



## Sensing for Building Applications

Honeywell's complete line of sensor's cover all necessary control applications and mounting options, making Honeywell your best sensor source.

### Temperature Sensors

You can count on Honeywell temperature sensors for the latest technology, accurate performance and reliability. Honeywell temperature sensors feature solid-state components and are impervious to dust and dirt. They cover a variety of applications that will fit your needs from averaging, immersion and outdoor sensors to duct-mount, wall mount and strap-on sensors.



### Current Sensors And Switches

Honeywell current switches can detect whether current is flowing and then transmit the status to a building management system, DDC or PLC controller. Honeywell current transmitters measure the level of operating current and can be used to monitor equipment or drive other equipment with a modulating output. Both current switches and transmitters can be used to detect a motor failure, belt loss or slippage, or a mechanical failure to help prevent further damage and reduce downtime. Because Honeywell current sensors are rated at up to 250 amps, you can meet high-amp applications without the need for a transformer. And Honeywell offers current switches with a very low trip point of 0.20 amps.



### Humidity Sensors

Highly accurate, stable humidity transducers designed for use with HVAC controllers, thermostats and direct digital controllers, Honeywell humidity sensors feature a ceramic technology that's affected by condensation. Applications include room comfort, rooftop units, air handlers, air conditioning and anywhere relative humidity is tightly controlled.



### Dew Point Sensors

Suitable for mounting on flat and round surfaces, the Honeywell dew point sensor is used to regulate cooling performance, switch cooling systems ON and OFF, and signal if the temperature is approaching the dew point.



### CO<sub>2</sub> Sensors

The Honeywell CO<sub>2</sub> sensor includes state-of-the-art non-dispersive infrared (NDIR) technology plus a corrosion-free-designed sensing chamber that provides accurate and stable CO<sub>2</sub> readings for years, avoiding costly and inconvenient re-calibration. A patented gold-plated sensing chamber eliminates a primary source of dirt. Paired with a Honeywell economizer, the Honeywell CO<sub>2</sub> sensor can triple year-round savings over "cooling only" economizing. The sensor is used in demand control ventilation applications to maintain acceptable levels of CO<sub>2</sub> in the space.



### Differential Pressure Sensors

All Honeywell differential pressure sensors offer field selectable 4-20 mA, 0-5 Vdc and 0-10 Vdc outputs, uni- and bi-directional outputs, push button and digital inputs to zero the output, and configurable pressure ranges. Use P7640 dry media sensors in applications where you want measure extremely low pressure, such as clean rooms, hospitals, fume hoods and computer rooms. Use the PWT Series to monitor and control pump differential pressure, chiller/boiler differential pressure drop and CW/HW system differential pressure.



### Enthalpy Sensors

Honeywell enthalpy sensors are used with Honeywell economizer logic modules to permit the use of outdoor air as the first stage of cooling in HVAC systems. The long-lasting solid-state sensing elements are accurate and stable over time. Maximum economizer savings are achieved when two enthalpy sensors are connected to one economizer logic module for differential enthalpy changeover control.



### Specify Honeywell Sensors And Save

Honeywell sensors have always been competitively priced, and today Honeywell sensors continue to be one of the industry's best values. Add in the fact that their ease-of-installation increases your productivity and you'll see that Honeywell sensors are the smart, cost-effective choice.

## CONTROLLER SPECIFIC TEMPERATURE SENSORS

	Part Number	Sensor Type		Description
		Temp	Humidity	
Spyder Sylk Enhanced	TR70	✓		Customizable, 2-wire, non-polarity sensitive, Sylk bus communicating wall module with network bus jack and LCD panel.
	TR70-H	✓	✓	

	Model Number	Sensor Type		Selectable Setpoint Adjustment 55° to 85°F, 13° to 30°C or Relative (- to +)	Occupied Override	Comments
	Honeywell TR20 Wireless Sensor	Temp	Humidity			
Controllers and Thermostats*	TR21-WK	✓				Includes one prebound sensor and receiver.
	TR21-WKU	✓				Includes one prebound sensor and receiver. No Honeywell logo.
	TR23-WK	✓		✓	✓	Includes one prebound sensor and receiver.
	TR23-WKU	✓		✓	✓	Includes one prebound sensor and receiver. No Honeywell logo.
	TR21-WS	✓				Sensor only. For replacement. Requires a wireless receiver.
	TR23-WS	✓		✓	✓	
	WRECVR					Wireless receiver only. For replacement. Requires a wireless sensor.

\* Compatible controllers include Spyder, Excel 10, W7750, W7751, W7752, W7753 and non-Honeywell controllers with remote setpoint. Compatible thermostats include T7350, T7351, TB8575 thermostats and non-Honeywell thermostats with remote setpoint.

	Model Number		Sensor Element Type	Sensor Type		Selectable Setpoint Adjustment 55° to 85°F, 13° to 30°C or Relative (- to +)	Occupied Override	LON Jack	Fan Switching	Comments	
	Honeywell Wall Module Model	Replaces Honeywell Model		Temp	Humidity						
Excel 10, 15, 50, 100, 500, Spyder, T7350	TR21	T7770A1006	20K ohms non-linear	✓							
	TR21-A	T7770A3002		10K ohms non-linear for averaging only	✓						
	TR21-H	N/A		✓	✓			✓			
	TR21-J	T7770A2004		✓				✓			
	TR22	T7770B1004 T7770B1020 T7770B1046		✓		✓		✓			
	TR23	T7770C1002 T7770C1028 T7770C1044		✓		✓		✓	✓		
	TR23-H	N/A		✓	✓	✓		✓	✓		
	TR23-KL	N/A		✓		✓		✓	✓	Knobs not included	
	TR23-H-KL	N/A		✓	✓	✓		✓	✓		
	TR23-N	T7770C1051		✓		✓		✓	✓	No Honeywell logo	
	TR24	T7770D1000		✓		✓		✓	✓		
	TR22-F5	N/A		✓		✓		✓	✓	5 position	
	TR23-F3	T7770E1023		✓		✓		✓	✓	3 position	Not for use with T7350
	TR23-F5	T7770F1005		✓		✓		✓	✓	5 position	
	C7772A1004	N/A		✓						No Honeywell logo	
C7772A1012	N/A	✓						With Honeywell logo			
XL 10	T7560A1018	N/A	✓		✓	✓	Optional	Yes	LCD Display/white and blue		
	T7560A1042	N/A	✓		✓	✓			LCD Display/all white		
	T7560B1016	N/A	✓	✓	✓	✓			LCD Display/white and blue		
	T7560B1032	N/A	✓	✓	✓	✓			LCD Display/all white		
KNOB-C	N/A	N/A	N/A	N/A	For use on TR23	N/A	N/A	N/A	Replacement Knob (C°)		
KNOB-F	N/A	N/A	N/A	N/A	For use on TR23	N/A	N/A	N/A	Replacement Knob (F°)		
KNOB-O	N/A	N/A	N/A	N/A	For use on TR23	N/A	N/A	N/A	Replacement Knob +/-		

## CONTROLLER SPECIFIC TEMPERATURE SENSORS

	Part Number	Sensing Element/Sensor Type	Color/Mounting	Features
T7300 Applications	T7047C2007	1420 ohms	Taupe, new styling	Averaging only  Override Override, warmer, cooler Override, warmer, cooler, averaging only
	T7047C2015		Premier white, new styling	
	T7047G2008	710 ohms	Taupe, new styling	
	T7047G2016		Premier white, new styling	
	T7147A2000	1420 ohms	Taupe, new styling	
	T7147A2018			
	T7147G2023	710 ohms		
	T7022A1010	1420 ohms	Duct mount	
	C7031G2014 <sup>a</sup>	PT3000	Outdoor mount	

<sup>a</sup>For use with T7350 applications.

	Part Number	Sensing Element	Description	Temperature Range	Use With
T775	50021579-001	1097 ohms at 77° F	Standard temperature probe	-40° to 350° F (-40° to 177° C)	All T775 Series 2000 models
	T775-SENS-WR		Water-resistant probe with 5-ft. leads	-40° to 270° F (-40° to 132° C)	
	T775-SENS-WT		Water-tight probe with 6-ft. leads		
	T775-SENS-OAT		Outdoor air temperature sensor	-40° to 158° F (-40° to 70° C)	
	T775-SENS-STRAP		Strap-on	-40° to 250° F (-40° to 121° C)	
	C7031D2003	1097 ohms at 77° F	5-in. immersion sensor with wiring box (well included, 50001774-001)	-40° to 350° F (4° to 177° C)	
	C7031B2005		6-in duct with wiring box	-40° to 250° F (-40° to 121° C)	
	C7031J2009		12-in. duct averaging sensor with four elements with wiring box	40° to 180° F (4° to 82° C)	
	C7046D1008		8-in. duct probe with mounting flange	40° to 150° F (4° to 66° C)	
	C7100D1001		12-in. flat response, duct averaging sensor with flange	40° to 220° F (4° to 104° C)	
	C7130B1009		Room mount sensor	-40° to 100° F (-40° to 38° C)	
	C7170B1000		3/8-in. diameter temperature probe	-40° to 250° F (-40° to 121° C)	



T775-SENS-OAT



T775-SENS-WR



T775-SENS-WT



50021579-001



T775-SENS-STRAP

## GENERAL TEMPERATURE SENSORS

	Part Number	Sensing Element	Temperature Range	Insertion Length	Type	Mounting & Application
Analog Economizer	C7150B1004	3K ohms NTC at 77° F	-40° to 110° F (-40° to 43° C)	N/A	Duct - Temp Sensor	Mixed or discharge air sensor
	C7660A1000	4 - 20 mA	-40° to 149° F (-40° to 65° C)	N/A		Dry-bulb temperature sensor
	C7046A1004	3K ohms NTC at 77° F	40° to 150° F (4° to 66° C)	8 in.		Mixed or discharge air sensor
	C7046A1038	3K ohms NTC at 77° F	40° to 150° F (4° to 66° C)	12 in.	Duct - Enthalpy Sensor	Outdoor or return air sensor
	C7400A2001	4 - 20 mA	-40° to 150° F (-40° to 66° C)	NA*		
Communicating Economizer	C7400S1000	S-bus Temperature & Humidity	-40° to 150° F (-40° to 66° C)	N/A*	Duct - Temp Sensor	Outdoor, return, discharge air sensor
	C7250A1001	20K NTC	-40° to 150° F (-40° to 66° C)	N/A*	Duct - Temp Sensor	Outdoor, mixed dry bulb sensor
Other Temp Sensors	C7130A1001	3,484 ohms PTC at 77° F	-40° to 100° F (-40° to 38° C)	N/A		Wall mount
	C7130B1009	1,097 ohms PTC at 77° F	-40° to 100° F (-40° to 38° C)	N/A		Wall mount

\* May be used with Duct Mounting Kit- Part # 50053060-001

# GENERAL TEMPERATURE SENSORS



C7041B



C7041D



C7041J



C7041R



C7041F



C7041P



TB-WALL

	Part Number	Sensing Element	Resistance	Operating Range	Mounting and Application			
Duct Mount	C7021B2005	10K ohms NTC Type II	10K ohms NTC at 77°F	-40° to 250° F	6" duct w/wiring enclosure			
	C7021B2013				12" duct w/wiring enclosure			
	C7021C2003				18" duct w/wiring enclosure			
	C7021J2007				12' duct averaging w/wiring enclosure			
	C7021R2000				12' duct averaging flexible copper			
	C7021R2018				24' duct averaging flexible copper			
	C7776A1006				6" duct probe w/flange, 8.5 in stranded wire			
	C7776A1040				6" duct probe w/flange, 6 ft plenum cable			
	C7023B2005				10K ohms NTC Type III	10K ohms NTC at 77°F	-40° to 250° F	6" duct w/wiring enclosure
	C7023B2013							12" duct w/wiring enclosure
	C7023C2003	18" duct w/wiring enclosure						
	C7023J2007	12' duct averaging w/wiring enclosure						
	C7023R2000	12' duct averaging flexible copper						
	C7023R2018	24' duct averaging flexible copper						
	C7778A1006	6" duct probe w/flange						
	C7778A1040	6" duct probe w/flange, 6 ft plenum cable						
	C7041B2005	20K ohms NTC	20K ohms NTC at 77°F	-40° to 250° F				6" duct w/wiring enclosure
	C7041B2013							12" duct w/wiring enclosure
	C7041C2003				18" duct w/wiring enclosure			
	C7041J2007				12 ft. Duct (Averaging) w/wiring enclosure			
C7041R2000	12 ft. Duct flexible copper (Averaging)							
C7041R2018	24 ft. Duct flexible copper (Averaging)							
C7770A1006	6" duct probe w/flange							
C7770A1040	6" duct probe w/flange and 6 ft. plenum rated cable							
C7046D1008	PT1000				1,097K ohms PTC at 77°F	40° to 150° F	8" duct (Discharge probe w/flange)	
C7100D1001	PT3000				3,484K ohms PTC at 77°F	40° to 220° F	13" duct (Averaging)	
C7100A1015								
C7100C1003								
C7046A1004	3K ohms NTC	3K ohms NTC at 77°F	40° to 150° F	8" duct w/flange				
C7046A1038				12" duct w/flange				
C7046C1000				8" duct discharge w/flange				
C7150B1004				40° to 250° F	Duct (internal)			
C7046B1010	22.8K ohms NTC	22.8K ohms NTC at 77°F	40° to 150° F	6" Zone (Discharge w/flange)				
C7100B1013				13" duct (Averaging)				
Water	C7021D2001	10K ohms NTC Type II	10K ohms NTC at 77°F	-40° to 250° F	6" w/wiring enclosure, use well 50001774-001			
	C7021K2005				Strap-on pipe sensor with wiring enclosure			
	C7023D2001	10K ohms NTC Type III	10K ohms NTC at 77°F		6" w/wiring enclosure, use well 50001774-001			
	C7023K2005				Strap-on pipe sensor with wiring enclosure			
	C7041D2001	20K ohms NTC	20K ohms NTC at 77°F		6" w/wiring enclosure, use well 50001774-001			
C7041K2005	Strap-on with wiring enclosure							
Outdoor	C7021F2009	10K ohms NTC Type II	10K ohms NTC at 77°F	-40° to 158° F	Outdoor weatherproof, connects to 1/2" conduit			
	C7023F2009	10K ohms NTC Type III	10K ohms NTC at 77°F					
	C7041F2006	20K ohms NTC	20K ohms NTC at 77°F					
Wall Mount	C7772F1004	10K ohms NTC Type II	10K ohms NTC at 77°F	45° to 99° F	Flush wall mount, without logo			
	C7772F1012			45° to 99° F	Flush wall mount, with logo			
	C7021P2004			-40° to 250° F	Small metal button sensor			
	TB-WALL-1014			32° to 122° F	Wall sensor			
	TB-WALLOVR-1014			32° to 122° F	Wall sensor with override			
	C7772G1004			45° to 99° F	Flush wall mount, without logo			
	C7772G1012	10K ohms NTC Type III	10K ohms NTC at 77°F	45° to 99° F	Flush wall mount, with logo			
	C7023P2004			-40° to 250° F	Small metal button sensor			
	C7772A1004			20K ohms NTC	20K ohms NTC at 77°F	45° to 99° F	Flush wall mount/no logo	
	C7772A1012					45° to 99° F	Flush wall mount/with logo	
	C7041P2004					-40° to 250° F	Small metal button sensor	
	C7130B1009					PT1000	1,097 Ohms PTC at 77°F	-40° to 100° F
C7130A1001	PT3000	3,484 ohms PTC at 77°F	-40° to 250° F					
Water/Air	C7021N2001	10K ohms NTC Type II	10K ohms NTC at 77°F	-40° to 250° F	Probe Sensor with 6' Lead			
	C7023N2001	10K ohms NTC Type III						
	C7041N2020	20K ohms NTC						

**NOTE:** 20K ohms NTC sensors are used with Excel 10, 15, 50, 100 and 500. See controller product data sheets for details. PT1000 sensors are used with Excel 15, 100, 500, and 600. See controller product data sheets for details. PT3000 sensors are used on certain Excel and Microcell products. See controller product data sheets for details. 3K ohm NTC sensors are used on W7100, W7459, W7215, W7212 an dall economizer modules. 10K ohms NTC Type II sensors are used with TB7600, TB7300, and TB7600 Series communicating thermostats. 10K ohms NTC Type III sensors are used with WEBS-AX I/O Modules.

# CURRENT SENSORS



Solid Core

	Part Number	Description	Core Type	Normally Open or Normally Closed	Trip Point	Operating Range	Output Switch Rating	LEDs			
Current Switches	CSS-O-F5-001	"Go/No Go" current switch	Solid	N/O	0.5 A	0-250 A	0.3 A at 200 Vac/Vdc	Red			
	CSS-O-F1-001				0.2 A						
	CSS-C-F5-001			N/C	1.0 A						
	CSS-C-F1-001				0.5 A						
	CSS-O-A300-001	Adjustable current switch	Solid	N/O	1.0 A to 250 A	0-200 A	0.3 A at 200 Vac/Vdc	Red and green			
	CSS-O-A200-001				0.5 A to 250 A						
	CSP-O-F15-001	"Go/No Go" current switch	Split	N/O	2.5 A	0-250 A	0.15 A at 300 Vac/Vdc	Red			
	CSP-O-F10-001				1.5 A						
	CSP-O-A300-001	Adjustable current switch	Split	N/O	3.0 A to 200 A				0-200 A	0.3 A at 200 Vac/Vdc	Red and green
	CSP-O-A200-001				2.0 A to 200 A						
CSP-C-A200-001	N/C	2.5 A to 250 A	0-250 A	0.15 A at 300 Vac/Vdc							



Split Core

	Part Number	Description	Core Type	Output	Current Range	Type	Loop Powered	True RMS or average
Current Transmitters	CTS-20-250-AVG-001	Loop powered current sensor	Solid	4-20 mA	0-100, 0-200, 0-250 A	Adjustable	Yes	Average
	CTS-20-250-VFD-001				Split			0-100, 0-150, 0-200 A
	CTP-20-200-AVG-001		Solid					0-10, 0-20, 0-50 A
	CTP-20-050-VFD-001				0-10, 0-20, 0-50 A			True RMS
	CTS-05-050-VDC-001	Current sensors	Solid	0-5 Vdc	0-100, 0-200, 0-250 A		No	Average
	CTS-10-250-VDC-001			0-10 Vdc				

# HUMIDITY, DEW POINT, CO<sub>2</sub> and PRESSURE SENSORS



H7655B, H7625B, H7635B



C7600B, H7655A

Electronic Humidity Sensors, 0-100% RH (some with temperature sensors)							
Part Number	Output Signal	RH Accuracy	Mounting & Application	Voltage Supply	Temp Sensor	Use With	Insertion Length
H7625A2010	Selectable 4-20mA, 0-10Vdc, or 0-5Vdc	± 2% from 20-95% RH	Wall	18-40 VDC/ 18-28 VAC	20K ohm at 77° F	T7350, H775, XL50, XFC, W750B/C, W7753, W7760A/C, W7761	7.5" - "B" model only
H7625B2006			Duct				
H7626A2020			Wall				
H7626B2024			Duct				
H7635A2012		Wall	± 3% from 20-95% RH		20K ohm at 77° F	T7350, H775, XL50, XFC, W750B/C, W7753, W7760A/C, W7761	7.5" - "B" model only
H7635B2018		Duct					
H7635C2015		Outdoor					
H7636A2022		Wall					
H7636B2026		Duct					
H7656B2029							
H7655A1001	0-10 Vdc	5%	Wall	16-40 VDC/16-30 VAC	None	Any controller that accepts 0-10 Vdc input	
H7655B2014	Selectable 4-20mA, 0-10Vdc, or 0-5 Vdc	5%	Duct	18-40 VDC/18-28 VAC	20K ohm at 77° F	T7350, H775, XL50, XFC, W750B/C, W7753, W7760A/C, W7761	
C7600A2008	4-20 mA	5% between 30~70% RH	anywhere where it is exposed to freely circulating air	N/A	None	W7600 or controller requiring 4-20 mA reverse acting input	N/A
C7600B2008	2-10 Vdc	+/- 5 between 30-70% RH +/- 7 between 10-90% RH	Wall	16-40 VDC/16-30 VAC		H775 that accepts 2-10 Vdc output	N/A
C7600C2001	4-20 mA	5% between 30~70% RH	anywhere where it is exposed to freely circulating air	N/A		W7600 or controller requiring 4-20 mA reverse acting input	N/A



HSS-DPS

Dew Point Sensors			
Part Number	Output	Switch	Hysteresis
HSS-DPS	Potential-free relay with changeover contact	RH>90% ± 3% contact open; RH < 90% ± 3% closed	5% RH



C7232A1008



C7232B

Carbon Dioxide (CO <sub>2</sub> ) Sensors								
Part Number	Output Signal	Display Screen	Honeywell Logo	Mounting	CO <sub>2</sub> Range (accuracy)			
C7232A1008	0/2 to 10 Vdc or 0/4 to 20 mA w/ one adjustable SPST relay output	Yes	Yes	Wall	0 to 2,000 ppm adjustable, +/- 30 ppm +/- 2% of reading at normal temperature and pressure			
C7232A1016		No	Yes					
C7232A1024		Yes	No					
C7232A1032		No	No					
C7232B1006		Yes	Yes					
C7232B1014		No	Yes					
C7232B1022		Yes	No	Duct (8" insertion length)				
C7232B1030		No	No					
C7262A1008		Yes	Yes					
C7262A1016		No	Yes					
C7632A1004		0-10 Vdc (fixed)	No			Yes	TR20 Series Style Wall	0 to 2,000 ppm adjustable, +/- 30 ppm +/- 4.5% of reading at normal temperature and pressure
C7632B1002		0-10 Vdc (fixed)	No			Yes	Duct	0 to 2,000 ppm fixed

# HUMIDITY, DEW POINT, CO<sub>2</sub> and PRESSURE SENSORS (CONT.)



P7640B

P7640 Pressure Transducer Models					
Model	Mounting	Selectable W.C. Range	Display	Output	Supply Voltage
P7640A1000	Panel	0-.1", 0-.25", 0-.5", 0-1"	Yes	0-10 Vdc, 0-5 Vdc, and 4-20 mA selectable	12-30 Vdc or 24 Vac
P7640A1018			No		
P7640A1026			Yes		
P7640A1034			No		
P7640B1008	Duct	0-.1", 0-.25", 0-.5", 0-1"	Yes		
P7640B1016			No		
P7640B1024			Yes		
P7640B1032			No		
P7640U1040	Universal	0-.1", 0-.25", 0-.5", 0-1" 0-2.5", 0-5", 0-10"	No		
P7640U1052			Yes		



PWT250

PWT Series Wet Differential Pressure Transducers			
Model	Selectable Pressure Range	Output	Supply Voltage
PWT50	0-5, 0-10, 0-25, 0-50 psid	0-10Vdc, 0-5Vdc, and 4-20mA selectable	12-30Vdc or 24Vac
PWT100	0-10, 0-20, 0-50, 0-100 psid		
PWT250	0-25, 0-50, 0-125, 0-250 psid		

PWT-BV Bypass Valve (sold separately)



50035430

MLH Gauge Pressure Sensors				
Model	Pressure Range	Pressure Connection	Output	Excitation
MLH050PSCDJ1235	0-50 psig	1/4" -18 NPT	4-20mA	9.5 Vdc to 30 Vdc
MLH150PSCDJ1236	0-150 psig			
MLH300PSCDJ1237	0-300 psig			
MLH500PSCDJ1240	0-500 psig	1/4" SAE female Schrader		
MLH01KPSCDJ1241	0-1000 psig			

## Automation and Control Solutions

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# Honeywell

