INTRODUCTION:

Speed measurement by photoelectric (optical) transducer is a convenient method, since many types of photon devices are available. In the present setup a photo diode is used as transducer. The transducer: A photo diode (in reverse bias mode) is a device the resistance of which falls to great extent when it is exposed to light radiation. In actual we must describe the system before the transducer. A light emitting diode and a photo diode is mounted in such way that full radiated energy falls upon the diode. A disc is attached with the motor shaft which has ten uniformed holes (may said ten blockage) within its periphery. When motor runs the light is being passed through these holes or say the light is interrupted by these blockages. A proportional voltage in pulse form is developed across the diode when light get interrupted. In this way ten pulses are generated with one revolution of the motor.

**Features:**

- **Transducer**: Non-Contact type
- **Motor**: 12V, 3000 RPM permanent magnet DC motor
- **Speed Control**: variable with on/off switch
- **Sensor**: Photo diode
- **Tachogenerator**: Electronic
- **Light Source**: H.G. LED
- **Interrupt**: Opto interrupt disc
- **Signal Conditioner**: Based on op amps.
- **Test points**: Sockets provided at each signal processing block i/p o/p
- **Display**: 4 digit digital counter for speed (RPM)
- **Power supply**: Short circuit & overload protected
- **Mains**: 230V/50Hz AC
- **Instruction manual**: One
- **Size**: 320x190x75mm (approx.)

**EXPERIMENT COVERED**

Study of speed measurement by Photoelectric pickup (non-contact light interrupt measurement transducer)