Sensors

Angle of Attack
The Angle of Attack (AoA) Probe provides AoA or Sideslip (SS) by sensing the direction of local airflow. It is mounted on the fuselage with the sensing probe extending through the aircraft fuselage. The sensing probe is continually driven to null pressure differential between the upper and lower slots in its forward surface. These features sense the direction of air stream flow (Local AoA or SS). The angular position of the sensing probe is converted to an electrical output by an angular sensor.

Stall Warning Transmitter
The Stall Warning Transmitter (SWT) is an Angle of Attack (AoA) Probe fitted with a built in Stall Warning Computer. The SWT provides Local and Normalized AoA signals for indicators, multifunctional displays, and flight control systems. It also provides outputs for audio warnings, stick shakers, and stick pushers at the appropriate time of the flight envelope. It accepts signals from flaps, spoilers, speed brakes, and other control surfaces and uses them to modify the stall warning characteristic curves.

Integrated Multifunction Probe
The integrated Multi-Function Probe (IMFP®) provides Angle of Attack (AoA), Indicated Total Pressure (Pt), and Indicated Static Pressure (Ps). It provides AoA by sensing the direction of the local airflow (Local AoA). It has added sensing ports for impact and static like pressure on the rotating sensor probe that are used to calculate Pitot / Static, Airspeed, Mach number, and Altitude. The sensing probe is continually driven to null pressure differential between the upper and lower slots in its forward surface. The angular position of the sensing probe is converted to an electrical output by an angular sensor. The pressure at the center slot of the sensing probe is ported to a highly accurate and stable pressure transducer (Pt). The pressure at the slots is correctable static and is ported to the highly accurate and stable pressure transducer (Ps).

Other Products & Services
- Instruments
- Sensors
- Displays
- Engineering
- Test Equipment
- Repair & Overhaul
**AoA**

**PERFORMANCE**
- Angular Range +/-50°
- Resolution 0.04° or less
- Calibrated Accuracy +/-0.25°
- Speed Range up to 1000kts
- Mechanical Threshold 80-120kts 0.2°; >120kts 0.1°

**QUALIFICATION**
- DO160 Environment
- MIL704 Power
- BS3G100 Environment
- BS3G100 Power

A typical probe will meet the following:
- Temperature / Altitude
- Lightning Strike
- Acceleration
- Sand and Dust
- Vibration / Shock
- EMI
- Gunfire Vibration
- Flight Refuelling Impact
- Contaminates
- Humidity
- Rain and Icing
- Acoustic Noise

**OUTPUTS**
- Electrical output signals available
  - Single, multiple and mixed
  - Potentiometers
  - RVDT’s
  - ARINC 429

**POWER REQUIREMENTS**
- Thermostatic De-Icing and Anti-Icing
  - 115VAC
  - 450 Watts

**WEIGHT**
- 3.0 lbs

**OPTIONS**
- MIL Qualified Units
- Stall Warning Indicators & Indexers
- ASSET Test Software
- Calibration and Configuration Software

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**SWT**

**PERFORMANCE**
- Angular Range +/-45°
- Resolution 0.04° or less
- Calibrated Accuracy +/-0.25°
- Speed Range up to 1000kts
- Mechanical Threshold 80-120kts 0.2°; >120kts 0.1°

**QUALIFICATION**
- DO160 Environment
- MIL704 Power
- BS3G100 Environment
- BS3G100 Power

**OUTPUT SIGNALS**
- Local and Opposite Slats/Flaps (4 Channels)
- Undercarriage
- Speed Brakes
- Mounting Calibration,
  - Left/Right Configuration
- Weight on Wheels
- Opposite Side AoA
- Thrust
- Preflight Test Switch

**INPUT SIGNALS**
- Local and Opposite Slats/Flaps
- Undercarriage
- Speed Brakes
- Mounting Calibration,
  - Left/Right Configuration
- Weight on Wheels
- Opposite Side AoA
- Thrust
- Preflight Test Switch

**POWER REQUIREMENTS**
- Thermostatic De-Icing and Anti-Icing
  - 28VDC
  - 7Amps Max

**WEIGHT**
- 3 lbs

**OPTIONS**
- MIL Qualified Units
- Stall Warning Indicators & Indexers
- ASSET Test Software
- Calibration and Configuration Software

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**IMFP®**

**PERFORMANCE**
- Angular Range +/-50°
- Resolution 0.04° or less
- Calibrated Accuracy +/-0.36°
- Speed Range 1000+kts
- Mechanical Threshold 80-120kts 0.25°; >120kts 0.1°
- Pressure Data Accuracy .005qc
- Mach 0.5 to 3

**QUALIFICATION**
- MIL704 Electrical
- MIL810 Environmental

**OUTPUT SIGNALS**
- 1553 AoA, Pt, Ps
- Heater Status

**POWER REQUIREMENTS**
- Thermostatic De-Icing and Anti-Icing
  - 115VAC
  - 450 Watts

**WEIGHT**
- 3.0 lbs

**APPLICATION ENGINEERING**
- Aerosonic offers application engineering assistance and will be pleased to discuss this with you

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