

GENERAL

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PCT900 User's Manual
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MAN#PCT900 01/08
PA05-GENE723-01

GENERAL

PCT900

USER'S MANUAL

**Contact/
Non-Contact
Tachometer**



1. PRODUCT INTRODUCTION

Thank you for purchasing the PCT900 Digital Contact/Non-Contact Tachometer.

Designed and engineered with state-of-the-art technology and components, this instrument will provide accurate and reliable measurements for rotational speed, revolutions, surface speed and length. Features include a 5 digit LCD, scan/hold function and auto power off (30 seconds).

Read this manual carefully to fully explore the features and functions of this new product.

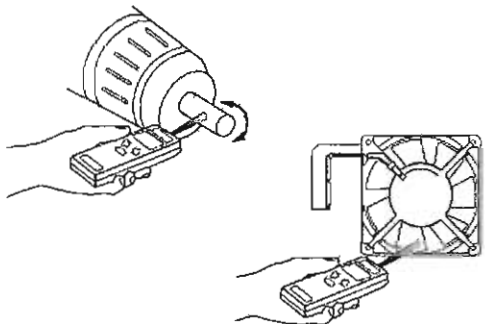
To measure, point the Laser spot or bring the contact probe to the object. Press the measuring trigger and hold on until the reading is stable and end of shot. (See also Section 4: Operation)

1-1 FEATURES

- Measurement type : Rotation Speed (RPM), Total revolutions (REV), Surface Speed (I/M, M/M, Y/M, F/M) and Length (M, YD, FT).
- Non-contact RPM measurements up to 39" (100cm) away from target.
- Laser sighting.
- Contact measurements can be made with included contact adapters
- 5 digit digital microprocessor-controlled LCD display.
- 40 reading memory: 10 selectable MAX measurements, 10 selectable MIN measurements, 10 selectable AVG measurements and 10 selectable DATA measurements.
- Ultra low power consumption in shutdown mode.

1-2 APPLICATIONS

- Gear Boxes
- Engines
- Motors
- Pumps
- Compressors
- Centrifuges
- Couplings
- Fans
- Shafts
- Grinders
- Pulleys
- Length Measurement



1-3 WARNINGS!

You may receive harmful laser radiation exposure if you do not adhere to the warnings listed below:

- Use of controls, adjustments, or performance of procedures other than those specified here may result in hazardous radiation exposure.
- Do not look at the laser beam coming out of the lens or view directly with optical instruments – eye damage can result.
- Use extreme caution when operating the laser sighting.
- Never point the laser beam at a person.
- Do not use an extension shaft as the adapters may come off of the shaft and cause damage or injury.
- Do not attempt to open the tachometer. There are no user serviceable parts.
- Keep out of the reach of all children.
- Refer to the inside back cover for product warning label.

2. SAFETY INFORMATION

Read the following safety information carefully before attempting to operate or service the meter. Only qualified personnel should perform repairs or servicing not covered in this manual.

2-1 LASER WARNING NOTE!

- Do not look directly into the laser beam. Permanent eye damage may result.
- Do not point the laser at anyone's eyes.
- Use caution when operating the laser around reflective surfaces.

2-2 CAUTIONS!

- This product contains a Class 2 laser; use caution when operating this device with the laser on.
- Do not submerge the unit in water.
- Dangerous laser radiation can occur if this unit is operated in a way other than as described in these instructions.

2-3 SYMBOLS



Indicates CE conformity



The device may not be disposed of with the trash. It promotes the re-use recycling and other forms of recovery of used materials and components, and to improve the environmental performance of all operators (manufacturers, traders and treatment facilities) involved in the life cycle of products. Dispose of the product appropriately in accordance with the regulations in force in your area or country.

3. SPECIFICATION

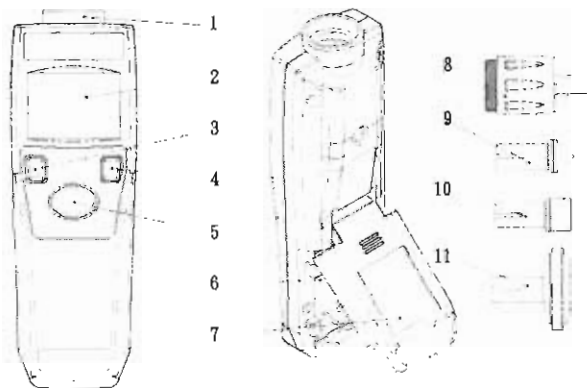
Rotation Speed (Non-Contact)	6.0 - 99999 RPM (rev/min)
Rotation Speed (Contact)	6.0 - 25000 rpm (rev/min)
Surface Speed (Contact)	0.6 - 2500.0 M/M (m/min) 0.7 - 2734.0 Y/M (yard/min) 23.6 - 98425 I/M (inch/min) 2.0 - 8202.1 F/M (feet/min)
Length (Contact)	0.1 - 9999.9 M (meter) 0.1 - 10936 YD (yard) 0.3 - 32808 FT (feet)
Total Number of Revolutions	1 - 99999 REV (rev)
Accuracy	6.0 - 5999.9 RPM: $\pm 0.01\%$ and ± 1 digit 5999.9 - 99999 RPM: $\pm 0.05\%$ and ± 1 digit Surface Speed, Length 0.5% and ± 1 digit
Detection	Laser Diode
Resolution	6.0 - 9999.9 RPM: 0.1 RPM 10000 - 99999 RPM: 1 RPM
Response Time	1 second
Operating Temp.	32° to 122°F (0° to 50°C), 10% to 90%RH
Auto Power Off	Automatically after approx. 30seconds
Max /Min /Avg	Yes
Memory	40 Points
Battery Type	9V (006P, IEC6F22, NEDA1604)
Dimensions	7.75"x1.93"x1.14" (146x49x29mm)
Weight	3.4 oz (96g) Approx (without battery) Contact Adapter: 1.7 oz. (50g)
Standard Accessories	1 '9V' Battery, Instruction Manual, Certificate of Calibration, Cone Adapter, Funnel Adapter, Contact Adapter, Master Wheel (10cm), Reflective Tape 0.59"x20.67" (15x525mm) Carrying Case

4. OPERATION

4-1 QUICK START

- Flip open the battery compartment cover and install a 9V Battery.
- Non-Contact:** Stick the self-adhesive reflective tape on the object whose rotational speed is to be measured. The reflective tape should be placed as close to the outer edge of the object to be measured as possible.
Contact: Attach the contact adapter to the tachometer (Do not over tighten!). Select the adapter included and slide it onto the shaft of the contact adapter. Align the adapter with the alignment pin on the shaft of the contact adapter.
- Hold the tachometer in your hand.
Press the MEAS button. Point the laser spot at the object (the reflective tape) or bring the contact probe to the object. Then read the measurement on the LCD display.


4-2 UNIT DIAGRAM

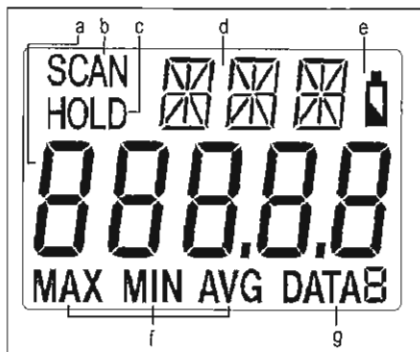


- Laser beam outlet: Used for Non-contact RPM measurements.
- Display section: Displays measurements.
- M button: Data Storage and Recall Data.
- Unit button: Contact, Non-Contact and the relative measurements mode switch.
- MEAS button: Turns the tachometer on and records measurements.
- Battery and cover.

7. Laser warning and certification label.
8. Contact adapter: Used to make all contact measurements.
9. Cone adapter.
10. Funnel adapter.
11. Master Wheel (10cm circumference).

4-3 DISPLAY

- a. Main display: 5 digit LCD displays measurement readings.
- b. Scan: Press the measuring button, the data will update and "SCAN" will show.
- c. Hold: Release the measuring button, the data will freeze and "Hold" will appear.
- d. Unit display: Displays measuring units.
- e. Low battery display: When the battery current is weak, symbol  will appear.
- f. Max / Min / Avg display: Displays minimum, maximum and average value.
- g. Data: Displays the number of data storage.



4-4 FUNCTION DESCRIPTIONS

In Scan mode, the current measurement is displayed on the main display. The main display will hold the last values until the tachometer automatically turns off.

MEMORY MODE:

The tachometer can store or recall 10 selectable MAX measurements, 10 selectable MIN measurements, 10 selectable AVG measurements and 10 selectable DATA measurements.

TO STORE A MEASUREMENT:

Press the MEAS button until the reading displayed on the LCD display. Observe the reading and press the M button to record. The maximum, minimum, average and data during one shot measurement will be stored into memory set. Then the Data number will increase by one.

TO RECALL THE STORED DATA FROM MEMORY:

Use the M button to scroll and view the stored data point.

- a) See flow chart 1 for a brief presentation of how to recall the stored data sequentially.
 - b) See flow chart 2 for a brief presentation of how to quick access or leap the data set to the next.
- Stored data points will appear in the main display. Empty memory locations will read "—". Maximum, minimum and average data will appear in the RPM display with MAX/MIN/AVG symbol.

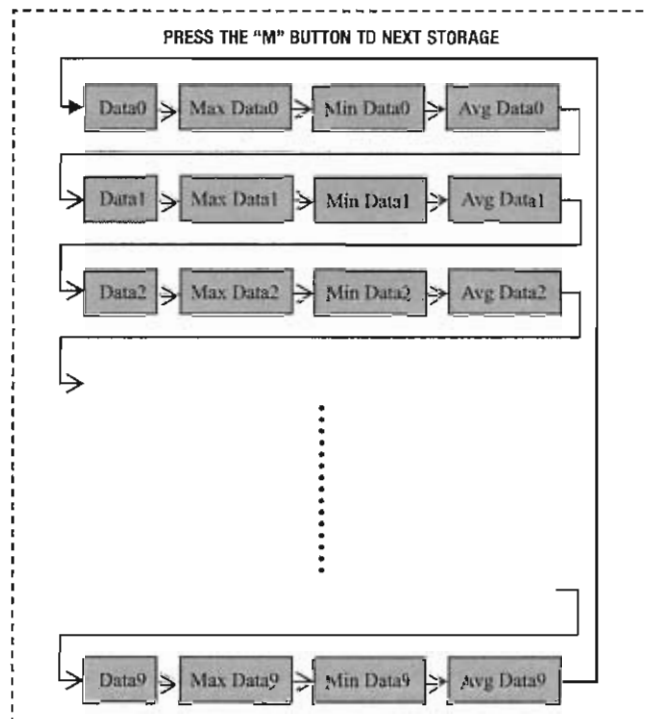


Chart 1

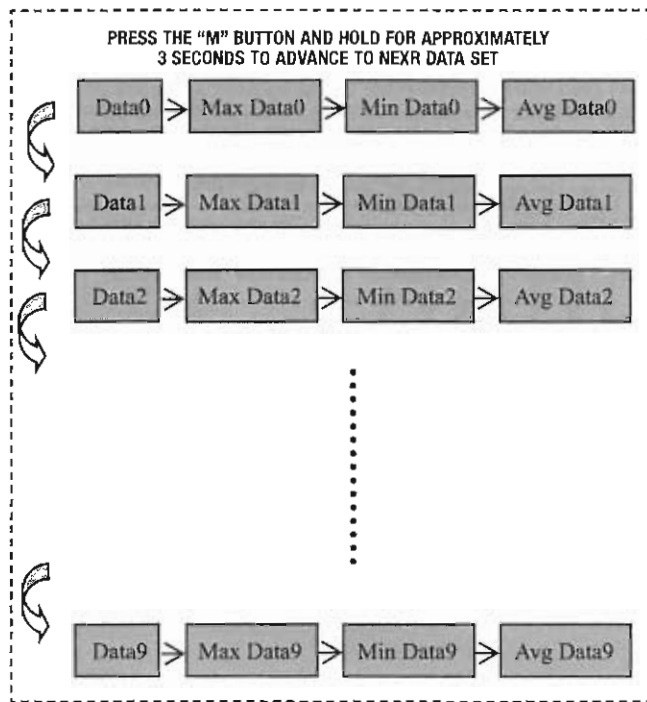


Chart 2

CONTACT AND NON-CONTACT MEASUREMENT MODE SWITCH:

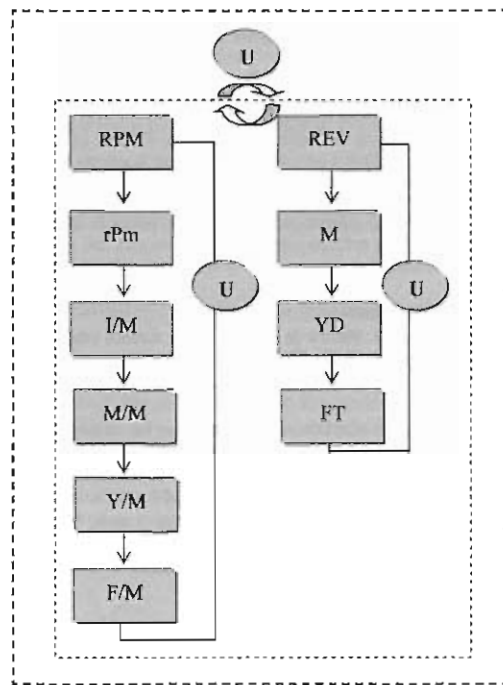
The functions are separated into two groups of measurement. One is the rate measurement which is shown in the left side of the following flow chart. The other is the revolution and length measurements which are shown in the right side of the following flow chart.

The user can press the "U" button once to change from RPM, rPm.... to the next measurement set. Press the "U" button and hold for approximately 3 seconds to advance to next Data Set.

- RPM: Non-Contact revolutions per minute measurements.
- rPm: Contact revolutions per minute measurements.
- I/M: Contact Inch per minute measurements.
- M/M: Contact Meter per minute measurements.
- Y/M: Contact Yard per minute measurements.
- F/M: Contact Feet per minute measurements.
- REV: Revolution measurements.
- M: Length (Using the master 10cm circumference wheel.) measurements in the unit of meter.
- YD: Length (Using the master 10cm circumference wheel.) measurements in the unit of yard.
- FT: Length (Using the master 10cm circumference wheel.) measurements in the unit of feet.

*** REMARK**

Non-contact measurements should avoid blinking light sources in the front or around the target, such as a fluorescent lamp which will cause the wrong reading.



5. MAINTENANCE

CLEANING THE LENS:

Blow loose particles from the lens using clean compressed air. Gently brush remaining debris away with a camel's hair brush. Carefully wipe the surface with a cotton swab moistened with water. Note: DO NOT use solvents to clean the lens.

CLEAN THE HOUSING:

Use soap and water on a damp sponge or soft cloth. Note: Be careful not to allow any liquids or moisture to get inside the tachometer.