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DT6685

Generic DT6685 Non-Contact Tachometer User Manual

Model: DT6685

1. Introduction

This manual provides detailed instructions for the safe and effective operation of the Generic DT6685 Non-Contact Tachometer. The DT6685 is a portable, wide-range RPM meter designed for industrial motor testing and other applications requiring precise rotational speed measurement without physical contact. It features an LCD display, automatic zero function, and data storage capabilities.



Figure 1: Generic DT6685 Non-Contact Tachometer, showing its ergonomic design and trigger button.

2. Safety Information

Please read and understand all safety warnings and operating instructions before using this device.

- Do not point the laser beam directly at eyes or reflective surfaces.
- Ensure the measurement target is stable and safe to approach.
- Keep the device dry and away from extreme temperatures.
- Do not attempt to disassemble or modify the tachometer.
- Use only as directed in this manual.

3. Product Components

The DT6685 tachometer consists of the following main components:

1. **Laser Sensor:** Emits and receives the laser for non-contact measurement.
2. **LCD Display:** Shows measurement readings and operational status.
3. **Trigger Button:** Activates the measurement.
4. **Function Buttons:** For mode selection, data storage, and other settings.
5. **Battery Compartment:** Houses the power source.



Figure 2: Rear view of the DT6685, highlighting the LCD display and control buttons.



Figure 3: Side view of the DT6685, illustrating the position of the measurement trigger.

4. Setup

4.1. Battery Installation

1. Locate the battery compartment cover, typically at the bottom of the handle.
2. Open the cover and insert the required batteries (e.g., 9V battery). Ensure correct polarity.
3. Close the battery compartment cover securely.

4.2. Preparing the Target Surface

For accurate non-contact measurement, a reflective tape (not included, typically) should be applied to the rotating object.

- Cut a small piece of reflective tape.
- Attach it to the rotating shaft or disk. Ensure the tape is flat and smooth.
- The laser will detect the reflection from this tape to calculate RPM.



Figure 4: Front view of the DT6685, highlighting the laser sensor for non-contact measurements.

5. Operating Instructions

5.1. Powering On and Basic Measurement

1. Press the trigger button to power on the device. The LCD display will illuminate.
2. Aim the laser beam at the reflective tape on the rotating object.
3. Maintain a measurement distance between 50mm and 500mm (2-19.7 inches).
4. The RPM reading will be displayed on the LCD. Release the trigger to hold the last reading.



Figure 5: User holding the DT6685, demonstrating the non-contact measurement process on a motor.



Figure 6: Side view of the DT6685, clearly showing the LCD display for reading measurements.

5.2. Automatic Zero Function

The DT6685 features an automatic zero function. This means the tachometer automatically resets to maintain accuracy across various tests, eliminating manual adjustments and ensuring data correction. This is ideal for repetitive testing scenarios.

5.3. Data Storage Function

This RPM meter supports storing the last, minimum, and maximum readings. It can store and retrieve up to 60 groups of data for comprehensive analysis.

- Press the "REC" button to enter data storage mode.
- Follow on-screen prompts or refer to specific button functions for storing and recalling data.
- The device can store the last, minimum, and maximum values measured.



Figure 7: Close-up of the DT6685's LCD screen and function buttons, including 'Auto' and 'REC'.

6. Maintenance

- **Cleaning:** Use a soft, dry cloth to clean the device. Do not use abrasive cleaners or solvents.
- **Sensor Care:** Keep the laser sensor lens clean and free from dust or debris to ensure accurate readings.
- **Battery Replacement:** Replace batteries when the low battery indicator appears on the display. Remove batteries if the device will not be used for an extended period.
- **Storage:** Store the tachometer in a cool, dry place, away from direct sunlight and extreme temperatures.

7. Troubleshooting

Problem	Possible Cause	Solution

Problem	Possible Cause	Solution
No display/Device won't turn on	Dead or incorrectly installed batteries.	Check battery polarity; replace batteries.
Inaccurate readings	Dirty sensor lens; incorrect measurement distance; reflective tape not properly applied; ambient light interference.	Clean sensor lens; adjust distance (50-500mm); reapply reflective tape smoothly; minimize strong ambient light.
"ERR" or other error message	Measurement range exceeded; sensor obstruction.	Ensure RPM is within 2.5-99999RPM; clear any obstructions from the sensor path.

8. Specifications

Parameter	Value
Model	DT6685
Measurement Range	2.5 - 99999 RPM
Resolution (2.5-999.9 RPM)	0.1 RPM
Resolution (1000-99999 RPM)	1 RPM
Accuracy	± 0.02% + 1 digit
Measuring Distance	50 - 500 mm (2 - 19.7 inches)
Response Time	0.5 s (Above 120 RPM)
Operating Temperature	0 - 50°C (32 - 122°F)
Operating Humidity	10 - 90% RH
Material	ABS

9. Warranty and Support

Information regarding warranty and customer support for the Generic DT6685 Non-Contact Tachometer is not provided in this manual. Please refer to the product packaging or contact your retailer for details.

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