

PC BASED DATA ACQUISITION SYSTEM FOR IC ENGINE TEST RIG

MODEL: HMT12



FEATURES

- Compact, comprehensive, sturdy design
- Easy and versatile operation
- Suitable wide range of IC engine test rigs
- PC based system

DESCRIPTION

The system is designed to be used on to an existing IC Engine Test Rig. All the necessary instrumentation and software is provided. The software is Windows based extremely user friendly. The data acquired, the data analysed and its calculations can be viewed in a tabular and/ or graphical form. Various graphs can be viewed e.g. η_{bth} v/s fuel consumption, rpm v/s BP, etc. The software also permits printing of the various data/screens and engine speed. Testing can be carried out at various loads.

Optionally, there is a facility to plot P- θ diagram on PC

INSTRUCTION MANUAL

Self -explanatory operating manuals are provided with each system. Detailed theory as well as practical exercises is also included in the manual

LIST OF EXPERIMENT

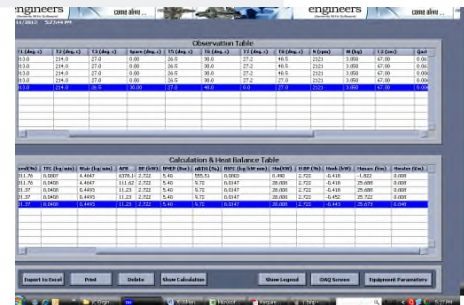
1. To determine Brake Power
2. To determine engine volumetric efficiency
3. To determine engine brake thermal efficiency
4. To determine engine specific fuel consumption
5. Complete energy balance using exhaust gas calorimeter.
6. Determining air/ fuel ratios and more

COMPONENTS

For BP Measurement <i>Option 1:</i> Torque Transducers Range : Please specify	1 No.	Software with single user license, facilitating;	1 No.
OR <i>Option 2:</i> a) Energymeter transmitter: Range : Please specify Type: AC or DC (Please specify) 1 phase or 3 phase (Please specify)	1 No. 1 No.	<ul style="list-style-type: none"> • Acquired data display (Tabular / Graphical form) • Analyzed data display (Tabular / Graphical form) • Plotting of various curves. • Programmed calculations for the analysis of the acquired data • Related theory and comprehensive help. 	
Engine Fuel Consumption meter: Gravimetric or Volumetric type	1 No.	Speed Transmitter For engine rpm measurement	1 No.
Air Flow Intake Measurement Orifice DPT or Vane type	1 No.	Data Interface Module Input from various sensors Output to the PC	1 No.
Temperature Sensor/Transmitter Type: Pt -100 Type: Thermocouple	5 Nos. 2 Nos.	Engine cooling and Calorimeter cooling water flow measurement (Optional)	1 no. each

OPTIONAL ADDITIONAL

1. Water Flow Transducer: Vane / Turbine type for engine cooling water flow measurement
2. IBM Compatible PC
3. Engine Indicating System Consisting of,
 - Piezo type pressure sensor to measure cylinder pressure
 - Crank Angle Marker
 - Fast data acquisition module and Software for Windows



SERVICES REQUIRED

1. Water supply and drainage arrangement
2. Electric supply
3. Fuel for engine

NOTE: Unless otherwise specifically mentioned in the price quotation, installation is not in the scope of supply.

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- (1) Since research and development is an on-going activity, the specifications mentioned herein are subject to change without notice
- (2) Photographs are indicative only