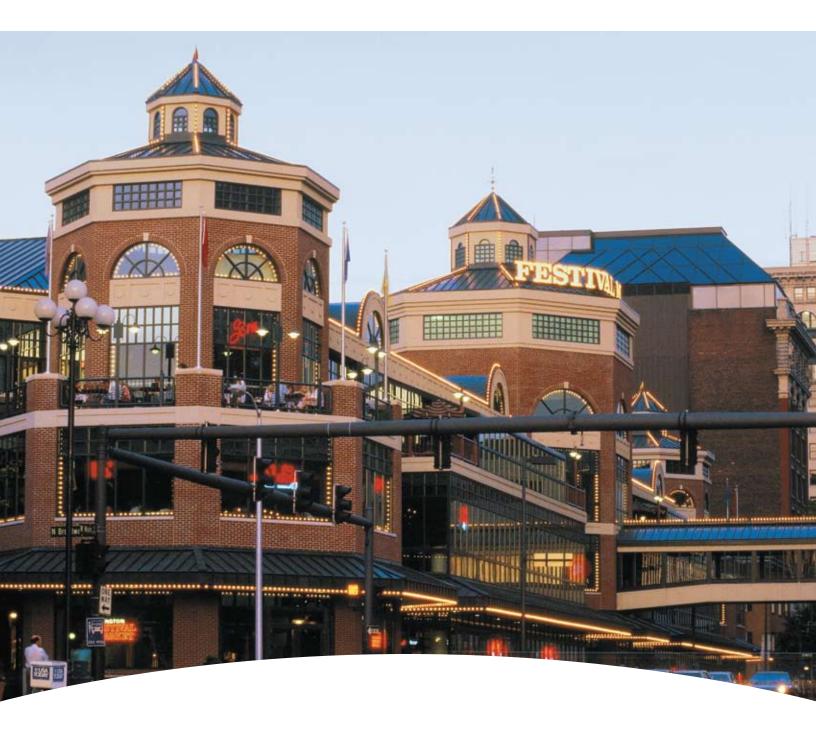# Sensors Product Overview

Honeywell

Reliable And Accurate
Honeywell Sensors

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

Temperature Sensors

No matter what control application or mounting option you can imagine, Honeywell offers a temperature sensor that fits your needs — including wireless TR20 sensors for easy installation and easy sensor relocation. From averaging, immersion and outdoor sensors to duct mount, wall mount and strap-on sensors, Honeywell sensors cover every application and installation.

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$_2$ Sensors

The Honeywell CO2 sensor includes state-of-the-art non-dispersive infrared (NDIR) technology plus a corrosion-free-designed sensing chamber that provides accurate and stable CO2 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 CO2 sensor can triple year-round savings over "cooling only" economizing. The sensor is used in demand control ventilation applications to maintain acceptable levels of CO2 in the space.

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.

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.

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.

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.
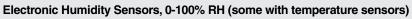
H7655B, H7625B, H7635B

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
H7625A1008	Selectable 4-20 mA, 0-10 Vdc, or 0-5 Vdc	2%	Room	18-36 Vdc or 24 Vac	20K ohm at 77° F	T7350, H775, XL50, XL500, XFC, W750B/C, W7753, W7760A/C, W7761	N/A
H7635A1006		3%	Room				
H7625B1006		2%	Duct				7.5" "B" models only
H7635B1004		3%	Duct				
H7655B1009		5%	Duct				
H7635C1002		3%	Outdoor			Where outdoor is needed	N/A
H7655A1001	0-10 Vdc	5%	Room	16-40 Vdc or 16-30 Vac	None	T7350, controllers that accept 0-10 Vdc input	
C7600B2008	2-10 Vdc	5% between 30-70% RH	Wall Mount			H775, some XL controllers	
C7600A1002	4-20 mA inversely proportional		Duct Mount	12-40 Vdc		W7600	
C7600C1008	4-20 mA directly proportional		Duct Mount			H775, W7600	

Dew Point Sensors

Part Number	Output	Switch	Hysteresis
H7018A1003	Potential-free contact	RH > 90% contact open RH < 90% closed	-4 to 5% RH

C7232A

C7232B

Carbon Dioxide (CO₂) Sensors

Part Number	Output Signal	Display Screen	Honeywell Logo	Mounting	CO₂ 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	Duct (8" insertion length)	
C7232B1014		No	Yes		
C7232B1022		Yes	No		
C7232B1030		No	No		
C7632A1004	0-10 Vdc (fixed)	No	Yes	Wall	0 to 2,000 ppm fixed
C7632B1002	0-10 Vdc (fixed)	No	Yes	Duct	

3

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	Panel	0-.1", 0-.25", 0-.5", 0-1"	No		
P7640A1026	Panel	0-1", 0-2.5", 0-5", 0-10"	Yes		
P7640A1034	Panel	0-1", 0-2.5", 0-5", 0-10"	No		
P7640B1008	Duct	0-.1", 0-.25", 0-.5", 0-1"	Yes		
P7640B1016	Duct	0-.1", 0-.25", 0-.5", 0-1"	No		
P7640B1024	Duct	0-1", 0-2.5", 0-5", 0-10"	Yes		
P7640B1032	Duct	0-1", 0-2.5", 0-5", 0-10"	No		
P7640U1040	Universal	0-.1", 0-.25", 0-.5", 0-1" 0-2.5", 0-5", 0-10"	No		
P7640U1052	Universal	0-.1", 0-.25", 0-.5", 0-1" 0-2.5", 0-5", 0-10"	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 spearately)

50035430

5003540 Gauge Pressure Sensors

Model	Pressure Range	Pressure Connection	Output	Excitation
50035430-050	0-50 psig	1/4" -18 NPT	4-20mA	9.5 Vdc to 30 Vdc
50035430-050	0-100 psig	1/4" -18 NPT		
50035430-300	0-300 psig	1/4" -18 NPT		
50035430-500	0-500 psig	1/4" SAE female Schrader		
50035430-01K	0-1000 psig	1/4" SAE female Schrader		

ENTHALPY SENSORS

C7660A

C7400A

Enthalpy Sensor/Dry Bulb (Temperature)

Part Number	Sensor Output	Operating Range	Insertion Length
C7400A1004	4-20 mA	32˚ to 125˚ F	N/A
C7660A1000	4 or 20mA		

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.
	TR23-WK	✔	✔	✔		
	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	Type
	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	20K ohms non-linear	✔	✔			✔		
	TR21-J	T7770A2004		✔				✔		
	TR22	T7770B1004 T7770B1020 T7770B1046		✔		✔		✔		
	TR23	T7770C1002 T7770C1028 T7770C1044	20K ohms non-linear	✔		✔	✔	✔		
	TR23-H	n/a		✔	✔	✔	✔	✔		
	TR23-N[a]	T7770C1051		✔		✔	✔	✔		
	TR24	T7770D1000		✔			✔	✔		
	TR22-F5[b]	n/a		✔		✔		✔	5 position	
	TR23-F3[b]	T7770E1023		✔		✔	✔	✔	3 position	
	TR23-F5[b]	T7770F1005		✔		✔	✔	✔	5 position	
	C7772A1004	n/a	20 K ohms non-linear	✔						No logo
	C7772A1012	n/a	20 K ohms non-linear	✔						With Honeywell logo
XL 10	T7560A1018	n/a	20 K ohms non-linear	✔		✔	✔	Optional	Yes	LCD Display white and blue
	T7560A1042	n/a	20 K ohms non-linear	✔		✔	✔	Optional	Yes	LCD Display all white
	T7560B1016	n/a	20 K ohms non-linear	✔	✔	✔	✔	Optional	Yes	LCD Display white and blue
	T7560B1032	n/a	20 K ohms non-linear	✔	✔	✔	✔	Optional	Yes	LCD Display all white

[a] No Honeywell Logo
[b] Not for use with T7350

TR70

TR20
Wireless

T7560A, B
(all white)

T7560A, B
(white/blue)

CONTROLLER SPECIFIC TEMPERATURE SENSORS

	Part Number	Sensing Element/Sensor Type	Color/Mounting	Features
T7300 Applications	T7047C2007	1420 ohms	Taupe, new styling	
	T7047C2015	1420 ohms	Premier white, new styling	
	T7047G2008	710 ohms	Taupe, new styling	Averaging only
	T7047G2016	710 ohms	Premier white, new styling	Averaging only
	T7147A2000	1420 ohms	Taupe, new styling	Override
	T7147A2018	1420 ohms	Taupe, new styling	Override, warmer, cooler
	T7147G2015	710 ohms	Taupe, new styling	Override, averaging only
	T7147G2023	710 ohms	Taupe, new styling	Override, warmer, cooler, averaging only
	T7022A1010	1420 ohms	Duct mount	
	C7031G2014[a]	PT3000	Outdoor mount	For use with T7350

[a] 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	1097 ohms at 77˚ F	Water-resistant probe with 5-ft. leads	-40˚ to 270˚ F (-40˚ to 132˚ C)	
	T775-SENS-WT	1097 ohms at 77˚ F	Water-tight probe with 6-ft. leads	-40˚ to 270˚ F (-40˚ to 132˚ C)	
	T775-SENS-OAT	1097 ohms at 77˚ F	Outdoor air temperature sensor	-40˚ to 158˚ F (-40˚ to 70˚ C)	
	T775-SENS-STRAP	1097 ohms at 77˚ F	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	1097 ohms at 77˚ F	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	1097 ohms at 77˚ F	8-in. duct probe with mounting flange	40˚ to 150˚ F (4˚ to 66˚ C)	
	C7100D1001	1097 ohms at 77˚ F	12-in. flat response, duct averaging sensor with flange	40˚ to 220˚ F (4˚ to 104˚ C)	
	C7130B1009	1097 ohms at 77˚ F	Room mount sensor	-40˚ to 100˚ F (-40˚ to 38˚ C)	
	C7170B1000	1097 ohms at 77˚ F	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
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
	C7650A1001	10-20 mA	40 to 110˚ F (4˚ to 43˚ C)	N/A	Duct — Temp Sensor	Dry-bulb temperature sensor
	C7046A1004	3K ohms NTC at 77˚ F	40 to 150˚ F (4˚ to 66˚ C)	8 in.	Duct — Temp Sensor	Mixed or discharge air sensor
	C7046A1038	3K ohms NTC at 77˚ F	40 to 150˚ F (4˚ to 66˚ C)	12 in.	Duct — Temp Sensor	Mixed or discharge air sensor
	C7400A1004	4-20 mA	32 to 125˚ F (0˚ to 52˚ C)	N/A	Duct — Enthalpy 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

	Part Number	Sensing Element/ 20K ohms NTC[b]	Sensing Element/ PT1000[c]	Sensing Element/ PT3000[d]	Resistance	Operating Range	Insertion Length	Mounting & Application
Duct Mount	C7041B2005	✔			20K ohms NTC at 77˚ F	-40˚ to 250˚ F	6 in.	Duct with wiring enclosure
	C7041B2013	✔			20K ohms NTC at 77˚ F	-40˚ to 250˚ F	12 in.	Duct with wiring enclosure
	C7041C2003	✔			20K ohms NTC at 77˚ F	-40˚ to 250˚ F	18 in.	Duct with wiring enclosure
	C7770A1006	✔			20K ohms NTC at 77˚ F	45˚ to 99˚ F	6.5 in.	Duct probe with flange
	C7046D1008		✔		1,097 ohms PTC at 77˚ F	40˚ to 150˚ F	8 in.	Duct (Discharge)
	C7100D1001		✔		1,097 ohms PTC at 77˚ F	40˚ to 220˚ F	13 in.	Duct (Averaging)
	C7100C1003				3,484 ohms PTC at 77˚ F	40˚ to 220˚ F	13 in.	Duct (Averaging)
	C7100A1015			✔	3,484 ohms PTC at 77˚ F	40˚ to 220˚ F	13 in.	Duct (Averaging)
	C7046A1004				3K ohms NTC at 77˚ F	40˚ to 150˚ F	8 in.	Duct (Discharge)
	C7046A1038				3K ohms NTC at 77˚ F	40˚ to 150˚ F	12 in.	Duct (Discharge)
	C7046B1010				22.8K ohms NTC at 77˚ F	40˚ to 150˚ F	6 in.	Zone (Discharge)
	C7046C1000				3K ohms NTC at 77˚ F	40˚ to 150˚ F	8 in.	Single point sensing
	C7100B1013				22.8K ohms NTC at 77˚ F	40˚ to 150˚ F	13 in.	Duct (Averaging)
	C7041J2007	✔			20K ohms NTC at 77˚ F	-40˚ to 250˚ F	12 ft.	Duct (Averaging) with wiring enclosure
	C7150B1004				3K ohms NTC at 77˚ F	-40˚ to 250˚ F	N/A	Duct (internal)
	C7041R2000	✔			20K ohms NTC at 77˚ F	-40˚ to 250˚ F	12 ft.	Duct flexible copper (Averaging)
	C7041R2018	✔			20K ohms NTC at 77˚ F	-40˚ to 250˚ F	24 ft.	Duct flexible copper (Averaging)
	C7770A1040	✔			20K ohms NTC at 77˚ F	45˚ to 99˚ F	6.5 in.	Duct probe with flange and 6' plenum rated cable
Wall Mount	C7772A1004	✔			20K ohms NTC at 77˚ F	45˚ to 99˚ F	N/A	Flush wall mount / no logo
	C7772A1012	✔			20K ohms NTC at 77˚ F	45˚ to 99˚ F	N/A	Flush wall mount / with logo
	C7130B1009		✔		1,097 ohms PTC at 77˚ F	-40˚ to 100˚ F	N/A	Wall mount
	C7130A1001			✔	3,484 ohms PTC at 77˚ F	-40˚ to 100˚ F	N/A	Wall mount
	C7041P2004	✔			20K ohms NTC at 77˚ F	-40˚ to 250˚ F	N/A	Small button sensor
Water	C7041D2001	✔			20K ohms NTC at 77˚ F	-40˚ to 250˚ F	4 in.	With wiring enclosure, use well 50001774-001
	C7041K2005	✔			20K ohms NTC at 77˚ F	-40˚ to 250˚ F	N/A	Strap-on, with wiring enclosure
Outdoor	C7041F2006	✔				-40˚ to 250˚ F	N/A	Outdoor weatherproof, connects to 1/2" conduit

[b] 20K ohms NTC sensors are used with Excel 10, 15, 50, 100 and 500. See controller product data sheets for details.
[c] PT1000 sensors are used with Excel 15, 100, 500 and 600. See controller product data sheets for details.
[d] PT3000 sensors are used on certain Excel and Microcell products. See controller product data sheets for details.
Note: 3K ohm NTC sensors are used on W973, W7100, W7459, W7215, W7212 and all economizer modules.

C7100C

C7046A, C7770

C7772

C7041J

C7041D

C7041B,C

C7041R

C7041P

C7041F

T7022A

CURRENT SENSORS

	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	"Go/No Go" current switch	Solid	N/O	0.2 A	0-250 A	0.3 A at 200 Vac/Vdc	Red
	CSS-C-F5-001	"Go/No Go" current switch	Solid	N/C	1.0 A	0-250 A	0.15 A at 300 Vac/Vdc	Red
	CSS-C-F1-001	"Go/No Go" current switch	Solid	N/C	0.5 A	0-250 A	0.15 A at 300 Vac/Vdc	Red
	CSS-O-A300-001	Adjustable current switch	Solid	N/O	1.0 A to 250 A	0-250 A	0.3 A at 200 Vac/Vdc	Red and green
	CSS-O-A200-001	Adjustable current switch	Solid	N/O	0.5 A to 250 A	0-250 A	0.3 A at 200 Vac/Vdc	Red and green
	CSP-O-F15-001	"Go/No Go" current switch	Split	N/O	2.5 A	0-200 A	0.3 A at 200 Vac/Vdc	Red
	CSP-O-F10-001	"Go/No Go" current switch	Split	N/O	1.5 A	0-200 A	0.3 A at 200 Vac/Vdc	Red
	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	Adjustable current switch	Split	N/O	2.0 A to 200 A	0-200 A	0.3 A at 200 Vac/Vdc	Red and green
	CSP-C-A200-001	Adjustable current switch	Split	N/C	2.5 A to 250 A	0-250 A	0.15 A at 300 Vac/Vdc	Red and green

	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	Loop powered current sensor	Solid	4-20 mA	0-100, 0-200, 0-250 A	Adjustable	Yes	True RMS
	CTP-20-200-AVG-001	Loop powered current sensor	Split	4-20 mA	0-100, 0-150, 0-200 A	Adjustable	Yes	Average
	CTP-20-050-VFD-001	Loop powered current sensor	Split	4-20 mA	0-10, 0-20, 0-50 A	Adjustable	Yes	True RMS
	CTS-05-050-VDC-001	Current sensors	Solid	0-5 Vdc	0-10, 0-20, 0-50 A	Adjustable	No	Average
	CTS-10-250-VDC-001	Current sensors	Solid	0-10 Vdc	0-100, 0-200, 0-250 A	Adjustable	No	Average

Solid Core   Split Core

Automation and Control Solutions

In the US:

Honeywell

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Golden Valley, MN 55422-3992

In Canada:

Honeywell Limited

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Toronto, Ontario M1V 4Z9

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