency response, machine resonance suppression filters, rapid communication cycle time, compatibility with CC-Link IE TSN® (including multi-network capability), and advanced AI-driven predictive maintenance.

**Build better linear motion systems with RESOLUTE and MELSERVO-J5**

Consider the example of a ballscrew-driven linear stage that includes a RESOLUTE absolute linear encoder to measure stage position and a rotary motor driven by a MELSERVO-J5 series servo amplifier.

The readhead is positioned close to the point of interest to reduce mechanical errors and enables highly accurate feedback control.

A powerful synergy between RESOLUTE encoders and MELSERVO-J5 servo amplifiers delivers key performance benefits:

**1. Higher axis speeds and greater accuracy**

MELSERVO-J5 servo amplifiers feature advanced performance resulting in higher servo bandwidths that enable better following accuracies, and faster axes with higher accelerations and lower settling times.

The unique design of the RESOLUTE absolute encoder enables exceptional measurement resolution down to 1 nm at high linear speeds of up to 100 m/s ꟷ ensuring the highest possible servo gain levels for maximum stage performance.

Furthermore, RESOLUTE encoder systems calculate position on demand and include built-in error checking algorithms that flag any misreading of the scale. This protects against uncontrolled movements and related crash risks by eliminating scale miscounting, position drift and count runaway, with benefits to yield, throughput and safety.

**2. Advanced diagnostics for preventative maintenance**

Mitsubishi’s Maisart® software can predict the remaining life of the ballscrew and enable preventative maintenance to be scheduled before the part fails.

RESOLUTE encoders are compatible with Renishaw’s Advanced Diagnostic Tool ADTa-100. This acquires comprehensive real-time data from the readhead to assist with quick and easy encoder installation, and in-field fault finding, potentially saving time and reducing installation and maintenance costs.

During scheduled and preventative maintenance, this off-line diagnostic tool can test key performance parameters of a RESOLUTE encoder system such as signal strength along the axis length.

The ADTa-100 interface can be operated in both stand alone mode and in conjunction with a PC, via a standard USB connector, running Renishaw's ADT View software.

**Summary**

RESOLUTE encoders support the latest Mitsubishi MELSERVO-J5 advanced servo amplifier technology and help motion stage builders to achieve cutting-edge motion control performance. In linear applications, RESOLUTE encoders and diagnostic tools complement Mitsubishi’s control technology to maximise machine uptime, throughput and safety.

Renishaw RESOLUTE 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 global sales and support network.

**-ENDS-**

**About Renishaw**

UK-based Renishaw is a world leading engineering technologies company, supplying products used for applications as diverse as jet engine and wind turbine manufacture, through to dentistry and brain surgery. It has over 4,000 employees located in the 37 countries where it has wholly owned subsidiary operations.

For the year ended June 2019 Renishaw recorded sales of £574 million of which 94% was due to exports. The company’s largest markets are the USA, China, Japan and Germany.

Further information at [www.renishaw.com](http://www.renishaw.com)