

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

Leverage these sensors for a range of applications from averaging, outdoor and immersion sensors to duct-mount, strap-on and wall mount sensors.



CURRENT SENSORS AND SWITCHES

Enjoy compatibility with building management system, DDC, or PLC controllers.



These sensors facilitate proactive fault detection or fail-safe operation to minimize equipment down-time or associated cost.

Split core versions are available for simplified installation in existing applications.

HUMIDITY SENSORS

These highly accurate, stable humidity sensors are designed for use with HVAC controllers and direct digital controllers (DDCs).



Multiple configurations are available, including wall, duct and outdoor.

DIFFERENTIAL PRESSURE SENSORS

Field selectable pressure ranges and analog voltage or current outputs.

Features include dry pressure sensors for building (zone) pressure, filter condition measurement and duct/static applications.



The wet pressure sensors are used in hot/chilled water applications, process control systems, and hydronic system monitoring.

INDOOR AIR QUALITY (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

These duct mounted sensors are designed for enthalpy or temperature measurement.

Simply integrate with industry leading Honeywell JADE economizer control for energy savings and improved indoor air quality.



WALL MODULES

Configure multiple user types and privileges for facility staff members. Plus, customize the home screen for active and inactive displays.



DEW POINT SENSORS

These sensors are 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	CO ₂					
Sylk-Enabled Zio Wall Modules	TR120		Yes	✓			Color Touchscreen Temp. Override, Setpoint, Fan	✓	✓	Stryker Spyder Classic Spyder Model 5 CIPer Model 30	
	TR120-H			✓	✓			✓	✓		
	TR100-TH-G		Yes	✓	✓		Temp. Override, Setpoint, Fan	✓	(Schedule access in TR75 emulation mode)		
	TR100-THC-G			✓	✓	✓		✓	(Schedule access in TR75 emulation mode)		
	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	✓			✓	✓						
TR50-5D		Yes	✓	✓	✓	No Interface	N/A	N/A			
TR50-5D-U			✓	✓	✓						
TR50-5N			✓	✓	✓						
TR50-3D			✓	✓	✓						
TR50-3D-U			✓	✓	✓						
TR50-3N			✓	✓	✓						
TR50-3N			✓	✓	✓						

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

	Model Number		Sensor Type		Temp	Humidity	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	Sensor Element Type								
Temperature, Humidity and Override Control	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	✓	✓	✓		✓	✓			
	TR24	T7770D1000	✓		✓		✓	✓		No Honeywell logo	
	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			
Wireless Temperature and Humidity Sensors*	TR21-WK	✓				Includes one prebound sensor and receiver.
	TR21-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 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			



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
JADE Economizers	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

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				6" duct w/wiring enclosure	
	C7023B2013				12" duct w/wiring enclosure	
	C7023C2003	18" duct w/wiring enclosure				
	C7023J2007	10K ohms NTC Type III	10K ohms NTC at 77°F	-40° to 250° F	12' duct averaging w/wiring enclosure	
	C7023R2000				12' duct averaging flexible copper	
	C7023R2018				24' duct averaging flexible copper	
	C7041B2005				6" duct w/wiring enclosure	
	C7041B2013				12" duct w/wiring enclosure	
	C7041C2003			18" duct w/wiring enclosure		
	C7041J2007			-40° to 250° F	20K ohms NTC at 77°F	12 ft. Duct (Averaging) w/wiring enclosure
	C7041R2000					12 ft. Duct flexible copper (Averaging)
	C7041R2018					24 ft. Duct flexible copper (Averaging)
C7770A1040	45° to 99° F					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			40° to 220° F	13" duct (Averaging)		
C7100A1015						
C7100C1003	PT3000	3,484K ohms PTC at 77°F	40° to 220° F	8" duct w/flange		
C7046A1004						
C7046A1038	3K ohms NTC	3K ohms NTC at 77°F	40° to 150° F	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)		
					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	
	C7772G1004			45° to 99° F	Flush wall mount, without logo	
	C7772G1012	Flush wall mount, with logo				
	C7023P2004	-40° to 250° F	20K ohms NTC at 77°F	Small metal button sensor		
	C7772A1004			45° to 99° F	Flush wall mount/no logo	
	C7772A1012			-40° to 250° F	Flush wall mount/with logo	
C7130B1009	PT1000	1,097 Ohms PTC at 77°F	-40° to 100° F	Small metal button sensor		
					Wall mount	
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	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	7.5" - 'B' model only	
	H7725B2006			Duct					
	H7726A2020			Wall					
	H7726B2024		Duct	± 3% from 20-95% RH		Outdoor	20K ohm at 77° F	Excel 15, Excel 10, T7350, T775 Series 2000, CIPer 30, Spyder Classic, Spyder model 5, Compact VAV and Stryker Controllers	7.5" - 'B' model only
	H7735A2012		Wall						
	H7735B2018		Duct						
	H7735C2015		Outdoor	± 3% from 20-95% RH		Outdoor	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
	H7736A2022		Wall						
	H7736B2026		Duct						



H77 Series Wall Mount



H77 Series Duct Mount



H77 Series Outdoor Mount

IAQ SENSORS



C7263

	Part Number	Type	Output Signal	Display Screen	Mounting
IAQ Sensors	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
	C7363B1018	PM2.5	4-20mA, 0-5/10VDC	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

	Model Number	Trip Point	Core Type	Max. Current	Application
Current Switches	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

	Part Number	Output Signal*	Selectable Ranges	Max Current	Core Type
Current Transmitters	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

	Part Number	Coil Rating	Contact Type/Rating
CR Relays	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	No	
	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		

	Part Numbers	Max Sensor Pressure	1% Accuracy	2% Accuracy	Cable Length (Feet)
Wet Pressure Sensors	PWTB50-X	50 PSIG 345 kPa	20/25/30/40/50 PSID 138/172/207/276/345 kPa	10/15 PSID 69/103 kPa	Installer Provided*
	PWTB50-PC-9				Plenum – 9 feet
	PWTB50-AC-9				Armor – 9 feet
	PWTB100-X	100 PSIG 689 kPa	40/50/75/100 PSID 276/345/517/689 kPa	15/20/25/30 PSID 103/138/172/207 kPa	Installer Provided*
	PWTB100-PC-9				Plenum – 9 feet
	PWTB100-AC-9				Armor – 9 feet
	PWTB250-X	250 PSIG 1724 kPa	75/100/125/150/250 PSID 517/689/862/1034/1724 kPa	30/40/50 PSID 207/276/345 kPa	Installer Provided*
	PWTB250-PC-9				Plenum – 9 feet
	PWTB250-AC-9				Armor – 9 feet

*Shielded cable provided by installer either plenum rated or installed in conduit.



PWTB without Cable



PWTB with Plenum Cable



PWTB with Armoured Cable

For more information

buildings.honeywell.com/bms

Building Automation

715 Peachtree St NE

Atlanta, Georgia 30308

buildings.honeywell.com

BMS-BR-SensorsSelectionGuide | 63-9285 | 2024-09-19
© 2024 Honeywell International Inc.

Honeywell