

DANOPLUS DP-401

DANOPLUS DP-401 2-in-1 Digital Tachometer User Manual

Model: DP-401

1. PRODUCT OVERVIEW

The DANOPLUS DP-401 is a versatile 2-in-1 digital tachometer designed for precise measurement of rotational speeds. It offers both non-contact laser measurement and contact measurement capabilities, making it suitable for a wide range of industrial and automotive applications.

Key features include:

- **Versatile Measurement:** Combines non-contact laser measurement (3 to 99,999 RPM) and contact measurement (3 to 19,999 RPM).
- **High Precision:** Achieves an impressive accuracy of $\pm 0.05\%$ for reliable readings.
- **Enhanced Functionality:** Features a practical backlight for visibility, data hold, and MAX/MIN functions for comprehensive data analysis.
- **Optimal Advantage:** Offers an effective measuring distance of 50 to 500 mm and a fast sampling time of 0.8 seconds for speeds above 60 RPM.
- **Wide Applications:** Ideal for automotive maintenance, industrial machinery diagnostics, HVAC system analysis, and more.

2-IN-1 CONTACT AND NON-CONTACT DIGITAL TACHOMETER

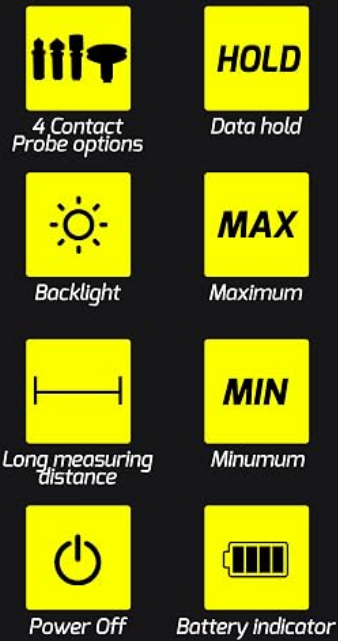


Figure 1: Key features of the DP-401 Digital Tachometer.

2. SETUP

2.1 Battery Installation

The DP-401 tachometer requires a 9V battery (included). To install the battery:

1. Locate the battery compartment cover on the back of the device.
2. Slide the cover downwards to open the compartment.
3. Connect the 9V battery to the battery clip, ensuring correct polarity.
4. Place the battery inside the compartment and slide the cover back into place until it clicks securely.

WEIGHT:
approx. 120g



Figure 2: Battery compartment location on the DP-401.

2.2 Attaching Reflective Tape for Non-Contact Measurement

For non-contact measurements, reflective tape must be applied to the rotating object. This tape reflects the laser beam back to the tachometer, allowing it to calculate RPM.

1. Cut a small piece of the provided reflective tape.
2. Clean the surface of the rotating object where the tape will be applied.
3. Firmly attach the reflective tape to the rotating part. Ensure it is smooth and securely adhered.

ACCESSORIES AND IT'S USAGE

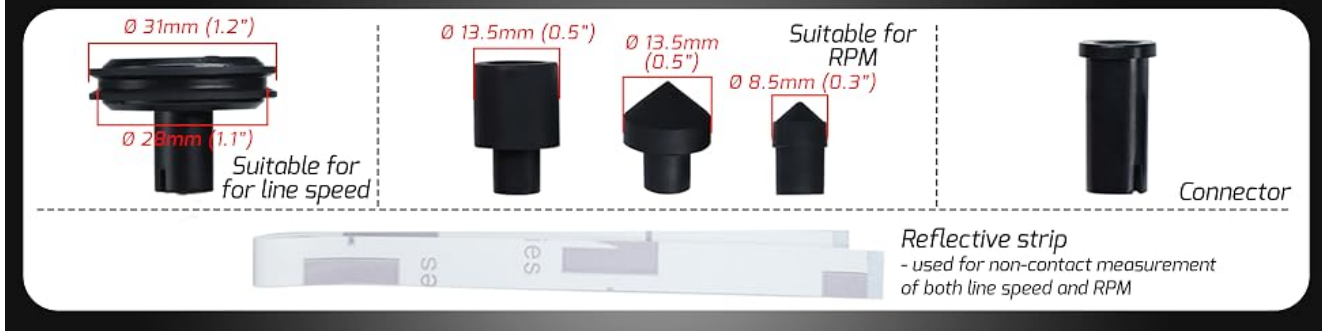


Figure 3: Reflective tape and contact probes included with the tachometer.

2.3 Attaching Contact Probes

For contact measurements, select the appropriate probe from the included accessories and attach it to the tachometer's contact shaft.

- **Speed Small Cone Probe ($\varnothing 8.5\text{mm}$ / 0.3"):** For general contact RPM measurements.
- **Speed Large Cone Probe ($\varnothing 13.5\text{mm}$ / 0.5"):** For larger contact surfaces.
- **Speed Column Probe ($\varnothing 13.5\text{mm}$ / 0.5"):** For specific contact applications.
- **Linear Circular Probe ($\varnothing 31\text{mm}$ / 1.2", $\varnothing 28\text{mm}$ / 1.1"):** For measuring linear speed.

To attach a probe, simply insert its stem into the connector on the top of the tachometer until it is firmly seated.

Equipped with multi probe



Figure 4: Different types of contact probes and their dimensions.

3. OPERATING INSTRUCTIONS

3.1 Power On/Off

Press the **Power button** (usually marked with ①) to turn the device on or off.

3.2 Non-Contact (Laser) Measurement

This mode uses a laser to measure RPM without physical contact with the rotating object.

1. Ensure reflective tape is securely attached to the rotating object (refer to Section 2.2).
2. Point the laser beam from the tachometer towards the reflective tape on the object.
3. Maintain a measuring distance between 50 mm and 500 mm.
4. Press the **TEST button** to activate the laser and begin measurement.
5. The RPM reading will be displayed on the LCD screen.

2 IN 1 MEASUREMENT

CONTACT MEASUREMENT

Used for rotating motors, shafts, pulleys, gears, etc.



NON-CONTACT MEASUREMENT

Used when contact measurements are not possible due to access, space restrictions, or safety concerns.



Figure 5: Non-contact measurement using the laser sensor.

3.3 Contact Measurement

This mode requires physical contact with the rotating object using an appropriate probe.

1. Attach the desired contact probe to the tachometer (refer to Section 2.3).
2. Gently press the tip of the probe against the center of the rotating object.
3. Press the **TEST button** to begin measurement.
4. The RPM or linear speed reading will be displayed on the LCD screen.

2 IN 1 MEASUREMENT

CONTACT MEASUREMENT

Used for rotating motors, shafts, pulleys, gears, etc.



NON-CONTACT MEASUREMENT

Used when contact measurements are not possible due to access, space restrictions, or safety concerns.



Figure 6: Contact measurement using a probe.

3.4 Unit Switching

The DP-401 can display measurements in different units.

- Press the **UNIT button** to cycle through available units: RPM, meters per minute (m/min), and feet per minute (ft/min).



Figure 7: Unit switch function on the DP-401.

3.5 Data Hold, MAX/MIN Functions

These functions assist in data analysis:

- Press the **HOLD button** to freeze the current reading on the display. Press again to release.
- Press the **MAX button** to view the maximum recorded value during a measurement session.
- Press the **MIN button** to view the minimum recorded value during a measurement session.

SCREEN DISPLAY

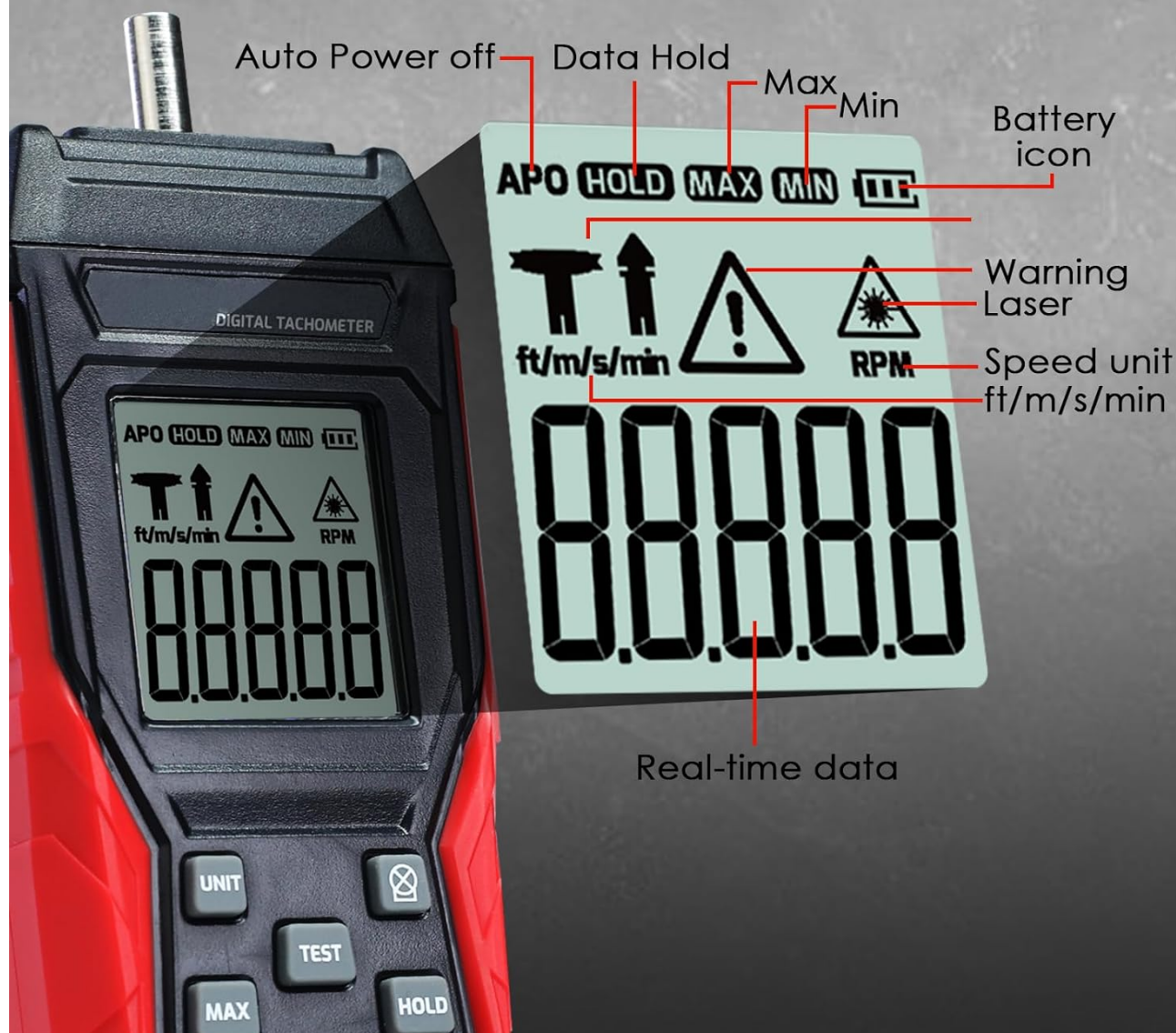


Figure 8: Screen display indicators including Data Hold, MAX, and MIN.

3.6 Backlight Function

The backlight improves visibility in low-light conditions.

- Press the **Backlight button** (often combined with another function or a dedicated button) to toggle the backlight on or off.

3.7 Auto Power-Off (APO)

The device features an automatic power-off function to conserve battery life. If no operation is performed for a certain period, the tachometer will automatically shut down. This feature can typically be disabled if continuous operation is required (refer to the detailed manual for specific instructions).

4. MAINTENANCE

Proper maintenance ensures the longevity and accuracy of your DANOPPLUS DP-401 Digital Tachometer.

- **Cleaning:** Use a soft, dry cloth to clean the device. Do not use abrasive cleaners or solvents. Keep the laser

emission and reception lenses clean and free of dust.

- **Storage:** Store the tachometer in a cool, dry place, away from direct sunlight and extreme temperatures. If storing for extended periods, remove the battery to prevent leakage.
- **Battery Replacement:** Replace the 9V battery when the low battery indicator appears on the display. Refer to Section 2.1 for battery installation instructions.
- **Probe Care:** Clean contact probes after each use to remove any debris that might affect future measurements.

5. TROUBLESHOOTING

If you encounter issues with your DP-401 tachometer, refer to the following common problems and solutions:

- **Device does not power on:**
 - Check if the 9V battery is correctly installed and has sufficient charge. Replace if necessary.
- **Inaccurate non-contact readings:**
 - Ensure the reflective tape is clean, securely attached, and the laser is aimed directly at it.
 - Verify the measuring distance is within the specified range (50-500 mm).
 - Clean the laser emission and reception lenses.
- **Inaccurate contact readings:**
 - Ensure the correct probe is used and securely attached.
 - Verify firm and stable contact between the probe and the rotating object.
- **Display is dim or flickering:**
 - The battery may be low. Replace the 9V battery.

For further assistance, please refer to the official product support resources.

6. SPECIFICATIONS

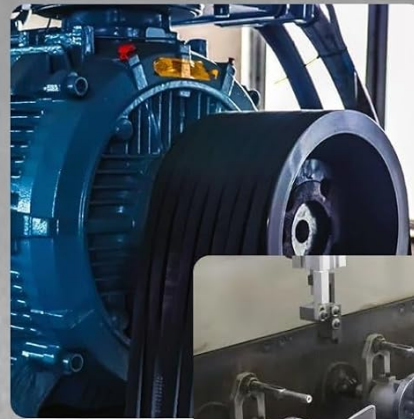
Feature	Specification
Brand	DANOPLUS
Model	DP-401
Material	Plastic
Dimensions (L x W x H)	145 x 58 x 36 mm (5.7 x 2.3 x 1.4 inches)
Non-Contact RPM Range	3 to 99,999 RPM
Contact RPM Range	3 to 19,999 RPM
Accuracy	±0.05%
Effective Measuring Distance	50 to 500 mm
Sampling Time	0.8 seconds (for speeds > 60 RPM)
Included Components	1 Tachometer, 2 Reflective Tapes, 4 Contact Accessories, English Manual

WEIGHT:
approx. 120g



Figure 9: Dimensions and button layout of the DP-401.

WIDE APPLICATION



**ELECTRIC
MOTORS**

**FAN
MANUFACTURING**



AVIATION



**PETRO-
CHEMICAL**

Figure 10: Wide application areas of the DP-401 Tachometer.

7. OFFICIAL PRODUCT VIDEOS

7.1 Non-Contact RPM Measurement Demonstration

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Video 1: This video demonstrates the non-contact RPM measurement using a similar digital tachometer (UT373). It shows how to apply reflective tape to a rotating fan and use the laser to obtain RPM readings. This illustrates the principle of non-contact measurement applicable to the DP-401.

7.2 Digital Tachometer Unboxing and Basic Operation

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Video 2: This video provides an unboxing and basic operational overview of a digital tachometer. It shows battery installation, the use of reflective tape on a drill, and how the device measures RPM. This is relevant for understanding the initial setup and non-contact measurement process for the DP-401.

8. WARRANTY AND SUPPORT

The DANOPLUS DP-401 Digital Tachometer comes with a 30-day free return policy, ensuring customer satisfaction.

For detailed user manuals, software, or further support, please visit the official product support page:

<https://cd50.net/401/>

For any additional inquiries or technical assistance, please contact DANOPLUS customer support.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question