



DIGITAL TACHOMETER

OPERATION MANUAL

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PHOTO TACH/CONTACT TACH

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1. FEATURES

- ※ It is used the microcomputer (CPU) technique and junction laser technique for one instrument combine PHOTO TACH. (RPM) & CONTACT TACH (RPM, m/min).
- ※ Wide measuring range and High resolution.
- ※ Auto emerald green backlight makes sure that tachometer can work normally in any light circumstance.
- ※ The last displayed value /max ,Value/min .Value may be automatically stored in memory and 100s of measured value continuously .So this makes customers collected and recorded data .(The tachometer starts to store the data measured after which is renovation for three times).
- ※ The tachometer can be connected 6V direct current stable voltage power in favor of using for long time.
- ※ Low battery voltage indication.
- ※ Contact part and photo part can be switched value at any time.
- ※ New surface speed sensor with flute vails to measure speed and length of wire .cable and rope conveniently.
- ※ The instrument is delicate and rugged .It uses the durable .long-lasting components and a strong, light weight ABS plastic housing .The housing has been carefully shaped to fit comfortably in either hand.

2. SPECIFICATION

(1) Display:5digital,18mm(0.7" Emerald green backlight LCD)Accuracy : $\pm(0.05\%+1\text{digital})$ Sampling Time:0.8sec (over 60'RPM)

Range Select: Auto-Range

Time Base: Quartz crystal

Detecting Distance: 50mm---500mm (photo)

Dimension :160x73x40mm

Power :4x1.5V AA Size Battery or 6V direct current stable voltage power.

Power consumption: MAX 35mA

(2)Memory call button operation A readout (the max value, min value, last value)obtained immediately before turning off the MEASURING BUTTON is automatically memorized .For example, please ref. following fig.1. That Memorized value can be displayed on the indicator by turn once depressing the memory button .The Symbol “UP” represents the Max .Value and “DN” the Min .Value ,“LA” the Last Value .

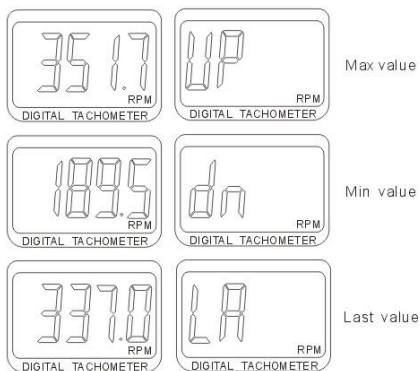
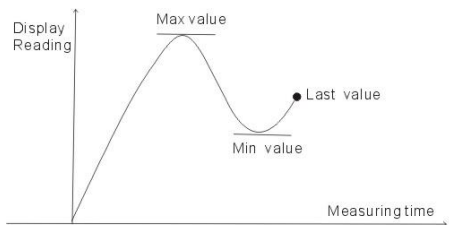


Fig.1

(3) Data stored button operation

(3-1) Display last value and for the fourth time press memory button, the tachometer will indicate whether to switch to another display mode. During display value changing from 20 to 1, it is switched if you release memory button that haven't change to max value/min value/Last value will be displayed in turn by pressing memory button anytime.

(3-2) If the value changes from 20 to 1 (please ref. following fig. 2) and displaying "An**" (An is ab. of anamnesis). The display is switched successfully, So the memory button is pressed, stored data will be displayed in turn. Display format is as follow: the first is serial number of stored data and then display the concrete value. After all stored data is displayed(100s), the tachometer will automatically switch to display max value/min value/last value.(more difference of data value, less data stored)

eg.:the displaying is "An 64 " when 64s of measuring data is stored in one measuring (see fig. 3). The tachometer will display the stored data in turn by pressing the memory button. The first value is 350.3 RPM and the second 317.1 RPM, analogically the 64th value is 337.0 RPM (see fig. 4).

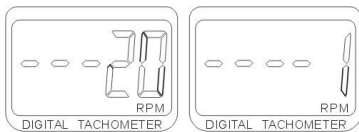


Fig.2

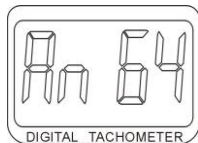


Fig.3

Reminds: The contact line button don't stores Max value/min value and measuring data but last value. All data will be canceled and the tachometer will start to measure and store data again if measuring button is pressed when looking over measured data.

(4) Battery replacement

(4-1) When it is necessary to replace the battery(battery voltage less than approx. 5.0V), will appear on the display.



(4-2) Remove the screws of the battery cabinet by a screwdriver. Slide the battery cover away from the Instrument and remove the battery.

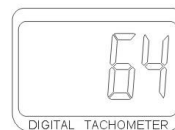


Fig.4

(4-3) Install the batteries into the case Permanent damage to the circuit may result from incorrect installation.

(5) Reminds

(5-1) Reflective mark: cut and peel adhesive tape provided into approx. 12mm(0.5")squares and apply one square to each rotation shaft. The non-reflective area must always be greater than the reflective area. If the shaft is normally reflective, it must be covered with black tape or black paint before attaching reflective tape. Shaft surface must be clean and smooth before applying reflective tape.

(5-2) Very low RPM measurement: as it is easy to get high

resolution. If measuring the very low RPM values, suggest user to attach more “REFLECTIVE MARKS” averagely. Then divide the reading shown by the number of “REFLECTIVE MARKS” to get the real RPM.

(5-3) Contact tachometer parts include large taper、 Small taper and pillar .Large taper and pillar rubber part is suitable to low speed and the Small taper is suitable to high speed .

(5-4) If the instrument is not to be used for any extended period, remove batteries.

3. PHOTO TACHOMETER

Measuring Range: 60 to 99999 RPM

Resolution: 0.1RPM (60 to 9999.9 RPM)

1 RPM (over 10000 RPM)

Panel description:

A: Reflective mark

B: Signal light beam

C: Function button

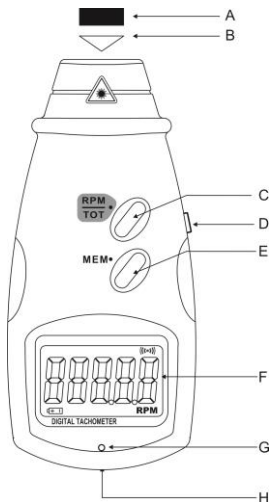
D: Memory call button

E: Measure button

F: Display window

G: Sensor of auto back light

H: Battery cover



4.Measuring procedure

(1) PHOTO RPM MEASUREMENT

a .Apply a reflective mark to the object being measured . press the MEASURE BUTTON to tun on.

b .press the function button to display “RPM ” on LCD.

c .Depress the MEASURE BUTTON and align the visible light beam with the applied target. Verify that the MONTOR INDICATOR lights when the target aligns with the beam.

(2)TOTAL MEASUREMENT

a .Apply a reflective mark to the object being measured . push the function switch to display “0 ” on LCD.

b. Press measuring button, then you see light beam in line with the target, start measuring. The value will add 1 as the object rotate a circle or passed one reflective mark, herein, the total value will stored in the meter until loosen the button.

c.It will display total value as you press “MEM ” button.

Accessories:

Reflecting tape marks	length 600mm
Operation manual	1pc

1.PHOTO TACH/CONTACT TACH

Measuring Range:

PHOTO TACH

60 to 99999 RPM

CONTACT TACH

30 to 19999 RPM

SURFACE SPEED (m/min)

0.05 to 1999.9 m/min

SURFACE LONG:(0.05 to 99999m)

Resolution:

PHOTO TACH

0.1RPM (60 to 9999.9 RPM)

1 RPM (over 10000 RPM)

CONTACT TACH

0.1RPM (30 to 9999.9 RPM)

1 RPM (over 10000 RPM)

SURFACE SPEED

0.01m/min (0.1 to 99.99m/min)

0.1m/min (>100m/min)

SURFACE LONG:0.05m

2.Panel description:

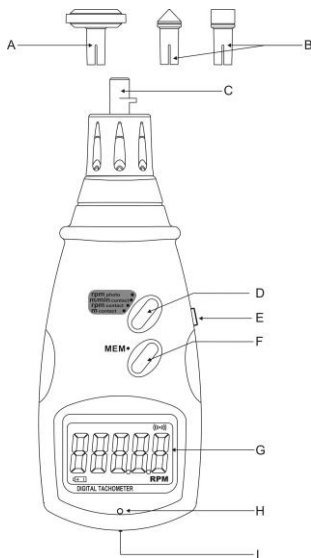
A: Surface speed wheel

B: Contact tach test device

C: Drive Shaft

D: Measure button

E: Function switch



- F: Memory call button
- G: Display window
- H: Sencer of auto back light
- I : Battery cover

3.Measuring procedure

(1) PHOTO MEASUREMENT

- (2) Apply a reflective mark to the object being measured. Press the MEASURE BUTTON to turn on, display "RPM " on LCD. The tachometer is PHOTO MEASUREMENT by default
 - a. Depress the MEASURE BUTTON and align the visible light beam with the applied target. Verify that the MONITOR INDICATOR lights when the target aligns with the beam.

(3) CONTACT MEASUREMENT

- a. Install Contact measuring device, then Install the Contact test device on the SHAFT, Press the MEASURE BUTTON to turn on, display "RPM " on LCD, Press the function button to display "m/min " on LCD, again Press the function button to display "RPM " on LCD, The tachometer is RPM CONTACT MEASUREMENT .
- b. Depress the MEASURING BUTTON and lightly pressing the Contact test device against the center hole of rotating shaft. Be certain to keep alignment straight. Release the MEASURING BUTTON when the display reading stabilizes.

(4) SURFACE SPEED MEASUREMNT

- a. Install Contact measuring device, then Install the Surface speed wheel on the SHAFT, Press the MEASURE BUTTON to turn on, display "RPM " on LCD, Press the function button to display "m/min " on LCD.
- b. Depress the MEASURING BUTTON and simply attaching the SURFACE SPEED WHEEL to the detector. Release the

MEASURING BUTTON when the display reading stabilizes.

(5) LENGTH MEASUREMENT

- a. Install Contact measuring device, then Install the Surface speed wheel on the SHAFT, Press the MEASURE BUTTON until display “metres” on LCD.
- b. Depress the MEASURING BUTTON and simply attaching the SURFACE SPEED WHEEL to the detector. Release the MEASURING BUTTON when this measure over .

Note: Because of the difference between the girth of outer surface and inner flute of line speed sensor. For contact line speed or length measurement. The displaying result is correct when outer surface of the sensor contacts With the measured object contact and but when inner flute of the sensor and the measured object, that the reading multiply 0.9 is the real result (eg.: measure wire, cable and rope etc.)

4.Accessories:

Reflecting tape marks	length 600mm
Operation manual	1pc
Surface speed wheel	1pc
Contact tach test device	2pcs
Drive Shaft	1pc