



TUCH2

Microprocessor Based Humidity Sensor

The microprocessor based A/TUCH2 can indicate room relative humidity, temperature, setpoint, fan speed, and occupied/unoccupied status with corresponding signals sent back to your DDC System. They utilize a capacitive sensing element to deliver a proportional analog output based on the relative humidity value sensed. The A/TUCH2 supports single sensor operation for several common sensor types (see A/TUCH2 data sheet) and provides the flexibility to indicate several options. Additionally, many options are field selectable via the key-pad menu, including the blue backlight illumination settings. The A/TUCH2 is highly configurable as a standard offering, but can be engineered to meet special OEM requirements.

The A/TUCH2 Series is covered by ACI's Five (5) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's web site, www.workaci.com.



Specifications

Supply Voltage	+12-40 VDC (Resistive, 0-1V, 0-5V, 0.5-4.5V, 1-5V) +18-40 VDC (0-10V, 2-10V, 0-20 mA, 4-20 mA) 20-28 VAC (All Outputs)
Supply Current	Current Output: 100 mA maximum, Voltage & Resistive Output: 16 mA maximum
Temperature Accuracy	+/-1°F (+/- 0.56°C)
Operating Temperature Range	40°F to 104°F (5°C to 40°C)
Operating Relative Humidity Environment	0 to 95% Relative Humidity (non-condensing)
Analog Temperature Sensor Outputs	Resistive, 0-1V, 0.5-4.5V, 0-5V, 1-5V, 0-10V, 2-10V, 0-20 mA, 4-20 mA
Setpoint Accuracy	Resistance: +/-5% Full Scale Output Analog: +/-2% Full Scale Output
Analog Setpoint Outputs	Resistive, 0-1V, 0.5-4.5V, 0-5V, 1-5V, 0-10V, 2-10V, 0-20 mA, 4-20 mA
Product Dimensions	(H) 4.56" (W) 3.00" (D) 1.26"



The TUCH2 enclosure has UL94-5VB flammability rating.



Options



Select one Sensor Type (A), one Temperature Scale (B), one Setpoint Range (C), one Setpoint Offset (D) & one Setpoint Action (E). Proceed to (F) and select one Setpoint Midpoint, one Setpoint Range (G), one Setpoint Display (H), one Override (I) one Feedback (J), One Fan Speed (K), one System option (M) and one Display (N). **NOTE:** When selecting Fan (K) or System (L), please indicate the corresponding voltage, current, or resistance value for each selection. This chart is for reference purposes only. Please contact ACI for a finished part number before ordering.

A Temperature Sensor Type

- | | | | | | | | | |
|------------------------------------|------------------------------------|------------------------------|-------------------------------|-------------------------------|----------------------------------|----------------------------------|--------------------------------|-------------------------------|
| ☐ None | ☐ 1K-RTD (385) | ☐ 2252 | ☐ 10K-CP | ☐ 100K-S | ☐ 0-1 VDC | ☐ 0-10 VDC | ☐ 10-2 VDC | ☐ 20-0 mA |
| ☐ 1K-Nickel | ☐ 1035 | ☐ 3K | ☐ 10K-CSI | ☐ 20K | ☐ 0-5 VDC | ☐ 2-10 VDC | ☐ 10-0 VDC | |
| ☐ 1K-Balco | ☐ 2K RTD | ☐ 3K-ASI | ☐ 10KS | ☐ 0-20 mA | ☐ 0-5.45 VDC | ☐ 4.5-0.5VDC | ☐ 5-0 VDC | |
| ☐ 1K-RTD (375) | ☐ 1.8K | ☐ 10K-AN | ☐ 20KS | ☐ 4-20 mA | ☐ 1-5 VDC | ☐ 5-1 VDC | ☐ 20-4 mA | |

B Temperature Scale

- ☐ °F (Fahrenheit)
☐ °C (Celsius)

C Setpoint Range

- | | | |
|----------------------------|-------------------------------|--------------------------------|
| ☐ None | ☐ 8.5K | ☐ 0.5-4.5V |
| ☐ 400 | ☐ 10K | ☐ 1-5V |
| ☐ 1K | ☐ 20K | ☐ 0-10V |
| ☐ 2K | ☐ 100K | ☐ 2-10V |
| ☐ 3K | ☐ 0-1 VDC | ☐ 0-20 mA |
| ☐ 5K | ☐ 0-5V | ☐ 4-20 mA |

D Setpoint Offset Resistor

- | | | | |
|----------------------------|-----------------------------|----------------------------|-----------------------------|
| ☐ None | ☐ 2.05K | ☐ 866 | ☐ 1290 |
| ☐ 0 | ☐ 4.75K | ☐ 889 | ☐ 4K |
| ☐ 800 | ☐ 6.2K | ☐ 3890 | ☐ 2.49K |
| ☐ 900 | ☐ 7.8K | ☐ 4550 | ☐ 879 |
| ☐ 1K | ☐ 10K | ☐ 1422 | |

E Setpoint Action

- ☐ NA (None)
☐ DA (Direct)
☐ RA (Reverse)

F Setpoint Midpoint

- | | | | | | | |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------------------|
| ☐ 55°F (14°C) | ☐ 60°F (16.5°C) | ☐ 65°F (19°C) | ☐ 70°F (21.5°C) | ☐ 75°F (24°C) | ☐ 80°F (26.5°C) | ☐ None |
| ☐ 56°F (14.5°C) | ☐ 61°F (17°C) | ☐ 66°F (19.5°C) | ☐ 71°F (22°C) | ☐ 76°F (24.5°C) | ☐ 81°F (27°C) | |
| ☐ 57°F (15°C) | ☐ 62°F (17.5°C) | ☐ 67°F (20°C) | ☐ 72°F (22.5°C) | ☐ 77°F (25°C) | ☐ 82°F (27.5°C) | |
| ☐ 58°F (15.5°C) | ☐ 63°F (18°C) | ☐ 68°F (20.5°C) | ☐ 73°F (23°C) | ☐ 78°F (25.5°C) | ☐ 83°F (28°C) | |
| ☐ 59°F (16°C) | ☐ 64°F (18.5°C) | ☐ 69°F (21°C) | ☐ 74°F (23.5°C) | ☐ 79°F (26°C) | ☐ 84°F (28.5°C) | |

G Setpoint Scale

- | | | | | | | | |
|--------------------------------|--------------------------------|--------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| ☐ None | ☐ -2 to +2 | ☐ -5 to +5 | ☐ -8 to +8 | ☐ -11 to +11 | ☐ -14 to +14 | ☐ -17 to +17 | ☐ -20 to +20 |
| ☐ -0 to +0 | ☐ -3 to +3 | ☐ -6 to +6 | ☐ -9 to +9 | ☐ -12 to +12 | ☐ -15 to +15 | ☐ -18 to +18 | |
| ☐ -1 to +1 | ☐ -4 to +4 | ☐ -7 to +7 | ☐ -10 to +10 | ☐ -13 to +13 | ☐ -16 to +16 | ☐ -19 to +19 | |

H Display

- ☐ None
☐ °F or °C
☐ Offset (+/-)

I Override

- ☐ None
☐ Short Temp Sensor
☐ Short Temp Setpoint
☐ Dry Contact

J Feedback

- ☐ None
☐ Digital Low Input
☐ Digital High Input
☐ 24 VAC
☐ Dry Contact
☐ Self-Indication

K Fan*

- ☐ Off
☐ Auto
☐ Low
☐ Med
☐ High
☐ None

L System*

- ☐ On
☐ Off
☐ Auto
☐ Heat
☐ Cool
☐ None

M Comm Jack

- ☐ No Jack
☐ 4 Pin 4 Conductor
☐ 6 Pin 4 Conductor
☐ 6 Pin 6 Conductor
☐ 3.5mm Stereo

N Display

- ☐ Temp Only
☐ Temp/Setpoint
☐ Setpoint Only

*Voltage: 0, 1, 2, 3, 4, 5, 6, 8, & 10V

*mA: 0, 4, 8, 12, 16, & 20mA

*K Ohms: 0, 2.5, 7.5, 10, 15, 20, 25, 10.77, & 13.866KΩ

O RH Sensor

- ☐ 2%
☐ 3%
☐ 5%

P Sensor Output

- | | | | |
|--------------------------------|-------------------------------|-------------------------------|-------------------------------|
| ☐ 0-1V | ☐ 0-10V | ☐ 1-0V | ☐ 10-0V |
| ☐ 0-5V | ☐ 2-10V | ☐ 5-0V | ☐ 10-2V |
| ☐ 0-5-4.5V | ☐ 0-20 mA | ☐ 4.5V-5V | ☐ 20-0 mA |
| ☐ 1-5V | ☐ 4-20 mA | ☐ 5-1V | ☐ 20-4 mA |
| ☐ None | | | |

Q Setpoint Range

- | | | | | |
|---------------------------|----------------------------|--------------------------------|-------------------------------|-------------------------------|
| ☐ 400 | ☐ 5K | ☐ 100K | ☐ 1-5V | ☐ 4-20 mA |
| ☐ 1K | ☐ 8.5K | ☐ 0-1V | ☐ 0-10V | ☐ None |
| ☐ 2K | ☐ 10K | ☐ 0-5V | ☐ 0-20V | |
| ☐ 3K | ☐ 20K | ☐ 0.5-4.5V | ☐ 0-20 mA | |

R Setpoint Offset

- | | | |
|---------------------------|-----------------------------|-----------------------------|
| ☐ 0 | ☐ 2.05K | ☐ 10K |
| ☐ 800 | ☐ 4.75K | ☐ 4K |
| ☐ 900 | ☐ 6.2K | ☐ 2.49K |
| ☐ 1K | ☐ 7.8K | ☐ None |

S Pot Action

- ☐ NA (None)
☐ DA (Direct)
☐ RA (Reverse)

T Setpoint Midpoint

- | | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------------------------|
| ☐ 33 | ☐ 39 | ☐ 45 | ☐ 51 | ☐ 57 | ☐ 63 |
| ☐ 34 | ☐ 40 | ☐ 46 | ☐ 52 | ☐ 58 | ☐ 64 |
| ☐ 35 | ☐ 41 | ☐ 47 | ☐ 53 | ☐ 59 | ☐ 65 |
| ☐ 36 | ☐ 42 | ☐ 48 | ☐ 54 | ☐ 60 | ☐ 66 |
| ☐ 37 | ☐ 43 | ☐ 49 | ☐ 55 | ☐ 61 | ☐ 67 |
| ☐ 38 | ☐ 44 | ☐ 50 | ☐ 56 | ☐ 62 | ☐ None |

U Setpoint Range

- | | | | |
|--------------------------------|----------------------------------|----------------------------------|----------------------------------|
| ☐ -0 to +0 | ☐ -6 to +6 | ☐ -12 to +12 | ☐ -18 to +18 |
| ☐ -1 to +1 | ☐ -7 to +7 | ☐ -13 to +13 | ☐ -19 to +19 |
| ☐ -2 to +2 | ☐ -8 to +8 | ☐ -14 to +14 | ☐ -20 to +20 |
| ☐ -3 to +3 | ☐ -9 to +9 | ☐ -15 to +15 | ☐ None |
| ☐ -4 to +4 | ☐ -10 to +10 | ☐ -16 to +16 | |
| ☐ -5 to +5 | ☐ -11 to +11 | ☐ -17 to +17 | |

V Display

- ☐ RH (%)
☐ Offset (+/-)
☐ RH/Setpoint