

SENSING **FOR BUILDING** **APPLICATIONS.**

Sensor Selection Guide

Honeywell

PRECISION AND VERSATILITY YOU CAN RELY ON

Your source for every job: Honeywell sensors are built to work reliably and install easily, with options to cover all your control applications and mounting options.

TEMPERATURE SENSORS

Cover a variety of applications from averaging, outdoor and immersion sensors to duct-mount, strap-on and wall mount sensors



Feature solid-state components and are impervious to dust or dirt.

CURRENT SENSORS AND SWITCHES

Compatible with building management system, DDC, or PLC controllers



Facilitates proactive fault detection or fail-safe operation to minimize equipment down-time or associated cost

Variants for sensing current from 0.20 to 250 amps

Split core versions for simplified installation in existing applications

DIFFERENTIAL PRESSURE SENSORS

Field selectable pressure ranges

Analog voltage or current outputs



Velocity pick-up tubes for air flow measurement

Wet sensors for hydronic HVAC applications and differential pressure control

HUMIDITY SENSORS

Highly accurate, stable humidity transducers designed for use with HVAC controllers, thermostats and direct digital controllers (DDCs)



Ceramic technology allows sensors to recover fully from condensation, fog and high humidity

Applications include room comfort, rooftop units (RTUs), air handlers, air conditioning and anywhere where relative humidity is tightly controlled

CO2 SENSORS

CO2 sensors are used for demand control ventilation (DCV) to control the amount of fresh outdoor air supplied to a space for cooling and maintaining acceptable levels of CO2



Paired with a Honeywell JADE economizer, CO2 sensors can triple the year-round savings over "cooling only" economizing

Factory certified and self-calibrating to ensure accuracy and compliance with CA Title 24, §120.1(d)3 and 4

DEW POINT SENSORS

Designed for use in monitoring cooling water pipes or chilled surfaces to determine if temperatures are approaching dewpoint



Suitable for mounting on flat and round surfaces

Regulate cooling performance, switching cooling systems ON and OFF and signaling if the temperature is approaching the dew point

ECONOMIZER SENSORS

Duct mounted sensors for enthalpy, temperature, or humidity measurement

Simplifies integration with industry leading Honeywell economizer logic modules for energy savings and improved indoor air quality



Reliable a solid-state sensors maintain high accuracy over time and available in either analog or Sylk™ bus configurations

SPECIFY HONEYWELL SENSORS AND SAVE

Honeywell sensors are designed to increase your productivity with easy installation. They have always been competitively priced, and today, Honeywell sensors continue to be one of the industry's best values. This is what makes Honeywell sensors the smart, cost-effective choice.



CONTROLLER-SPECIFIC WALL MODULES & TEMPERATURE SENSORS

				On-Board Sensors							
	Part Number		Display	Temp	Humidity	CO ₂	Features	Customizable Parameters*	Schedule Access**	Controller Compatability	
Spyder Syllk Enhanced	TR120		Yes	✓			Color Touch Screen Temp, Override, Setpoint Adjustment, Fan	✓	✓	Stryker Spyder Spyder M5 CIPer 30 Lynx	
	TR120H			✓	✓			✓	✓		
	TR75		Yes	✓			Temp, Override, Setpoint Adjustment Fan	✓	✓		Stryker Spyder Spyder M5 CIPer 30 Lynx
	TR75-H			✓	✓			✓	✓		
	TR71			✓			Temp, Override, Setpoint	✓			
	TR71-H			✓	✓			✓			
	TR42		Yes	✓			Temp, Override, Setpoint Adjustment, Fan	N/A	N/A	Spyder Spyder M5 CIPer 30 Lynx ComfortPoint Open CPO-VAV2A	
	TR42-H			✓	✓						
	TR42-CO2			✓		✓					
	TR42-H-CO2		No				No Interface	N/A	N/A		
	TR40			✓	✓						
	TR40-H			✓		✓					
	TR40-CO2			✓		✓					
	TR40-H-CO2			✓	✓	✓					

	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					
Controllers and Thermostats *	TR21	T7770A1006	20K ohms non-linear 10K ohms non-linear for averaging only	✓						
	TR21-A	T7770A3002		✓						
	TR21-H	N/A		✓	✓			✓		
	TR21-J	T7770A2004		✓				✓		
	TR22	T7770B1004 T7770B1020 T7770B1046	20K ohms non-linear	✓		✓		✓		
	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	Not for use with T7350
	TR23-F3	T7770E1023		✓		✓	✓	✓	3 position	
	TR23-F5	T7770F1005		✓		✓	✓	✓	5 position	
	KNOB-C	N/A	N/A	N/A	N/A	For use on TR23	N/A	N/A	N/A	Replacement Knob
	KNOB-F	N/A	N/A	N/A	N/A	For use on TR23	N/A	N/A	N/A	Replacement Knob
	KNOB-O	N/A	N/A	N/A	N/A	For use on TR23	N/A	N/A	N/A	Replacement Knob
	C7772A1004	N/A	20K ohms non-linear	✓						No Honeywell logo
	C7772A1012	N/A		✓						With Honeywell logo

	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					
XL 10-600	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

	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	✓		✓	✓	Sensor only. For replacement. Requires a wireless receiver.
	WRECVR					Wireless receiver only. For replacement. Requires a wireless sensor.

* Compatible controllers include Spyder, Stryker, Ciper, 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.

	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	-40° to 158° F (-40° to 70° C)	
	T775-SENS-OAT		Outdoor air temperature sensor	-40° to 250° F (-40° to 121° C)	
	T775-SENS-STRAP		Strap-on	-40° to 350° F (-40° to 177° C)	
	C7031D2003	1097 ohms at 77° F	5-in. immersion sensor with wiring box (well included, 50001774-001)	-40° to 250° F (-40° to 121° C)	
	C7031B2005		6-in. duct with wiring box	40° to 180° F (4° to 82° C)	
	C7031J2009		12-in. duct averaging sensor with four elements with wiring box	40° to 150° F (4° to 66° C)	
	C7046D1008		8-in. duct probe with mounting flange	40° to 220° F (4° to 104° C)	
	C7100D1001		12-in. flat response, duct averaging sensor with flange	-40° to 100° F (-40° to 38° C)	
	C7130B1009		Room mount sensor	-40° to 250° F (-40° to 121° C)	
	C7170B1000		3/8-in. diameter temperature probe		



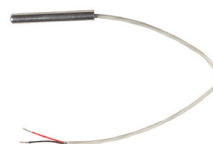
T775-SENS-OAT



T775-SENS-WR



T775-SENS-WT



50021579-001



T775-SENS-STRAP

	Part Number	Sensing Element/Sensor Type	Color/Mounting	Features
T7300 Applications*	T7047C2007	1420 ohms	Taupe, new styling	Averaging only
	T7047C2015		Premier white, new styling	
	T7047G2008	710 ohms	Taupe, new styling	
	T7047G2016		Premier white, new styling	
	T7022A1010	1420 ohms	Duct mount	For use with T7350
	C7031G2014 ^a	PT3000	Outdoor mount	
	C7031G2006 ^b	1715 ohms	Outdoor mount	For use with W7100

*For use with T7350 applications.

^bFor use with W7100.

	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.		
	C7400A2001	4 - 20 mA	-40° to 150° F (-40° to 66° C)	NA*	Duct - Enthalpy Sensor	Outdoor or return air sensor
	C7250A1001	20K NTC	-40° to 150° F (-40° to 66° C)	N/A*	Duct - Temp Sensor	Outdoor, mixed dry bulb sensor
Communicating Economizer*	C7400S1000	S-bus Temperature & Humidity	-40° to 150° F (-40° to 66° C)	N/A*	Duct - Temp + Hum Sensor	Outdoor, return, discharge air sensor for Jade Economizer, LCBS, and Stryker Controller

GENERAL TEMPERATURE SENSORS



C7041B



C7041D



C7041J



C7041R



C7041F



C7041P



TB-WALL

	Part Number	Sensing Element	Resistance	Operating	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	10K ohms NTC Type III	10K ohms NTC at 77°F	45° to 99° F	6" duct probe w/flare, 8.5 in stranded wire
	C7776A1040				6" duct probe w/flare, 6 ft plenum cable
	C7023B2005				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	20K ohms NTC	20K ohms NTC at 77°F	45° to 99° F	6" duct probe w/flare
	C7778A1040				6" duct probe w/flare, 6 ft plenum cable
	C7041B2005				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/flare
	C7770A1040				6" duct probe w/flare and 6 ft. plenum rated cable
C7046D1008	PT1000	1,097K ohms PTC at 77°F	40° to 150° F	8" duct (Discharge probe w/flare)	
C7100D1001	PT3000	3,484K ohms PTC at 77°F	40° to 220° F	13" duct (Averaging)	
C7100A1015					
C7100C1003	3K ohms NTC	3K ohms NTC at 77°F	40° to 150° F	8" duct w/flare	
C7046A1004				12" duct w/flare	
C7046A1038				8" duct discharge w/flare	
C7046C1000				Duct (internal)	
C7150B1004	22.8K ohms NTC	22.8K ohms NTC at 77°F	40° to 250° F	6" Zone (Discharge w/flare)	
C7046B1010				13" duct (Averaging)	
C7100B1013					
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	10K ohms NTC Type III	10K ohms NTC at 77°F		Strap-on pipe sensor with wiring enclosure
	C7023D2001				6" w/wiring enclosure, use well 50001774-001
	C7023K2005	20K ohms NTC	20K ohms NTC at 77°F		Strap-on pipe sensor with wiring enclosure
	C7041D2001				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 TB-WALL-OVR-1014			32° to 122° F	Wall sensor
	C7772G1004	10K ohms NTC Type III	10K ohms NTC at 77°F	32° to 122° F	Wall sensor with override
	C7772G1012			45° to 99° F	Flush wall mount, without logo
	C7772G1012			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	Wall mount	
TR29 + SP3000-2	SP3000-2	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	10K ohms NTC at 77°F		
	C7041N2020	20K ohms NTC	20K ohms NTC at 77°F		

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 and all 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.

GENERAL TEMPERATURE SENSORS

	Part Number	Sensing Element	Temperature Range	Insertion Length	Type	Mounting & Application
Other Temp Sensors	TR29 + SP3000-2	3,484 ohms PTC at 77° F	-40° to 100° F (-40° to 38° C)	N/A	Enclosure + Sensor	Wall mount
	C7130B1009	1,097 ohms PTC at 77° F	-40° to 100° F (-40° to 38° C)	N/A	Enclosure + Sensor	Wall mount

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

HUMIDITY AND DEW POINT SENSORS



H7655B, H7625B, H7635B



C7600B, H7655A



HSS-DPS

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				N/A
H7626A2020			Wall		1097 ohm at 77°F	Excel 15, Excel 10, T7350, T775 Series 2000	7.5" - "B" model only
H7626B2024			Duct				N/A
H7635A2012		± 3% from 20-95% RH	Wall		20K ohm at 77° F	T7350, H775, XL50, XFC, W750B/C, W7753, W7760A/C, W7761	7.5" - "B" model only
H7635B2018			Duct				N/A
H7635C2015			Outdoor				7.5" - "B" model only
H7636A2022			Wall		1097 ohm at 77°F	Excel 15, Excel 10, T7350, T775 Series 2000	N/A
H7636B2026		± 5% from 25-95% RH	Duct				N/A
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

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

CO2 AND CURRENT SENSORS



C7262A



C7232B

	Part Number	Output Signal	Display Screen	Honeywell Logo	Mounting	CO ₂ Range (accuracy)
Carbon Dioxide (CO ₂) Sensors	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	Duct (8" insertion length)	0 to 2,000 ppm adjustable, +/- 30 ppm +/- 2% of reading at normal temperature and pressure
	C7232B1014		No	Yes		
	C7232B1022		Yes	No		
	C7232B1030		No	No		
	C7262A1008		Yes	Yes	TR20 Series Style Wall	0 to 2,000 ppm adjustable, +/- 30 ppm +/- 4.5% of reading at normal temperature and pressure
	C7262A1016		No	Yes		
	C7632A1004	0-10 Vdc (fixed)	No	Yes	Wall	0 to 2,000 ppm fixed
	C7632B1002	0-10 Vdc (fixed)	No	Yes	Duct	

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 and all 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

	New Honeywell Part Number	Replaces	Description	Tip Point Type	Normally (open/closed)	Current Amp Range	Trip Point	Contact Rating
Current Switches	CS-O-F	CSS-O-F15-001/U, CSS-O-F5-001/U	Fixed Solid Core N/O	Fixed	Open	0-250A	.25A or less	.2A @ 200Vac/ Vdc
	CS-C-F	CSS-C-F15-001/U CSS-C-F5-001/U	Fixed Solid Core N/C	Fixed	Closed		.25A or less	
	CP-O-F	CSP-O-F15-001/U	Fixed Split Core N/O	Fixed	Open		1.5A or less	
	CP-C-F	New	Fixed Split Core N/C	Fixed	Closed		1.5A or less	
	CP-O-FL	CSP-O-F10-001/U	Fixed Split Core N/O Low Trip	Fixed	Open		0.5A or less	
	CS-O-A	CSS-O-A200-001/U CSS-O-A300-001/U	Adjustable Solid Core N/O	Adjustable	Open		0.5 to 220A	
	CP-O-A	CSP-O-A300-001/U	Adjustable Split Core N/O	Adjustable	Open		1.5 to 220A	
	CP-C-A	CSP-C-A200-001/U	Adjustable Split Core N/C	Adjustable	Closed		1.5 to 220A	
	CP-O-AL	CSP-O-A200-001/U	Adjustable Split Core N/O Low Trip	Adjustable	Open		0.6 to 180A	



Split Core

	New Honeywell Part Number	Replaces	Description	Selectable Ranges	Measurement	Solid or Split Core	Output Signal
Current Transmitters	CTP-V-50	CTP-10-050-VDC-001	0-10VDC Split Core 50A	0-10/20/50A	Average	Split	0-10Vdc
	CTS-V-50	CTS-05-050-VDC-001	0-5VDC Solid Core 50A	0-10/20/50A	Average	Solid	0-5Vdc
	CTS-V-150	CTS-10-250-VDC-001	0-10VDC Solid Core 150A	0-50/100/150A	Average	Solid	0-10Vdc
	CTP-V-150	New	0-10VDC SPLIT CORE 150A	0-50/100/150A	Average	Split	0-10Vdc
	CTS-A-250	CTS-20-250-AVG-001	4-20MA Solid Core 250A	0-100/200/250A	Average	Solid	4-20mA
	CTP-A-50-RMS	CTP-20-050-VFD-001	4-20MA RMS Split Core 50A	0-10/20/50A	True RMS	Split	4-20mA
	CTP-A-200	CTP-20-200-AVG-001	4-20MA Split Core 200A	0-100/150/200A	Average	Split	4-20mA

For more information

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Honeywell Building Technologies

Honeywell

1985 Douglas Drive North

Golden Valley, MN 55422-3992

www.honeywell.com

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