

What Lion Precision products are available with Digital Outputs?

Are you looking for digital output options for your systems? We have summarized below the 3 options available from Lion Precision both for Eddy Current and Capacitive sensors, their benefits, and their specs.

Eddy Current Sensors

ECD360

Lion Precision's ECD360 is a miniaturized digital eddy current driver with up to 6 channels. The driver is available as either an easily mountable board for installation in a control system or in a compact 95 x 105 mm (3.74" x 4.13") enclosure. With 6 channels operating it draws less than 4 watts of power. It has an SPI (LVDS) digital output, as well as a USB output, and multiple systems can be synchronized to prevent crosstalk between sensors.

Benefits

- Ranges from 0.25 mm to 15 mm
- Probe can be used in wet, dirty environments
- Selectable Bandwidth/Resolution 100 Hz, 1 kHz, 10 kHz, 15 kHz
- Probes can be ordered as vacuum compatible

Specs*

- Resolution:
 - Nonferrous: 15 kHz – 0.007% | 100 Hz – 0.002%
 - Ferrous: 15 kHz – 0.009% | 100 Hz – 0.003%
- Selectable bandwidth: 100 Hz, 1, 10, 15 kHz
- Ranges: 0.25 mm to 15.0 mm
- Linearity: 0.2% of Range
- Driver Temperature Drift (15°C-50°C): 0.01% F.S./ °C
- Driver Operating Environment: 4-50°C | IP40

ECD310

Lion Precision's ECD310 is a miniaturized digital eddy current driver available with 1 or 2 channels. The driver is designed as an easily mountable board for installation in a control system. It has an EtherCAT digital output, as well as an SPI output. The channels are synchronized, preventing crosstalk between sensors.

The ECD310 digital driver works with all of Lion Precision's rugged eddy current probes. This enables ranges from as small as 0.25 mm to 15 mm. It has bandwidths from 100 Hz to 15 kHz that are adjustable via the digital interface.

Benefits

- Works with all our eddy current probes
- Small size
- Embeddable
- User-Selectable Bandwidth 100 Hz, 1, 10, 15 kHz
- Probes can be ordered as vacuum compatible

Specs*

- Input power: 12-36 VDC, 3 W
- Linearity Error: $\pm 0.3\%$ F. S
- Error Band: $\pm 0.6\%$ F. S
- Operating Temperature: 4-50°C
- Probe Operating Environment: -25°C to +125°C
- Temperature Coefficient Driver: $\pm 0.04\%$ F.S. / °C
- Temperature Coefficient Probe: $\pm 0.04\%$ F.S. / °C

*Dependent on probe, range, and bandwidth

Capacitive Sensors

CPL590

The CPL590 is a high resolution, high speed digital capacitive driver for displacement measurement applications requiring the highest resolution. The small 2U size reduces the space requirements for mounting and the digital capability allows for up to 4 range calibrations for the probe. The CPL590 works with all of the capacitive probes.

Benefits

- Small 2U Size
- Digital Adjustment
- Visual Range Indicator
- Adjustable Zero
- Up to 4 Ranges for 1 Probe
- Single or Multiple Channel enclosures

Specs*

- Typical Resolution
- 0.0005% @ 100 Hz typical
- 0.003% @ 15 kHz typical
- Selectable bandwidth: 100 Hz, 1, 10, 15 kHz
- Linearity: <0.1% F.S. typical
- Maximum Drift: 0.04% F.S. / °C
- Operating Temperature: 4-50° C
- Outputs: SPI, EtherCAT, USB



ECD360
FPGA-based digital system for easy setup and high-performance

High Performance

- Resolution: 0.2µm
- Repeatability: Typical Repeatability: 0.10µm - 0.007%, 100 to -0.007%
- Accuracy: 0.001%, 100, 100µm, 100µm, 100µm, 100µm

Easy Operation

- Zero-Button Setup

Export Limitations

Export of high resolution, speed of the ECD360 is restricted to the United States and its territories.

Specifications

- Resolution: 0.2µm, Typical dependent on probe and range
- Accuracy: 0.001%
- Repeatability: 0.10µm - 0.007%, 100 to -0.007%
- Accuracy: 0.001%, 100, 100µm, 100µm, 100µm, 100µm
- Resolution: 0.001% (100 to 100µm) 100µm, 100µm
- Range: 0.25mm to 15.25mm
- Accuracy: 0.25µm
- Drive Head: 4µm of Range
- Probe Temperature: 0°C - 50°C (40µm, 10µm)
- Probe Temperature: 0°C - 50°C, except when noted
- Accuracy: 0.001%
- Output: 0.001% (100 to 100µm)

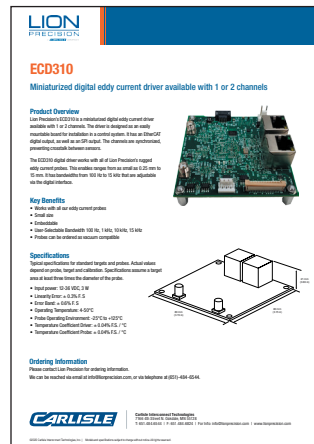
Probe Operating Temperature

Probe Operating Temperature (POT) is dependent on probe and range. High Temperature Probes have POT limits. Other temperature ranges may be possible. Contact us for more information. Standard Probe POT (High Temperature Probe): 0°C - 50°C. Standard Probe POT (Low Temperature Probe): 0°C - 50°C. Standard Probe POT (High Temperature Probe): 0°C - 50°C. Standard Probe POT (Low Temperature Probe): 0°C - 50°C.

Ordering Information

Please contact Lion Precision for ordering information. We can be reached by email at info@lionprecision.com or via telephone at (651)-484-6544.

CARLISLE Carlsle Interconnect Technologies
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P: 651.484.6544 | F: 651.484.6824 | www.lionprecision.com



ECD310
Miniaturized digital eddy current driver available with 1 or 2 channels

Product Overview

Lion Precision ECD310 is a miniaturized digital eddy current driver available with 1 or 2 channels. The driver is designed to be used with digital output, or as an SPI output. The driver is designed to be used with digital output, or as an SPI output. The driver is designed to be used with digital output, or as an SPI output.

Key Benefits

- Small size
- Accuracy
- High resolution (0.001%, 100µm, 100µm, 100µm, 100µm)
- Probe can be installed on most probes

Specifications

Typical specifications for standard target and probe. Actual values depend on probe, target and calibration. Specifications values change with each probe based on the diameter of the probe.

- Resolution: 0.001% (100 to 100µm)
- Accuracy: 0.001% (100 to 100µm)
- Repeatability: 0.10µm - 0.007%, 100 to -0.007%
- Accuracy: 0.001%, 100, 100µm, 100µm, 100µm, 100µm
- Resolution: 0.001% (100 to 100µm) 100µm, 100µm
- Range: 0.25mm to 15.25mm
- Accuracy: 0.25µm
- Drive Head: 4µm of Range
- Probe Temperature: 0°C - 50°C (40µm, 10µm)
- Probe Temperature: 0°C - 50°C, except when noted
- Accuracy: 0.001%
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CPL590
Capacitive Driver

NEW

Specifications

- Resolution: 0.0005%, 100µm
- Repeatability: 0.002%, 100µm
- Accuracy: 0.001%, 100µm
- Linearity: <0.1% F.S. typical
- Max Drift: 0.04% F.S./°C
- Operating Temp: 4-50°C
- Probe Temp: 0-50°C (10µm, 10µm)
- Probe Temp: 0-50°C (10µm, 10µm)

Export License

Because of high resolution, export of this product to some countries require an export license.

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Lion Precision products are subject to U.S. export control regulations. They may be subject to certain licensing requirements and restricted for export.



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