

ABSOLUTE



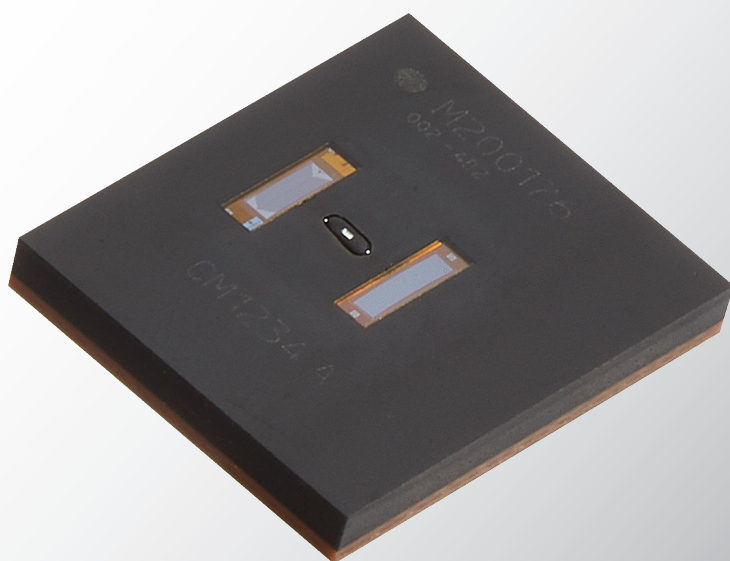
**MicroE**  
Encoders

# Aura™ Series Encoders

Absolute Encoders for  
High Performance,  
High Volume Designs

Aura is a high resolution absolute encoder in an extremely small, low power SMT package. High accuracy and run speed, combined with wide alignment tolerances, deliver an optimal solution for high volume OEM designs.

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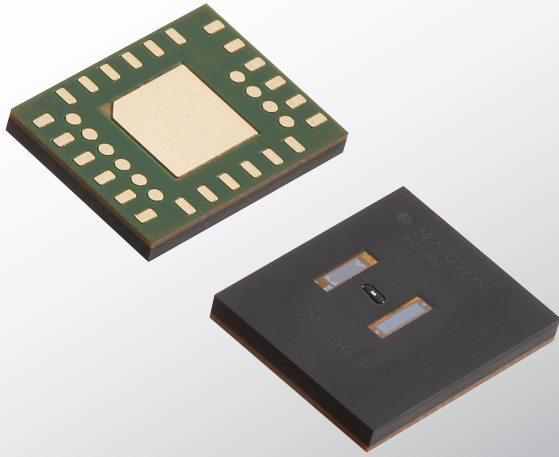
Actual Size



9 x 7 mm

# Aura Series Encoders

Absolute Encoders for High Performance, High Volume Designs



## Absolute, High Resolution, Low Power

Aura employs a short wavelength LED for precise absolute position decoding. An incremental scale track and advanced sensor produce pure sinewave signals, enabling high resolution interpolation with run-speeds up to 83,721 rpm (with 18 mm scale). High repeatability and accuracy satisfy the most demanding applications.

The small, low power consumption SMT package integrates easily into an OEM PCB. Generous alignment tolerances facilitate installation. Built-in scale eccentricity compensation improves production efficiency and eliminates the cost of dual averaging encoders.

High speed BiSS-C delivers the minimal latency required for high bandwidth control loops. BiSS-C daisy-chain capability allows for reduced cabling of multi-encoder systems. SSI, SPI and ABZ interfaces complete the comprehensive connectivity options. ABZ provides communication redundancy and the flexibility to operate incrementally for the lowest latency.

SmartPrecision™ III is intuitive software for calibration, alignment and status monitoring. Encoder data can be sampled and recorded in a CSV file. To simplify installation, hubs with pre-mounted encoder scales are offered.

### Benefits

- Absolute position feedback
- Small, low power SMT package
- High resolution and accuracy
- High run-speed
- Wide alignment tolerances
- Scale eccentricity compensation
- Low communication latency
- Comprehensive connectivity

Specifications	Rotary	Linear
Dimensions:	9.0 x 7.0 x 1.0 mm	9.0 x 7.0 x 1.0 mm
Interfaces:	BiSS-C, SSI, SPI, ABZ	BiSS-C, SSI, SPI, ABZ
Resolution:*	18 to 22 bit	± 12.5 to 200 nm
Latency:	< 5 µsec (BiSS-C) < 5 µsec (SPI) < 30 µsec (SSI)	< 5 µsec (BiSS-C) < 5 µsec (SPI) < 30 µsec (SSI)
Accuracy:**	± 0.005°	± 2 µm
Repeatability:	1 LSB	< ± 200 nm
Max Speed:	83,721 rpm (with 18 mm scale)	50 m/s
Input Voltage:	5 V <sub>DC</sub> ± 0.5	5 V <sub>DC</sub> ± 0.5
Supply Current:	45 mA, unterminated outputs	45 mA, unterminated outputs
Operating Temperature:	-20 to 85° C	-20 to 85° C
Weight:	1.5 g	1.5 g
Standard Scales:***	18 to 63.5 mm OD	9 to 195 mm

Specifications subject to change

\* Higher resolution can be achieved by increasing averaging sample size.  
\*\* Accuracy is specified using a glass scale with OD 51.8 mm (Rotary) and 80 mm measurable length (Linear). \*\*\* Custom rotary and linear glass scales available - contact your local representative for more information.



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