

TEJASE AEROSENSE

Tejase Aerosense Pvt. Ltd.



Tejase Aerosense Pvt. Ltd is a wholly Indian owned company focused on design, development, manufacturing and marketing of sensors for airborne applications. It is promoted by alumni of leading Indian and international engineering institutes, with a number of international patents in measurement technologies, with years of business experience in manufacturing and marketing of sensors.

We are currently undertaking the development of various airborne sensors for the Indian Air Force, Defence Research and Development Organization (DRDO), and Hindustan Aeronautics Ltd. (HAL) for use in various platforms.

Tejase Aerosense is your partner of choice for development of sensors on account of the following reasons:

- ⇒ High qualified, technical development and management team
- ⇒ Extensive test facilities
- ⇒ Wide experience of management team with sensor development for various harsh environment applications
- ⇒ Management team with proven track record of technology development

Temperature sensors:

Temperature sensors for various applications including engine exhaust temperature, air conditioning systems, fuel systems etc. are manufactured. Sensors can be based on thermocouples, RTDs or other types of transducers such as PTAT, thermistor etc. Output can be conditioned to either directly interface with avionics systems or generate analog voltage outputs which can be acquired by the avionics.

Thermocouple: Type K thermocouple per ITS-90 specifications. Submerged and exposed junction options offered. Single or dual thermocouples enclosed within a single sensor can be offered. The wires are either mineral insulated or held in place by high alumina multi bore tubes for highly reliable performance.

Sheathing materials offered are Stainless Steel 316L, Inconel 600, Hastelloy X, XH60BT or as per specification.

Temperature range: -50 to 1200°C

Accuracy: Class 1 thermocouple standards as per IEC 60584-2:1982 / BS EN 60584-2:1993



RTD: Pt50/Pt100/Pt500/Pt1000 can be offered. 2/3/4 wire systems with single or multiple transducers in each sensor can be offered.

Sheathing materials offered are Stainless Steel 316L, Inconel 600, Hastelloy X, XH60BT or as per specification.

Temperature measured: Upto 300°C

Accuracy: Class A accuracy as per IEC 60751:2008 / BS EN 60751:2008

Other: Customers-specific requirements for thermistor based or transistor-based temperature sensors can be developed to meet the performance criteria required by the application and deliver reliable measurements. Please get in touch with us for your specific requirement.



Angle sensors:

These are robust sensors to measure the angle of rotation. Both RVDT based rotary angle measurement sensors and resolver based sensors can be offered. The transducers are designed to operate in harsh environmental conditions.



RVDT based transducers: These transducers take a high frequency AC voltage as an input and generate an output the amplitude of which is proportional to the angle of rotation of the shaft.

Measuring range: $\pm 40^\circ$
Input power: 6-36VAC, 400-10,000Hz
Operating temperature: -45°C to 150°C
Relative Humidity: 95% +/- 3%

Resolver based transducers: These transducers take a high frequency AC voltage as an input and generate 2 output channels which are 90° phase shifted from each other. This sensor is extremely rugged and can be used in applications where high temperature, high vibration, shock and contamination risks are high.

Measuring range: $\pm 35^\circ$
Input power: 6VAC, 2000-4,000Hz
Operating temperature: -55°C to 210°C

Pressure sensors

We design and develop pressure sensors-absolute and differential for airborne applications. These sensors could be used for absolute pressure measurement, altitude measurement and air speed measurement when connected to a pitot tube. The sensors are design to have easy maintenance and be robust. Based on application, we can offer both MEMS based pressure sensors as well as sensors based on diaphragm movement. The measuring element can be either a LVDT or a potentiometer based on requirement and a signal conditioning circuit can be integrated in order to generate the output required by the avionic systems.



LVDT based pressure sensors: Designed using a high temperature resistant diaphragm and a rugged epoxy sealed LVDT, we can deliver high performance absolute pressure measurements. These sensors can be customized as per their mounting locations and external form and fit. The absolute pressure sensor can be calibrated to function as an altimeter.

Measuring range: 0.2 to 3.4 bar
Input power: 6-36VAC, 400-10,000Hz
Operating temperature: -45°C to 150°C

MEMS based pressure sensors: MEMS based sensors have a silicon micromachined diaphragm integrated into the integrated circuit and a resistive output is generated which is proportional to the pressure applied. The type of sensing element can be chosen based on the range of pressures to be measured.

Measuring range: 0.01 to 100 bar
Operating temperature: -45°C to 120°C
Relative Humidity: 95% +/- 3%

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