

# PT-110 Non-Contact Tachometer



## Operation Manual



To Avoid Injury, do not point the light beam of the instrument or have it reflected into the eyes of people or animals.

Do not leave the device close to water or any other liquid to avoid damage.

### CAUTION

If not using this instrument for extended periods of time, remove the batteries to prevent potential battery leakage from causing product damage.

Do not attempt to open housing or do maintenance. Damage to laser may occur.



The Shimpo Model PT-110 Non-Contact Laser Tachometer is a simple to use, ergonomic, rugged test instrument that operates with optical laser technology. This velocity analyzing and measuring device is ideal for rotational machine inspection and process speed analysis. The PT-110 possesses a large backlit LCD screen that provides clear viewing in any environment. Users can obtain results in either Hertz or RPM, as well as Total counts with the simple selection switch. During testing, the unit automatically saves maximum, minimum, last recorded values and up to 96 logged data readings. The compact, lightweight PT-110 Tachometer comes standard with reflective tape, 3 AAA batteries and protective carrying case.

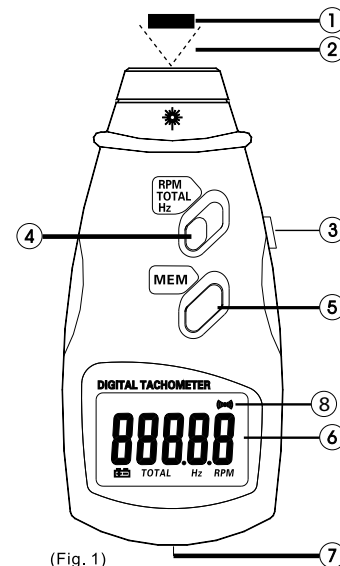


### SPECIFICATIONS

- Range:** 2.5~99999 RPM; 0.05 ~ 1666 Hz; 1 ~ 99999 Count
- Resolution:** 0.1 RPM (2.5 ~ 999.9 RPM); 1 RPM (above 1000 RPM); 0.01 Hz (0.05 ~ 99.99 Hz); 0.1 Hz (above 100 Hz)
- Display:** 5 digit, 0.7" (18 mm) LCD
- Accuracy:** +/-0.05% + 1 digit
- Sampling Time:** 0.8 second (over 60 RPM)
- Detection:** Laser
- Measuring Distance:** 2-20" (50-500 mm)
- Memory:** Automatically stores Maximum (UP), Minimum (dn), last value (LA) and up to 96 readings for review. Maximum speed for reading storage is every 0.8 seconds.
- Dimensions:** 6.1 x 2.8 x 1.4 (155 x 70 x 35 mm)
- Power:** 3 x 1.5V AAA battery
- Enclosure:** ABS plastic housing
- Product Weight:** 0.4 lb (181 g)
- Package Weight:** 0.9 lb (408 g)
- Warranty:** 1 Year
- Included Accessories:** 3 AAA batteries, protective carrying case, reflective tape.

### PRODUCT DIAGRAM

1. Reflective Tape (Included)
2. Light Beam
3. Measurement Button - When pressed Class II Laser is active.
4. Function Select Switch
5. Memory Button
6. LCD Display
7. Battery Cover (On Back)
8. Laser Symbol Indicates Active Laser



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**OPERATION**

a. Loosen screw on battery cover and remove cover to install the 3 new AAA batteries.

b. Place a reflective mark on the object to be measured, using supplied tape.

**Measure RPM or Hz**

a. Slide the function switch (4) to RPM or Hz, to select desired unit of measure.

b. Press and hold the measurement button (3); Class II laser will activate. Point light beam at the reflective mark to obtain readings.

c. After display data is stable and the desired amount of readings have been taken, release the measurement button. The maximum (UP), minimum (dn) and last value (LA) have been recorded over the test period.

d. Press “MEM” button (5) to cycle the display through the maximum (UP), minimum (dn), and last (LA) values. The MEM button must be pressed and released each time to cycle through the values (Fig. 2).

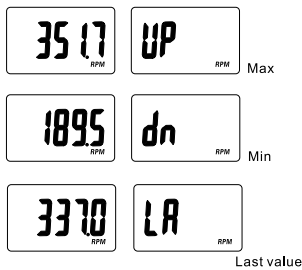


Fig. 2

A fourth press will begin a countdown. After the countdown reaches 1, “An” followed by the number of readings automatically recorded will be shown. For example, if 64 data points were saved during measurement, display will show “An 64” (Fig. 3).



Fig. 3

Continue to press MEM to cycle through each stored data point reading. The data point rank followed by the value will be shown with each subsequent press of the MEM button (Fig. 4).

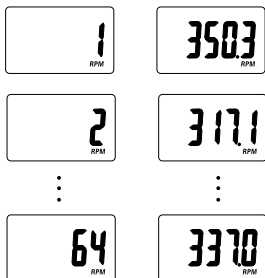


Fig. 4

After displaying all the saved data (maximum 96), the unit will cycle back to Max, Min, and last value.

**Measure TOTAL**

a. Slide the function switch (4) to TOTAL

b. Hold measurement button and point light beam at the reflective mark to begin counting. Every time the object rotates or passes through the reflective mark, one value to the total count is added. Release measurement button and the total count is stored.

c. Press “MEM” button (5) to show the TOTAL count.

**Clear Stored Data**

Press the measurement button (3) to delete all stored data. If you then press MEM, all statistical values will be zero. Or simply just start a new test with the measurement button (3) to eliminate the old data and begin storing new data. (Note: When measured values vary significantly, the maximum number of data values will be less than 96.)


**NOTES**

1. Usage of reflective mark: the length of reflective mark should not be too short. Recommend reflective mark lengths of 0.5” (12 mm). Place reflective mark on rotation axis. If rotation axis reflects light, paint it black or cover with black tape, then stick on the reflective mark. The rotation axis should be smooth and clean.

2. When measuring low speed rotation, additional reflective marks are recommended for more precise results. The displayed value must be divided by the number of reflective marks to calculate the true value.

3. If the tachometer is not going to be in use for extended periods of time, please remove the batteries to prevent possible battery leakage which could damage the instrument.

**BATTERY REPLACEMENT**

1. When the battery voltage is low, the left side of the LCD displays the  symbol which indicates that battery replacement is needed.

2. Loosen screw and open battery cover to remove the batteries and replace with new batteries.

**MAINTENANCE**

Other than cleaning exterior with cloth, no maintenance can be performed on product. Do not attempt to take unit apart with the exception to battery cover. Damage to unit or laser may result.

