

REED

Model R7100

Photo-Contact Tachometer



Instruction Manual

[www reedinstruments com](http://www.reedinstruments.com)

Table of Contents

Features.....	2
Specifications.....	3
Instrument Description.....	4
Measurement Procedures.....	4-5
Trouble-shooting.....	6
Battery Replacement.....	6

Features

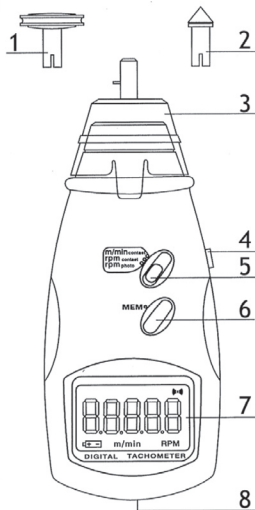
- Uses the microcomputer (CPU) technique and junction laser technique combining both a Photo Tachometer (RPM) and a Contact Tachometer (RPM, m/min) in one instrument
- Offers a wide measuring range and high resolution.
- Recalls Max/Min & last values (simply press the Memory Call Button)
- Contact and photo values can be switched at any time
- Surface speed sensor with flute vails measure speed and length of wire, cable and rope conveniently
- The instrument is delicate and rugged, using durable and long-lasting components
- Lightweight housing is made of a strong ABS plastic, and is designed to fit comfortably in either hand
- Non-contact function utilizes laser light beam for improved accuracy
- Autoranging with 0.05% accuracy
- Large, easy to read display
- Low battery voltage indication
- Includes battery and carrying case

Specifications

Display:	5 digital, 18mm (0.7" LCD)
Accuracy:	± (0.05%+1 digital)
Sampling Time:	0.8 sec (over 60 RPM)
Range Select:	Auto-Range
Time Base :	Quartz crystal
Detecting Distance:	50 mm---500 mm (photo)
Dimension:	210 × 74 × 37mm
Power:	4 × 1.5V AA Size Battery or 6V direct current stable voltage power
Power consumption:	Approx 65mA
Measuring Range:	Photo Tachometer: 2.5 to 99999RPM Contact Tachometer: 0.5 to 19999RPM Surface Speed: 0.05 to 1999.9m/min
Resolution:	Photo Tachometer: 0.1 RPM (2.5 to 999.9 RPM) 1 RPM (over 1000 RPM) Contact Tachometer: 0.1 RPM (0.5 to 999.9 RPM) 1 RPM (over 1000 RPM) Surface Speed: 0.01 m/min (0.05 to 99.99 m/min) 0.1m/min (over 100 m/min)
Includes:	Carrying case Reflecting tape marks (length 600mm) Instruction manual Dampproof accessories Bag of 4 bolts Contact speed measurement fitting 3 Contact rotational speed measurement fittings 4 AA batteries
Optional Accessories:	Replacement Wheel (REED Model ST-WHEEL) Replacement Contact Adapter (REED Model ST-CONE)

Instrument Description

1. Surface Speed Wheel
2. Contact Tachometer Test Device
3. Contact Measuring Device
4. Measure Button
5. Function Switch
6. Memory Call Button
7. Display Window
8. Battery Cover



Measuring Procedures

Photo Measurements

1. Apply a reflective mark to the object being measured. Slide the function switch to the "rpm photo" position.
2. 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.

Contact Tach Measurements

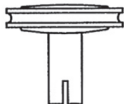
1. Slide the function switch to the "rpm contact" position. Install the proper RPM adapter on the shaft.
2. Depress the Measure button while lightly pressing the rpm adapter against the center hole of rotating shaft. Be certain to keep the alignment straight. Release the Measure button when the display reading stabilizes.

Surface Speed Measurements

1. Slide the function switch to the "m/min contact" position. Install the surface speed wheel on the shaft instead of the rpm adapter.
2. Depress the Measure button and attach the surface speed wheel to the detector. Release the Measure button when the display reading stabilizes.

Note: When using the Surface Speed Wheel (see #1 in figure on page 4 or figure below) it's important to keep in mind that the measurements obtained when using the inside of the wheel will need to be multiplied by 0.9 for the actual measurement. The measurement you get when using the outside of the wheel will be fine.

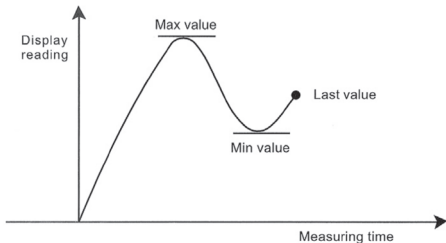
Surface Speed Wheel



Measurements taken inside the wheel need to be multiplied by 0.9 for the actual measurement.

Memory Recall

The maximum value, minimum value and last values obtained immediately before turning off the Measure button will automatically be stored (memorized). To display this value in the units display, press the Memory button. The "UP" represents the maximum value, the "DN" represents the minimum value and "LA" represents the last values.



Trouble-shooting

Reflective Marking Tape

To use this, simply cut and peel the adhesive tape provided into approximately 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. The shaft surface must be clean and smooth before applying the reflective tape.


High and Low Speeds

Provided for the contact measurements is a large taper, a small taper and a pillar. The large taper and the the pillar are suitable for low speeds and the small taper is suitable for high speeds.

Very Low RPM Measurements

When measuring the very low RPM values, it is recommended to attach more reflective tape and take several readings. Divide up all the readings taken to come up with an average RPM measurement.

Battery Replacement

1. When the left corner of the LCD display shows LO BAT "", it indicates the battery voltage output has fallen below approximately 4.5V. Replacement of the batteries is now needed.
2. Open the Battery Cover (#8 in figure on page 4) at the back of meter and remove the battery.
3. Replace with 4 new AA batteries, check the polarization is correct, and reinstall the cover.

Permanent damage to the circuit can result from incorrect installation.

For service on this or any other REED product or for information on other REED products, contact REED Instruments at info@reedinstruments.com.

