

Celera Motion unveils the Aura[®] P packaged optical encoder

28 November 2024

Celera Motion, a Novanta company has updated its Aura precision rotary and linear optical encoder range with a new packaged version. The new Aura P is presented in a connection-ready PCBA (printed circuit board assembly), enabling fast and easy OEM integration. The encoder features the same high precision and repeatability performance as the existing Aura series encoders, providing absolute output position.

Celera Motion's packaged assembly, connection-ready Aura encoder has been launched for fast OEM integration and features two scale diameters of rotary encoder design, plus a linear version. The new PCBA encoder maintains compact dimensions, with all three versions of the Aura P measuring just 12 mm x 14 mm x 7.4 mm.

The AUR P-R-B rotary encoder is available in 18 mm, 26 mm, and 33 mm diameters, achieving 18-22 bit resolution at $\pm 0.01^\circ$ accuracy. Meanwhile, the larger AUR P-R-C rotary encoder is available in 51.8 mm and 63.5 mm diameters with 20-22 bit resolution and $\pm 0.005^\circ$ accuracy. Alternatively, the Aura P Linear features resolution at ± 12.5 nm to ± 200 nm, with accuracy down to ± 2.0 μm .

Common to Celera Motion's original Aura series, the optical encoders integrate a short wavelength LED for precise, absolute position decoding. An incremental scale track and advanced sensor enable high resolution interpolation, with run speeds as high as 83,721 rpm. High repeatability of 1LSB is also achieved across the range. The Aura series' built-in compensation algorithm also eliminates the need to integrate a second encoder, often required to resolve angular error resulting from off-centre scale mounting.

High precision, repeatability, and compact dimensions make the Aura P an ideal optical sensor for OEMs of surgical and industrial robots and grippers, medical devices and instrumentation, lab and diagnostics machines, metrology devices, as well as advanced industrial applications including semiconductor fabrication.

The Aura series integrates Celera Motion's MicroE technology based on PurePrecision™ optics that require no intermediate lenses, filters, or reticles. This enables small yet high resolution optical encoders with wide alignment tolerances.

The new Aura P optical encoders are easily configured with SmartPrecision™ III software for calibration, alignment, and status monitoring. Encoder data can be sampled and recorded in a CSV file, and to simplify installation, hubs with pre-mounted encoder scales are offered.

The ready-to-install PCBA optical encoder is configured with high speed BiSS-C, which achieves minimal latency for high bandwidth control loops, while generous alignment tolerances facilitate straightforward installation. With low power consumption, the encoder can operate on an input voltage of just 2.97 volts.

Supplied in the UK by INMOCO, the motion specialist also offers rotary and linear motors, including Celera's frameless Omni+ motors, as well as a range of appropriate drives.

Image Captions:

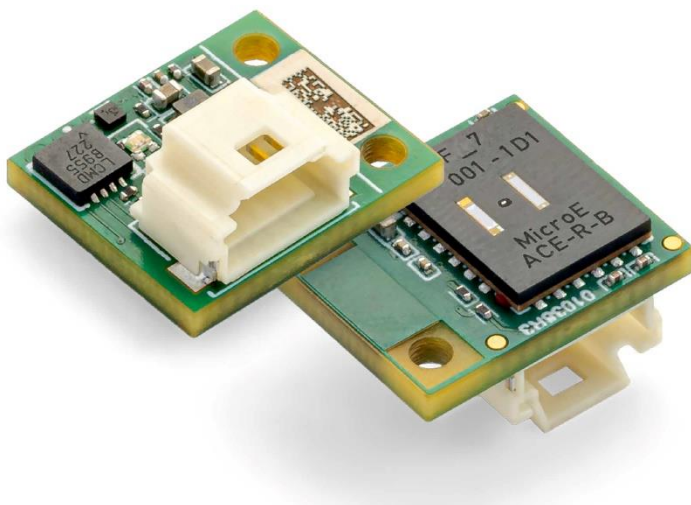


Image 1: Celera Motion introduces new Aura® P: An extension to Aura Series

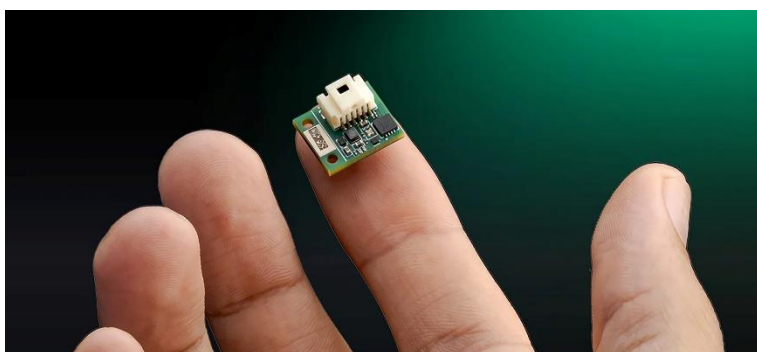


Image 2: Aura P offer a connectivity-ready high resolution absolute encoder in a super-compact form-factor.

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About INMOCO

Established in 1987, INMOCO now offers an extensive range of motion control equipment including: compact servo amplifiers, position controllers, stepper motors, PLC controllers, linear motors, sensors, electric actuators and gearheads. INMOCO's product portfolio is supported by extensive applications and technical expertise, in addition to customer-specified electro-mechanical development and sub-assembly services; including calibrating and testing in a class 10,000 clean room facility.

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