PIHER

PST-360

Hollow Shaft Contactless Sensor

DESCRIPTION

Piher has released a breakthrough in through / hollow shaft position sensors which combines three critical design features; 1) through hole where the shaft passes through the sensor, 2) high accuracy absolute position feedback over up to 360°, and 3) a true non-contacting sensing element. Piher's design does not rely on gears or other rotating parts.

This innovative and unique patented[1] design, features the following advantages:

- Compliments the attributes of the target application.
- Mechanical integrity that matches customer´s application by design.
- Unique shaft mounted design that mounts at the pivot point of the application.
- No levers, connecting rods or mechanical interfaces needed.
- Adapts to shaft´s eccentricity, mounting tolerances and mechanical wear over the life of the application.
- Up to four levels of redundancy.

Piher's new PST-360 features a unique non-contacting technology that senses the shafts´ position over 360 degrees with accuracy up to ±0.5%. This device can be programmed with full scale output over smaller angles. The output is selectable between Analog, PWM and SPI. A programmable switch signal output channel has also been incorporated (useful for multi-turn applications). Further, Piher's technology keeps its position even after a power interruption.

For more complete information including drawings go to www.piher.net or contact your nearest Piher supplier.

[1] Patent pending

STANDARD SPECIFICATIONS

- Linearity: ±1% (0.5% upon request)
- Simple & Robust Magnetic Design
- Angular Range: programmable from 15º to 360º
- Programmable Linear Transfer Characteristic (positive slopes & one negative slope can be programmed in the same transfer characteristic)
- Up to four outputs (Analog, PWM or SPI)
- Up to four programmable switch outputs (Not available for SPI output)
- Angular Resolution (depends on electrical angle and rotational speed)

  Analog & PWM: up to 12 bits
  Serial Protocol (SPI): up to 14 bits

- Different redundancy options available
- Self-Diagnostic features
- Rotational life: virtually unlimited (depending on application and mounting)
- Operating temperature: -40ºC to +85ºC (others upon request)
- +10V over voltage protection and –10V reverse voltage protection.
- Supply voltage: 5V±10% (others upon request)
- IP67 (electronics)
- Custom cabling & connector configurations

APPLICATION EXAMPLES

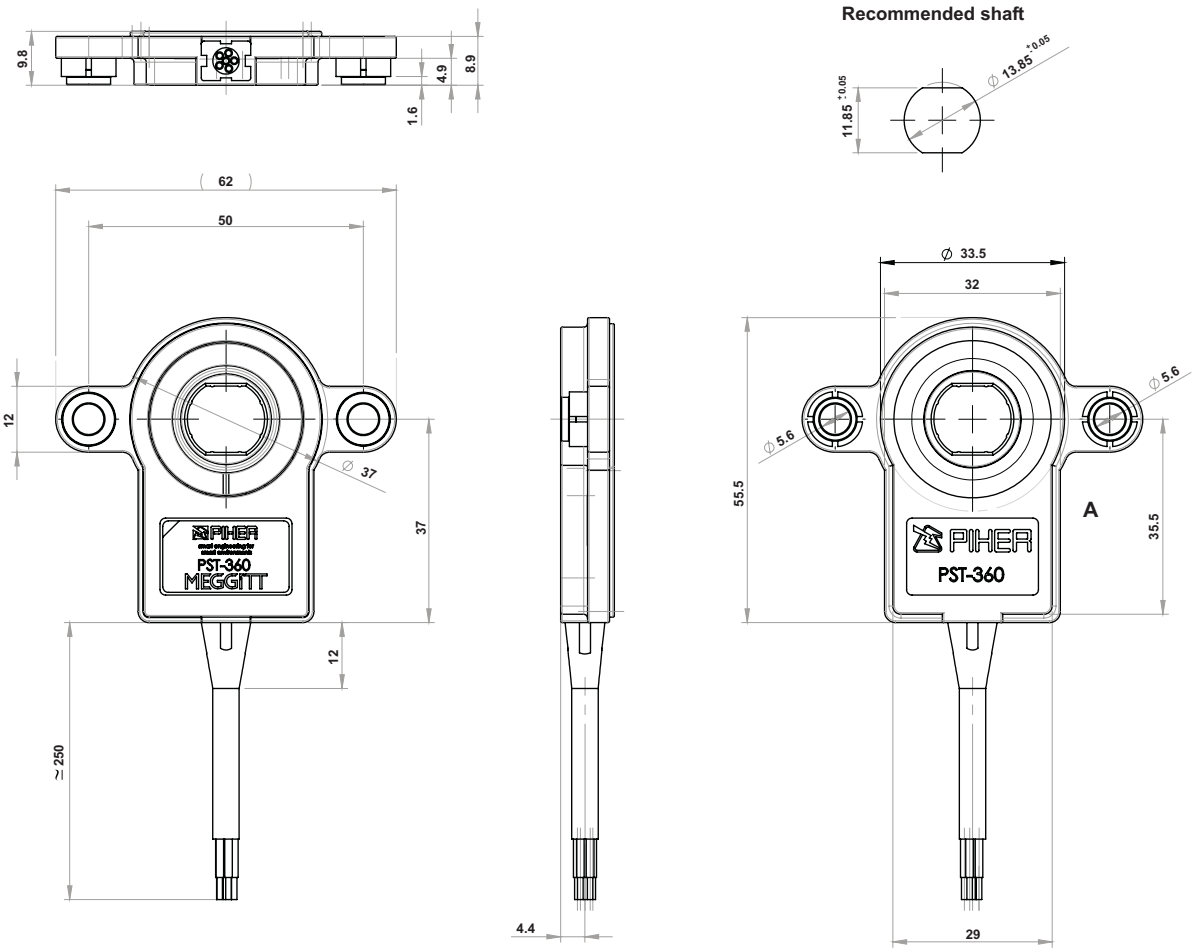
- **Pivot point angle sensing for all applications**
- Off Road/Highway Steering
- Pedal Position Sensing
- Agricultural Machinery hydraulic lift arms, scoops, articulations/joints
- Forklifts/Material Handling
- Industrial Pumps
- Robotics

STANDARDS

- EN 55022 class B, emission radiated (30 ... 230 MHz)
- EN 55022, class B, emission radiated (230 ... 1000MHz)
- EN 61000-4-2, ESD on housing and connections (contact / air)
- EN 61000-4-3, immission HF radiated (80 ... 1000MHz)
- EN 61000-4-4, Burst (on supply lines / signal lines)
- EN 61000-4-5, Surge (on supply lines / signal lines)
- EN 61000-4-6, immission HF conduted (0.15 ... 80MHz)
- EN 61000-4-8. immission magnetic field (50Hz)
- IEC 68-2-6, Vibration (Amax=0.75mm, f=5 ... 2000 Hz)
- IEC 68-2-27 Shock

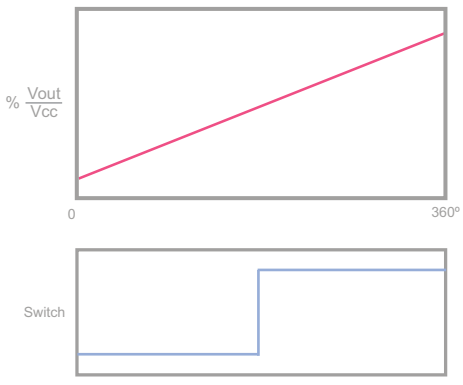
NOTE: The information contained here should be used for reference purposes only.

DIMENSIONS

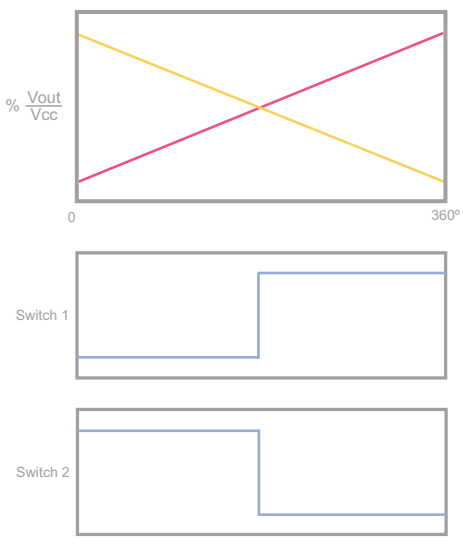


PST-360 OUTPUT FUNCTION EXAMPLES

1 output + 1 switch



2 outputs + 2 switches



4 outputs + 1 switch