

Digital Photoelectric Tachometer



- Dual photo and contact measurement
- Read directly in rpm, feet per minute or meters per minute
- Rugged and sturdy design
- High accuracy

DESCRIPTION

The Digital Photoelectric and Combination Hand Tachometers surpass all present designs. Each has advanced microprocessor-controlled circuitry and a specialized infrared-type sensing system packaged in a compact, lightweight, shockproof plastic body. They are insensitive to fluorescent light and electromagnetic fields.

An autoranging, low-demand seven segment LCD for battery conservation is used anywhere from dimly lit working areas to bright sunlight. A rugged contact adapter with 0.275-in. (7-mm) shaft slips conveniently over the photo beam housing to permit contact measurement of linear speeds.

APPLICATIONS

These non-contact, continuous-reading instruments measure display speeds of rotating objects in hundredths from 10.00 to 99.99, then in tenths from 100.0 to 999.9 and finally in whole numbers from 1000 to 19,999 rpm.

The tachometers are operated by pointing the visible targeting light beam at a marker taped surface, depressing the operating button and observing the digital display. Each rotation of the marked area through the frequency modulated sensing beam is indicated by the LED, is accumulated by the microprocessor-controlled electronic system and the resulting rpm is displayed within the specified sensing period. When the displayed measurement remains for one minute; then the system shuts off and the measurement stores in its memory.

FEATURES AND BENEFITS

- Memory recall, low-battery indication and over/under indications are built-in operating features.
- The most vital feature is a system self-test. Fully functioning electronics by very briefly pressing the operating button and observing a full display of 88.8.8.8 with all indicators.
- Automatic switch-off saves the batteries.
- Instruments read directly in rpm, feet/minute and meters/minute, requiring no calculations.

SPECIFICATIONS

Indicating Digits

5 digits (leading zero suppression). Readout locks and indicates UNDER at 10 rpm (5 ft/min, 1.5 m/min); OVER at 99,999 rpm and display blinks.

Display System

0.3-in (8-mm) seven segment LCD

Sensing Period (Gate Time)

0.5 second over 120 rpm. For lower speeds, longer cycle times are necessary, up to a maximum of 6 seconds at 10 rpm.

Measuring Distance

2 to 6 in. (50 to 150 mm), or up to 12 in. (305 mm) with steady rest.

Sensing System

Visible LED coupled with infrared type discriminating frequency modulation; insensitive to fluorescent influence.

Target Indicator

Pulsing LED when correctly aligned

Target Marker

Aluminized reflective tape, 0.5 x 1 in. (13 x 25 mm)

Accuracy

0.02% of measured value; ±1 digit

Power Source

Three alkaline, 1.5-volt AA batteries

Battery Life

Approximately 120 hours continuous duty

Low-Battery Signal

Indicator BAT appears over display

Memory Feature

Last measurement displayed approximately one minute then stored in memory. A single brief pressure on the operating button recalls that last measurement.

System Test

A second brief pressure on the operating button should produce a full display of indicators and 88.8.8.8 after approximately 3 seconds, verifying a correctly functioning electronic system.

Selection of Measurement

Selection between rpm and speed measurement is made by a slide switch above the LCD. Selection between ft/min and m/min is made by a DIP-switch, accessible by removing the battery compartment cover. Display indicators let user know which measurement is operating.

Temperature

Operating: 32 to 122° F (0 to 50° C)

Storage: -4 to +140° F (-20 to +60° C)

Dimensions

With Case

1.75 H x 6 W x 8.5 D in.

44 H x 152 W x 216 D mm

Without Case

1.3 H x 2.3 W x 6.4 D in.

33 H x 58.4 W x 162 D mm

Weight

Cat. No. 359986

With Case and Accessories: 0.90 lb (0.4 kg)

Without Case: 0.34 lb (0.2 kg)

Cat. No. 359987

With Case and Accessories: 1.04 lb (0.5 kg)

Without Case: 0.34 lb (0.2 kg)

ADDITIONAL SPECIFICATIONS

| Measuring Ranges Photoelectric Mode Autoranging (rpm) | Speed Measuring Ranges Linear Measurement with 6-in. Wheel (ft/min) | Measuring Resolution (rpm) | Measuring Resolution 6-in. Wheel (ft/min) |
|---|---|----------------------------------|---|
| 10 to 99.99 | 5 to 99.99 | ±0.01 | ±0.01 |
| 100 to 999.9 | 100 to 999.9 | ±0.1 | ±0.1 |
| 1000 to 99,999 | 1000 to 10,000 | ±1.0 | ±1.0 |

ORDERING INFORMATION

| Item [Qty] | Cat. No. | Item [Qty] | Cat. No. |
|--|----------|--|----------|
| Digital Photoelectric Tachometer | 359986 | Digital Combination Tachometer | 359987 |
| Included Accessories for Cat. No. 359986 | | Included Accessories for Cat. No. 359987 | |
| Batteries, 1.5-volt AA, alkaline [3] | | Batteries, 1.5-volt AA, alkaline [3] | |
| Reflective tape, aluminized, 0.5 x 36 in.(13 x 914 mm) [1 roll] | 356529 | Reflective tape, aluminized, 0.5 x 36 in.(13 x 914 mm) [1 roll] | 356529 |
| Reflective squares 0.5 in. (13 mm) [1 card of 30] | 356528 | Reflective squares 0.5 in. (13 mm) [1 card of 30] | 356528 |
| Carrying case | T-29 | Carrying case | T-29 |
| | | Contact adapter | T-30 |
| | | Rubber tips, conical, small | S-4 |
| | | Rubber tips, conical, large | S-8 |
| | | Fiber disc wheel, 6 in. (152 mm) diameter | S-11 |

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ISO STATEMENT

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