DIGITAL TACHOMETER (CONTACT / NON-CONTACT)

INSTRUCTIONS FOR MODEL: **TA050**

Thank you for purchasing a Sealey product. Manufactured to a high standard this product will, if used according to these instructions and properly maintained, give you years of trouble free performance.

IMPORTANT: **PLEASE READ THESE INSTRUCTIONS CAREFULLY. NOTE THE SAFE OPERATIONAL REQUIREMENTS, WARNINGS AND CAUTIONS. USE THE PRODUCT CORRECTLY AND WITH CARE FOR THE PURPOSE FOR WHICH IT IS INTENDED. FAILURE TO DO SO MAY CAUSE DAMAGE AND/OR PERSONAL INJURY AND WILL INVALIDATE THE WARRANTY. PLEASE KEEP INSTRUCTIONS SAFE FOR FUTURE USE.**

1. SAFETY INSTRUCTIONS

1.1. GENERAL SAFETY

❒ **WARNING!** *Ensure that Health & Safety, local authority and general workshop practice regulations are adhered to when using this equipment.*

❒ **WARNING!** *DO NOT aim the laser beam at your or another person's or animal's eye and beware of reflections from mirrors or other shiny surfaces.*

✓ Familiarise yourself with the applications, limitations, and potential hazards of the tachometer.

✓ Keep the tachometer clean and in good condition.

✓ Protect the tachometer from electro-magnetic fields, static electricity and high temperatures.

✓ Remain vigilant when using the tachometer on, or near, a running engine where there are rotational parts such as belts, pulleys and fans.

✓ Maintain correct balance and footing. Ensure the floor is not slippery and wear non-slip shoes.

✓ Remove ill fitting clothing. Remove ties, watches, rings, and other loose jewellery, and contain and/ or tie back long hair.

✗ **DO NOT** wear gloves near rotational parts.

✗ **DO NOT** get the tachometer wet or use in damp or wet locations or areas where there is condensation.

✗ **DO NOT** use the tachometer for any purpose other than for which it is designed.

✗ **DO NOT** allow untrained persons (particularly children) to operate the tachometer.

✗ **DO NOT** operate the tachometer when you are tired or under the influence of alcohol, drugs or intoxicating medication.

1.2 LASER SAFETY

The TA050 utilises a Class II laser that emits low levels of visible radiation (i.e. wavelengths between 400 and 700 nanometres) which are safe for the skin but not inherently safe for the eyes. The Class II emission limit is set at the maximum level for which eye protection is normally afforded by natural aversion responses to bright light. Accidental eye exposure is therefore normally safe, although the natural aversion response can be overridden by deliberately staring into the beam, and can also be influenced by the use of alcohol or drugs.

❒**WARNING!** Do not look or stare into the laser beam as permanent eye damage could result.

✗ **DO NOT** direct the laser beam at any person's (or animal's) eyes as eye damage could result.

✗ **DO NOT** operate the tachometer when you are tired or under the influence of alcohol, drugs or intoxicating medication.

Be aware that reflections of the laser beam from mirrors or other shiny surfaces can be as hazardous as direct eye exposure.

2. INTRODUCTION

Professional quality laser instrument for fast and accurate measurement of rotational speed with or without contact. Will also measure total revolutions, frequency, surface speed and distance. Ten selectable data set memories each with maximum, minimum, and average or single value reading as appropriate. Supplied with reflective tape, for non contact measurement, and three heads for contact measurement. Powered by 9V battery (supplied) and has jack socket for 6V DC supply.

SPECIFICATION

Rotational Speed - Contact	2 - 20,000rpm
Rotational Speed - Non-contact	2 - 99,999rpm
Total Revolutions	1 - 99,999
Sampling Time	0.5s @ > 120rpm
Accuracy	±(0.05% + 1 digit)
Surface Speed	m/m, in/m, ft/m, yd/m
Distance	m, in, ft, yd
Frequency	Hz
Battery	PP9
External Power	6VDC
Laser Output	<1mW, Wavelength 630-670nm Class II

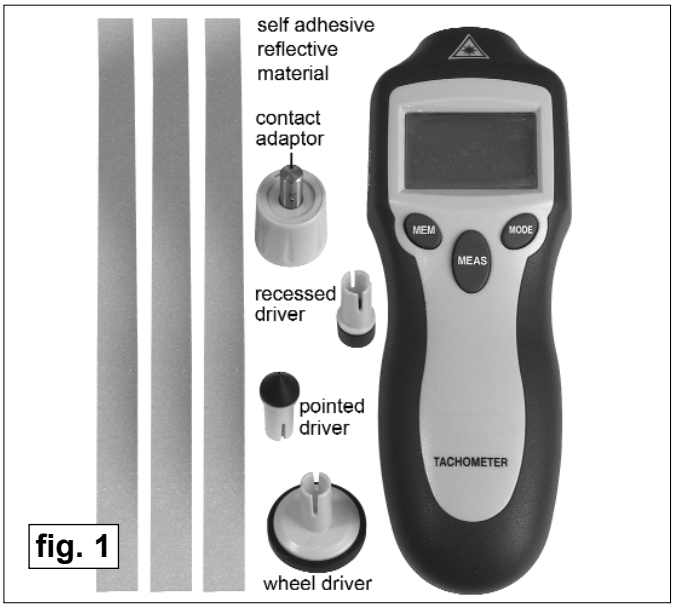


fig. 1

3. OPERATION

3.1 BATTERY

The battery cover is on the back of the unit. Remove the screw at the base of the battery cover and lift off the cover. Connect the supplied PP9 battery and place it into the compartment. Replace the cover and secure it with the screw.

3.2 MEASUREMENT SELECTION

There are two measurement groups to choose from as shown below:

3.2.1 GROUP ONE

RPM	Non-contact revolutions per minute
rpm	Contact revolutions per minute
HZ	Contact frequency
M/M	Contact meters per minute
I/M	Contact inches per minute
F/M	Contact feet per minute
Y/M	Contact yards per minute

3.2.2 GROUP TWO

REV	Revolutions
M	Length in meters
In	Length in inches
FT	Length in feet
Yd	Length in yards

3.2.3 Press the MEAS button once to turn the unit on. To switch from one measurement group to the other hold down the

MODE button for three seconds. The display will alternate between RPM (Group one) and REV (Group two). Release the button when the display shows the group you require. Press the MODE button repeatedly to cycle through the options in each group (as shown overleaf) until you reach the required measurement.

fig. 2

3.3 NON-CONTACT MEASUREMENT

3.3.1 In order to do a non-contact measurement the rotating object must have a segment of reflective, self adhesive tape attached to it. The tape should be attached as close to the outer edge of the object as possible. Cut a 1/2" square from the tape provided and apply to the object.

3.3.2 To obtain an accurate reading the non-reflective area must always be greater than the reflective area.

3.3.3 If the whole object, such as a shaft, is normally reflective it must be covered in black tape or painted black before the reflective tape is applied.

3.3.4 When measuring very low rpm it may be necessary to apply several reflective marks equally around the circumference of the object. When a reading is taken it should then be divided by the number of reflective marks in order to get a true reading.

3.3.5 TO TAKE A READING. Hold the unit about 6" (15cm) from the rotating object. Press and hold the MEAS button and direct the red spot of the laser beam onto the rotating object in the area where the self adhesive tape was applied. After about 4 seconds the scanning symbol will be shown at the top of the display (See fig.4) and a reading will appear in accordance with the units of measurement previously selected. To store the value(s) press the MEM button once whilst the MEAS button is still held down. For more information refer to 3.5 DATA STORAGE and 3.6 DATA RECALL.

3.4 CONTACT MEASUREMENT

3.4.1 Screw the contact adaptor into the front aperture of the tachometer as shown in fig.3-A.

3.4.2 Choose one of the contact drivers shown in fig.3-B and push it onto the adaptor shaft ensuring that the slots in the driver pass over the drive pin in the end of the adaptor shaft.

fig. 3

3.4.3 Before using the tachometer in a contact situation do a risk assessment in the area you will be working in to ensure that you will not inadvertently come into contact with any other moving parts whilst taking the reading you require.

3.4.4 TO TAKE A READING, press and hold down the MEAS button and bring the rubber part of the driver gently into contact with the moving object. After about 4 seconds the scanning symbol will be shown at the top of the display (See fig.4) and a reading will appear in accordance with the units of measurement previously selected. To store the value(s) press the MEM button once whilst the MEAS button is still held down.

3.5 DATA STORAGE

3.5.1 To store the value(s) shown on display press the MEM button once whilst the MEAS button is still held down.

3.5.2 The reading will be stored in one of ten data set locations. One data set consists of a MAX data figure, a MIN data figure, and an AVERAGE data figure. Only measurements that can vary (such as RPM) will record as a set. Non variable measurements such as REV will only record as a single figure. See fig.5.

3.5.3 Once data set '0' has been used the system will automatically advance to the next available memory location. When all ten locations are full (0 to 9), new sets of data will begin to overwrite the original readings.

3.6 DATA RECALL

3.6.1 Press the MEAS button once to turn the unit on. Press the MEM button once to display the current memory location in the bottom right hand corner of the display.

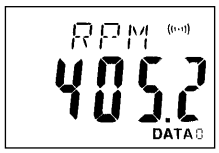
3.6.2 If no data has been recorded for this location, another press of the button will advance the display to the next memory location.

3.6.3 When a memory location that contains data is selected the reading will show in the centre of the display and the appropriate unit of measurement will be shown at the top of the display.

3.6.4 If maximum, minimum and average figures have been recorded for a variable unit of measurement such as RPM, the first measurement will be displayed with the word MAX appearing at the bottom of the display. Press the MEM button again to see the MIN measurement and press the button again to see the AVG measurement. See figs. 6, 7 & 8. The next press of the MEM button will advance the display to the next memory location.

3.6.5 If no buttons are pressed for 15 seconds the unit will automatically switch off.

fig. 4



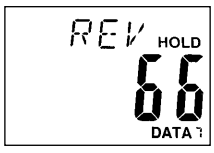


fig. 5

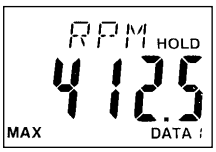


fig. 6

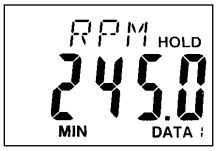


fig. 7

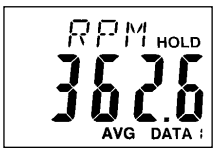


fig. 8

4. DECLARATION OF CONFORMITY

Declaration of Conformity We, the sole importer into the UK, declare that the product listed here is in conformity with the following standards and directives.

CE The construction file for this product is held by the Manufacturer and may be inspected, by a national authority, upon request to Jack Sealey Ltd.

DIGITAL TACHOMETER

Model: TA050

EN 60825-1 Laser safety
2002/95/EC RoHS Directive
2002/96/EC WEEE Directive
93/68/EEC CE Marking Directive

Signed by
Tim Thompson

24th August 2004

For Jack Sealey Ltd. Sole importer into the UK of Sealey Professional Tools.

NOTE: *It is our policy to continually improve products and as such we reserve the right to alter data, specifications and component parts without prior notice.*
IMPORTANT: No liability is accepted for incorrect use of this product.
WARRANTY: Guarantee is 12 months from purchase date, proof of which will be required for any claim.
INFORMATION: For a copy of our catalogue and latest promotions call us on 01284 757525 and leave your full name, address and postcode.

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