TUCH2

Microprocessor Based Sensor (Analog RH & Temp)

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 an analog 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 any additional requests. These features include additional Temperature, RH and Set Point configurations, Display brightness and functionality, Set Point Lockout, Direct and Reverse Acting Output adjustments for temp, RH and set points outputs, temperature and humidity offsets, test functions and more. For additional features including Fan Speed and System Configurations, please contact ACI for more information.

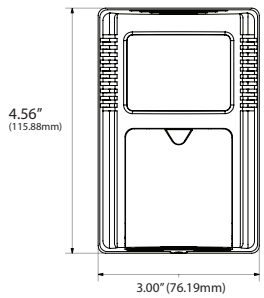
Applications: Schools and Universities, Office Buildings, Commercial Buildings, Labs, Hospitals, Clean Rooms, Pharmaceutical, Process Control, OEM's

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.

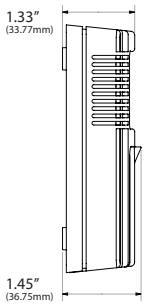
PRODUCT SPECIFICATIONS

Supply Voltage:	20-28 VAC / +12-40 VDC (0-1V, 0-5V, 1-5 VDC Output Signals) 20-28 VAC / +18-40 VDC (0-10V, 2-10V, 0-20 mA, and 4-20 mA Output Signals)
Supply Current:	Current Outputs: 100 mA maximum; Voltage Outputs: 16 mA maximum
Temperature Measurement Range:	40 to 100ºF, 40 to 90ºF, 50 to 90ºF, 50 to 100ºF, 55 to 85ºF (Others available) 4.5 to 40ºC, 4.5 to 32ºC, 10 to 32ºC, 10 to 35ºC, 13 to 32ºC (Others available)
RH Measurement Range:	0 to 100% RH
Analog Outputs (Temperature/Temp Set Point):	0-1V, 0-5V, 1-5V, 0-10V, 2-10V, 0-20 mA, 4-20 mA
Analog Outputs (RH/RH Set Point):	0-1V, 0-5V, 1-5V, 0-10V, 2-10V, 0-20 mA, 4-20 mA
Temperature Accuracy:	+/- 1ºF (+/- 0.5ºC) (Rounded to nearest 0.5ºF/ºC)
RH Accuracy @ 77ºF (25ºC):	+/- 2%, +/- 3% or +/- 5% RH from 10 to 95% RH (Dependent on Model Ordered)
Set Point Accuracy:	+/- 2% Full Scale (VDC/mA Outputs), +/- 5% Full Scall (All resistive outputs)
Set Point Midpoint (Room Temp/RH Set Point):	Select single point Temp from 55 to 89ºF (14 to 31ºC) and/or RH from 33 to 67%
Set Point Differential (Scale Above/Below Midpoint):	Select single point from +/- 1 to +/- 20º and/or +/- 1 to +/- 20% RH
"After Hours" Override Contact Style (Optional):	Normally-Open (N/O) Dry Contact Closure (See Ordering Grid for other Options)
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 Numeral Height:	0.600" (15.24 mm) (Large); 0.280" (7.11 mm) (Small)
LCD Display Descriptors:	ºF, ºC, % RH, Occupied / Unoccupied (Override Feedback), Set Point
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 Blocks | 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 mm²) | 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 104ºF (4.5 to 40ºC) | -4 to 158ºF (-20 to 70ºC)
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

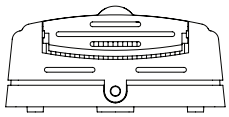
DIMENSIONAL DRAWING



Front View



Right View



Top View

TEMPERATURE ORDERING OPTIONS

Model # Example: TUCH2 (A.) – 16 (B.) F2 (C.) 1L (D.)

MODEL

		MODEL #
A. Sensor Series *No Selection Required*	**TUCH2** →	**TUCH2**
B. Temp Output Signal *Select One (1)* *Output Signal can be Reversed in field using integral menu system*	**VDC Output:** **01** = 0 to 1 VDC **04** = 1 to 5 VDC **05** = 0 to 5 VDC **08** = 2 to 10 VDC **10** = 0 to 10 VDC **mA Output:** **16** = 4 to 20 mA **20** = 0 to 20 mA	
C. Analog Output Temperature Scale: *Select One (1)*	**F2** = 40 to 90ºF **F3** = 40 to 100ºF **F4** = 50 to 90ºF **F5** = 50 to 100ºF **F6** = 55 to 85ºF **C1** = 4.5 to 40ºC **C2** = 4.5 to 32ºC **C3** = 10 to 32ºC **C4** = 10 to 35ºC **C5** = 13 to 29.5ºC **C6** = 13 to 32ºC	
D. Set Point Temperature Scale: *Select One (1)* *See Specifications for more details regarding Midpoint/Differential set point specifications available)*	**XX** = No Set Point **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) **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) **Custom** = Specify (Midpoint = ??, Set Point Differential = +/- ??)	

TEMPERATURE ORDERING OPTIONS *continued*

Model # Example: G0 (E.) X (F.) X (G.) – 2 (H.) 16 (I.) N2 (J.) G0 (K.) X (L.) X (M.)

		MODEL #
E. Set Point Temperature Output: *Select One (1)* *See Specifications for more details regarding Midpoint/Differential set point specifications available)*	**XX** = No Set Point **A0** = 0 to 1 VDC **B0** = 0 to 5 VDC **C0** = 0 to 10 VDC **D0** = 1 to 5 VDC **E0** = 2 to 10 VDC **F0** = 0 to 20 mA **G0** = 4 to 20 mA **ZZ** = 0 to 1.5K Ohms **ZY** = 0 to 10K Ohms **ZW** = 0 to 20K Ohms **ZT** = 0 to 100K Ohms **ZS** = 100 to 6500 Ohms **ZR** = 333 to 1695 Ohms **ZQ** = 866 to 1290 Ohms **ZP** = 889 to 111 Ohms **ZO** = 1089 to 879 Ohms **ZN** = 3890 to 6110 Ohms **ZM** = 4550 to 6650 Ohms **ZL** = 5K to 15K Ohms **ZK** = 7.8K to 27.8K Ohms **ZJ** = 9577 to 1421 Ohms **ZI** = 9843 to 1290 Ohms **ZH** = 10K to 30K Ohms **ZG** = 10K to 20K Ohms **ZF** = 2.49K to 3.49K Ohms	
F. "After Hours" Override Options: *Select One (1)*	**X** = No Override | **S** = Short Sensor | **C** = Dry Contact/Logic Low | **P** = Short Set Point	
G. Override Feedback Options: *Select One (1)*	**X** = None | **L** = Dry Contact / Logic Low | **H =** Logic High / 24 VAC or 5 to 30 VDC	
H. RH Measurement Accuracy: *Select One (1)*	**2** = +/- 2% RH | **3** = +/- 3% RH	
I. RH Output Signal: *Select One (1)*	**01** = 0 to 1 VDC | **02** = 20 to 0 mA | **04** = 1 to 5 VDC | **05** = 0 to 5 VD**C** | **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	
J. RH Set Point Scale: *Select One (1)*	**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) **XX** = No Set Point	
K. RH Set Point Output Signal: *Select One (1)*	**XX** = No RH Set Point **A0** = 0 to 1 VDC **B0** = 0 to 5 VDC **C0** = 0 to 10 VDC **D0** = 1 to 5 VDC **E0** = 2 to 10 VDC **F0** = 0 to 20 mA **G0** = 4 to 20 mA **ZY** = 0 to 10K Ohms **ZW** = 0 to 20K Ohms **ZH** = 10K to 30K Ohms **ZG** = 10K to 20K Ohms **ZF** = 2.49K to 3.49K Ohms	
L. Communication Jack Options: *Select One (1)*	**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	
M. Manufacturer Provided *No Selection Required*	**X** = Default ⟶	**X**

ACCESSORIES ORDERING

Model # Example: A/LOCKING COVER -OR- 10370

Model #	Item #	Description
A/MOUNT PLATE W	126386	Wall Mounting Back Plate, Plastic, White
A/LOCKING COVER	107370	Clear Thermostat Guard, Locking Cover, Low Profile