



Model 471 Digital Thermo Anemometer Operating Instructions & Specifications



AIR VELOCITY RANGES

Range Number	Velocity Range		Accuracy
	FPM	MPS	
1	0-500	0-3.0	±3% F.S.
2	0-1500	0-7.0	±3% F.S.
3	0-5000	0-30	±4% F.S.
4	0-15000	0-70	±5% F.S.

Specified Accuracy Temperature Limits:
59 to 86°F (15-30°C). Outside this range add
0.11% per °F (0.2% per °C)

Flow Temperature Range: 32-200°F, 0-100°C

TEMPERATURE MEASUREMENT

RANGES: 0 to 200°F, -17 to 100°C

Accuracy, Temperature: ±2°F, 1°C

Resolution: 0.1°

Ambient Temperature Limits: 32 to 104°F,
0-40°C

Storage Temperature Limits: -40 to 176°F,
-40 to 80°C

Power Source: 9 volt alkaline battery

Introduction

The Model 471 Digital Thermo Anemometer is a versatile, hand-held, battery operated anemometer and air temperature measurement instrument. It can measure air velocity in your choice of feet per minute (FPM) or meters per second (MPS). Temperature can be measured in either degrees F or C.

Battery Installation

The unit is shipped with a separate 9 volt alkaline battery which must be installed before operation. Remove the two screws holding the bottom endcap and remove it. Connect the battery to the enclosed battery clip, observing correct polarity. When replacing the cover, be sure the rubber sealing gasket is properly seated in the endcap gasket groove. Note that the endcap will only fit one way because the holes are slightly off-center. Be careful not to trap the wires between the battery, case or foam pads which secure the battery. Place the Z shaped wrist strap clip in one of the screw recesses and replace screws. Do not overtighten. Attach the wrist strap to the clip.

When battery replacement becomes necessary, use only 9 volt alkaline types such as Duracell® MN1604, Eveready® 522 or equivalent. Zinc-carbon types, often labeled heavy-duty are not recommended because of their shorter life and increased potential for leakage. Alkaline batteries are a better value because they can last up to three times longer in this device.

On-Off Operation

The on-off control is a toggle function. Press the ON/OFF key once to turn unit on and again to turn it off. If the Model 471 is left on with no activity for approximately 2½ minutes the unit will turn itself off to conserve the battery.

Display Backlight

The Model 471 includes a standard display backlight to enable use in poor lighting conditions. The instrument must first be switched off before this feature can be activated. Next, press and hold the ON/OFF key down. After about one second the backlight will switch on and remain lighted for approximately two minutes. It will then automatically shut off to conserve battery life.

Selecting Units of Measurement

The Model 471 can display velocity and temperature in either English or metric units. Velocity can be measured in your choice of feet per minute or meters per second. Temperature can be indicated in °F or °C. Currently selected units will be indicated on the display. To change units, press the UNITS key. Units selected will remain in memory even when power is shut off. This will assure that your preference will continue to be displayed each time until intentionally changed.

Selecting Velocity or Temperature Measurement

When first turned on, the unit will display velocity in the range and units of measurement last selected. To change to temperature measurement, press the VELOCITY/TEMP key. The display will change to indicate either °F or °C depending on the units last selected. To return to velocity measurement, press the VELOCITY/TEMP key again.

Selecting Velocity Range

Four velocity ranges can be selected in your choice of English or metric units. The range selected will be shown in the smaller display at lower left. To change ranges, press the RANGE key until the one you want is shown. Each time the range is changed, the displayed velocity will momentarily read zero until the sensor stabilizes with the new range.

Low Battery Indicator

A weak battery can cause improper operation and/or inaccurate measurements. A low battery indicator is provided on the display to warn when the battery needs to be replaced. Although the unit might appear to function and indicate normally, accuracy of readings cannot be assured when the LOW BAT indicator is displayed. Replace the exhausted battery with a fresh one. Do not leave exhausted batteries in the unit because battery leakage could occur, causing permanent damage.

Probe Care and Cleaning

Always cover the tip with the integral cover when not in use. Use only in clean air, free from particulates, oil or other foreign matter. Although probe is designed to require very little maintenance, occasional cleaning may be necessary to maintain specified accuracy. **Caution:** The probe tip is fragile and must be protected from contact with any foreign objects. **Do not** use brushes, cotton swabs, etc. to clean.

Remove battery before cleaning. Provide adequate ventilation and gently bathe the probe tip in a small container of denatured alcohol. Wash briefly without extended soaking. Remove from the bath and gently shake off excess. Allow to completely air dry before replacing battery and returning to service. **Do Not** use pressurized cleaners or compressed air which could cause permanent damage.