

## Operation Manual



**Warning**

Do not operate or store instrument in the following places:

- Explosive areas
- Near water, oil, dust or chemicals
- Areas where temperature is above 104°F (40°C).

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

Do not disassemble or repair unit while in operation.



The DT-725 portable, light weight stroboscope with rechargeable battery possess many of the same features as the famous DT-300 Series Stroboscopes, but are lighter in weight. Constructed of strengthened high impact plastic, these rugged units are exceptionally reliable and withstand the same harsh conditions as more expensive units. Employing its unique phase shifting feature, the DT-725 "freezes" rotating or reciprocating machinery for visual inspection of covered gear teeth, shafts, oil/fuel/ink injector patterns, and print media; all without stopping production.

These features make the DT-725 ideal for quality inspection and preventive maintenance of automated motion equipment. Units can be ordered separately or as a convenient kit.

To mount the strobe on a tripod (or any other mounting surface), use screw 1/4 - 20unc, length 8mm or shorter, for the tripod screw hole on the bottom.

### SPECIFICATIONS

**Flashing Range:** 40.0 - 12,500 fpm (flashes per minute)

**Accuracy:**  $\pm 0.02\%$  of reading

**Resolution:** 0.1 fpm: 40.0 - 4,999.9 fpm / 0.2 fpm: 5,000 - 7,999.9 fpm / 0.5 fpm: 8,000.0 - 9,999.5 fpm / 1 fpm: 10,000 - 12,5000 fpm

**Phase Shift:** Use +/- push buttons (360° in 6 seconds)

**Display Update Time:** Ext. mode : varies with flashing rate

**Output Signal:** NPN open collector (24 VDC max., 50 mA), 150  $\mu$ sec typical

**Rate Multiplier/Divider:** Multiply by 2, divide by 2

**External Trigger Input Signal:**

a) 12 - 24 VDC thru a 3-wire NPN output sensor (requires external power)

b) 12 VDC thru a 2-wire proximity sensor (leakage current 1 mA max., load current 8 mA min.)

c) Switch or relay contact

**Display:** 5 digits, 0.3" (8 mm) high, LED

**Flashtube Power/Life:** Xenon, 10 W max. (100 million flashes)

**Flash Duration:** 10 - 15  $\mu$ sec

**Low Battery Indicator:** Flashing LED

**Battery Life:** 1 - 2 hours depending on flash rate

**Power Requirement:** 115 VAC or 220 VAC  $\pm 10\%$  60/50 Hz / Internal battery pack

**Operating Temperature:** 32 - 104°F (0 - 40°C)

**Product Weight:** 2.75 lbs (1.25 kg)

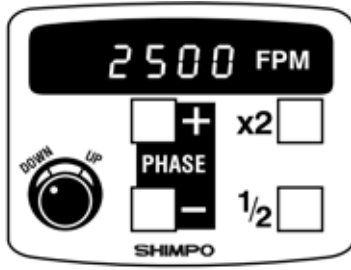
**Package Weight:** 4.45 lbs (2.02 kg)

**Dimensions:** 7.28" L x 4.72" W x 4.72" H (185 mm x 120 mm x 120 mm)

**Warranty:** 2 year

**Included Accessories:** AC adapter

## FEATURES



**Setter:** The setter changes the flashing rate. Turn CW to increase the rate, turn CCW to decrease rate.

**x2 Switch:** Pressing “x2” will double and display the flashing rate.

**1/2 Switch:** Pressing the “1/2” will divide flashing rate by two and display it.

**Plus (+) Switch:** When object appears to be standing still, pressing “+” will give the illusion that the object is moving towards the opposite direction of rotation. This action increases the rate slightly (phase shift) and is used to place the object in desired position.

**Minus (-) Switch:** When object appears to be standing still, pressing “-” will give the illusion that the object is moving towards the rotating direction. This action decreases the rate slightly (phase shift) and is used for the same reason as above.

**Input and Output Connectors:** Phonejack (3.5 mm); Tip: Signal; Sleeve: GND

Power switch with lock option

## OPERATION

### Internal Triggering

1. Charge battery for approx. 15 hrs. before using strobe for the first time.

2. Aim light beam at object under observation. The best distance between the strobe and moving object is approximately 2 ft.

3. Measure rpm by turning setter. Turn setter to adjust the flashing rate to the rotational speed of the object. To reach the desired rate faster, use the 1/2 or x2 switches.

### External Triggering

1. Connect wires according to connector pin designation: Tip: signal Sleeve: Gnd

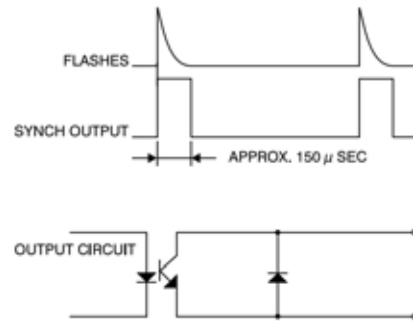
2. Pull power trigger switch and lock it. When the ext. phone jack is inserted in unit, the strobe automatically switches from the internal mode to the external.

3. The strobe will flash every time the sensor puts out a pulse. See specifications table for input signal requirements.

4. If the input signal frequency exceeds upper or lower limits, the alarm mark will be displayed and the strobe will stop flashing.

### Synchronous Output Signal

The Synchronous output signal appears on the tip of the output phonejack. See table for more information.



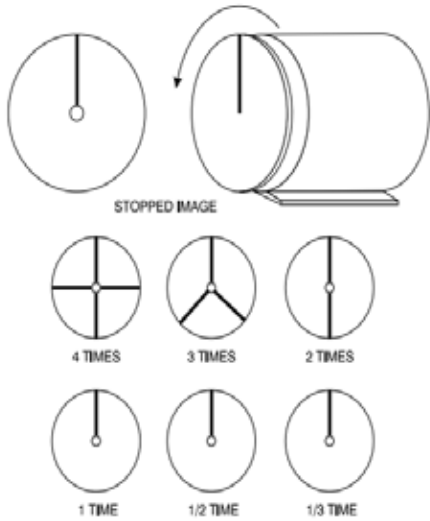
**MEMORY**

When the strobe is turned off and on again at a later time, it will start to flash at the previous displayed rate regardless if the setter has been moved or not.

**TRUE RPM**

All strobes give the illusion of stopped motion when flashing in submultiples of the true speed.

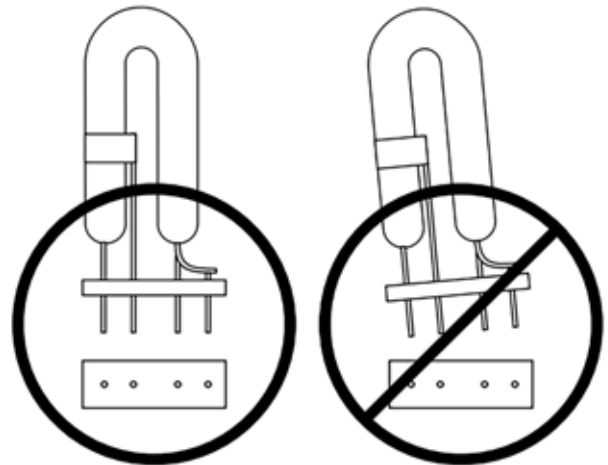
To obtain the correct rpm, turn knob from highest fpm downward. When the first single image appears, read the true rpm. To verify it, press "1/2". A single image will appear again.



**FLASH TUBE REPLACEMENT**

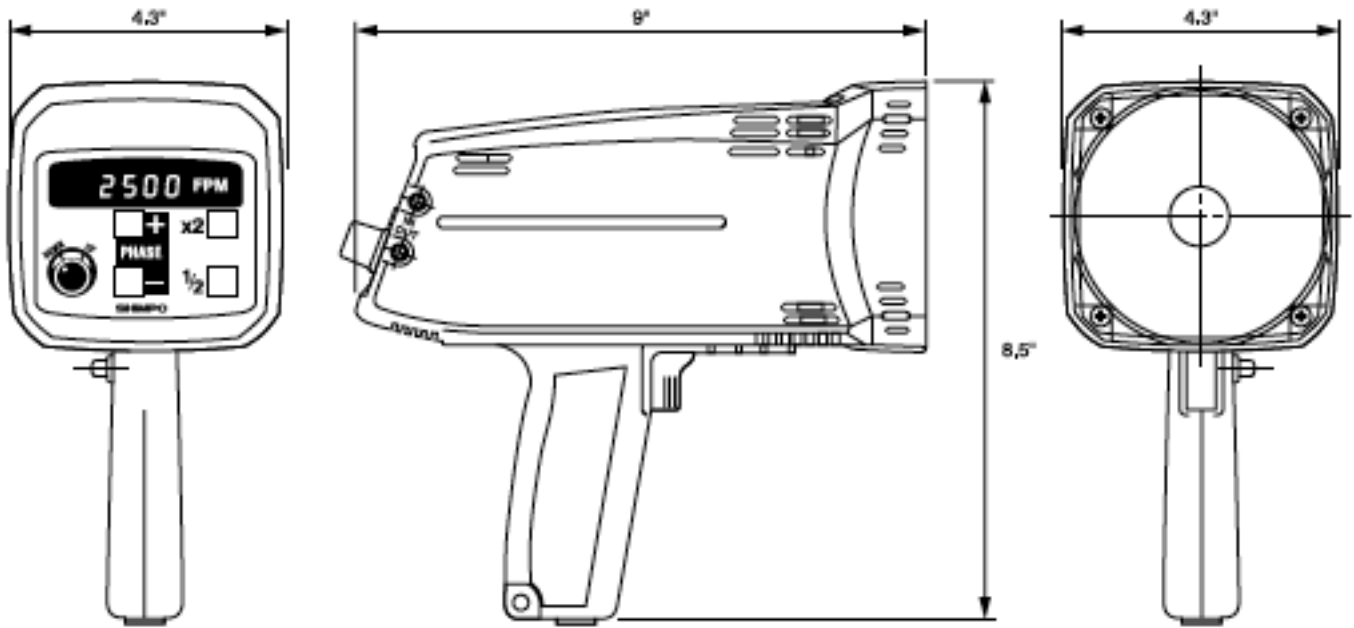
When FPM reading is displayed but unit is not flashing, flash tube may need to be replaced.

1. Unplug line cord from power line. Turn power switch OFF. Wait a few minutes until stroboscope is cool before replacing flash tube.
2. Remove protective window by removing the 4 screws.
3. Use a rag and pull the tube out of its socket by rocking it slightly up and down. Do not use bare hands to remove tube, it may break and cause injury.
4. Insert new tube using the technique mentioned above. Make sure that the tube is placed properly in the socket otherwise it will touch the reflector. Tube should be set symmetrically within the neck of the reflector.
5. Replace protective window.



Rotation of shaft (rpm)	Number of flashes (rpm)	Flashes/ rpm shaft	Number of stopped images
at 1,500 rpm	6,000	4 times	4
	4,500	3 times	3
	3,000	2 times	2
	1,500	1 times	1
	750	1/2 times	1
	500	1/3 times	1

**DIMENSIONS (mm)**



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