Protmex MS6208A

Protmex MS6208A Contact Digital Tachometer

User Manual

1. Introduction

The Protmex MS6208A is a compact, portable handheld digital tachometer designed for precise contact measurement of rotational and linear speeds. It is equipped with a high-speed integrated chip for stable and reliable performance. This device is ideal for a wide range of applications, including measuring the speed of motors, fans, conveyor belts, and various industrial and automotive equipment.
This manual provides detailed instructions on the proper setup, operation, maintenance, and troubleshooting of your MS6208A tachometer to ensure accurate measurements and extend the product's lifespan.

2. Safety Information

Please read and understand all safety instructions before operating the device. Failure to follow these instructions may result in injury or damage to the instrument.

- Always wear appropriate personal protective equipment (PPE) when taking measurements, especially when working with moving machinery.
- Do not attempt to measure rotating objects that are unstable or could pose a hazard.
- Ensure the device is clean and dry before use. Do not operate in wet or explosive environments.
- Keep the device away from strong electromagnetic fields.
- Do not disassemble or modify the instrument. Refer all servicing to qualified personnel.
- Replace batteries promptly when the low battery indicator appears to ensure accurate readings.

3. Package Contents

Verify that all items are present and in good condition upon unpacking.

- 1 x Protmex MS6208A Digital Tachometer
- 1 x 6-inch Idler Wheel
- 1 x 0.1m Idler Wheel
- 2 x Touch Tips (Protruding and Concave)

- 1 x Extension Bar
- 4 x 1.5V AAA Batteries
- 1 x User Manual (this document)
- 1 x Meter Bag

4. Product Overview

The MS6208A tachometer is designed for versatility and ease of use, featuring a robust build and intuitive controls.

Figure 4.1: Labeled diagram of the Protmex MS6208A Digital Tachometer, showing the LCD screen, transmission shaft, power button, mode switch, data storage (MEM), data storage read (READ), and plus/minus buttons.

Key Features:

- **Highly Reliable Digital Tachometer:** Features a 16-bit high-speed integrated chip for stable and reliable performance. The double-layer ABS casing, produced by secondary injection molding, offers an ergonomic design for easy operation and maintenance.
- **Contact Measurement:** Measures rotational speeds from 50 RPM to 19999 RPM and surface speeds. Includes 5 different contact accessories (idler wheels, touch tips) to suit various measurement needs.

- **Multiple Functions:** Offers 5 unit selections (m/min, m/sec, ft/min, ft/sec, in/min). Features include 100 groups of data recording, data hold, and average value functions.
- **LCD Backlight:** Equipped with an LCD backlight display for easy data reading in dark environments.
- **Power Saving:** Includes a low battery indicator and automatically powers off after 30 seconds of inactivity to conserve energy.

Figure 4.2: The Protmex MS6208A tachometer shown with different contact attachments, illustrating its capability to measure rotation speeds from 50 RPM to 19999 RPM.

5. Setup

5.1 Battery Installation

1. Locate the battery compartment on the back of the tachometer.
2. Open the battery cover by sliding it off or unscrewing it, depending on the model.
3. Insert four (4) 1.5V AAA batteries, ensuring correct polarity (+ and -).
4. Close the battery compartment securely.

Figure 5.1: View of the Protmex MS6208A's battery compartment, showing the placement for four AAA batteries and the internal 16-bit low-power MCU chip.

5.2 Attaching Measurement Accessories

The tachometer comes with various accessories for different measurement scenarios.

1. Select the appropriate contact accessory (idler wheel or touch tip) for your measurement task.
2. Attach the chosen accessory firmly to the transmission shaft at the top of the tachometer. For extended reach, use the extension bar between the shaft and the accessory.

Figure 5.2: The Protmex MS6208A tachometer demonstrating its adaptability with a 0.1m/6in. idler wheel, protruding touch tip, and concave touch tip, along with an extension bar.

6. Operating Instructions

6.1 Power On/Off

- Press the **Power** button (⏻) to turn the device on.
- The device will automatically power off after 30 seconds of inactivity. To manually turn off, press and hold the **Power** button.

6.2 Measurement Modes and Unit Selection

- After powering on, the device defaults to RPM measurement.
- Press the **MODE** button to cycle through different measurement units: RPM, m/min, m/sec, ft/min, ft/sec, in/min.
- Ensure the selected unit matches your measurement requirement.

6.3 Taking a Measurement

1. Attach the appropriate contact accessory to the tachometer.
2. Gently press the contact accessory against the center of the rotating object or surface you wish to measure.
3. Ensure stable contact. The LCD will display the real-time measurement.
4. For surface speed measurements, use an idler wheel and press it against the moving surface.

6.4 Data Hold, MAX/MIN/AVG Functions

- Press the **MEASURE** button to hold the current reading on the display. Press again to release.
- Press the **MIN/MAX** button to cycle through Maximum, Minimum, and Average readings during a measurement session.

6.5 Data Storage (MEM) and Recall (READ)

The device can store up to 100 groups of data.

Figure 6.1: The Protmex MS6208A tachometer in use, demonstrating its ability to store up to 100 sets of measurement data.

- To store a reading, press the **MEM** button while a measurement is displayed. The display will show the storage location number.
- To recall stored data, press the **READ** button. Use the **Plus (+)** and **Minus (-)** buttons to navigate

through the stored data groups.

6.6 Backlight

- Press the **Backlight** button (🔦) to turn the LCD backlight on or off for improved visibility in low-light conditions.

Figure 6.2: Close-up view of the Protmex MS6208A's backlit LCD display, showing clear readability of contact RPM measurements.

7. Maintenance

7.1 Cleaning

- Wipe the device with a soft, dry cloth. For stubborn dirt, use a slightly damp cloth with mild detergent, then dry thoroughly.
- Do not use abrasive cleaners or solvents, as they may damage the casing or display.
- Keep the transmission shaft and contact accessories free from dust and debris to ensure smooth operation and accurate readings.

7.2 Storage

- When not in use for an extended period, remove the batteries to prevent leakage and damage to the device.
- Store the tachometer and its accessories in the provided meter bag in a cool, dry place, away from direct sunlight and extreme temperatures.

7.3 Battery Replacement

- When the low battery indicator appears on the display, replace all four AAA batteries promptly.
- Follow the battery installation steps outlined in Section 5.1.

8. Troubleshooting

If you encounter issues with your Protmex MS6208A, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Device does not power on.	Dead or incorrectly installed batteries.	Check battery polarity. Replace with fresh AAA batteries.
Inaccurate readings.	Poor contact with the rotating object; incorrect accessory used; low battery.	Ensure firm and stable contact. Use the correct accessory for the surface. Replace batteries.
Display is dim or flickering.	Low battery.	Replace with fresh AAA batteries.
Cannot store data.	Memory full; incorrect operation.	Ensure you are pressing MEM during a live measurement. If memory is full, consider clearing data (refer to advanced functions in full manual if available).
Auto-off too quickly.	Normal operation (30 seconds inactivity).	This is a power-saving feature. Press any button to keep the device active.

9. Specifications

Parameter	Value
Model	MS6208A (PT6208A Contact Tachometer)
Measurement Type	Contact
RPM Measurement Range	50 ~ 19999 RPM
Accuracy	± (0.03% + 2 digits)
Measurement Distance	N/A (Contact Measurement)
Unit Selection	m/min, m/sec, ft/min, ft/sec, in/min

Parameter	Value
Data Record	100 groups
Functions	MAX/MIN/AVG, Data Hold, Display Backlight, Low Battery Indication
Automatic Shutdown	30 seconds of inactivity
Power Supply	4 x 1.5V AAA Batteries
Product Dimensions (L x W x H)	19.3 x 6 x 2.9 cm (7.6 x 2.4 x 1.1 inches)
Product Weight	120 g (0.26 lbs)
Material	ABS Plastic
Certifications	CE (LVE, EMC, RoHS)

10. Warranty and Support

Protmex is committed to providing quality products and customer satisfaction. This product is CE (LVE, EMC, RoHS) certified.

For any questions, technical assistance, or support needs, please contact Protmex customer service. We provide friendly 24/7 online support to assist you with any inquiries regarding your MS6208A Digital Tachometer.

Please refer to your purchase documentation or the official Protmex website for specific warranty terms and contact information.