

- ◆ Non-contact speed measurement
- ◆ High intensity flashes
- ◆ Direct speed reading in RPM
- ◆ No shaft modification



Introduction

Measurement of the speed of a rotating shaft is a common requirement in many industrial and laboratory applications. Such measurements have usually been carried out in the past with the help of contact type tachometers with friction drive. More recently digital optical non-contact tachometers have been designed which count the reflected pulses from a white patch on the shaft and then display the speed in rpm. The light source is usually a filament lamp operating with dry cells leading to limited life and illumination. A similar idea with magnetic pick-up from a particular area of the shaft has also been used for speed measurement.

A third category of speed measurement instruments is based on the stroboscope principle. In this a high intensity light flash of a variable frequency is directed towards rotating shaft. Any marking on the

shaft appears stationary, if the time of one shaft revolution is a multiple of the flash period. Earlier stroboscopes used neon tubes of low intensity which forced their use close to the rotating shaft.

The present unit has been designed to remove most of the above shortcomings. This has resulted in a good quality, convenient-to-use, direct reading speed measuring instrument. A highly stable function generator IC based circuit provides the basic variable frequency timing pulses. These are read on an IC based 4-digit speed display in rpm. The flasher unit generates the high intensity flashes at a suitably scaled rate directed towards the rotating shaft. A 10 turn potentiometer makes the task of speed setting very precise. Operating instructions are included in the Instruction manual accompanying the unit.

Features and Specifications

- Non-Contact-type - no error due to friction drive, suitable for small motors and also motors in inaccessible locations
- High intensity XENON flashes - operation possible from a reasonable distance (0.5m) in usual ambient light in a room. Detachable lamp unit with 1.5m cable
- 4-digit speed display in rpm - operating range of 500-9900 rpm, resolution 1 rpm. High accuracy crystal controlled LED display
- No shaft modification - Any distinctive existing shaft marking may be used. Alternatively use of stickers or markers is possible
- Power - 220V±10%, 50Hz mains operation. IC regulated internal supplies

