| Shaft Rotation n and Flashes $n_0$ relationship | stopped images | note |
|---|---|---|
| $n=n_0-\triangle n$ |  | single image moving oppositely |
| $n=n_0+\triangle n$ |  | single image moving same direction |

5.NOTES

5.1 This device causes moving objects to appear still. Take precautions against accidental contact with moving objects.

5.2 Do not look at the emitted light for long periods of time; it can be harmful to the eyes.

5.3 Do not touch the flash tube.

5.4 Do not operate or store instrument in following places: explosive areas, near water, oil, dust, or chemicals, areas where temperature is too high.

6. FLASH TUBE REPLACEMENT

when reading is displayed but unit is not flashing, The tube might be needed to be replaced.

7. AUTO STOP FLASHING

The strobe light of stroboscope will stop flashing about 5 minutes after power on the stroboscope in order to prolong lifetime of strobe light. To make it work again, one have to power off the stroboscope and power it on again.

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Website:www.forant-germany.com



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# OPERATION MANUAL

# STROBOSCOPE

**87117103 87117104**

**87117105 87117106**

**87117107 87117849**

This Stroboscope is small in size, light in weight, easy to carry. Although complex and advanced, it is convenient to use and operate. Its ruggedness will allow many years of use if proper operating techniques are followed. Please read the following instructions carefully and always keep this manual within easy reach.

# TABLE OF CONTENTS



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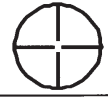
Table 1

| Shaft Rotation n and Flashing $n_0$ relatioship | Stopped Images | note |
|---|---|---|
| $n=n_0$ |  | Single images |
| $n=kn_0$ k=1, 2,… |  | Single images |
| $n=\frac{1}{2}n_0$ |  | 2 images |
| $n=\frac{3}{4}n_0$ |  | 4 images |
| $n=\frac{5}{2}n_0$ |  | 2 images |
| $n=\frac{1}{3}n_0$ |  | 3 images |

or physically marking the object with a small piece of tape, pencil mark, etc.

4.2 Plug the supplied power cable into the power cable jack of the instrument. Plug the other end of the cable into an appropriate AC power source. Do not plug the device into an incorrect power source otherwise damage to the instrument will result. Use the ON/OFF switch to turn the instrument on or off.

4.3 Depress the H/L button (3-4) to select the Hi range or Low range. For different models, the upper limits vary. Please note, flashing light is much brighter at low range than that at hi range in order to prolong lifetime of strobe light.

4.4 Adjust the Coarse Knob (3-5) or the Fine Knob 3-6 from highest FPM downward. The true RPM can be noted once the frozen appears and the first single image of "Mark"appears. See chart in table 1 and accompanying diagram for further explanation.

4.5 To verify RPM reading, press "÷2", a single image should appear again. And press "x2", 2 images should appear.

4.6 While measuring, use the RANGE button to select the range as desired. The Low range is used for measurements below 2,500 RPM (for E type) or 5,000 RPM (for A to D type). At low range, flashing light is much brighter.

4.7 Use the Ext/Int button to select the external trigger or internal trigger way as desired.



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## 1. FEATURES

* When the speed of the moving object matches the flash rate of the stroboscope, the moving object appears still. The unit can give the operator the illusion of ' stopped motion' where in actuality the equipment under observation is in a moving state. By adjusting the flashing rate, equipment in motion appears to be standing still. With a slight adjustment, movement can be viewed in apparent slow motion. Which enables the observer or the operator to study the process in action.
* Wide measuring range & high resolution.
* Digital display gives exact reading with no guessing or errors.
* Flash timer control conserves flash tube life.
* External trigger allows unit to be automatically Synchronize with equipment.
* Strong flash light at low range and week flash light at high range.

## 2. SPECIFICATIONS

Display : 10 mm (0.4") LCD
( Liquid Crystal Display )
Parameters Measured: FPM
( Flashes Per Minute)
Ranges : A: 50~12,000 FPM ☑
B: 50~40,000 FPM ☐
C: 50~20,000 FPM ☐
D: 50~30,000 FPM ☐
E: 50~2,000 FPM ☐

(Model E is specially designed for Printing and Textile industry)

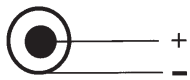
Resolution : 0.1 FPM(50~999.9 FPM)
1 FPM(over 1000 FPM)

Accuracy : ±(0.05%n+1d)

Sampling Time : 0.3 second

Internal/external triggering conversion

External trigger level: 3-24 V




H/L range:
Flashing light is much brighter at low range than at high range.

Strobe Flash tube type: Xenon lamp

Operating conditions :
Temp: 0~40°C
Humidity: <85% RH

Power supply : ☑ 220V A.C. (Default)
☐ 110V A.C.

With x2, ÷2 for fast check

Size: 215x85x180 mm (8.5x3.3x7.1 inch)

Weight: about 1000g

Accessories:
Carrying case.....1pc.
Operation manual .....1pc.
Spare flashing tube.....1set.



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## 3· FRONT PANEL DESCRIPTIONS

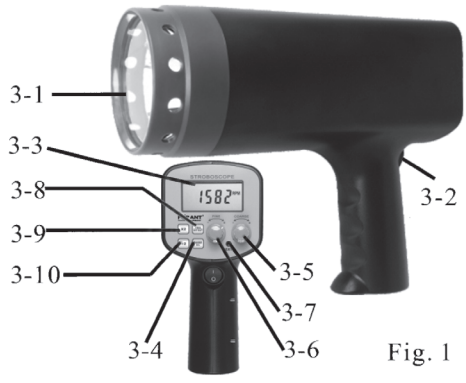


Fig. 1

3-1 Flash Tube (Xenon lamp)
3-2 Power Switch
3-3 Display
3-4 Range Switch
3-5 Coarse (Flashing Rate Adjusting Knob)
3-6 Fine (Flashing Rate Adjusting Knob)
3-7 Jack for external triggering signal
3-8 Internal/external triggering button
3-9 x2 button for fast check
3-10 ÷2 button for fast check

## 4. MEASURING PROCEDURE

4.1"Mark"the object to be measured by either visually noting an inherent distinguishing characteristics (such as a label scratch, etc.)