

Avionics Laboratory

Introduction General Outline

This laboratory serves as a teaching tool for the students of aerospace engineering in the selection, use and performance analysis of inertial sensors & temperature sensors. Students also learn about basics of LabVIEW and Matlab programming used in the field of avionics & guidance and control.

- The laboratory has equipment to enable the student to understand the basic programming of microprocessors.
- Temperature measurement – RTD & Thermocouple
- Angular position measurement, acceleration measurement – Inertial sensors
- Flow velocity measurement – Hot wire anemometer
- LabVIEW programming of virtual interface involved in the receivers of global positioning system
- Matlab programming involved in guidance of aircraft and missile autopilot systems.
□ Communication protocols involved in the military and commercial data buses.

Real time applications

- Aircraft and missile - satellite navigation
- Inertial Navigation in aircrafts
- Transfer of data between the avionics subsystems
- Autopilot control systems

Photos of the facility



Fig. 1 8086 Microprocessor

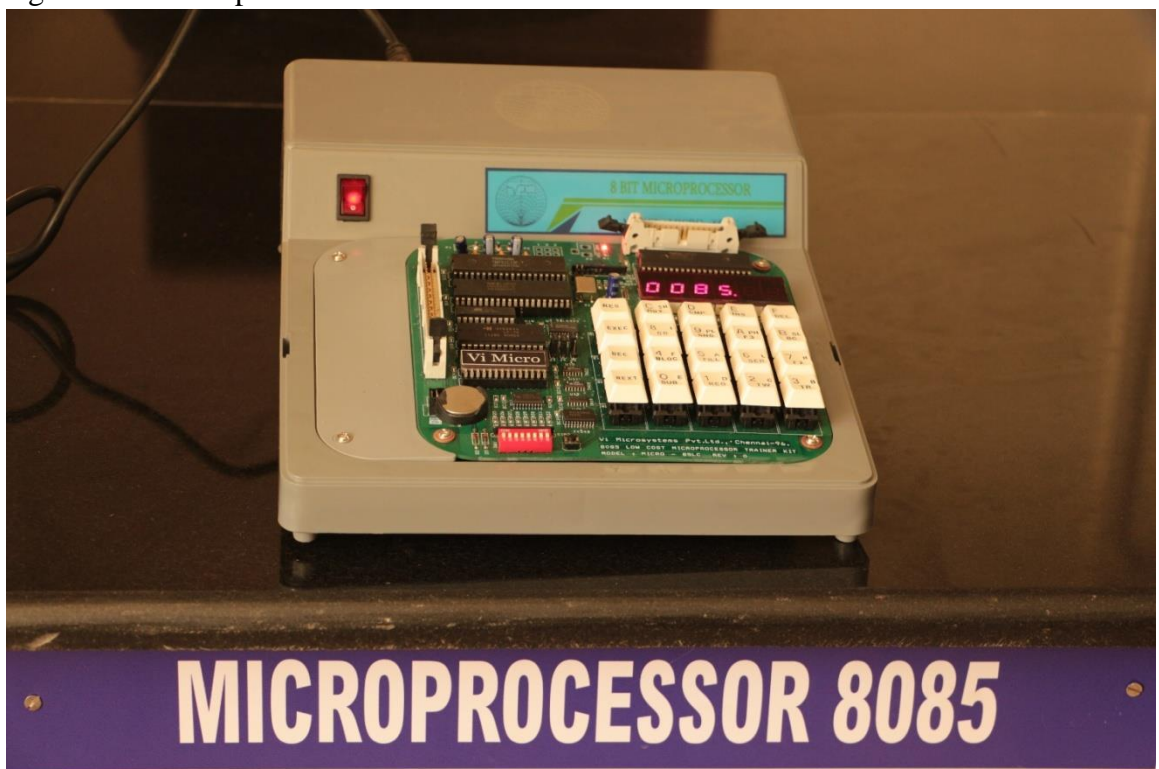


Fig. 2 8085 Microprocessor

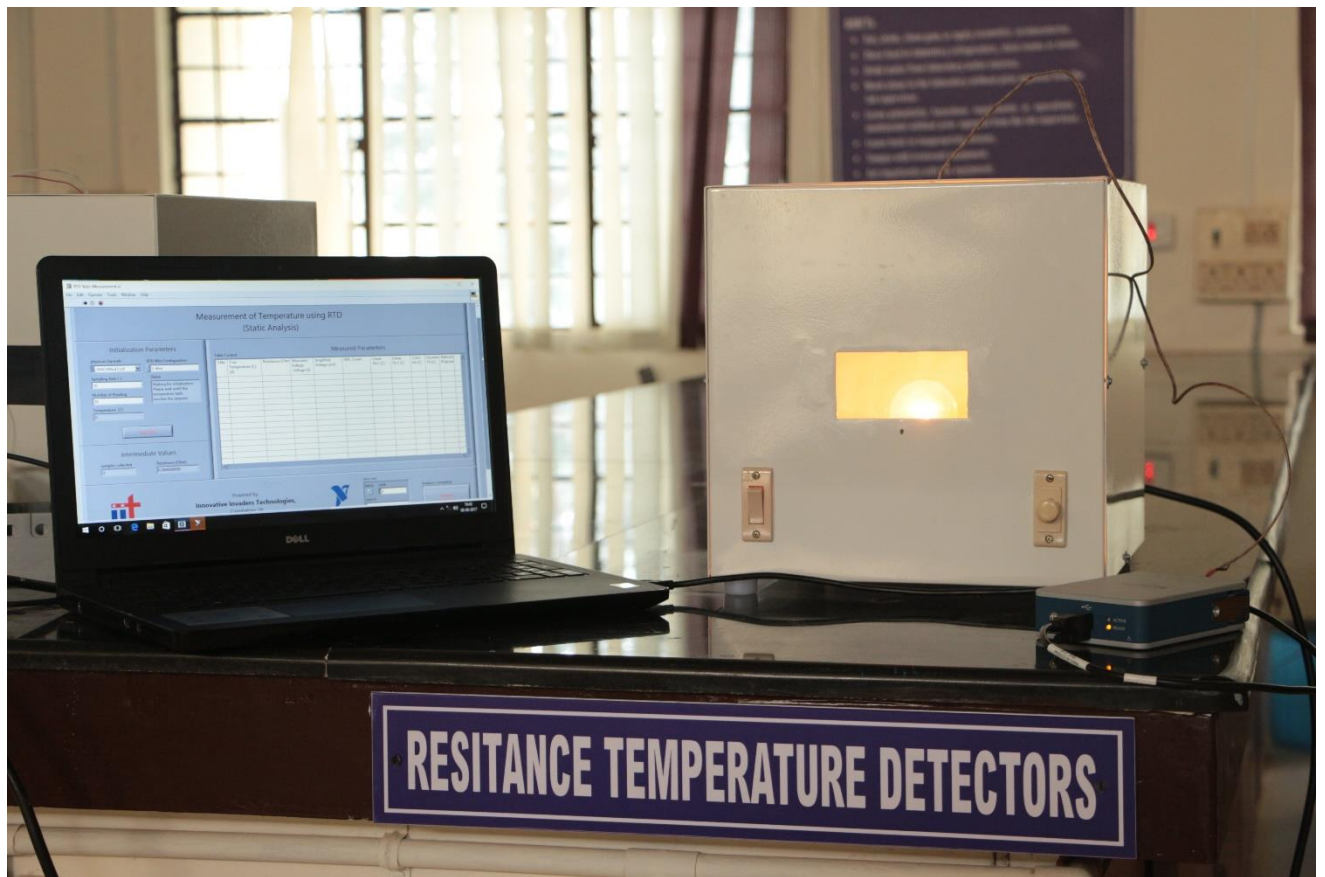


Fig. 3 RTD



Fig. 4 Hot Wire Anemometer

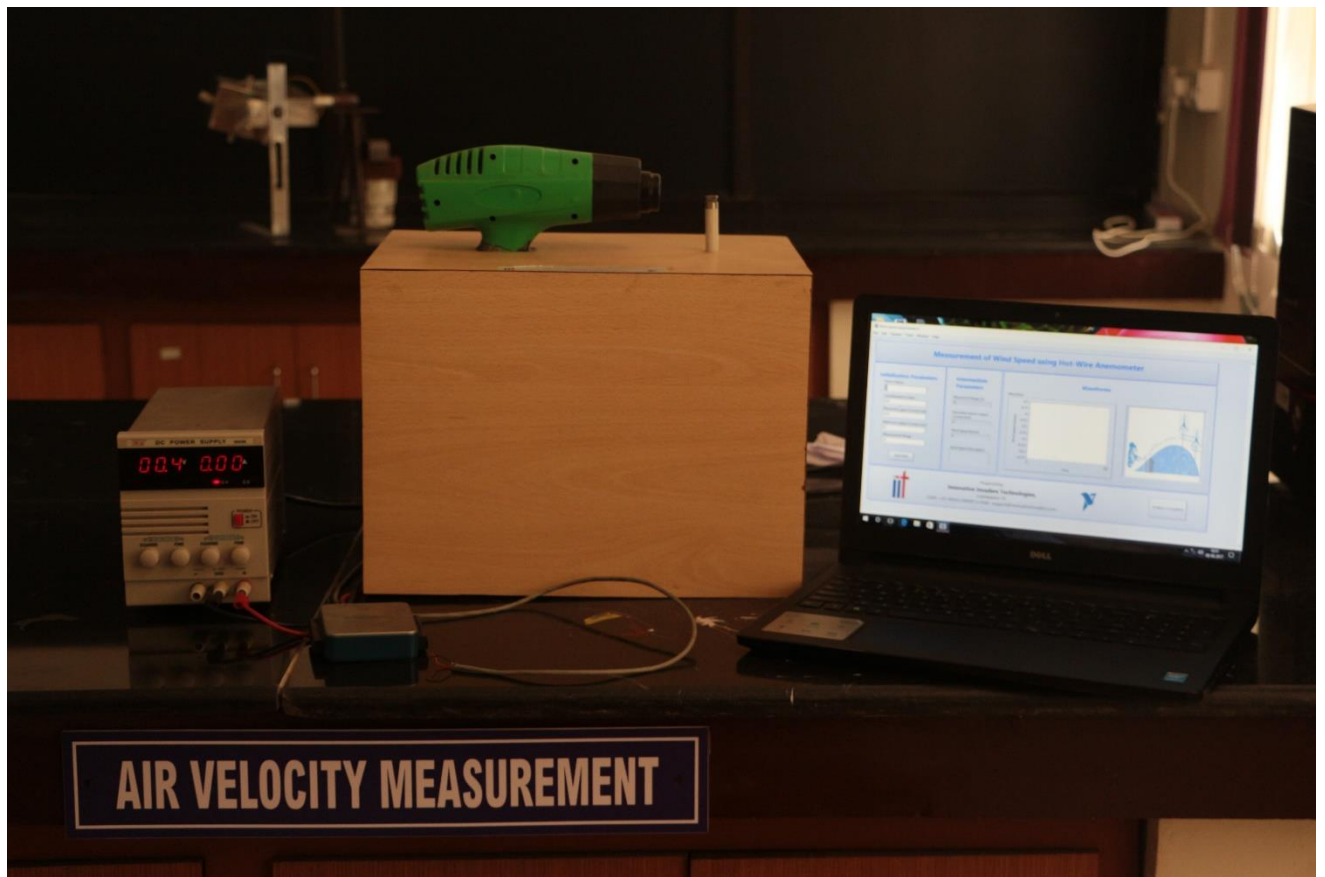


Fig 5. Air Velocity Measurement