AT-13101

Mini Turbine Engine Trainer

*The pictures above are for reference only.
The real products purchased should be considered as final.

AT-13101 Mini Turbine Engine Trainer, with more than 12KG of thrust, was developed and manufactured in Taiwan. This Turbine Engine trainer is controlled by the Electronic Control Unit (ECU). It can control the starting process, ignition, RPM and fuel flow. ECU prevents damages resulted from improper shutdown. Automatic ignition system ensures the stability of starting up by linking DC motor to the internal compressor.

Features

AT-13101 Mini Turbine Engine Trainer comes with manifold sensors such as temperatures, pressure, the thrust produced, RPM and fuel flow. With those sensors, multiple surveillance and data analysis for Turbine engine will be done effectively. All the properties mentioned above could provide stable control platform for multiple data analysis and measurement; it is suitable for aviation training college and related engineering field to develop applications.

Specifications

1. 15 inch panel PC
2. Controller board
3. Master power switch with a safety key
4. Turbine ignition switch is protected by switch guard, to prevent unintentional activation or emergency shutdown
5. Throttle control : DC voltage control
6. LCD display
7. Fuel Tank : 50 Liters
8. Turbine design
   (1) Maximum thrust : 12Kg/120000RPM
   (2) RPM : 3500 ~ 120000 RPM
   (3) Fuel : Jet-A, kerosene or diesel
   (must be mixed with 5% synthetic turbine oil)
   (4) Length : 35cm
   (5) Diameter : 11cm
9. ECU
   (1) Automatically control fuel pump, regulate the fuel flow and safety limit
   (2) Monitor EGT, for starting and shut down
   (3) Monitor DC power supply : regulated DC power supply for starter and ignitor
   (4) ECU will monitor startup, run and shutdown for safely operation
10. Sensors for Turbine engine trainer
    (1) Intake air temperature sensor
    (2) Intake air pressure
    (3) Intake air volume
    (4) After diffuser temperature sensor
    (5) After diffuser Pressure sensor
    (6) Turbine inlet temperature sensor
    (7) Turbine inlet pressure sensor
    (8) Turbine outlet temperature sensor
    (9) Turbine outlet pressure sensor
    (10) Nozzle temperature sensor
    (11) Nozzle pressure sensor
    (12) Thrust measure
    (13) Fuel consumption
    (14) RPM
11. Power : AC 110V 60Hz / 230V 50Hz
12. Dimension : 85.5cm (W) x 70cm (D) x 149cm (H)
13. Weight : 96Kg
14. Practical lessons
    (1) Turbine starting procedure
    (2) Turbine's temperature and pressure measurement, sensor familiarization
    (3) Comparison between Thrust and RPM
    (4) Comparison between Fuel consumption and RPM
    (5) Comparison between thrust and Fuel grade
    (6) Comparison between turbine's intake air temperature
    (7) Turbine steady and dynamic performance analysis
    (8) Comparison between fuel mixture and RPM
    (9) Thermodynamic and waste gas studies

Accessories

1. Operation manual
2. Fuel pipe, for fuel top up
3. Ear muffler