

R7100

# REED INSTRUMENTS

## Photo-Contact Tachometer



Instruction  
Manual

**REED Instruments**

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## Introduction

Thank you for purchasing your REED R7100 Photo-Contact Tachometer. Please read the following instructions carefully before using your instrument. By following the steps outlined in this manual your meter will provide years of reliable service.

## Product Quality

This product has been manufactured in an ISO9001 facility and has been calibrated during the manufacturing process to meet stated product specifications. If a certificate of calibration is required please contact the nearest authorized REED distributor or authorized Service Center. Please note an additional fee for this service will apply.

## Safety

Never attempt to repair or modify your instrument. Dismantling your product, other than for the purpose of replacing batteries, may cause damage that will not be covered under the manufacturer's warranty. Servicing should only be provided by an authorized service center.

## Features

- Dual function unit with both contact and non-contact capabilities
- Provides fast and accurate RPM (revolutions per min) measurements of rotating objects and surface speed measurements m/min (meters per min) with included contact adapters
- Built-in laser pointer identifies target area
- Internal memory recalls maximum, minimum values as well as last value stored
- Large LCD display and low battery indicator

## Specifications

RPM Range (Contact):	0.5 to 19,999
RPM Range (Photo):	2.5 to 99,999
Surface Speed Range:	0.05 to 1,999.9 m/min
Resolution:	Photo: 0.1 RPM ( $\leq 999.9$ )/1 RPM ( $> 1000$ ) Contact: 0.1 RPM ( $\leq 999.9$ )/1 RPM ( $> 1000$ ) Surface: 0.01 m/min ( $\leq 99.99$ )/0.1 m/min ( $> 100$ )
Basic Accuracy:	$\pm(0.05\% + 1 \text{ dgt.})$

## General Specifications

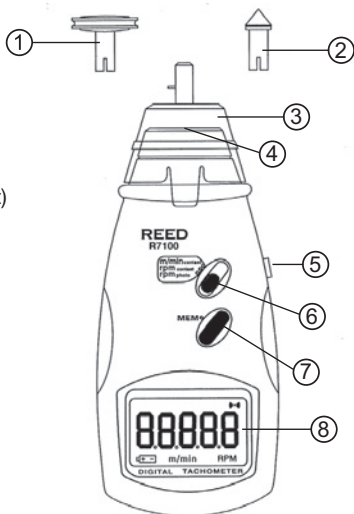
Visible Indicator:	Yes (Laser)
Target Distance:	1.6' (500mm) (Photo)
Response Time:	<1 sec
Sampling Time:	0.8 sec (over 60 RPM)
Display Size/Type:	5 Digit LCD Display
Auto Shut-off:	Yes
Internal Memory:	Max, Min and Last
Laser Class:	Class III
Low Battery Indicator:	Yes
Power Supply:	4 x AA batteries
Product Certifications:	CE
Operating Temperature:	32 to 122°F (0 to 50°C)
Storage Temperature:	-4 to 140°F (-20 to 60°C)
Operating Humidity:	10 to 90%
Dimensions:	8.3 x 2.9 x 1.5" (210 x 74 x 37 mm)
Weight:	7.9oz (224g)

## Included

- Reflective Tape
- Large and Small Cone Tip Adapters
- Funnel Adapter
- Wheel Adapter
- Batteries
- Mounting Screws
- Hard Carrying Case

## Instrument Description

1. Surface Wheel Adapter
2. Shaft Extension with Large Cone Adapter
3. Contact Adapter
4. Laser Sensor (for non-contact measurement)
5. Measure Button
6. Function Switch
7. Memory Recall Button
8. LCD Display



# Operating Instructions

## *Applying Reflective Marking Tape*

1. Cut and peel the adhesive tape provided into approximately 0.5" (12mm) squares.
2. Apply one square to each rotation shaft.
3. The non-reflective area must always be greater than the reflective area.
4. If the shaft is normally reflective, it must be covered with black tape or black paint before attaching reflective tape.
5. The shaft surface must be clean and smooth before applying the reflective tape.

## *Photo Measurements*

1. Apply a small piece of reflective tape to the object being measured.
2. Slide the function switch to the "rpm photo" position.
3. Press the Measure button and align the visible light beam with the applied target.

## *Contact Measurements*

1. Slide the function switch to the "rpm contact" position.
2. Install the proper RPM adapter for your application on the shaft.
3. Press the Measure button while lightly pressing the rpm adapter against the center opening of a rotating shaft.
4. Release the Measure button when the reading stabilizes (approx. 2 seconds).

*continued...*

## Surface Speed Measurements

1. Slide the function switch to the "m/min contact" position.
2. Install the surface wheel adapter on the instrument.
3. Press the Measure button while lightly pressing the surface wheel against the surface being measured.
4. Release the Measure button when the display reading stabilizes (approx. 2 seconds).

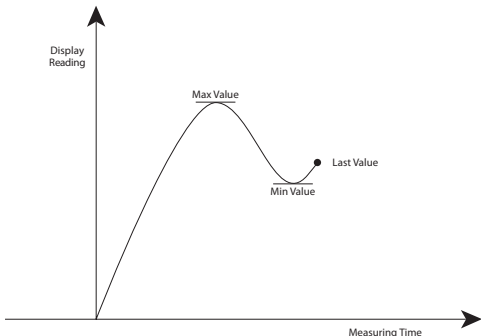


**NOTE:** If the inside part of the wheel is used (as shown in the picture), measurements are required to be multiplied by 0.9 for an accurate measurement. This will not be the case when using the outside part of the wheel.

## Memory Recall

### Accessing Maximum, Minimum and Last Values

The maximum, minimum and last values obtained prior to releasing the Measure button will automatically be stored in memory.



**IMPORTANT NOTE:** All stored values will be erased from memory the next time the Measure button is pressed.

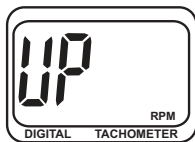
*continued...*

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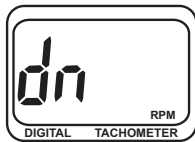
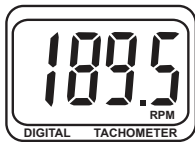
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To display these values, follow the steps below:

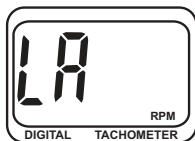
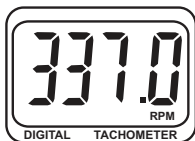
1. Press and hold the **MEM** button once. A value is displayed followed by the "UP" symbol, which represents the maximum value.
2. Release the **MEM** button.
3. Press and hold the **MEM** button again. A second value is displayed followed by the "dn" symbol, which represents the minimum value.
4. Release the **MEM** button.
5. Press and hold the **MEM** button again. A third value is displayed followed by the "LA" symbol, which represents the last value.
6. Release the **MEM** button.



Max Value



Min Value



Last Value

*continued...*

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


## Accessing Stored Measurements

The meter has the capability of storing up to 64 values during a single measuring period. In order to recall these values, follow the steps below:

1. Press the **MEM** button four times and hold it down.
2. The meter will begin to countdown from 20 to 1 RPM indicating it is compiling the stored values.
3. Once the countdown is completed, a total of the values stored will display as "An XX", whereas XX will be the number of stored measurements.
4. Press the **MEM** button repeatedly to scroll through each stored value.

## Battery Replacement

1. When the bottom left corner of the LCD displays  the batteries should be replaced.
2. Open the Battery Cover located on the back of meter and remove the batteries.
3. Replace with 4 new AA batteries, check that the polarization is correct and reinstall the cover.

## Accessories and Replacement Parts

**ST-TIPL** Large Cone Adapter

**ST-TIP** Cone Adapter

**ST-FUNNEL** Funnel Adapter

**ST-SHAFT** Shaft Extension Adapter

**ST-WHEEL** Surface Wheel Adapter

**RT100** Reflective Tape for Tachometers

**CA-05A** Soft Carrying Case

Don't see your part listed here? For a complete list of all accessories and replacement parts visit your product page on [www.reedinstruments.com](http://www.reedinstruments.com).

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## Applications

- Identify issues with rotational equipment such as: Conveyors, Turbines, Compressors, Fans and Blowers.
- Automated Assembly and Production Lines

## Product Care

To keep your instrument in good working order we recommend the following:

- Store your product in a clean, dry place.
- Change the battery as needed.
- If your instrument isn't being used for a period of one month or longer please remove the battery.
- Clean your product and accessories with biodegradable cleaner. Do not spray the cleaner directly on the instrument. Use on external parts only.

## Product Warranty

REED Instruments guarantees this instrument to be free of defects in material or workmanship for a period of one (1) year from date of shipment. During the warranty period, REED Instruments will repair or replace, at no charge, products or parts of a product that proves to be defective because of improper material or workmanship, under normal use and maintenance. REED Instruments total liability is limited to repair or replacement of the product. REED Instruments shall not be liable for damages to goods, property, or persons due to improper use or through attempts to utilize the instrument under conditions which exceed the designed capabilities. In order to begin the warranty service process, please contact us by phone at 1-877-849-2127 or by email at [info@reedinstruments.com](mailto:info@reedinstruments.com) to discuss the claim and determine the appropriate steps to process the warranty.

## Product Disposal and Recycling



Please follow local laws and regulations when disposing or recycling your instrument. Your product contains electronic components and must be disposed of separately from standard waste products.

## Product Support

If you have any questions on your product, please contact your authorized REED distributor or REED Instruments Customer Service by phone at 1-877-849-2127 or by email at [info@reedinstruments.com](mailto:info@reedinstruments.com).

Please visit [www.REEDINSTRUMENTS.com](http://www.REEDINSTRUMENTS.com) for the most up-to-date manuals, datasheets, product guides and software.

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