

LIMITED ONE YEAR WARRANTY

This product is warranted to the purchaser against defects in material and workmanship for one year from the date of purchase.

What is covered: Repair parts and labor, or replacement at the company's option. Transportation charges to the purchaser.

What is not covered: Transportation charges to the company. Damages from abuse or improper maintenance, see operating instructions. Any other expense. Consequential damages, incidental damages, or incidental expenses, including damages to property. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

How to Obtain Warranty Performance: Attach to the product your name, address, description of problem, phone number and proof of date of purchase. Package and return to:

Service Center
Universal Enterprises, Inc.
5500 S.W. Arctic Drive
Beaverton, Oregon 97005

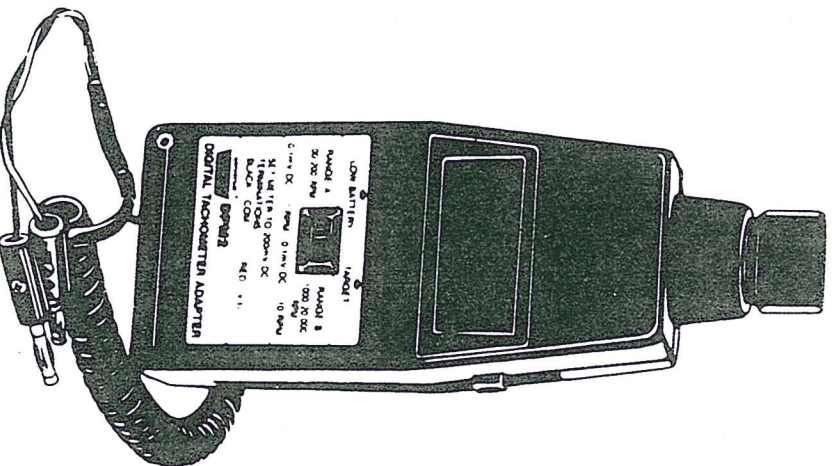
Implied Warranties: Any implied warranties, including implied warranties of merchantability and fitness for a particular purpose, are limited in duration to one year from date of purchase. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

To the extent any provision of this warranty is prohibited by federal or state law and cannot be preempted, it shall not be applicable. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.



DDPM2

OPERATING INSTRUCTIONS



UNIVERSAL ENTERPRISES, INC.

8030 SW Nimbus • Beaverton, OR 97008
(503) 644-8723 • Fax: (503) 643-6322

DPM2 OPERATING INSTRUCTIONS

INTRODUCTION

The DPM2 Digital Photo Tachometer is an optional accessory designed to be used with Universal's DM30, DM50, DM210, DM310, DM350, DM360 and DM400 digital multimeters.

The DPM2 measures shaft speeds, wheel rotation and flywheel speeds in industrial, automotive, diesel repair and maintenance fields.

FEATURES

- Easy-to-aim visible light beam
- High resolution measurement without mechanical contact.
- Compact, durable, light weight construction
- Low battery indication

SPECIFICATIONS

Measuring Ranges:

Range A: 100-2000 RPM, 1 RPM Resolution
Range B: 1000-20,000 RPM, 10 RPM Resolution

Output: Range A: 0.1mV DC per RPM
Range B: 0.1mV DC per 10 ROM

Accuracy: $\pm 1.2\%$, ± 2 digits

Detecting Distance: 2 to 6 inches (50 to 150mm)
(typical max. 12 inches
(300mm))

Measuring Method: Reflective tape

Battery: 4, 1.5V AA Alkaline

Dimensions: 2.8"(w) \times 6.7"(h) \times 1.5"(d)
(72 \times 120 \times 37mm)

Weight: 10.8 oz.

ACCESSORIES

1.5V AA Battery, set of 4 (NEDA #15A) AB4
Reflective tape ART1

STOCK NO.

MEASURING PROCEDURE

1. Cut the reflective tape into 0.5" (12mm) squares and apply one square to each rotational shaft.
NOTE: The non-reflective area must always be greater than the reflective area. Shaft surface must be clean and smooth.
2. If the shaft is reflective it must be covered with black tape or black paint before applying reflective tape.
3. Connect the black lead into the "COM" input jack and the red lead into the "V/ Ω " input jack. Set the digital multimeter range selection switch to 200mV DC (neglect the decimal point).
4. Press the measure button on the side of the DPM2 and align the visible light beam with the reflective tape. Verify that the target indicator light shows each time the reflective tape passes through the light beam.
5. Start with the highest RPM range (Range B) multiplying the reading taken on the digital multimeter's display by 10. Use the lowest RPM range (Range A) if necessary taking the reading directly from the digital multimeter's display.

LOW BATTERY INDICATION

When the "LOW BATTERY" indicator light shows, replace the batteries. Accurate measurements may still be made for approximately one-half hour after the low battery indication appears.

RETURNING FOR REPAIR

Before returning your instrument for repair, please make a quick check to ensure the failure is not due to one or more of the following: 1. Digital multimeter is not set on 200mV DC range. 2. Low or dead batteries. 3. Black lead and red lead are in proper input jacks.