

# TH-CALC™ Thermohygrometers

## Models 8720 and 8722

TSI's TH-CALC Meters are excellent hand-held diagnostic instruments for assessing thermal comfort and evaluating IAQ. The Model 8720 measures temperature and humidity, and also calculates dew point. The Model 8722 adds data logging and performs wet bulb temperature, absolute humidity, humidity ratio and % outside air calculations.

### Features and Benefits

- Calculates dew point temperature directly
- Sampling function records multiple point measurements
- Optional portable printer provides hard copy
- Two-line display shows parameters simultaneously

### Model 8722

- Directly calculates wet bulb temperature, absolute humidity and humidity ratio—no psychrometric chart needed
- Automatically calculates % outside air from temperature

### Data Logging—Model 8722

- Data logging allows user to simultaneously record all parameters and log 14,000 samples with a time and date stamp
- Continuous data logging enables cyclical monitoring and trend analysis
- Discrete data logging for taking spot measurements
- Data can be reviewed on-screen, printed or downloaded to a computer for easy report generation

Model 8722



- TSI LOGDAT™ downloading software permits easy data transfer to a computer
- LOGDAT Companion Excel® Macro automatically graphs your data
- Statistics function displays average, maximum and minimum values, and the number of recorded samples

### Applications

- Verify building HVAC system performance
- Calculate thermal comfort levels to optimize productivity
- Detect IAQ problems
- Monitor air conditions for industrial drying processes

# Models 8720 and 8722 TH-CALC Meters

## Specifications

### Temperature

Sensor Type	Thermistor
Range	32 to 140°F (0 to 60°C)
Accuracy	±1.0°F (±0.6°C)
Resolution	0.1°F (0.1°C)

### Secondary Temperature Probe (optional) (Model 8722 only)

Sensor Type	RTD
Range	-40 to 248°F (-40 to 120°C)
Accuracy <sup>1</sup>	±1.0°F (±0.6°C)
Resolution	0.1°F (0.1°C)

### Relative Humidity

Sensor Type	Thin-film capacitive
Range	5% to 95% RH
Accuracy <sup>2</sup>	±3.0% RH
Resolution	0.1% RH

### Dew Point

Range	5 to 120°F (-15 to 49°C)
Resolution	0.1°F (0.1°C)

### Wet Bulb Temperature (Model 8722)

Range	40 to 140°F (5 to 60°C)
Resolution	0.1°F (0.1°C)

### Absolute Humidity (Model 8722)

Range	0.0000151 to 0.00491 lbs moisture/ft <sup>3</sup> air (0.24 to 79.0 g moisture/m <sup>3</sup> air)
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### Humidity Ratio (Model 8722)

Range	0.00014 to 0.187 lbs moisture/lb dry air (0.14 to 187 g moisture/kg dry air)
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### % Outside Air (Model 8722)

Range	0 to 100%
Resolution	0.1%

Operating Temperature 41 to 158°F (5 to 70°C)

Storage Temperature -4 to 158°F (-20 to 70°C)

### Logging Capability (Model 8722)

Range	Up to 14,000 samples and 1,000 test id's
Intervals	5 sec, 10 sec, 15 sec, 20 sec, 30 sec, 60 sec, 2 min, 5 min, 10 min, 15 min, 20 min, 30 min, 60 min

### Meter Dimensions

3.9 in. × 6.6 in. × 1.5 in.  
(100 mm × 168 mm × 38mm)

### Probe Dimensions

Length	5.81 in. (14.5 cm)
Diameter	0.75 in. (1.9 cm)

### Weight (with batteries)

1.16 lbs (0.53 kg)

### Power

Four AA-size batteries (included)  
or AC adapter (included with Model 8722  
only)

### Printer Interface

1200 baud rate, serial connection

Model	Temperature	Humidity	% Outside Air	Dew Point	Wet Bulb Temperature	Absolute Humidity	Humidity Ratio	Data Logging/Downloading	Statistics	Review Data	Printer Output	NIST* Calibration Certificate
8720	●	●	●	●	●	●	●	●	●	●	●	●
8722	●	●	●	●	●	●	●	●	●	●	●	●

\* U.S. National Institute of Standards and Technology.

All specifications subject to change without notice.

<sup>1</sup> For range of 23 to 203°F (-5 to 95°C).

<sup>2</sup> At 77°F (25°C). Add uncertainty of ±0.03%/°F (±0.05%/°C) away from calibrated temperature.



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