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Closed-Loop Motor Feedback with the Absolute Advantage



However, with the introduction of POSITAL's absolute kit encoders at prices more in line with incremental devices, system designers don't have to work around the shortcomings of incremental feedback in an absolute position world.

Incremental encoders are effective for speed control. However, to monitor absolute position, the controller needs to keep count of the number of pulses received from the encoder. If the pulse count becomes corrupted during a power outage, or if the control system fails to update the pulse count when the machine moves, positional accuracy is lost. The operator must "re-home" the machine by returning it to a known reference position and zeroing the pulse counts. By contrast, absolute encoders measure position directly. After a power outage, the controller can re-establish complete knowledge of the position of mechanical components by simply polling the sensors and reading their rotational position.

POSITAL has expanded its line of **kit-style encoders** for position feedback in servo and stepper motors. The new models utilize the same mounting form factor as popular incremental kit encoders.

- Mechanical drop-in replacement for easy upgrade to absolute position control
- Same Footprints as US Digital E5 models and Broadcom (Avago) HEDS-5500 models
- Identical assembly procedure - no training required
- Hub diameters from 4 mm to 10 mm (plus 1/4 to 3/8 inch)
- Magnetic technology, which is generally more robust than optical
- Improved connectivity via M12 connector available

See our [Cross Reference Guide](#)

The Absolute Advantage

POSITAL kit encoders provide absolute position feedback so that the control system always has complete information on the physical position of the mechanical components that it is directing. "Absolute position feedback is a natural way of providing accurate position control" comments Jim Stevens, market specialist for robotics at POSITAL. "Almost any position feedback application could be absolute-based." Many current systems were designed around incremental encoders because incremental feedback devices were historically much less expensive than their absolute counterparts.



POSITAL **Kit Encoder** for Stepper- and Servo-motors

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KIT ENCODERS



Innovation in Motor and Robot Control Feedback

POSITAL's magnetic kit encoders are a rugged and versatile alternative for absolute position feedback in motors and robots

Multi-turn capabilities based on POSITAL's innovative energy-harvesting system eliminate the need for backup batteries

Easy installation with built-in self calibration

Compact and robust design

Resolution of up 17 bits; revolution count range 16 bits



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