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

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

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

Split core versions for simplified installation in existing applications

HUMIDITY SENSORS

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

Multiple configurations available, including wall, duct and outdoor

DIFFERENTIAL PRESSURE SENSORS

Field selectable pressure ranges

Analog voltage or current outputs

Dry pressure sensors for building (zone) pressure, filter condition measurement and duct/static applications

Wet pressure sensors for hot/chilled water applications, process control systems, and hydronic system monitoring

IAQ SENSORS

Proper air cleaning and exchange can help reduce disease transmission by removing or dispelling pathogens, as well as odors, chemicals, and CO2

Honeywell CO2, TVOC, PM 2.5 and Multi-Sensors can be combined with the Healthy Buildings dashboard for IAQ monitoring and support demand ventilation control

ECONOMIZER SENSORS

Duct mounted sensors for enthalpy or temperature measurement

Simplifies integration with industry leading Honeywell JADE economizer control for energy savings and improved indoor air quality

WALL MODULES

Simple two-wire connectivity via Sylk™ Bus with up to 3 sensor types per device, plus user interface.

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

REASSURE OCCUPANTS THAT YOUR BUILDING IS MEASURABLY SAFER

Honeywell Sensors support a healthier building strategy by enabling facilities to become safer for occupants. Buildings of the future need reliable data to control indoor air quality – and that starts with our versatile range of sensors.

CONTROLLER-SPECIFIC WALL MODULES & TEMPERATURE SENSORS

Part Number	Images	Display	On-Board Sensors			Features	Customizable Parameters*	Schedule Access	Controller Compatibility
			Temp	Humidity	CO₂				
TR120		Yes	✓			Color Touchscreen Temp. Override, Setpoint, Fan	✓	✓	Stryker Spyder Classic Spyder Model 5 CIPer Model 30
TR120-H			✓	✓			✓	✓	
TR75		Yes	✓			Temp. Override, Setpoint, Fan	✓	✓	
TR75-H			✓	✓			✓	✓	
TR71			✓				✓		
TR71-H			✓	✓			✓		
TR42		Yes	✓			Temp. Override, Setpoint, Fan	N/A	N/A	Spyder Classic Spyder Model 5 CIPer Model 30
TR42-H			✓	✓					
TR42-CO2			✓		✓				
TR42-H-CO2			✓	✓	✓				
TR40		No				No Interface	N/A	N/A	
TR40-H			✓	✓					
TR40-CO2			✓		✓				
TR40-H-CO2			✓	✓	✓				

*For accessing virtually any point in the controller, balancing from wall module, etc.

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					
TR21	T7770A1006	20K ohms non-linear	✓						
TR21-A	T7770A3002	10K ohms non-linear for averaging only	✓						
TR21-H	N/A	20K ohms non-linear	✓	✓			✓		
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	
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 +/–
C7772A1004	N/A	20K ohms non-linear	✓						No Honeywell logo
C7772A1012	N/A		✓						With Honeywell logo

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			
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.

(Left vertical label: Wireless Temperature and Humidity Sensors*)

* Compatible controllers include Spyder, Stryker, CIPer 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
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		5-in. immersion sensor with wiring box (well included, 50001774-001)	-40˚ to 350˚ F (-40˚ to 177˚ C)	
C7031B2005		6-in duct with wiring box	-40˚ to 250˚ F (-40˚ to 121˚ C)	
C7031J2009	1097 ohms at 77°F	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)	

(Left vertical label: T775)
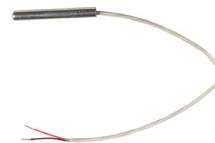

T775-SENS-OAT

T775-SENS-WR

T775-SENS-WT

50021579-001

T775-SENS-STRAP

C7400S100

Part Number	Sensing Element	Temperature Range	Insertion Length	Type	Mounting & Application
C7400S1000	Sylk 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, CIPer 30, Spyder Classic, Spyder model 5 and Stryker Controllers
C7250A1001	20K NTC	-40° to 150˚ F (-40° to 66° C)	N/A*	Duct - Temp Sensor	Outdoor, mixed dry bulb sensor

(Left vertical label: JADE Economizers)

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			45° to 99° F	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			45° to 99° F	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			45° to 99° F	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				
	C7100A1015	PT3000	3,484K ohms PTC at 77°F	40° to 220° F	13" duct (Averaging)
	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			
	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-WALL-OVR-1014			32° to 122° F	Wall sensor with override
	C7772G1004	10K ohms NTC Type III		45° to 99° F	Flush wall mount, without logo
	C7772G1012				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				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			
	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

	Part Number	Output Signal	RH Accuracy	Mounting & Application	Voltage Supply	Temp Sensor	Use With	Insertion Length
Humidity and Temperature Sensors	H7725A2010	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, CIPer 30, Spyder Classic, Spyder model 5, Compact VAV and Stryker Controllers	
	H7725B2006			Duct				7.5" – "B" model only
	H7726A2020			Wall		1097 ohm at 77°F	Excel 15, Excel 10, T7350, T775 Series 2000 , CIPer 30, Spyder Classic, Spyder model 5, Compact VAV and Stryker Controllers	N/A
	H7726B2024			Duct				7.5" – "B" model only
	H7735A2012		± 3% from 20-95% RH	Wall		20K ohm at 77° F	T7350, H775, XL50, XFC, W750B/C, W7753,W7760A/C, W7761, CIPer 30, Spyder Classic, Spyder model 5, Compact VAV and Stryker Controllers	7.5" – "B" model only
	H7735B2018			Duct				
	H7735C2015			Outdoor				
	H7736A2022			Wall		1097 ohm at 77°F	Excel 15, Excel 10, T7350, T775 Series 2000 , CIPer 30, Spyder Classic, Spyder model 5, Compact VAV and Stryker Controllers	N/A
	H7736B2026			Duct				7.5" – "B" model only
	H7655A1001	0-10 VDC FIXED	5%	Wall	16-40 VDC/16-30 VAC	None	Any controller that accepts 0-10 Vdc input	

H77 Series Wall Mount

H77 Series Duct Mount

H77 Series Outdoor Mount

H7655A

HSS-DPS

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

IAQ SENSORS

C7263

C7355A1050

Part Number	Type	Output Signal	Display Screen	Mounting
C7233A1008	CO2	0/2 – 10VDC or 4 – 20mA with one adjustable SPST relay output	Yes	Wall
C7233A1016	CO2		No	Wall
C7233A1024	CO2		Yes	Wall (Unbranded)
C7263A1008	CO2	0/2 – 10VDC or 0/4 – 20mA with one adjustable SPST relay output and 20K ohm NTC temperature sensor	Yes	Wall
C7232B1006	CO2	0/2 – 10VDC or 4 – 20mA with one adjustable SPST relay output	Yes	Duct (8" insertion length)
C7232B1014	CO2		No	Duct (8" insertion length)
C7363A1017	PM2.5	4-20mA, 0-5/10VDC	No	Wall
C7363B1018	PM2.5		No	Duct
C7363C1019	PM2.5		No	Outdoor
C7364A1016	TVOC	4-20mA, 0-5/10VDC, 3-step	No	Wall
C7364B1014	TVOC		No	Duct
C7355A1050	Temp, Hum, CO2, TVOC, PM2.5	RS485/RTU (Modbus)	No	Wall
C7355B1052			No	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

MCS

CSP

Current Switches

Model Number	Trip Point	Core Type	Max. Current	Application
MCS-NO-A-50A	Adjustable, 0.75–50FLA	Micro-Solid	50A	Standard
CS-NO-F-50A	Fixed, 0.25A	Solid	50A	Standard
CS-NO-A-50A	Adjustable, 0.75–50FLA	Split	50A	Standard
CSP-NO-A-50A	Adjustable, 0.45–50FLA	Split	50A	Standard
CSP-NO-A-100A	Adjustable, 0.50–100FLA	Split	100A	Standard
CSP-NO-A-150A	Adjustable, 0.50–150FLA	Split	150A	Standard
CSP-NO-F-200A	Fixed, 0.35A	Split	200A	Standard
CSP-NO-AVFD-150A	Automatically detected above 40 Hz	Split	150A	VFD Controlled Motor
CSP-NO-AECM-200A	Adjustable, 0.25–3A Trip	Split	200A	ECM – Electronically Commutated Motor

CTP

Current Transmitters

Part Number	Output Signal*	Selectable Ranges	Max Current	Core Type
CTP-5V-20A	0-5VDC	5/10/20A	100 A	Split
CTP-10V-120A	0-10VDC	30/60/120 A	200 A	
CTP-10V-200A	0-10VDC	Fixed 200A	200 A	
CTP-A-20A	4-20mA	5/10/20A	200 A	
CTP-A-120A	4-20mA	30/60/120 A	200 A	

*Note: 0 – 5/10 Vdc output (induced power) 4-20 mA output (12-30 Vdc power source required)

CR

CR Relays

Part Number	Coil Rating	Contact Type/Rating
CR-24V-NO-10A	24VAC/DC, 15mA nom	N.O. / 10A @ 125VAC
CR-24V-NC-10A	24VAC/DC, 15mA nom	
CR-12VDC-NO-10A	9-12VDC, 30mA nom	
CR-12VDC-NC-10A	9-12VDC, 30mA nom	

PRESSURE SENSORS

P7660

P7645

	Product Numbers	Configuration	Pressure Range	Output	LCD Display	Probe
Dry Pressure Sensors	P7645C0010X	Panel/DIN Rail	0-0.10 "W.C.	4–20 mA Loop	No	No
	P7645C0025X	Panel/DIN Rail	0-0.25 "W.C.			
	P7645C0100X	Panel/DIN Rail	0-1.0 "W.C.			
	P7645C0500X	Panel/DIN Rail	0-5.0 "W.C.			
	P7660P0500D	Panel/DIN Rail	0.1/0.25/2.5/5 "W.C.	Universal	Yes	
	P7660P0500X	Panel/DIN Rail	0.1/0.25/2.5/5 "W.C.		No	
	P7660P1000D	Panel/DIN Rail	1.0/2.5/5/10 "W.C.		Yes	
	P7660P1000X	Panel/DIN Rail	1.0/2.5/5/10 "W.C.		No	
	P7660D0500D	Duct/Panel/DIN Rail	0.1/0.25/2.5/5 "W.C.		Yes	Yes
	P7660D0500X	Duct/Panel/DIN Rail	0.1/0.25/2.5/5 "W.C.		No	
	P7660D1000D	Duct/Panel/DIN Rail	1.0/2.5/5/10 "W.C.		Yes	
	P7660D1000X	Duct/Panel/DIN Rail	1.0/2.5/5/10 "W.C.		No	

PWTA with conduit

PWTA with plenum cable

PWTA with armoured cable

	Part Number	Max PSIG	Selectable PSID Ranges	Cable Type	Cable Length (Feet)
Wet Pressure Sensors	PWTA40-X	40 PSIG	10/20/40 PSID	Conduit	—
	PWTA100-X	100 PSIG	50/75/100 PSID	Conduit	—
	PWTA250-X	250 PSIG	75/150/250 PSID	Conduit	—
	PWTA40-PC-9	40 PSIG	10/20/40 PSID	Plenum	9
	PWTA100-PC-9	100 PSIG	50/75/100 PSID	Plenum	9
	PWTA250-PC-9	250 PSIG	75/150/250 PSID	Plenum	9
	PWTA40-PC-50	40 PSIG	10/20/40 PSID	Plenum	50
	PWTA100-PC-50	100 PSIG	50/75/100 PSID	Plenum	50
	PWTA250-PC-50	250 PSIG	75/150/250 PSID	Plenum	50
	PWTA40-AC-9	40 PSIG	10/20/40 PSID	Armored	9
	PWTA100-AC-9	100 PSIG	50/75/100 PSID	Armored	9
	PWTA250-AC-9	250 PSIG	75/150/250 PSID	Armored	9
	PWTA40-AC-50	40 PSIG	10/20/40 PSID	Armored	50
	PWTA100-AC-50	100 PSIG	50/75/100 PSID	Armored	50
	PWTA250-AC-50	250 PSIG	75/150/250 PSID	Armored	50

**THE
FUTURE
IS
WHAT
WE
MAKE IT**

Honeywell