



5 Button Membrane



4 Button Membrane

TUCH2

Microprocessor Based Sensor (Resistive Temp / Analog RH)

The A/TUCH2 Series is a customizable sensor that utilizes an on-board microprocessor and capacitive sensing element with built in hygroscopic filter designed to protect the RH sensor from moisture and chemicals while delivering a resistive temperature and a proportional analog RH Output signal. This series includes a large backlit LCD Display which can be used to monitor your space temperature, relative humidity, set points, override and local system status when using the Override Feedback option. These units are factory configured to your desired specifications to reduce onsite programming. Additional features can be modified using the integral keypad and internal menu system, providing you with the flexibility required to meet your customers additional requests. These features include additional Set Point configurations, Backlight Display brightness and functionality, Set Point Lockout, Direct and Reverse Acting

Configurations, please contact ACI for more information.

Applications: Schools and Universities, Office Buildings, Commercial Buildings, Labs, Hospitals, Clean Rooms, Pharmaceutical, Process Control, OEM's

The ACI 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 website, www.workaci.com.

PRODUCT SPECIFICATIONS

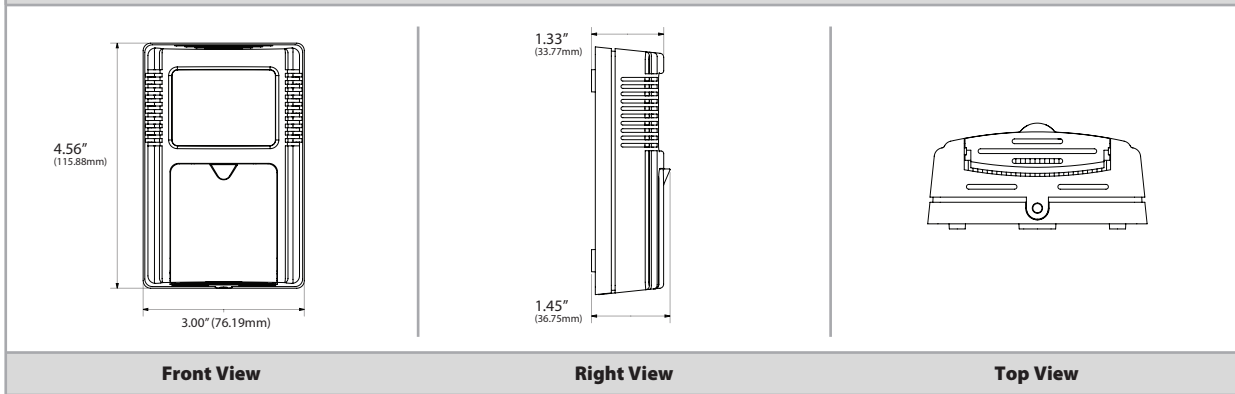
Supply Voltage:	20-28 VAC / +12-40 VDC (Resistive Temp, 0-1V, 0-5V, 1-5 VDC RH Outputs) 20-28 VAC / +18-40 VDC (Resistive Temp, 0-10V, 2-10V, 0-20 mA, and 4-20 mA RH Output Signals)
Supply Current (Maximum):	Resistive / Current RH Output: 60 mA; Resistive / Voltage RH Output: 16 mA
Temperature Sensor Type 1:	NTC Thermistor's (Single Sensor Technology); PTC RTD's (Dual Sensor Technology)
Temperature Sensor Type:	NTC Thermistor Types: See Ordering Grid PTC RTD Types: See Ordering Grid
Temperature Measurement Range:	40 to 104°F (4.5 to 40°C)
RH Measurement Range:	0 to 100% RH
Analog Outputs (RH/RH Set Point):	0-1V, 0-5V, 1-5V, 0-10V, 2-10V, 0-20 mA, 4-20 mA, 20-4 mA, 20 to 0 mA (Specify when ordering)
Temperature Accuracy:	+/- 1°F (+/- 0.5°C) (Rounded to nearest 0.5°F/°C)
RH Accuracy @ 77°F (25°C):	+/- 2%, +/- 3% or +/- 5% RH from 10 to 95% RH (Dependent on Model)
Set Point Accuracy:	+/- 5% Full Scale Output; +/- 2% of FS for all VDC/mA Outputs
Set Point Midpoint (Room Temp/RH Set Point):	Select single point Temp from 55 to 89°F (14 to 31°C) and/or RH from 33 to 67%
Set Point Differential (Scale Above/Below Midpoint):	Select single point from +/- 1 to +/- 20° and/or +/- 1 to +/- 20% RH
"After Hours" Override Contact Style (Optional):	Normally-Open (N/O) Short Sensor (Default); Optional Dry Contact or Short Set Point
Override Contact Resistance Life Expectancy:	< 30 Ohms 500,000 Actuations minimum
Override Feedback Signal:	Dry Contact (Logic Low) or 5-30 VDC / 24 VAC (Logic High) (Specify when Ordering)
LCD Backlight Color LCD Backlight Function:	Blue Turns on w/ Button Press (Default); Field adjustable (ALWAYS ON or OFF)
Display Mean Time Between Failure (MTBF):	100,000 Hours Typical (When LCD Backlight set to ALWAYS ON)
Display Viewing Angle Numeral Height:	12 O'Clock Large: 0.600" (15.24 mm); Small: 0.280" (7.11 mm)
LCD Display Descriptors:	°F, °C, % RH, Set Point, Occupied/Unoccupied (Override Feedback)
Communication Jacks (Optional):	RJ4 (4 Pin 4 Cond (RJ9, RJ10, RJ22 Phone)), RJ6 (6 Pin 6 Cond (RJ12 Phone)) and RS232 (1/8" (3.5 mm) Stereo Jack)
Power / Output Connections Communication Jack:	12 Position Screw Terminal Block 26 AWG Flying Leads with Wire Nuts
Terminal Block Wire Size UL (SEL) Torque Rating:	Accepts 28 to 14 AWG (0.08 to 2.5 mm ²) 4.4 lb-in (0.5 Nm)
Enclosure Material Color:	ABS/Polycarbonate Blend White
Enclosure Flammability Rating:	UL 94-5VB
Operating Temperature / Storage Temperature:	40 to 104°F (4.5 to 40°C) -4 to 158°F (-20 to 70°C)
Operating Humidity Storage Humidity:	5 to 90% RH, non-condensing
Product Dimensions (H x W x D)	4.56" (11.59 cm) x 3.00" (7.62 cm) x 1.26" (3.20 cm)
Product Weight:	0.35 lbs (0.162 kg)
Agency Approvals:	CE (EMC 2014/30/EU); RoHS2 2011/65/EU

Note 1: Power must be applied to the single sensor version of this unit that includes an NTC Thermistor Output signal





DIMENSIONAL DRAWING



TEMPERATURE ORDERING OPTIONS

Model # Example: TUCH2 CP F1
A. B. C.

MODEL #

<p>A. Sensor Series <i>No Selection Required</i></p>	<p>TUC2 →</p>	<p>TUCH2</p>
<p>B. Temp Output Sensor Type <i>Select One (1)</i></p>	<p>NTC Thermistors: 18 = 1.8K Ohms @ 77°F (25°C) 3K = 3K Ohms @ 77°F (25°C) 20 = 20K Ohms @ 77°F (25°C) AS = 3K Ohms @ 77°F (25°C) (3K-ASI) AN = 10K Ohms (Type III) @ 77°F (25°C) (10K-AN) BC = 10K Ohms (Type III) w/ 11K Shunt (5.238K @ 77°F (25°C)) (10K-AN-BC) CP = 10K Ohms (Type II) @ 77°F (25°C) (10K-CP) CS = 10K Ohms @ 77°F (25°C) (10K-CSI) KS = 10K Ohms @ 77°F (25°C) (10KS)</p> <hr/> <p>PTC RTD's: 1K = 1K Ohms @ 32°F (0°C); Class A Platinum RTD; 385 TC NI = 1000 Ohms @ 70°F (21.1°C); Nickel RTD; 6370 TC (1000-NI) 35 = 1035 Ohms @ 77°F (25°C); Silicon Sensor; +/- 3% from 40 to 104°F</p>	
<p>C. Temperature Scale <i>Select One (1)</i></p>	<p>F1 = 40 to 104°F C1 = 4.5 to 40°C</p>	





TEMPERATURE ORDERING OPTIONS <i>continued</i>		Model # Example: 1H ZW S H 2 16 <small>D. E. F. G. H. L.</small>	MODEL #																											
<p>D. Set Point Temperature Scale: Select One (1)</p> <p><i>See Specifications for more details regarding Midpoint/Differential set point specifications available)</i></p>	<p>XX = No Set Point</p> <hr/> <p>Centigrade: 1A = 6 to 30 (Midpoint = 18, Set Point Differential = +/- 12) 1B = 10 to 30 (Midpoint = 20, Set Point Differential = +/- 10) 1C = 15 to 31 (Midpoint = 23, Set Point Differential = +/- 8) 1D = 18 to 28 (Midpoint = 23, Set Point Differential = +/- 5)</p> <hr/> <p>Fahrenheit: 1E = 50 to 90 (Midpoint = 70, Set Point Differential = +/- 20) 1F = 55 to 85 (Midpoint = 70, Set Point Differential = +/- 15) 1G = 55 to 95 (Midpoint = 75, Set Point Differential = +/- 20) 1H = 60 to 80 (Midpoint = 70, Set Point Differential = +/- 10) 1I = 62 to 82 (Midpoint = 72, Set Point Differential = +/- 10) 1J = 65 to 75 (Midpoint = 70, Set Point Differential = +/- 5) 1K = 67 to 73 (Midpoint = 70, Set Point Differential = +/- 3) 1L = 67 to 77 (Midpoint = 72, Set Point Differential = +/- 5) 1M = 68 to 72 (Midpoint = 70, Set Point Differential = +/- 2) 1N = 68 to 76 (Midpoint = 72, Set Point Differential = +/- 4) 1O = 68 to 78 (Midpoint = 73, Set Point Differential = +/- 5)</p> <hr/> <p>Custom = Specify (Midpoint = ??, Set Point Differential = +/- ??)</p>																													
<p>E. Set Point Temperature Scale: Select One (1)</p> <p><i>See Specifications for more details regarding Midpoint/Differential set point specifications available)</i></p>	<table border="0"> <tr> <td>XX = No Set Point</td> <td>ZZ = 0 to 1.5K Ohms</td> <td>ZN = 3890 to 6110 Ohms</td> </tr> <tr> <td>A0 = 0 to 1 VDC</td> <td>ZY = 0 to 10K Ohms</td> <td>ZM = 4550 to 6650 Ohms</td> </tr> <tr> <td>B0 = 0 to 5 VDC</td> <td>ZW = 0 to 20K Ohms</td> <td>ZL = 5K to 15K Ohms</td> </tr> <tr> <td>C0 = 0 to 10 VDC</td> <td>ZT = 0 to 100K Ohms</td> <td>ZK = 7.8K to 27.8K Ohms</td> </tr> <tr> <td>D0 = 1 to 5 VDC</td> <td>ZS = 100 to 6500 Ohms</td> <td>ZJ = 9577 to 1421 Ohms</td> </tr> <tr> <td>E0 = 2 to 10 VDC</td> <td>ZR = 333 to 1695 Ohms</td> <td>ZI = 9843 to 1290 Ohms</td> </tr> <tr> <td>F0 = 0 to 20 mA</td> <td>ZQ = 866 to 1290 Ohms</td> <td>ZH = 10K to 30K Ohms</td> </tr> <tr> <td>G0 = 4 to 20 mA</td> <td>ZP = 889 to 111 Ohms</td> <td>ZG = 10K to 20K Ohms</td> </tr> <tr> <td></td> <td>ZO = 1089 to 879 Ohms</td> <td>ZF = 2.49K to 3.49K Ohms</td> </tr> </table>			XX = No Set Point	ZZ = 0 to 1.5K Ohms	ZN = 3890 to 6110 Ohms	A0 = 0 to 1 VDC	ZY = 0 to 10K Ohms	ZM = 4550 to 6650 Ohms	B0 = 0 to 5 VDC	ZW = 0 to 20K Ohms	ZL = 5K to 15K Ohms	C0 = 0 to 10 VDC	ZT = 0 to 100K Ohms	ZK = 7.8K to 27.8K Ohms	D0 = 1 to 5 VDC	ZS = 100 to 6500 Ohms	ZJ = 9577 to 1421 Ohms	E0 = 2 to 10 VDC	ZR = 333 to 1695 Ohms	ZI = 9843 to 1290 Ohms	F0 = 0 to 20 mA	ZQ = 866 to 1290 Ohms	ZH = 10K to 30K Ohms	G0 = 4 to 20 mA	ZP = 889 to 111 Ohms	ZG = 10K to 20K Ohms		ZO = 1089 to 879 Ohms	ZF = 2.49K to 3.49K Ohms
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<p>F. "After Hours" Override Options: Select One (1)</p>	<p>X = No Override S = Short Sensor C = Dry Contact/Logic Low P = Short Set Point</p>																													
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<p>H. RH Measurement Accuracy: Select One (1)</p>	<p>2 = +/- 2% RH 3 = +/- 3% RH</p>																													
<p>I. RH Output Signal: Select One (1)</p>	<p>01 = 0 to 1 VDC 02 = 20 to 0 mA 04 = 1 to 5 VDC 05 = 0 to 5 VDC 08 = 2 to 10 VDC 10 = 0 to 10 VDC 16 = 4 to 20 mA 20 = 0 to 20 mA 61 = 20 to 4 mA</p>																													





TEMPERATURE ORDERING OPTIONS <i>continued</i>		Model # Example: M6 G0 X X <small>J. K. L. M.</small>	MODEL #
J. RH Set Point Scale: <i>Select One (1)</i>	<p>M1 = 13 to 53% (Midpoint = 33, Set Point Differential = +/- 20) M2 = 32 to 38% (Midpoint = 35, Set Point Differential = +/- 3) M3 = 30 to 40% (Midpoint = 35, Set Point Differential = +/- 5) M4 = 25 to 55% (Midpoint = 40, Set Point Differential = +/- 15) M5 = 20 to 60% (Midpoint = 40, Set Point Differential = +/- 20) M6 = 35 to 55% (Midpoint = 45, Set Point Differential = +/- 10) M7 = 25 to 65% (Midpoint = 45, Set Point Differential = +/- 20) M8 = 45 to 51% (Midpoint = 48, Set Point Differential = +/- 3) M9 = 48 to 52% (Midpoint = 50, Set Point Differential = +/- 2) N1 = 46 to 54% (Midpoint = 50, Set Point Differential = +/- 4) N2 = 40 to 60% (Midpoint = 50, Set Point Differential = +/- 10) N3 = 35 to 65% (Midpoint = 50, Set Point Differential = +/- 15) N4 = 30 to 70% (Midpoint = 50, Set Point Differential = +/- 20) N5 = 35 to 75% (Midpoint = 55, Set Point Differential = +/- 20) N6 = 40 to 80% (Midpoint = 60, Set Point Differential = +/- 20) N7 = 45 to 79% (Midpoint = 62, Set Point Differential = +/- 17) N8 = 48 to 83% (Midpoint = 65, Set Point Differential = +/- 18) N9 = 57 to 77% (Midpoint = 67, Set Point Differential = +/- 10) O1 = 47 to 87% (Midpoint = 67, Set Point Differential = +/- 20)</p>		
K. RH Set Point Output Signal: <i>Select One (1)</i>	<p>XX = No RH Set Point E0 = 2 to 10 VDC ZW = 0 to 20K Ohms A0 = 0 to 1 VDC F0 = 0 to 20 mA ZH = 10K to 30K Ohms B0 = 0 to 5 VDC G0 = 4 to 20 mA ZG = 10K to 20K Ohms C0 = 0 to 10 VDC ZY = 0 to 10K Ohms ZF = 2.49K to 3.49K Ohms D0 = 1 to 5 VDC</p>		
L. Communication Jack Options: <i>Select One (1)</i>	<p>X = None 4 = 4 Pin 4 Conductor RJ9, RJ10, or RJ22 Style Head Set Modular Connector 6 = 6 Pin 6 Conductor RJ12 Modular Phone Connector 8 = 3.5mm (1/8") Stereo Jack</p>		
M. Manufacturer Provided <i>No Selection Required</i>	<p>X = Default →</p>		X

