



VISHAY INTERTECHNOLOGY, INC.

RESISTIVE PRODUCTS

# MOTION TRANSDUCERS

Aeronautic Applications

CAPABILITIES





## Technology and Performance

Vishay Sfernice potentiometers are built with a conductive plastic paste laid upon a polymer film track. This flexible resistive element is then mounted inside a cylindrical housing and joined to a high-quality wiper assembly constructed from precious metal alloy.

## Features and Benefits

- Very accurate linearity:  $\pm 0.1\%$  or better
- Long operational life: from 20 to 50 million cycles
- Robust operating temperature range:  $-55\text{ }^{\circ}\text{C}$  to  $+125\text{ }^{\circ}\text{C}$
- Essentially infinite resolution and excellent repeatability

## Available Custom Features

- Redundant functions with up to 6 resistive elements
- Specific mechanical requirements: spring return system, locking position, gears on shaft
- Output by flying leads or/and connectors
- Integrated switches

More than 30 Vishay Sfernice precision potentiometers are used in the Airbus A320 aircraft. In the Airbus A380, the number is closer to 40.

## Major Airbus Applications

- **TCU: Throttle Command Unit**  
The fuel command lever instructing on-board computers to increase or decrease the power delivered to the aircraft's engines
- **SSTDU: Side Stick Transmitter Damper Unit**  
The cockpit steering mechanism, implemented as joysticks controlled by the pilot and copilot
- **SBCTU: Speed Brake Control Transmitter Unit**  
A flap used to deploy an air brake that assists the normal braking system to decelerate the plane on landing
- **BPTU: Brake Pedal Transmitter Unit**  
When the brake pedal is actuated, a Vishay Sfernice potentiometer measures and reports its position
- **NWSCU: Nose Wheel Steering Control Unit**  
The front wheel positioning instruction given by the pilot or co-pilot (2 levers per plane) during taxiing or parking operations
- **Temperature Selector**  
Implemented with at least one Vishay Sfernice potentiometer per Airbus, provides temperature control for cockpit, cabin, and cargo areas
- **Cabin Pressure**  
LFES (Landing Field Elevation Selector) actuated during take-off and landing operations

Vishay Sfernice potentiometers are used in many civil and military aerospace programs.

## Additional Applications

- Flight recorders
- Servo command positioning
- Measuring fluid levels, as in oil tanks
- Tail control surfaces
- Helicopter flight controls and winch operator automatic hover trim functions
- Servo missile fin actuation systems
- Servo torpedo rudder positioning



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Mapping by Serpal

1. TCU: Throttle Command Unit
2. SSTDU: Side Stick Transmitter Damper Unit
3. SBCTU: Speed Brake Control Transmitter Unit
4. BPTU: Brake Pedal Transmitter Unit
5. NWSCU: Nose Wheel Steering Control Unit
6. Temperature Selector
7. Cabin Pressure

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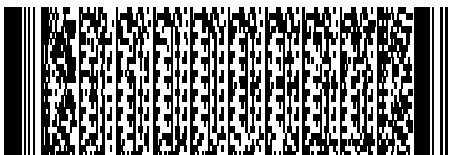
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