

Instrumentation Lab

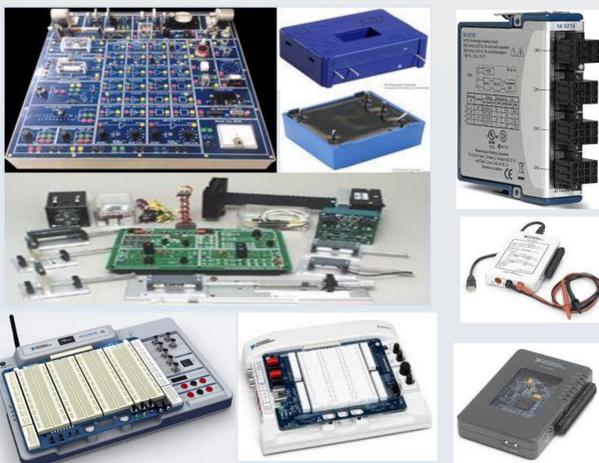
Introduction

- Instrumentation is the branch of engineering that deals with measurement and control. An instrument is a device that measures or manipulates process physical variables such as flow, temperature, level, or pressure etc.

Scope of the Lab

- The Transducers kit introduce students to the concepts and understanding of common transducers and standard signal conditioning methods. Many engineering applications and systems depend on accurate measurements and monitoring.
- Transducers are fundamental to the measurement process, consequently the study of different types of transducers.

Infrastructure



- NI LabVIEW
- NI MULTISIM and ULTIBOARD
- NI ELVIS II and NI ELVIS III
- NI myDAQ, NI myRIO and NI cDAQ
- Sensors and Transducers
- Trainer kits

NI MULTISIM & ULTIBOARD



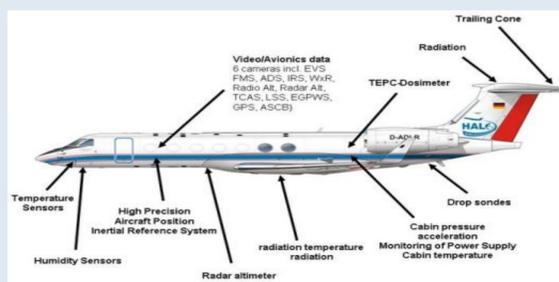
INSTRUMENTS & TRANSDUCERS



Application Areas

- Industries:** for measuring different quantities such as temperature, pressure, speed, acceleration, etc.
- Automobiles:** like speedometers, fuel-level sensors, crankshaft position sensors, parking sensors, etc.
- Medical field:** ultrasounds, Thermometers, pulse-rate monitors, stethoscopes, sonograph machines, etc.
- musical instruments:** Microphones, electric guitars, synthesizers, etc.

SENSORS & INSTRUMENTS IN AVIATION



List of experiments

- Study of effect of loading on measuring instruments
- Electronic multimeter
- Design DACs and ADC
- Positional Resistance Transducer
- Wheatstone Bridge Measurement
- Design of Attenuators
- Light Sensors
- Temperature Sensors
- Linear-Position-Force
- Ladder Diagrams
- Rotational Speed and Position Measurements
- Print a Y-Channel with obstacles using the 3D Printer
- Seven segment display interfacing with arduino and some basic operations
- Smart Irrigation System
- Applications of piezo plate and thermistor as sensors
- To understand LCD interfacing with arduino
- Battery level indicator

Faculty Coordinator

Dr. Ponnalagu R. N.

Other Faculty Users

Dr. Karumbaiah C. N.
Dr. Sandeep Kumar

Research Scholars

Sarda Sharma
PN Sidhartha

Technical staff

K. Venkateswarlu(Sr.Tech.Asst.)
T. Sreekanth(Tech)
D. Jeevan Raju(Sr.Tech.)

