

Inductive Sensors: Angle Detection and Rotary Encoding

TI Precision Labs – Inductive Sensing

Presented and prepared by Scott Bryson



LDC Angle Detection

- 1) T/F Incremental Encoding measures angle for a linear output response
 - a) True
 - b) False

- 2) LDC sensors are (select all that apply)
 - a) Robust against dirt and grime
 - b) Sensitive to non conductive targets
 - c) Tolerant of nearby fixed permanent magnets
 - d) Great for long distance measurements

LDC Angle Detection

- 3) What coil shape is best suited for the gear shaped target for incremental encoding
 - a) Trapezoidal
 - b) Circular
 - c) Racetrack
 - d) Rectangular

- 4) In absolute encoding, Differential coils help:
 - a) Add a fail safe to the design
 - b) Create discrete output increments
 - c) Normalize the output signal
 - d) Increase design complexity

LDC Angle Detection

- 5) Select all that apply to incremental angle encoding
 - a) Power on state is easily determined
 - b) Resolution is defined by gap spacing on the target
 - c) Angle is defined by width of the target
 - d) Angle tracking is calculated using simple counter logic

- 6) Select all that apply to absolute angle encoding
 - a) Power on state is easily determined
 - b) Resolution is defined by gap spacing on the target
 - c) Angle is defined by width of the target
 - d) Angle tracking is calculated using simple counter logic

LDC Angle Detection

- 1) T/F Incremental Encoding measures angle for a linear output response
 - a) True
 - b) **False**

- 2) LDC sensors are (select all that apply)
 - a) **Robust against dirt and grime**
 - b) Sensitive to non conductive targets
 - c) **Tolerant of nearby fixed permanent magnets**
 - d) Great for long distance measurements

LDC Angle Detection

- 3) What coil shape is best suited for the gear shaped target for incremental encoding
- a) Trapezoidal
 - b) Circular
 - c) Racetrack
 - d) Rectangular
- 4) In absolute encoding, Differential coils help:
- a) Add a fail safe to the design
 - b) Create discrete output increments
 - c) Normalize the output signal
 - d) Increase design complexity

LDC Angle Detection

- 5) Select all that apply to incremental angle encoding
 - a) Power on state is easily determined
 - b) Resolution is defined by gap spacing on the target
 - c) Angle is defined by width of the target
 - d) Angle tracking is calculated using simple counter logic

- 6) Select all that apply to absolute angle encoding
 - a) Power on state is easily determined
 - b) Resolution is defined by gap spacing on the target
 - c) Angle is defined by width of the target
 - d) Angle tracking is calculated using simple counter logic

To find more inductive sensor resources and products, visit
ti.com/sensors/specialty-sensors/inductive/products.html