

FLUKE®

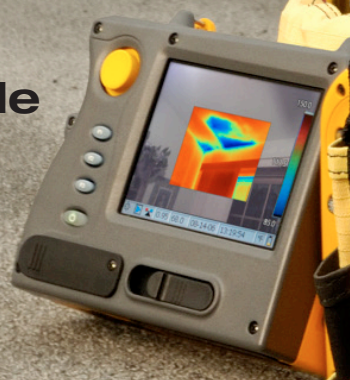
**Get more
done**

Now includes the
**NEW Fluke 922
Airflow Meter**









**HVAC/Indoor
Air Quality
Reference Guide**

Volume 2, 2007

- Glossary
- Helpful tips
- Application notes



HVAC/Indoor Air Quality Selection Guide

	Air Composition					Thermal Imaging		
								
Model	983 Particle Counter	975 AirMeter™	922 Airflow Meter	CO-220 CO Detector	CO-210 CO Probe⁽¹⁾	971 Temperature Humidity Meter	TiR Series Thermal Imagers*	IR-InSight Infrared Imagers*
Description	Measure six particle sizes simultaneously	Measure temperature, humidity, CO ₂ , CO, Velocity with one tool	Combines air pressure, velocity and flow into one rugged, easy-to-use meter	Quickly test CO levels	Conveniently measure CO with this DMM accessory	Measure humidity faster, calculate wet bulb and dew point temperatures	Provides fast and easy precision temperature measurements	Low contrast thermal application imager
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Measurements								
Particle size	0.3, 0.5, 1.0, 2.0, 5.0, 10.0 μm							
Temperature	+40 °C (104 °F)	+50 °C (122 °F)	+50 °C (122 °F)			+60 °C (140 °F)	+600 °C (1112 °F)	+100 °C (212 °F)
Air velocity		50 fpm to 3000 fpm, 0.25 m/sec to 15 m/sec	250 fpm to 16,000 fpm, 1 m/sec to 80 m/sec					
CO ₂		5000 ppm						
CO		500 ppm		0 to 999 ppm	0 to 1000 ppm			
Optical resolution								
Relative humidity	20 % to 90 %	10 % to 90 %				5 % to 95 %		
Vacuum								
Pressure			± 4000 Pascals ± 16 in H ₂ O ± 400 mm H ₂ O ± 40 mbar ± 0.6 PSI					
Voltage ac/dc								
Current ac/dc								
Resistance								
Frequency								
Capacitance								
Conductance								
Data storage								
Data logging	5000 readings	99 readings (discrete), 25,000 readings (continuous)	99 readings			99 readings		
Min/Max/Avg		Yes/Yes/Yes	Yes/Yes/Yes	No/Yes/No		Yes/Yes/Yes		
Display Hold/Auto (Touch) Hold			Yes/No	Yes/No		Yes/No		

(1) Accessory for use with a digital multimeter with dc millivolt inputs.

Air Composition Temperature Humidity Meter



Fluke 971 Temperature Humidity Meter

The rugged new answer to humidity and temperature in your building.

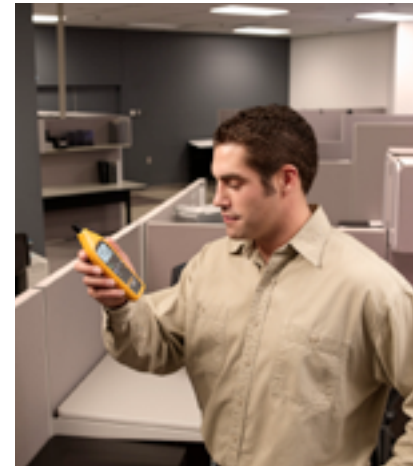
Quickly take accurate humidity and temperature readings. Temperature and humidity are two important factors in maintaining optimal comfort levels and good indoor air quality. The Fluke 971 is rugged, lightweight, and easy to hold.

Use it to:

- Monitor indoor comfort conditions and respond to “hot/cold” calls from occupants
- Matching HVAC system capacity to the load
- Promote good indoor air quality

Key features:

- Fast-settling humidity sensor
- Instant wet bulb and dewpoint temperature calculations
- Bright backlit display
- Rugged holster and protective twist-open sensor cover
- Convenient Min/Max feature and data storage capacity



Summary specifications

Feature	
Temperature range	-20 °C to 60 °C (-4 °F to 140 °F)
Temperature accuracy	0 °C to 45 °C ± 0.5 °C
	-20 °C to 0 °C and 45 °C to 60 °C ± 1.0 °C
	32 °F to 113 °F ± 1.0 °F
	-4 °F to 32 °F and 113 °F to 140 °F ± 2.0 °F
Resolution	0.1 °C / 0.1 °F
Temperature update rate	500 ms
Temperature sensor type	NTC
Relative humidity range	5 % to 95 % R.H.
Relative humidity accuracy	10 % to 90 % R.H. @ 23 °C (73.4 °F) ± 2.5 % R.H.
	<10 %, > 90 % R.H. @ 23 °C (73.4 °F) ± 5.0 % R.H.
Resolution	0.1 % R.H.
Response time (humidity)	For 90 % of total range—60 sec. with 1 m/s air movement
Humidity sensor	Electronic capacitance polymer film sensor
Data storage	99 points

Quick Tips

Duct temperatures

Use the Fluke 971 and an infrared thermometer to monitor duct temperatures at the register. Easily calculate dewpoint with the Fluke 971, then compare it to register temperatures to see if they fall below the dewpoint. Use an infrared thermometer in this application as a general indicator only. Many factors come into play when taking IR measurements, such as emissivity and spot-to-distance ratio. Lower temperatures can lead to condensation forming on ductwork. If uninsulated, moisture can fall onto ceiling materials and cause potential mold issues and water damage.

Did you know?

Studies indicate that productivity can increase anywhere from 0.5 % to 5 % given a comfortable work environment. Use the Fluke 971 to monitor and maintain comfortable conditions for your customers—and demonstrate the effectiveness of your repairs.

Ordering information

Fluke-971 Temperature Humidity Meter

Includes: Users manual, and 4 AAA alkaline batteries

Fluke test tools to help you get the job done

Fluke 975 AirMeter



See page 6 for details



Fluke 983 Particle Counter



See page 4 for details



Fluke 971 Temperature Humidity Meter



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Fluke 922 Airflow Meter



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Fluke 116 Digital HVAC Multimeter



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For more product information and detailed specifications, go to www.fluke.com