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**9223-120
NON-CONTACT TACHOMETER
OPERATION MANUAL**

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VIDEO OF PRODUCTS.



General introduction

- ◆ The streamlined appearance design, the body and the palm perfectly match, to ensure more convenient and comfortable use.
- ◆ Using a number of advanced technologies such as microcomputer technology, photoelectric technology, and anti-interference technology, the speed value can be accurately measured without contact with the measured object.
- ◆ Wide application range, large measuring range, high resolution and small error.
- ◆ Large screen display, clear reading, no parallax.
- ◆ Automatically memorize the maximum, minimum, final value and 500 instantaneous values.
- ◆ When the battery voltage is lower than the specified value, it will automatically indicate.
- ◆ Sturdy and delicate structure. The whole machine adopts durable and optimized electronic components, and the shell adopts light and hard ABS plastic, which is beautiful in appearance and easy to use.

Safety regulations

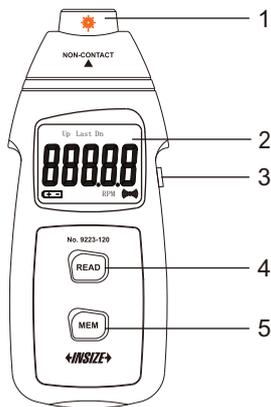
Warning

- ◆ The device is categorized into Class 3R laser product. AVOID direct eye exposure when measuring or it will cause damage to eyes.
- ◆ The product is in accordance with strict standards and regulations through the development and manufacturing, but still can't entirely exclude the possibility of interference to other devices, may cause discomfort to human and animals.



- ◆ Please DO NOT use this product under explosive or corrosive environment.
- ◆ Please DO NOT use this product near medical devices.
- ◆ Please DO NOT use this product on the plane.

Panel description

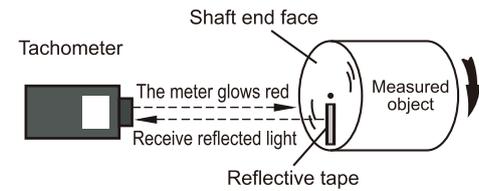


- 1 Photoelectric measurement window: input and output photoelectric signals
- 2 LCD display
- 3 Measuring key: measure the speed when pressed
- 4 READ key: Max UP/Min DN/Last value view key
- 5 MEM multiple data save and view key

Measurement procedure

- ◆ First paste a reflective tape on the end of the shaft
- ◆ After the shaft rotates, press and hold the measurement button on the right side of the meter, the front of the meter emits a red light spot, let the red dot hit the reflective tape vertically, the meter receives the reflected light, and the speed measurement value appears on the display.
- ◆ After a few seconds, when the displayed value is stable, release the measurement button. There is no display at this time, but the measured maximum, minimum, last value and multiple instantaneous values have been automatically stored in the meter and can be viewed. (About 25 data are saved every minute, if you need to store more data, you can extend the measurement time)

Photoelectric speed diagram



Measuring distance:50~500mm

Measuring skills

- ◆ **Attaching reflective tape**
Cut out a piece of reflective tape, and paste one from the circumference to the center of the circle. It should be noted that the non-reflective area must be larger than the reflective area; if the shaft is obviously reflective, it must be painted black or glued black tape, etc., and then affixed with reflective marks. In order to reduce the impact on receiving reflected light, the surface of the shaft must be clean and smooth, and the surrounding environment should not have other strong light or red light.
- ◆ **Low speed measurement**
In order to improve the measurement accuracy, when measuring very low speed, it is recommended that the user evenly stick a few more reflective tapes on the measured object. At this time, the reading on the display divided by the number of reflective paper is the actual speed value.

View instantaneous value

- ◆ **Check the UP/DN/Final value**
After releasing the measurement key, press and hold [READ] once to display the maximum value, press again to display the minimum value, press again to display the last value, and so on.



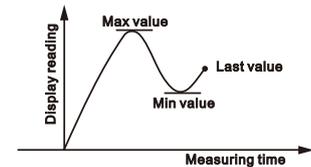
Maximum value



Minimum value



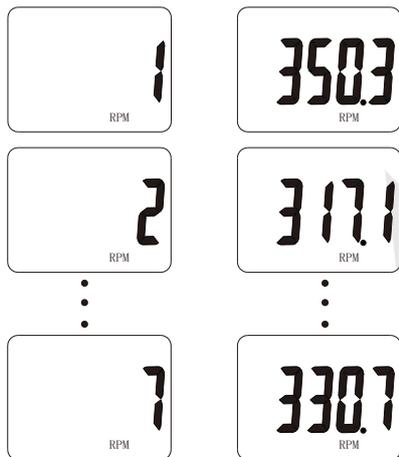
Last value



- ◆ **View instantaneous value**
Press the [MEM] key to display the number of stored data: For example, An+7, it means there are 7 stored data. An+0 is displayed when there is no storage. (7 is the number of examples) as below figure shown



Press the [MEM] key again to display the index number 1 of the stored data firstly, and then display the corresponding data. Press this key in turn to automatically move the serial number, and so on. As shown below.



- ◆ Data clearing
Press the right [measurement key] again to clear all the data stored in the last measurement.

Specification

Measuring range	2.5~99999RPM
Resolution	0.1RPM (range 2.5~999.9RPM) 1RPM (range 1000~99999RPM)
Accuracy	$\pm(0.05\%n+1d)$ RPM n is rotary speed, d is resolution
Laser power	CLASS 3R, 3mW~4mW
Sampling time	0.6 second (above 100RPM)
Measuring distance	50~500mm
Operating temperature	0~40°C
Power supply	3×AA batteries
Dimension	180×71×29.9mm
Weight	145g

Battery replacement

- ◆ When the battery voltage is too low, the "⚡" symbol will appear on the display. Please replace the battery with a new one in time, otherwise it will affect the accuracy of the measurement.
- ◆ Open the battery cover, take out the old battery, and correctly install the new battery according to the positive and negative directions in the battery compartment.
- ◆ If the meter will not be used for a long time, please remove the battery to prevent damage to the meter due to battery leakage.