



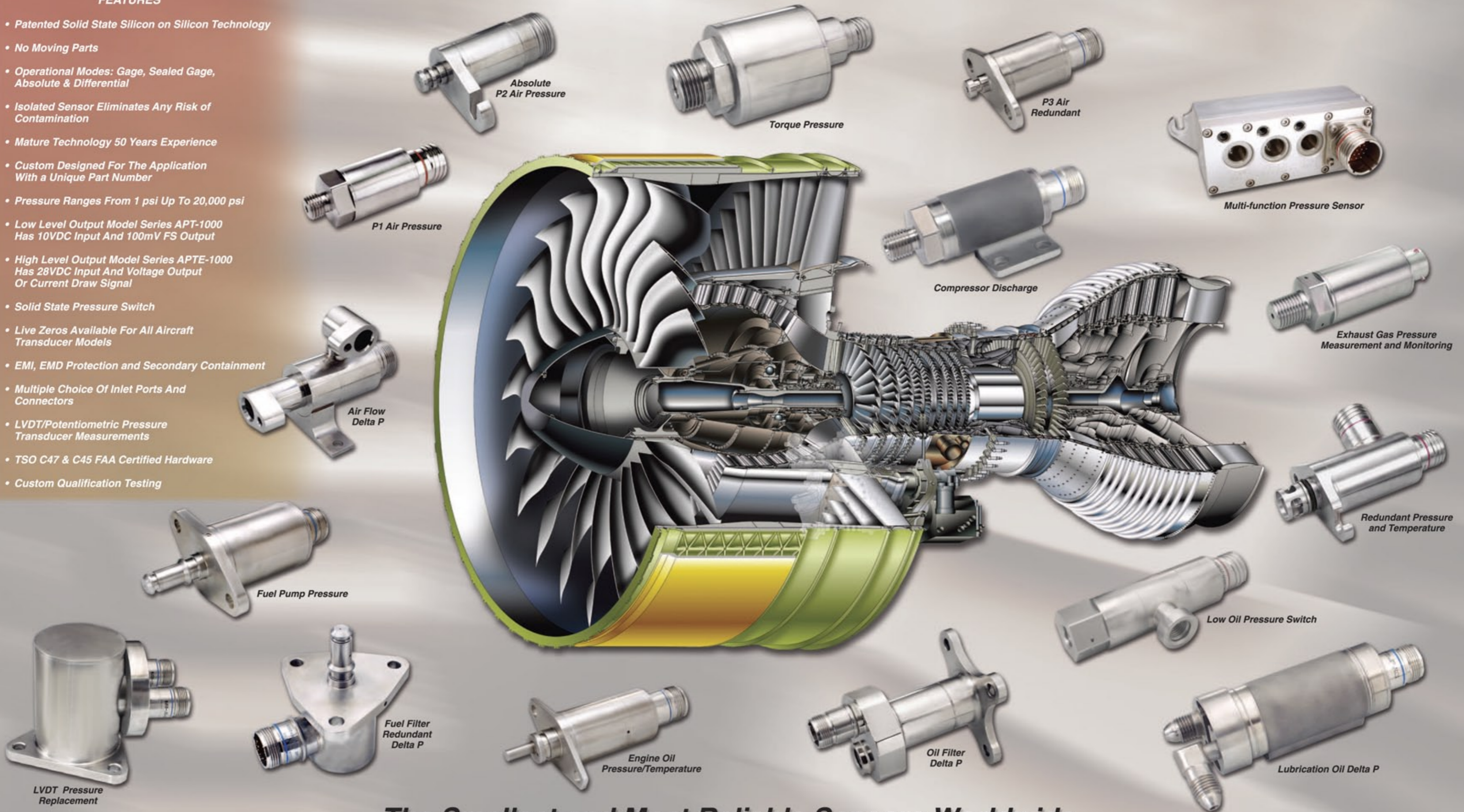
GAS TURBINE ENGINE SENSORS

WHERE INNOVATION AND TECHNOLOGY TAKE FLIGHT

Aircraft Engine Sensors Commercial Applications

KULITE AIRCRAFT TRANSDUCERS FEATURES

- Patented Solid State Silicon on Silicon Technology
- No Moving Parts
- Operational Modes: Gage, Sealed Gage, Absolute & Differential
- Isolated Sensor Eliminates Any Risk of Contamination
- Mature Technology 50 Years Experience
- Custom Designed For The Application With a Unique Part Number
- Pressure Ranges From 1 psi Up To 20,000 psi
- Low Level Output Model Series APT-1000 Has 10VDC Input And 100mV FS Output
- High Level Output Model Series APTE-1000 Has 28VDC Input And Voltage Output Or Current Draw Signal
- Solid State Pressure Switch
- Live Zeros Available For All Aircraft Transducer Models
- EMI, EMD Protection and Secondary Containment
- Multiple Choice Of Inlet Ports And Connectors
- LVDT/Potentiometric Pressure Transducer Measurements
- TSO C47 & C45 FAA Certified Hardware
- Custom Qualification Testing



The Smallest and Most Reliable Sensors Worldwide

Kulite Gas Turbine Transducer Applications

PROPULSION / ENGINE

Engine Oil, Absolute Pressure
Engine Oil, Gauge Pressure
Oil Filter Delta Pressure
Fuel Pump Pressure
Fuel Filter Delta Pressure
P1 Total Air Absolute Pressure
P2 Compressor Inlet Air Pressure
P2.5 Intermediate Air Pressure
P3 Compressor Discharge Air
P5 Engine Exhaust Air Pressure
P125 Fan Air Pressure
Compressor Air Bleed Plenum
Turbine Cooling Air Pressure
Transmission Oil Pressure - Turboshaft
Engine Torque Pressure - Turboshaft
Redundant Oil Pressure
Redundant Fuel Pressure
Redundant Fuel Filter Delta Pressure
Redundant Pressure and Temperature
Starter Air Valve Redundant Pressure
Exhaust Air Pressure

AUXILIARY POWER UNITS (APU)

Main Oil Pressure
P1 Total Air Pressure
P3 Compressor Discharge Pressure
Filter Differential Pressure
Exhaust Air Pressure

POWER GENERATION TURBINES

Air and Fuel Pressures
Compressor Discharge Pressure
Turbine Differential Pressure
Triplex Redundant Transducers
Combination Absolute and Differential
Combustion Instability Transducer
CSA and SIRA Certifiable

TURBINE TEST / DEVELOPMENT

Small Size, High Frequency Transducers
Acoustics/Noise Sensors
Airfoil Flutter/Vibration Measurements
Surface Mount Sensors (Flat Packs)
Ultra-High Temperature Pressure Sensors
Combustion Instability Measurement
Augmentor Screech and Rumble Sensors
DC and AC Dual Output Transducers
G-Insensitive Pressure Transducers
Ultra High G-Load Applications
High Accuracy Amplified or Unamplified
Digitally Compensated Transducers
Active Engine Control Transducers
Semi-Infinite-Tube Transducers (SIT)
Pitot-Static Pressure Probes
Wireless Output Pressure Sensors

COMBINATION / MULTI-FUNCTION / REDUNDANT

Multiple Absolute and Delta Pressures
Pressure and Temperature (RTD)
Pressure and Pressure Switch Combo
Multiple Redundant Combos

TECHNOLOGY / RESEARCH

Small Size Sensors (1.5mm Diameter)
High Frequency Response
Airfoil Surface Pressures (Flat Packs)
Pitot-Static Pressure Probes
Ultra High Temperature (Cooled and Uncooled)
Flow Angle Probes
Semi-Infinite Tube Transducers (SIT)
Active Flow Control Applications
Ultra High g-Load Applications
CSA and SIRA Certifiable

Kulite Turbine Pressure Transducers **Product reliability in the most severe environment**

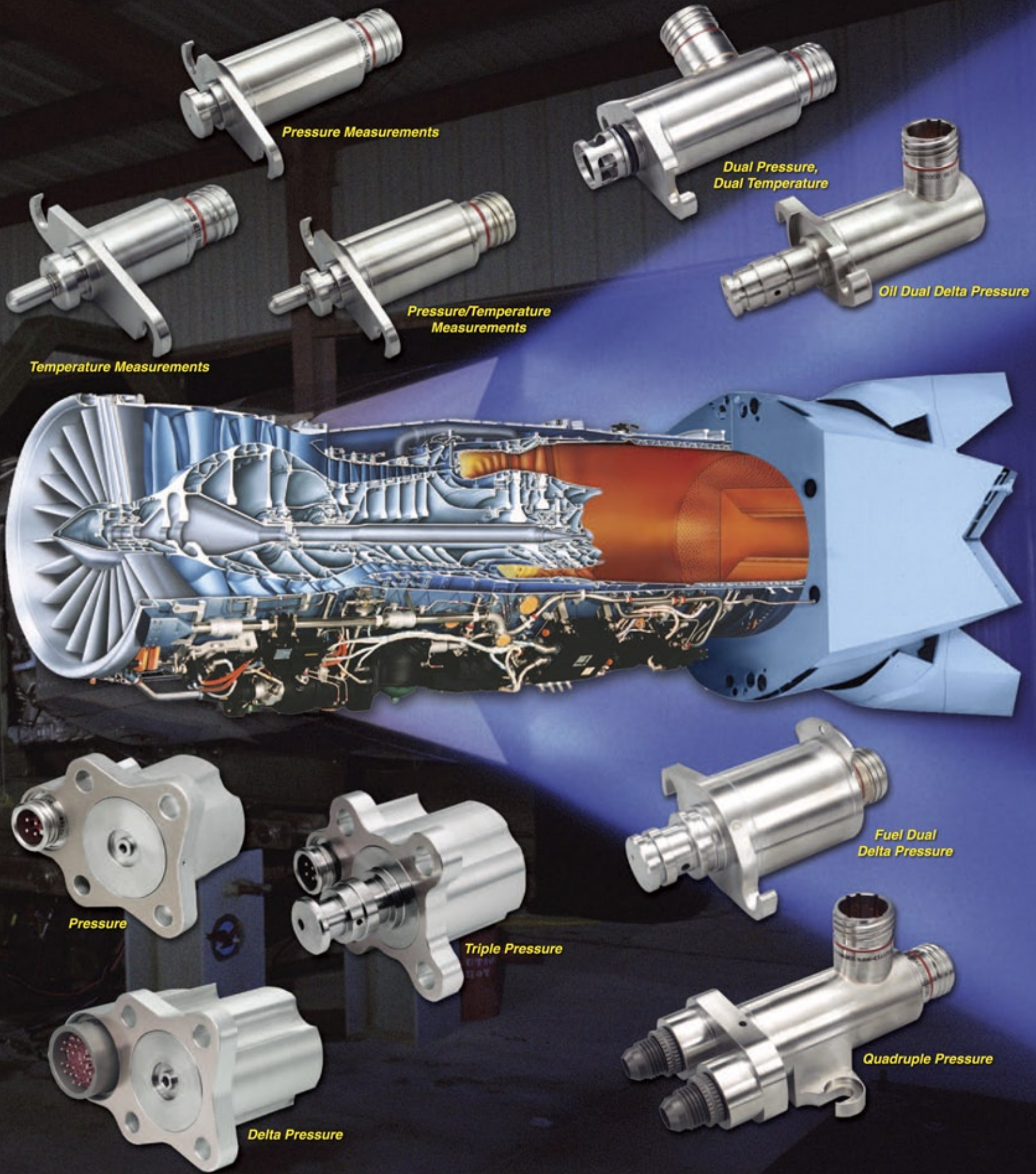
Kulite Semiconductor Products, Inc. is recognized worldwide as The Leader in **Pressure Transducers, Sensors and Transmitters** supporting almost every major aircraft propulsion program. The unique piezoresistive sensor coupled with the lightweight package concept is the ideal product of choice for the Gas Turbine engineer looking to reduce weight, increase reliability and fulfill the need for higher accuracy while meeting cost objectives.

Kulite silicon sensor advantages:

- High frequency response
- Excellent long term stability
- Media compatibility
- Negligible non-linearity and hysteresis
- Custom accuracy < 0.1%
- Ruggedized to application
- Excellent repeatability
- High temperature capability +1025°F (550°C)
- Digital and/or analog output
- Static/Dynamic outputs

Kulite transducer technology has demonstrated for over 50 years that it is a superior product necessary to meet the stringent requirements for aerospace and ground pressure measurement applications.

Aircraft Engine Sensors Military Applications



Pressure Measurements

Dual Pressure,
Dual Temperature

Oil Dual Delta Pressure

Pressure/Temperature
Measurements

Temperature Measurements

Fuel Dual
Delta Pressure

Pressure

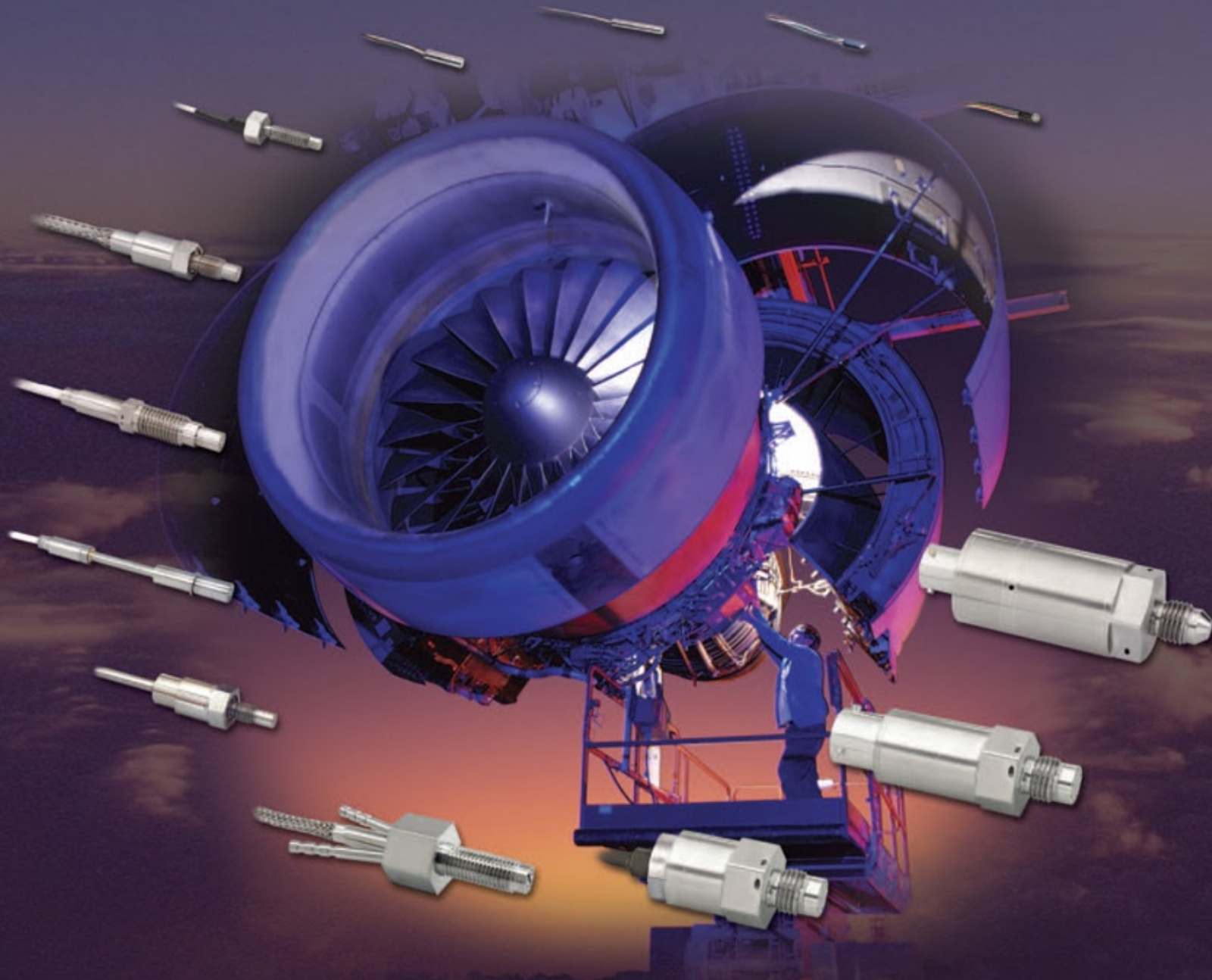
Triple Pressure

Quadruple Pressure

Delta Pressure

Test Sensors

Kulite is the leader in supplying transducers to the aircraft engine industry, providing sensor solutions for laboratory research, engine development testing, flight quality engine measurements and various Turbine Engine measurements for Commercial, Military and Power Generation applications. Please consult your nearest Kulite Sales Office for your particular application and visit our web site for additional information. www.kulite.com.



Please consult your nearest Kulite Sales Office for your particular application. Data sheets for all products shown are available at our web site: www.kulite.com

Kulite holds 3rd party approval for AS9100 and ISO9001 as well as SIRA and CSA certifications. Kulite is an approved FAA/EASA/CAAC repair station. Please visit our web site for details.



KULITE SEMICONDUCTOR PRODUCTS, INC.

One Willow Tree Road • Leonia, New Jersey 07605 USA • Tel: 201 461-0900 • Fax: 201 461-0990 • Email: info-kulite@kulite.com • <http://www.kulite.com>

Continuous development and refinement of our products may result in specification changes without notice.

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