



**OMEGA TYPE ICT-928** provides measurement of speed using Photoelectric Transducer. Photo-electric transducer is commonly used transducer in many applications. The experimental setup uses photo-transistor as a photo-electric transducer. A photo-transistor conducts when gate is illuminated with light or radiation.

MOC7811 has a LED that emits INFRARED 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

- 01 measurement of Speed using photoelectric transducer

#### FEATURES

The board consists of following built in parts

- 01  $\pm 12V$  D.C. at 100mA, I.C. regulated Power Supply.
- 02 5V D.C. at 100mA, I.C. regulated Power Supply.
- 03 8051 microcontroller for data processing and calculation.
- 04 4 digit 7 segment display for displaying speed in RPM.

- 05 12 Volt DC Motor with blade that has 12 hollow points at the edges whose rotating speed is to be calculated
- 06 Opto coupler MOC7811 as a photoelectric transducer.
- 07 Adequate no. of other electronic components.
- 08 Mains ON/OFF switch and jewel light.
- 09 The unit is operative on 230VAC  $\pm 10\%$  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:-

- 01 Digital Tachometer : 1 Nos

We are committed to the continuous development of our products, and therefore reserve the right to amend specifications without prior notice.

**OMEGA ELECTRONICS**