

# THP-W

## Temperature/Humidity Probe

### Description

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The Temperature Humidity Probe is a self-contained unit with a solid state temperature/humidity sensor giving a linearized output of 10mV per °C and 10mV per %RH respectively. The unit operates from 5-12 volts DC. Connection is via a standard circular stainless steel DIN connector. The mating connector with 8 foot (2.4m) cable is supplied. The probe operates within  $\pm 0.4^{\circ}\text{C}$  over a  $-40$  to  $120^{\circ}\text{C}$  temperature range. The humidity output is accurate to  $\pm 3\%$  (typical) between 20 to 80%RH and  $\pm 4\%$  between 10 to 90%RH. The probe housing is made of rugged anodized aluminum with a plastic end cap. The sensor is housed under a water resistant membrane. When used with the Monarch Instrument Data Chart 1250 paperless recorder, no additional power is required as power is provided directly from the



recorder. The Temperature Humidity Probe can be used with all data acquisition systems, PLC's, indicators, or recorders that accept linear DC voltage inputs.

### Features

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- Rugged compact construction
- Metal threaded connector with 8' cable included
- Input power range of 5-12Vdc
- Compatible with Data Chart recorders
- Humidity range 0 to 100%
- Linear DC output enables use with virtually any data acquisition system, PLC or indicator
- Wall mounting bracket included
- Accurate and repeatable
- High reliability
- Wide temperature range  $-40\text{F}$  to  $248\text{F}/120\text{C}$

### Typical Uses

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- HVAC
- Industrial process
- Storage facilities
- Hospitals
- Museums
- Production lines
- Pharmaceuticals
- Environmental monitoring
- Data centers
- Greenhouse/Agriculture
- Food and beverage
- Laboratories
- Computer rooms
- Oil and gas

# THP-W

## Temperature/Humidity Probe

### Specifications

#### Temperature

Parameter	Conditions	Typical	Max	Units
<b>Range:</b>		-20 to 100	-40 to 120	°C
		-13 to 212	-40 to 248	°F
<b>Accuracy:</b>		±0.4	See Fig. 1	°C
		±0.8		°F
<b>Repeatability:</b>		±0.1		°C
		±0.2		°F
<b>Output:</b>		10		mV/°C
<b>Offset:</b>	0.5V = 0°C	0.50		Vdc

#### Relative Humidity

Parameter	Conditions	Typical	Max	Units
<b>Range:</b>	0 to 100			%RH
<b>Accuracy:</b>	20 to 80	±3	See Fig 2.	%RH
	10 to 90	±4	See Fig 2.	%RH
<b>Repeatability:</b>		±0.1		%RH
<b>Response:</b>		10		Sec
<b>Output:</b>		10		mV/%RH
<b>Offset:</b>		0		Vdc

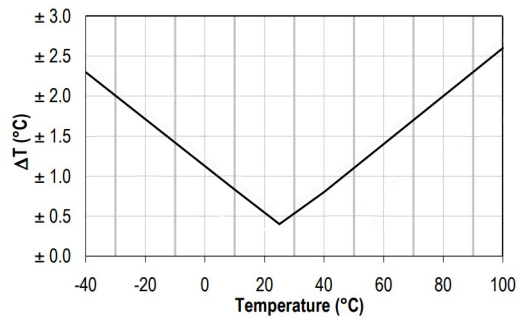


Fig 1. Typical tolerance for temperature.

#### Connection

Connector Pin	Cable	Function
1	Green	Power Supply Common (0 Volts)
2	Red	Power Supply Input (5 to 12Vdc)
3	White	Temperature Out (10mV/°C)
4	Black	Humidity Out (10mV/%RH)
	Braid	Shield or Screen



The output connector is a standard 4 pin DIN socket. The supplied connector has an 8 foot high temperature cable attached with 4 conductors and a shield. Connection details above.

#### Input Power

Parameter	Conditions	Typical	Units
<b>Supply Voltage:</b>		5 to 12 ± 10%	Vdc
<b>Supply Current:</b>	5Vdc	5	mAdc

Temperature in C = (mV out - 500)/10  
 Relative Humidity in %RH = mV out/10

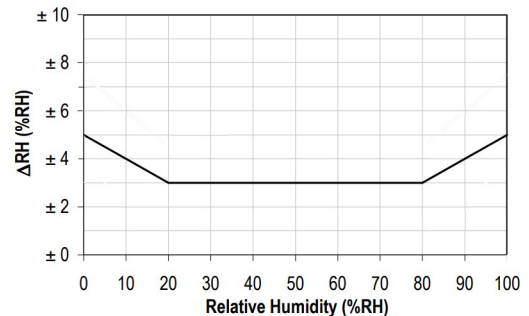
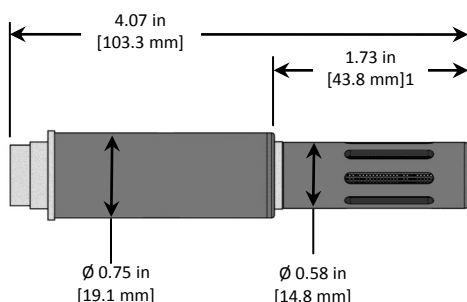


Fig 2. Typical tolerance for humidity at 25°C.

#### Dimensions:



#### Ordering Information

Item	Description	Part No.
THP-W	Temperature Humidity Probe with Connector and 8 foot (2.4m) cable	5380-505