52095 provides measurement of speed using Photoelectric Transducer. Photo-electric transducer is commonly used transducer in many applications. The experimental setup uses phototransistor as a photo-electric transducer. A phototransistor conducts when gate is illuminated with light or radiation.
MOC7811 has a LED that emits INFRA-RED radiation and a photo-transistor they are mounted in such a way full radiation energy falls on the transistor. A disc is attached to a motor shaft which has 12 uniformed holes with in its periphery. When motor runs the light is being passed through these holes or say the light is interrupted by blockages. A proportional voltage pulse form is developed across the transistor when light gets interrupted. In this way 12 pulses are generated with one revolution of motor.

Object:

1. Measurement of Speed using photoelectric transducer

Features:

The board consists of following built in parts

1. ± 12V D.C. at 100mA, I.C. regulated Power Supply.
2. 5V D.C. at 100mA, I.C. regulated Power Supply.
3. 8051 microcontroller for data processing and calculation.
4. 4 digit 7 segment display for displaying speed in RPM.
5. 12 Volt DC Motor with blade that has 12 hollow points at the edges whose rotating speed is to be calculated
6. Opto coupler MOC7811 as a photoelectric transducer.
7. Adequate no. of other electronic components.
8. Mains ON/OFF switch and jewel light.
9. The unit is operative on 230VAC ±10% at 50Hz .
10. Good Quality, reliable terminal/sockets are provided at appropriate places on panel for connections/ observation of waveforms.
11. Strongly supported by detailed Operating Instructions, giving details of Object, Theory, Design procedures, Report Suggestions and Book References.
12. Weight : 2 Kg. (Approx)
13. Dimension : W 340 x H 125 x D 210

Other Apparatus Required:

1. Digital Tachometer : 1 Nos

Note: Specifications are subject to change.

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