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SENSORS

Seamlessly Integrated

- Innovative technology to work seamlessly with all leading control companies ensuring performance.
- Reliable and accurate readings providing energy and cost-efficient control backed with a 5-year warranty.
- Universal compact modular design features a screw-less snap cover with a detachable mounting plate and NEMA 4X/ IP 65 rating for optimum installation and commissioning.

David Alliband, Product Manager

Sensors Nomenclature

22	U	TH	-	5	1	0	X
Power 01 = Passive 22 = Active	Application A = Air C = Cable D = Duct/Immersion H = Surface Mount (Housing) M = Averaging (Duct) P = Pipe (Thermowell) S = Surface Mount (Cable) U = Outside W = Water	Medium C = CO2 CK = CO2, VOC, Temperature, CO2 / VOC MIX CM = CO2, VOC, Temperature CV = CO2, VOC DP = Differential Pressure H = Humidity / Condensation P = Pressure PS = Pressure Switch T = Temperature TC = Temperature & CO2 TH = Temperature & Humidity TM = Temperature, Humidity, CO2 TS = Temperature & Switch V = VOC (Volatile Organic Compounds)		Region A = Accessory 5 = Americas	Signal type # = Accessory 0 = Switch 1 = VDC (Volt) 2 = VDC (Volt) Multi Range 3 = 4-20 mA 4 = 4-20 mA Multi Range 5 = Modbus 6 = BACnet 8 = 4-20 mA & VDC Multi Range A = PT100 B = PT1000 E = Ni1000 JCI L = NTC10k2 M = NTC10k3 Q = NTC20k	Length/ Pressure [mm] 0 = N/A H = 2" [50] L = 4" [100] M = 5" [140] N = 6" [150] P = 8" [200] Q = 1"wc [250Pa] Selectable R = 12" [300] / APS 0.08" to 1.2"wc [20-300Pa] T = 18" [450] U = APS 0.2" to 2.0"wc [50 - 500Pa] 1 = Water 0-15 psi / APS 0.8" to 4.0"wc [200-1000Pa] 2 = 0-30 psi 3 = 6' [2 m] 4 = 10 ft. [3 m] / Water 0-50 psi / Air 0-10"wc [2500Pa] Selectable / APS 2.0" to 10"wc [500-2500Pa] 5 = 20 ft. [6 m] / 22WDP Water 0-100 psi 6 = 22WP Water 0-100 psi / Air 0-28"wc [7000Pa] Selectable 7 = 200 psi	Details 22UTH-... X = Weather Shield 22HH-... X = Remote Cable Probe 01DTS-... X = Manual Reset 22DTM-... 6 = LCD Display 22ADP-... Blank = No Auto Zero / No LCD A = Auto Zero B = Auto Zero + LCD L = LCD 01APS-... 1 = Multi Pack 22DTH-..., 22UTH-... B = PT1000 E = Ni1000 JCI L = NTC10k2 M = NTC10k3 Q = NTC20k

1 Complete Ordering Example: 22UTH-510X

Flow Meter Nomenclature

FM	050			
FM FM = Flow Meter	Valve Size 050 = ½" 075 = ¾" 100 = 1" 125 = 1¼" 150 = 1½" 200 = 2"	GPM Range 0.07 - 6.6* 0.13 - 12.4* 0.23 - 21.8* 0.36 - 34.2* 0.49 - 47.5* 1.09 - 91.2*	Power Supply 24 = 24 VAC/DC	Output Signal Analog 0 - 10 VDC

1 Choose the Flow Meter Model

FM050

+Tagging (if needed)

2 Does order require tagging?

Tagging:
 Valves may be tagged per customer specification. (\$10.00 charge per tag)

Example:
 AHU-1
 FCU-2

Part number for tagging:
 99981-00101

3 Complete Ordering Example: FM050

*V'nom = Maximum flow for each flow meter size



Seamlessly integrated. The new sensor range from Belimo.

Belimo HVAC sensors are designed to work seamlessly with all major building automation and control systems and offer easy installation and high performance. The new range includes reliable and accurate sensors for measuring temperature, humidity, CO₂, and VOC for pipe and duct applications. Belimo sensors provide the highest quality and are backed with first-class service and support.




Air Sensors

Duct / Immersion Temperature Sensors



22	D	T	-	5	2	P
Power 01 = Passive 22 = Active	Application D = Duct / Immersion	Medium T = Temperature		Region 5 = Americas	Signal type 2 = VDC (Volt) Multi Range 4 = 4-20 mA Multi Range A = PT100 B = PT1000 E = Ni1000 JCI L = NTC10k2 M = NTC10k3 Q = NTC20k	Length [mm] H = 2" [50] L = 4" [100] N = 6" [150] P = 8" [200] R = 12" [300] T = 18" [450]

Duct / Immersion Sensor	
Accuracy Active Passive	±1% of measuring range (typ. @ 70°F [21°C]) PT100, PT1000 = ± 0.54°F [0.3°C] @ 32°F [0°C] Ni1000 (JCI) = ±0.72°F [0.4°C] @ 32°F [0°C] NTC 10k2, 10k3, 20k = ±0.36°F [0.2°C] @ 77°F [25°C]
Output	0-5/10 VDC, 4-20 mA, PT100, PT1000, Ni1000 (JCI), 10k2, 10k3, NTC20k
Power Supply	mA: 15 to 24 DC (±10%) VDC: 24 AC/DC (±10%)
Electrical Connection	PG 11 cable gland and ½" NPT conduit adaptor (included)
Ambient Temperature Passive Active	-30°F to +195°F [-35°C to +90°C] -30°F to +160°F [-35°C to +70°C]
Medium Temperature Passive Active	-40°F to +300°F [-40°C to +150°C] -30°F to +320°F [-35°C to +160°C]
Multi Range Selectable	refer to datasheet for setting ranges
Protection	SI Moisture
Degree of Protection	NEMA 4X, IP65
Agency Listing	cULus according to UL60730-1, UL2043, CAN/CSA E60730-1 CE according to 2014/30/EU

For Thermowell pockets & thermal contact fluid for immersion sensors, see accessories on page 20-15.

Duct Temperature Sensor without Housing for FCU, AHU and VAV Applications	
Contact Technical Support for part numbering and pricing or www.belimo.us	
Accuracy 01CT Series - Passive	PT1000 = ±0.54°F [0.3°C] @ 32°F [0°C] Ni1000 (JCI) = ±0.72°F [0.4°C] @ 32°F [0°C] NTC 10k2, 10k3, 20k = ±0.36 °F [0.2°C] @ 77°F [25°C]
Output	PT1000, Ni1000 (JCI), 10k2, 10k3, NTC20k
Probe Length	4" [100 mm] 8" [200 mm]
Cable	6 ft. [2 m] stainless steel probe with adjustable flange mount accessory: A-22D-A03
Protection	SI Moisture
Degree of Protection	NEMA 4X, IP65
Agency Listing	cULus according to UL60730-1, UL2043, CAN/CSA E60730-1 CE according to 2014/30/EU

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All prices are in US Dollars (USD)

Air		Measuring Values	Output Signal		Multi-Range	Probe	Degree of Protection	NIST	List Price
MODEL #	Temperature	Active	Passive	Selectable	Length [mm]	NEMA 4X / IP65	Adder		
01DT-5AH	•		PT100		2" [50]	•		\$49	
01DT-5AL	•		PT100		4" [100]	•		\$49	
01DT-5AN	•		PT100		6" [150]	•		\$49	
01DT-5AP	•		PT100		8" [200]	•		\$49	
01DT-5AR	•		PT100		12" [300]	•		\$49	
01DT-5AT	•		PT100		18" [450]	•		\$56	
01DT-5BH	•		PT1000		2" [50]	•		\$49	
01DT-5BL	•		PT1000		4" [100]	•		\$49	
01DT-5BN	•		PT1000		6" [150]	•		\$49	
01DT-5BP	•		PT1000		8" [200]	•		\$49	
01DT-5BR	•		PT1000		12" [300]	•		\$49	
01DT-5BT	•		PT1000		18" [450]	•		\$56	
01DT-5EH	•		Ni1000 (JCI)		2" [50]	•		\$39	
01DT-5EL	•		Ni1000 (JCI)		4" [100]	•		\$39	
01DT-5EN	•		Ni1000 (JCI)		6" [150]	•		\$39	
01DT-5EP	•		Ni1000 (JCI)		8" [200]	•		\$39	
01DT-5ER	•		Ni1000 (JCI)		12" [300]	•		\$39	
01DT-5ET	•		Ni1000 (JCI)		18" [450]	•		\$56	
01DT-5LH	•		10k2		2" [50]	•		\$32	
01DT-5LL	•		10k2		4" [100]	•		\$32	
01DT-5LN	•		10k2		6" [150]	•		\$32	
01DT-5LP	•		10k2		8" [200]	•		\$32	
01DT-5LR	•		10k2		12" [300]	•		\$32	
01DT-5LT	•		10k2		18" [450]	•		\$49	
01DT-5MH	•		10k3		2" [50]	•		\$32	
01DT-5ML	•		10k3		4" [100]	•		\$32	
01DT-5MN	•		10k3		6" [150]	•		\$32	
01DT-5MP	•		10k3		8" [200]	•		\$32	
01DT-5MR	•		10k3		12" [300]	•		\$32	
01DT-5MT	•		10k3		18" [450]	•		\$49	
01DT-5QH	•		NTC20k		2" [50]	•		\$32	
01DT-5QL	•		NTC20k		4" [100]	•		\$32	
01DT-5QN	•		NTC20k		6" [150]	•		\$32	
01DT-5QP	•		NTC20k		8" [200]	•		\$32	
01DT-5QR	•		NTC20k		12" [300]	•		\$32	
01DT-5QT	•		NTC20k		18" [450]	•		\$49	
22DT-52H	•	0-5/10 VDC		•	2" [50]	•	\$75	\$157	
22DT-52L	•	0-5/10 VDC		•	4" [100]	•	\$75	\$157	
22DT-52N	•	0-5/10 VDC		•	6" [150]	•	\$75	\$157	
22DT-52P	•	0-5/10 VDC		•	8" [200]	•	\$75	\$157	
22DT-52R	•	0-5/10 VDC		•	12" [300]	•	\$75	\$157	
22DT-52T	•	0-5/10 VDC		•	18" [450]	•	\$75	\$157	
22DT-54H	•	4-20 mA		•	2" [50]	•	\$75	\$157	
22DT-54L	•	4-20 mA		•	4" [100]	•	\$75	\$157	
22DT-54N	•	4-20 mA		•	6" [150]	•	\$75	\$157	
22DT-54P	•	4-20 mA		•	8" [200]	•	\$75	\$157	
22DT-54R	•	4-20 mA		•	12" [300]	•	\$75	\$157	
22DT-54T	•	4-20 mA		•	18" [450]	•	\$75	\$157	


Duct / Immersion


Air Sensors

Duct Averaging, Cable, Low Temperature Limit Detection




01	D	TS	-	5	0	4	X
Power 01 = Passive 22 = Active	Application C = Cable D = Low Temp Limit Detection (Duct) M = Averaging (Duct)	Medium T = Temperature TS = Temperature & Switch		Region 5 = Americas	Signal type 0 = Switch 2 = VDC (Volt) Multi Range 4 = 4-20 mA Multi Range A = PT100 B = PT1000 E = Ni1000 JCI L = NTC10k2 M = NTC10k3 Q = NTC20k	Length / Probe [mm] H = 2" [50] L = 4" [100] P = 8" [200] 4 = 10 ft. [3 m] 5 = 20 ft. [6 m]	Details 01DTS-... X = Manual Reset

Duct Averaging	
	
Accuracy 22MT Series - Active 01MT Series - Passive	±3% of measuring range (typ. @ 70°F [21°C]) PT1000 = ±0.54°F [0.3°C] @ 32°F [0°C]
Power Supply 22MT Active	mA: 15 to 24 DC (±10%) VDC: 24 AC/DC (±10%)
Output	4-20 mA, 0-5/10 VDC, PT1000, Ni1000 (JCI), 10k2, 10k3, NTC20k
Ambient Temperature Passive Active	-30°F to +160°F [-35°C to +70°C] -30°F to +160°F [-35°C to +70°C]
Medium Temperature Passive Active	-30°F to +160°F [-35°C to +70°C] -30°F to +160°F [-35°C to +70°C]
Electrical Connection	PG 11 cable gland and ½" NPT conduit adaptor (included)
Multi Range	refer to datasheet
Degree of Protection	NEMA 4X, IP65
Agency Listing	cULus according to UL60730-1, UL2043, CAN/CSA E60730-1 CE according to 2014/30/EU

Cable	
	
Accuracy 22CT Series - Active (Housing) 01CT Series - Passive (Cable Only)	±1% of measuring range (typ. @ 70°F [21°C]) PT1000 = ±0.54°F [0.3°C] @ 32°F [0°C] Ni1000 (JCI) = ±0.72°F [0.4°C] @ 32°F [0°C] NTC 10k2, 10k3, 20k = ±0.36°F [0.2°C] @ 77°F [25°C]
Power Supply 22CT	mA: 15 to 24 DC (±10%) VDC: 24 AC/DC (±10%)
Output	4-20 mA, 0-5/10 VDC, PT100, PT1000, Ni1000 (JCI), 10k2, 10k3, NTC20k
Protection	SI Moisture
Degree of Protection	NEMA 4X, IP65
Agency Listing	cULus according to UL60730-1, UL2043, CAN/CSA E60730-1 CE according to 2014/30/EU

Note: Refer to datasheet for plenum rated cable specifications and temperature ranges.

Low Temperature Limit Detection	
	
Accuracy	±0.9°F (±0.5°C)
Output	relay SPCO max.10A
Ambient Temperature	-30°F to +160°F [-35°C to +70°C]
Medium Temperature	-30°F to +195°F [-35°C to +90°C]
Electrical Connection	M16 cable gland
Setpoint Range	14°F to 54°F [-10°C to +12°C]
Degree of Protection	NEMA 4, IP65

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Air		Measuring Values	Output Signal		Relay	Temperature	Probe	Degree of Protection		Reset		NIST	List Price
MODEL #	Temperature	Active	Passive	SPCO max.10A	Multi Range Selectable	Length [mm]	NEMA 4X/IP65	NEMA 4/IP65	Automatic	Manual	Adder		
Duct Averaging	01MT-5B4	•		PT1000			10 ft [3 m]	•					\$262
	01MT-5B5	•		PT1000			20 ft [6 m]	•					\$300
	01MT-5E4	•		Ni1000 (JCI)			10 ft [3 m]	•					\$243
	01MT-5E5	•		Ni1000 (JCI)			20 ft [6 m]	•					\$300
	01MT-5L4	•		10k2			10 ft [3 m]	•					\$187
	01MT-5L5	•		10k2			20 ft [6 m]	•					\$232
	01MT-5M4	•		10k3			10 ft [3 m]	•					\$187
	01MT-5M5	•		10k3			20 ft [6 m]	•					\$232
	01MT-5Q4	•		NTC20k			10 ft [3 m]	•					\$187
	01MT-5Q5	•		NTC20k			20 ft [6 m]	•					\$232
	22MT-524	•	0-5/10 VDC			•	10 ft [3 m]	•				\$75	\$393
	22MT-525	•	0-5/10 VDC			•	20 ft [6 m]	•				\$75	\$431
	22MT-544	•	4-20 mA			•	10 ft [3 m]	•				\$75	\$393
	22MT-545	•	4-20 mA			•	20 ft [6 m]	•				\$75	\$431
Cable	01CT-5AH	•		PT100			2" [50]	•					\$37
	01CT-5BH	•		PT1000			2" [50]	•					\$37
	01CT-5EH	•		Ni1000 (JCI)			2" [50]	•					\$37
	01CT-5LH	•		10k2			2" [50]	•					\$22
	01CT-5MH	•		10k3			2" [50]	•					\$22
	01CT-5QH	•		NTC20k			2" [50]	•					\$22
	22CT-52H	•	0-5/10 VDC			•	2" [50]	•				\$75	\$157
	22CT-54H	•	4-20 mA			•	2" [50]	•				\$75	\$157
	01CT-5BL	•		PT1000			4" [100]	•					\$37
	01CT-5LL	•		10k2			4" [100]	•					\$26
	01CT-5ML	•		10k3			4" [100]	•					\$26
	01CT-5QL	•		NTC20k			4" [100]	•					\$26
	01CT-5BP	•		PT1000			8" [200]	•					\$37
	01CT-5LP	•		10k2			8" [200]	•					\$26
	01CT-5MP	•		10k3			8" [200]	•					\$26
01CT-5QP	•		NTC20k			8" [200]	•					\$26	
For Flanged Mounted Duct Temperature Sensors without Housing for FCU, AHU, and VAV Applications - Select 01CT Cable Temperature Sensor plus A-22D-A03 Accessory.													
Low Temperature Limit Detection	01DTS-504	•			•		10 ft [3 m]	•	•				\$240
	01DTS-504X	•			•		10 ft [3 m]	•		•			\$258
	01DTS-505	•			•		20 ft [6 m]	•	•				\$262
	01DTS-505X	•			•		20 ft [6 m]	•		•			\$288

Air Sensors

Duct Humidity / Temperature, Duct Air Quality, Differential Pressure Sensor, Differential Pressure Switch



22	D	TM	-	5	1	M	6
Power 01 = Passive 22 = Active	Application A = Air D = Duct	Medium C = CO2 CK = CO2, VOC, Temperature, CO2/VOC MIX CM = CO2, VOC, Temperature CV = CO2, VOC DP = Differential Pressure Sensor PS = Differential Pressure Switch TC = Temperature & CO2 TH = Temperature & Humidity TM = Temperature, Humidity, CO2		Region 5 = Americas	Signal type 0 = Switch 1 = VDC (Volt) 3 = 4-20 mA 5 = Modbus 6 = BACnet 8 = 4-20 mA and VDC Multi Range	Range / Length M = 5" [140 mm] Q = DPA 1"wc [250Pa] Selectable R = APS 0.08" to 1.2"wc [20 - 300Pa] U = APS 0.2" to 2.0"wc [50 - 500Pa] 1 = APS 0.8" to 4.0"wc [200 - 1000Pa] 4 = DPA 0-10"wc [2500Pa] Selectable / APS 2.0" to 10"wc [500 - 2500Pa] 6 = DPA 0-28"wc [7000Pa] Selectable	Details 22DTM-... 6 = LCD Display 22DTH-... B = PT1000 E = Ni1000 JCI L = NTC10k2 M = NTC10k3 Q = NTC20k 22ADP-... A = Auto Zero B = Auto Zero + LCD L = LCD Display 01APS-... 1 = Multi Pack

Duct Humidity Temperature	
Accuracy Humidity	±2% between 10 to 90% rH (typ. @ 70°F [21°C])
Temperature Active	±1% of measuring range (typ. @ 70°F [21°C])
Temperature Passive	PT1000 = ±0.54°F [0.3°C] @ 32°F [0°C] Ni1000 (JCI) = ±0.72°F [0.4°C] @ 32°F [0°C] NTC 10k2, 10k3, 20k = ±0.36°F [0.2°C] @ 77°F [25°C]
Power Supply	mA: 15 to 24 DC (±10%) VDC: 24 AC/DC (±10%)
Output	4-20 mA, 0-5/10 VDC, PT1000, Ni1000 (JCI), 10k2, 10k3, NTC20k
Ambient Temperature Passive	-4°F to +160°F [-20°C to +70°C]
Ambient Temperature Active	-4°F to +160°F [-20°C to +70°C]
Medium Temperature Passive	-4°F to +160°F [-20°C to +70°C]
Medium Temperature Active	-4°F to +160°F [-20°C to +70°C]
Electrical Connection	PG 11 cable gland and ½" NPT conduit adaptor (included)
Measuring Range	refer to datasheet
Temperature Multi Range	refer to datasheet
Enthalpy	0 to 85 kJ/kg
Dew Point	32°F to 122°F [0°C to 50°C] and -4°F to +176°F [-20°C to +80°C]
Relative Humidity	0 to 100% rH non-condensing
Absolute Humidity	0 to 50 g/m³ and 0 to 80 g/m³
Degree of Protection	NEMA 4X, IP65
Agency Listing	cULus according to UL60730-1, UL2043, CAN/CSA E60730-1 CE according to 2014/30/EU



Duct Air Quality CO2 / VOC	
Accuracy Temperature Active	±1% of measuring range @ 70°F [21°C]
Accuracy Humidity	±2% between 10 to 90% rH @ 70°F [21°C]
Accuracy CO2	±75 ppm, >750 ppm: ±10%
Power Supply	mA: 15 to 24 DC (±10%) VDC: 24 AC/DC (±10%)
Output	4-20 mA, 0-5/10 VDC
Ambient Temperature	32°F to 122°F [0°C to 50°C]
Medium Temperature	32°F to 122°F [0°C to 50°C]
Electrical Connection	PG11 / M20 cable gland (depending on model) and ½" NPT conduit adaptor (included)
Measuring Range	refer to datasheet
Temperature	32°F to 122°F [0°C to 50°C]
Humidity	0 to 100% rH
CO2	0 to 2000 ppm
VOC	refer to datasheet
Degree of Protection	NEMA 4X, IP65
Agency Listing	cULus according to UL60730-1, UL2043, CAN/CSA E60730-1 CE according to 2014/30/EU



Differential Pressure Switch	
Accuracy	±15% (tolerance for upper and lower switching pressure)
Output	SPDT 1 amps @ 250 VAC
Electrical Connection	M20 cable gland & ½" NPT conduit adaptor
Measuring Range	refer to datasheet
Pressure	0.08 to 1.20"wc [20 to 300Pa] 0.20 to 2.00"wc [50 to 500Pa] 0.80 to 4.00"wc [200 to 1000Pa] 2.00 to 10.00"wc [500 to 2500Pa]
Ambient Temperature	-4°F to +185°F [-20°C to +85°C]
Medium Temperature	-4°F to +185°F [-20°C to +85°C]
Degree of Protection	NEMA 3, IP54
Agency Listing	ETL listed



Differential Pressure Sensor	
Accuracy	refer to datasheet for accuracy on all field selectable pressure ranges
Power Supply	mA: 15 to 24 DC (±10%) VDC: 24 AC/DC (±10%)
Output	4-20 mA, 0-5/10 VDC
Ambient Temperature	14°F to 122°F [-10°C to +50°C]
Medium Temperature	14°F to 122°F [-10°C to +50°C]
Electrical Connection	PG11 / M20 cable gland (depending on model) and ½" NPT conduit adaptor (included)
Measuring Range	refer to datasheet
Pressure	0 to 1"wc (8x field selectable) 0 to 10"wc (8x field selectable) 0 to 28"wc (8x field selectable)
Degree of Protection	NEMA 4X, IP65
Agency Listing	cULus according to UL60730-1, UL2043, CAN/CSA E60730-1 CE according to 2014/30/EU
Optional Features	Auto Zero LCD ModBus



For accessories, see page 20-14.

Air	Measuring Values					Output Signal		Comm.	Relay	Temp.	Pressure				Humidity	CO ₂	Probe	Degree of Protection		NIST	List Price				
						Active	Passive																		
MODEL #	Temperature	Relative Humidity	Differential Pressure	CO ₂	VOC			BACnet MS/TP	Modbus RTU	SPDT 1 Amps @ 250 VAC	Multi Range Selectable	0.08-1.20"wc [20-300Pa]	0.80-4.00"wc [200-1000Pa]	0.20-2.00"wc [50-500Pa]	2.00-10.00"wc [500-2500Pa]	Multi Range Selectable	0-100% rH non-condensing	0-2000 ppm	Length [mm]	NEMA 4X / IP65	NEMA 3 / IP54	LCD - Display Type	Auto Zero - Calibration	Adder	
Duct Humidity / Temperature	22DTH-51M	•	•			0-5/10 VDC					•						•		5" [140]	•				\$75	\$307
	22DTH-51MB	•	•			0-5/10 VDC											•		5" [140]	•				\$75	\$307
	22DTH-51ME	•	•			0-5/10 VDC											•		5" [140]	•				\$75	\$307
	22DTH-51ML	•	•			0-5/10 VDC											•		5" [140]	•				\$75	\$307
	22DTH-51MM	•	•			0-5/10 VDC											•		5" [140]	•				\$75	\$307
	22DTH-51MQ	•	•			0-5/10 VDC											•		5" [140]	•				\$75	\$307
	22DTH-53M	•	•			4-20 mA						•					•		5" [140]	•				\$75	\$307
	22DTH-53MB	•	•			4-20 mA											•		5" [140]	•				\$75	\$307
	22DTH-53ME	•	•			4-20 mA											•		5" [140]	•				\$75	\$307
	22DTH-53ML	•	•			4-20 mA											•		5" [140]	•				\$75	\$307
	22DTH-53MM	•	•			4-20 mA											•		5" [140]	•				\$75	\$307
	22DTH-53MQ	•	•			4-20 mA											•		5" [140]	•				\$75	\$307
	22DTH-55M	•	•			0-5/10 VDC			•								•		5" [140]	•				\$75	\$375
22DTH-56M	•	•			0-5/10 VDC			•								•		5" [140]	•				\$75	\$375	
Air Quality Duct	22DC-51			•		0-5/10 VDC											•	7" [180]	•				\$75	\$524	
	22DC-53			•		4-20 mA											•	7" [180]	•				\$75	\$524	
	22DCK-51	•		•	•	0-5/10 VDC											•	7" [180]	•				\$75	\$1,011	
	22DCM-51	•		•	•	0-5/10 VDC											•	7" [180]	•				\$75	\$936	
	22DCV-51			•	•	0-5/10 VDC											•	7" [180]	•				\$75	\$861	
	22DTC-51	•		•		0-5/10 VDC											•	7" [180]	•				\$75	\$599	
	22DTC-53	•		•		4-20 mA											•	7" [180]	•				\$75	\$599	
	22DTM-51	•	•	•		0-5/10 VDC											•	7" [180]	•				\$75	\$787	
	22DTM-51M6	•	•	•		0-5/10 VDC											•	7" [180]	•		•		\$75	\$918	
	22DTM-56	•	•	•		0-5/10 VDC			•								•	7" [180]	•				\$75	\$805	
Differential Pressure Sensor	22ADP-58Q		•			4-20 mA	0-5/10 VDC										•			•			\$75	\$281	
	22ADP-58QL		•			4-20 mA	0-5/10 VDC										•			•			\$75	\$345	
	22ADP-58QA		•			4-20 mA	0-5/10 VDC										•			•			\$75	\$360	
	22ADP-58QB		•			4-20 mA	0-5/10 VDC										•			•	•		\$75	\$468	
	22ADP-55Q		•			4-20 mA	0-5/10 VDC		•								•			•			\$75	\$345	
	22ADP-55QL		•			4-20 mA	0-5/10 VDC		•								•			•			\$75	\$449	
	22ADP-55QA		•			4-20 mA	0-5/10 VDC		•								•			•			\$75	\$449	
	22ADP-55QB		•			4-20 mA	0-5/10 VDC		•								•			•	•		\$75	\$524	
	22ADP-584		•			4-20 mA	0-5/10 VDC										•			•			\$75	\$281	
	22ADP-584L		•			4-20 mA	0-5/10 VDC										•			•			\$75	\$345	
	22ADP-554		•			4-20 mA	0-5/10 VDC		•								•			•			\$75	\$345	
	22ADP-554L		•			4-20 mA	0-5/10 VDC		•								•			•			\$75	\$449	
	22ADP-586		•			4-20 mA	0-5/10 VDC										•			•			\$75	\$281	
	22ADP-586L		•			4-20 mA	0-5/10 VDC										•			•			\$75	\$345	
22ADP-556		•			4-20 mA	0-5/10 VDC		•								•			•			\$75	\$345		
22ADP-556L		•			4-20 mA	0-5/10 VDC		•								•			•			\$75	\$449		
Differential Pressure Switch	01APS-50R		•							•										•				\$66	
	01APS-50R.1 (45 pieces)		•							•										•				\$2,443	
	01APS-50U		•							•										•				\$66	
	01APS-50U.1 (45 pieces)		•							•										•				\$2,443	
	01APS-501		•							•										•				\$66	
	01APS-501.1 (45 pieces)		•							•										•				\$2,443	
	01APS-504		•							•										•				\$66	
	01APS-504.1 (45 pieces)		•							•										•				\$2,443	


Air Sensors


Outdoor Air Temperature, Outdoor Humidity / Temperature



22	U	TH	-	5	1	0	B
Power 01 = Passive 22 = Active	Application U = Outdoor	Medium T = Temperature TH = Temperature & Humidity		Region 5 = Americas	Signal type 1 = VDC (Volt) 2 = VDC (Volt) Multi Range 3 = 4-20 mA 4 = 4-20 mA Multi Range 5 = Modbus 6 = BACnet A = PT100 B = PT1000 E = Ni1000 JCI L = NTC10k2 M = NTC10k3 Q = NTC20k	Length [mm] 0 = If N/A	Details 22UTH-... B = PT1000 E = Ni1000 JCI L = NTC10k2 M = NTC10k3 Q = NTC20k X = Weather Shield

SENSORS

Outdoor Air Temperature	
	
Accuracy Temperature Active Passive	$\pm 1\%$ of measuring range @ 70°F [21°C] PT100, PT1000 = $\pm 0.54^\circ\text{F}$ [0.3°C] @ 32°F [0°C] Ni1000 (JCI) = $\pm 0.72^\circ\text{F}$ [0.4°C] @ 32°F [0°C] NTC 10k2, 10k3, 20k = $\pm 0.36^\circ\text{F}$ [0.2°C] @ 77°F [25°C]
Power Supply	mA: 15 to 24 DC ($\pm 10\%$) VDC: 24 AC/DC ($\pm 10\%$)
Output	4-20 mA, 0-5/10 VDC, PT100, PT1000, Ni1000 (JCI), 10k2, 10k3, NTC20k
Ambient Temperature Passive Active	-40°F to +195°F [-40°C to +90°C] -30°F to +160°F [-35°C to +70°C]
Medium Temperature Passive Active	-40°F to +195°F [-40°C to +90°C] -30°F to +160°F [-35°C to +70°C]
Electrical Connection	PG 11 cable gland and 1/2" NPT conduit adaptor
Multi Range Selectable	refer to datasheet for setting ranges (Active)
Degree of Protection	NEMA 4X, IP65
Agency Listing	cULus according to UL60730-1, UL2043, CAN/CSA E60730-1 CE according to 2014/30/EU

Outdoor Humidity Temperature	
	
Accuracy Humidity Temperature Active Passive	$\pm 2\%$ between 10 to 90% rH (typ. @ 70°F [21°C]) $\pm 1\%$ of measuring range (typ. @ 70°F [21°C]) PT1000 = $\pm 0.54^\circ\text{F}$ [0.3°C] @ 32°F [0°C] Ni1000 (JCI) = $\pm 0.72^\circ\text{F}$ [0.4°C] @ 32°F [0°C] NTC 10k2, 10k3, 20k = $\pm 0.36^\circ\text{F}$ [0.2°C] @ 77°F [25°C]
Power Supply	mA: 15 to 24 DC ($\pm 10\%$) VDC: 24 AC/DC ($\pm 10\%$)
Output	4-20 mA, 0-5/10 VDC, PT1000, Ni1000 (JCI), 10k2, 10k3, NTC20k
Ambient Temperature Passive Active	-40°F to +160°F [-40°C to +70°C] -30°F to +160°F [-35°C to +70°C]
Medium Temperature Passive Active	-40°F to +160°F [-40°C to +70°C] -30°F to +160°F [-35°C to +70°C]
Electrical Connection	PG11 cable gland and 1/2" NPT conduit adaptor (included)
Measuring Range Temperature Enthalpy Dew Point Relative Humidity Absolute Humidity	range selectable (Active) refer to datasheet 0 to 85 kJ/kg 32°F to 122°F [0°C to 50°C] and -4°F to +176°F [-20°C to +80°C] 0 to 100% rH non-condensing 0 to 50 g/m ³ and 0 to 80 g/m ³
Degree of Protection	NEMA 4X, IP65
Agency Listing	cULus according to UL60730-1, UL2043, CAN/CSA E60730-1 CE according to 2014/30/EU

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Air	Measuring Values		Output Signal			Communication		Measuring Range		Degree of Protection		NIST	List Price	
			Active	Passive	Temperature			Humidity						
MODEL #	Temperature	Relative Humidity				BACnet MS/TP	Modbus RTU	Multi Range Selectable	0-100% rH non-condensing	NEMA 4X / IP65	Weather Shield	Adder		
Outdoor Air Temperature	01UT-5A	•			PT100					•			\$71	
	01UT-5B	•			PT1000					•			\$71	
	01UT-5E	•			Ni1000 (JCI)					•			\$64	
	01UT-5L	•			10k2					•			\$45	
	01UT-5M	•			10k3					•			\$45	
	01UT-5Q	•			NTC20k					•			\$45	
	22UT-52	•		0-5/10 VDC				•		•			\$75	\$169
	22UT-54	•		4-20 mA				•		•			\$75	\$169
Outdoor Humidity / Temperature	22UTH-51	•	•	0-5/10 VDC				•	•	•			\$75	\$318
	22UTH-510B	•	•	0-5/10 VDC	PT1000				•	•			\$75	\$318
	22UTH-510E	•	•	0-5/10 VDC	Ni1000 (JCI)				•	•			\$75	\$318
	22UTH-510L	•	•	0-5/10 VDC	10k2				•	•			\$75	\$318
	22UTH-510M	•	•	0-5/10 VDC	10k3				•	•			\$75	\$318
	22UTH-510Q	•	•	0-5/10 VDC	NTC20k				•	•			\$75	\$318
	22UTH-53	•	•	4-20 mA				•	•	•			\$75	\$318
	22UTH-530B	•	•	4-20 mA	PT1000				•	•			\$75	\$318
	22UTH-530E	•	•	4-20 mA	Ni1000 (JCI)				•	•			\$75	\$318
	22UTH-530L	•	•	4-20 mA	10k2				•	•			\$75	\$318
	22UTH-530M	•	•	4-20 mA	10k3				•	•			\$75	\$318
	22UTH-530Q	•	•	4-20 mA	NTC20k				•	•			\$75	\$318
	22UTH-510X	•	•	0-5/10 VDC				•	•	•	•		\$75	\$655
	22UTH-530X	•	•	4-20 mA				•	•	•	•		\$75	\$655
	22UTH-550X	•	•	0-5/10 VDC				•	•	•	•		\$75	\$730
	22UTH-560X	•	•	0-5/10 VDC			•	•	•	•	•		\$75	\$730


Water Sensors


Surface Mount Temperature, Condensation Sensor, Liquid Gage, Liquid Differential




22	H	H	-	5	0	0	X
Power 01 = Passive 22 = Active	Application H = Surface Mount (Housing) S = Surface Mount (Cable) W = Water	Medium DP = Differential Pressure H = Condensation (Humidity) P = Gage Pressure T = Temperature		Region 5 = Americas	Signal type 0 = Switch 1 = VDC (Volt) 2 = VDC (Volt) Multi Range 3 = 4-20 mA 4 = 4-20 mA Multi Range A = PT100 B = PT1000 E = Ni1000 JCI L = NTC10k2 M = NTC10k3 Q = NTC20k	Range / Length 0 = If N/A 1 = 0-15 psi 2 = 0-30 psi 3 = 6 ft. (2 m) 4 = 0-50 psi 5 = WDP 0-100 psi 6 = WP 0-100 psi 7 = 200 psi	Details 22HH-... X = Remote Cable Probe

Surface Mount Temperature		
Accuracy Temperature Active Passive	±1% of measuring range (typ. @ 70°F [21°C]) PT100, PT1000 = ±0.54°F [0.3°C] @ 32°F [0°C] Ni1000 (JCI) = ±0.72°F [0.4°C] @ 32°F [0°C] NTC 10k2, 10k3, 20k = ±0.36 °F [0.2°C] @ 77°F [25°C]	
Power Supply	mA: 15 to 24 DC (±10%) VDC: 24 AC/DC (±10%)	
Output	4-20 mA, 0-5/10 VDC, PT100, PT1000, Ni1000 (JCI), 10k2, 10k3, NTC20k	
Ambient Temperature Passive Active	-30°F to +195°F [-35°C to +90°C] -30°F to +160°F [-35°C to +70°C]	
Medium Temperature Passive Active	-30°F to +195°F [-35°C to +90°C] -30°F to +160°F [-35°C to +70°C]	
Electrical Connection (Active)	PG 11 cable gland and ½" NPT conduit adaptor (included)	
Measuring Range Temperature	range selectable (Active) refer to datasheet	
Protection	SI Moisture	
Degree of Protection	NEMA 4X, IP65	
Agency Listing	cULus according to UL60730-1, UL2043, CAN/CSA E60730-1 CE according to 2014/30/EU	

Liquid Pressure Transmitter		
Accuracy Pressure	0.5% full scale (FS) @ 77°F [25°C]	
Power Supply	mA: 15 to 24DC (±10%) VDC: 15 to 24 DC (±10%) or 24 AC (±10%)	
Output	4-20 mA, 0-10 VDC	
Thread/Port Connection	¼" NPT (internal)	
Ambient Temperature	-40°F to +220°F [-40°C to +105°C]	
Medium Temperature	-40°F to +255°F [-40°C to +125°C]	
Electrical Connection	MVS plug connection (DIN EN175301-803)	
Measuring Range Pressure	0 to 15 psi 0 to 50 psi 0 to 100 psi 0 to 200 psi	
Degree of Protection	NEMA 4, IP65	

Condensation Sensor		
Power Supply	mA: 15 to 24 DC (±10%) VDC: 24 AC/DC (±10%)	
Output	Relay SPCO 24V / 1A	
Ambient Temperature	-4°F to +140°F [-20°C to +60°C]	
Medium Temperature	-4°F to +140°F [-20°C to +60°C]	
Electrical Connection	PG 11 cable gland and ½" NPT conduit adaptor (included)	
Degree of Protection	NEMA 4X, IP65	
Agency Listing	cULus according to UL60730-1, UL2043, CAN/CSA E60730-1 CE according to 2014/30/EU	

Liquid Differential		
Accuracy Pressure	<±1% FS 23°F to 167°F [-5°C to +75°C]	
Power Supply	mA: 15 to 24 DC (±10%) VDC: 15 to 24 DC (±10%) or 24 AC (±10%)	
Output	4-20 mA, 0-10 VDC	
Ambient Temperature	15°F to 120°F [-10°C to +50°C]	
Medium Temperature	15°F to 175°F [-10°C to +80°C]	
Electrical Connection	MVS plug connection (DIN EN175301-803)	
Thread/Port Connection	¼" NPT (internal)	
Measuring Range Pressure	0 to 15 psi 0 to 30 psi 0 to 50 psi 0 to 100 psi	
Degree of Protection	NEMA 4, IP65	

For accessories, see page 20-15.

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Water	Measuring Values				Relay	Output Signal		Temperature	Pressure					Cable	Enclosure Type		Display		NIST	List Price		
	MODEL #	Temperature	Condensation	Differential Pressure		Gage Pressure	SPCO 24V / 1A		Active	Passive	Multi Range Selectable	0 to 15 psi	0 to 30 psi		0 to 50 psi	0 to 100 psi	0 to 200 psi	Cable Length			NEMA 4X / IP65	NEMA 4 / IP65
Surface Mount Temperature	01HT-5A	•					PT100									•					\$54	
	01HT-5B	•					PT1000									•					\$54	
	01HT-5E	•					Ni1000 (JCI)									•					\$54	
	01HT-5L	•					10k2									•					\$43	
	01HT-5M	•					10k3									•					\$43	
	01HT-5Q	•					NTC20k									•					\$43	
	22HT-52	•					0-5/10 VDC		•							•					\$75	\$157
	22HT-54	•					4-20 mA		•							•					\$75	\$157
	01ST-5A3	•						PT100							6 ft [2 m]		•					\$39
	01ST-5B3	•						PT1000							6 ft [2 m]		•					\$39
	01ST-5E3	•						Ni1000 (JCI)							6 ft [2 m]		•					\$39
	01ST-5L3	•						10k2							6 ft [2 m]		•					\$29
	01ST-5M3	•						10k3							6 ft [2 m]		•					\$29
	01ST-5Q3	•						NTC20k							6 ft [2 m]		•					\$29
Condensation Sensor	22HH-50	•														•			•			\$206
	22HH-500X	•														•			•	•		\$225
Liquid Pressure	22WP-511						0-10 VDC		•							•					\$330	
	22WP-531						4-20 mA		•							•					\$330	
	22WP-514						0-10 VDC			•						•					\$330	
	22WP-534						4-20 mA			•						•					\$330	
	22WP-516						0-10 VDC				•					•					\$330	
	22WP-536						4-20 mA				•					•					\$330	
	22WP-517						0-10 VDC					•				•					\$330	
	22WP-537						4-20 mA						•			•					\$330	
Liquid Differential	22WDP-511		•				0-10 VDC		•							•					\$824	
	22WDP-531		•				4-20 mA		•							•					\$824	
	22WDP-512		•				0-10 VDC			•						•					\$824	
	22WDP-532		•				4-20 mA			•						•					\$824	
	22WDP-514		•				0-10 VDC				•					•					\$824	
	22WDP-534		•				4-20 mA				•					•					\$824	
	22WDP-515		•				0-10 VDC					•				•					\$824	
	22WDP-535		•				4-20 mA						•			•					\$824	


Flow Meters

NPT Female Inlet and Male Outlet



FM	050			
FM = Flow Meter	Valve Size 050 = 1/2" 075 = 3/4" 100 = 1" 125 = 1 1/4" 150 = 1 1/2" 200 = 2"	GPM Range 0.07 - 6.6* 0.13 - 12.4* 0.23 - 21.8* 0.36 - 34.2* 0.49 - 47.5* 1.09 - 91.2*	Power Supply 24 = 24 VAC/DC	Output Signal Analog 0 - 10 VDC

SENSORS

Flow Meters	
	
Service	chilled or hot water, up to 60% glycol max, condenser water (open loop/steam not allowed)
End Fitting	NPT female inlet, NPT male outlet
Sensor Housing	forged brass, nickel plated
Sensor Housing Pressure Rating	360 psi
Media Temperature Range	-4°F to +250°F [-20°C to +120°C]
Ambient Temperature Range	32°F to 122°F [0°C to 50°C]
Inlet Length to Meet Specified Measurement Accuracy	inlet: 5X nominal pipe size (NPS) outlet: no requirement
Flow Sensor Technology	ultrasonic with glycol and temperature compensation
Electrical Connection	3 ft., 18 GA plenum cable
Power Supply	24 VAC/DC
Output Signal	analog (0-10 VDC)
0V	sensor has no supply voltage
0.3V	sensor has supply voltage but is in error state
0.5V	0% of V'nom*
10V	100% of V'nom*
Flow Measurement Tolerance	±2% **
Flow Measurement Repeatability	±0.5%

*V'nom is the maximum/nominal flow rate for each size
 **All flow accuracies are at 77°F [25°C] / Glycol 0% vol.

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Water		Measuring Values	Output Signal	Pressure						Enclosure Type	List Price
MODEL #		Flow	0-10 VDC	0.07-6.6 GPM	0.13-12.4 GPM	0.23-21.8 GPM	0.36-34.2 GPM	0.49-47.5 GPM	1.09-91.2 GPM	NEMA 1/ IP54	
Flow Meters	FM050	•	•	•						•	\$582
	FM075	•	•		•					•	\$590
	FM100	•	•			•				•	\$780
	FM125	•	•				•			•	\$1,210
	FM150	•	•					•		•	\$1,300
	FM200	•	•						•	•	\$1,500

Sensor Accessories Air



Model Number	01DT	22DT	22DTH	22DTC	22DTM	22DC	22DCV	22DCK	22DCM	01APS	22ADP	List Price
A-22AP-A01 Metal duct connectors, L = 1.5" (40 mm)										•	•	\$15
A-22AP-A03 Metal duct connectors, L = 4" (100 mm)										•	•	\$21
A-22AP-A05.1 6 ft. (2 m) PVC tube and 2 plastic duct probes for 01APS pressure switch (multipack - 50 pcs)										•		\$750
A-22D-A03 Mounting flange for duct temperature sensors Ø 0.25" (6 mm)	•	•										\$9
A-22D-A34 Mounting flange for duct humidity and air quality sensors			•	•	•	•	•	•	•			\$15

SENSORS

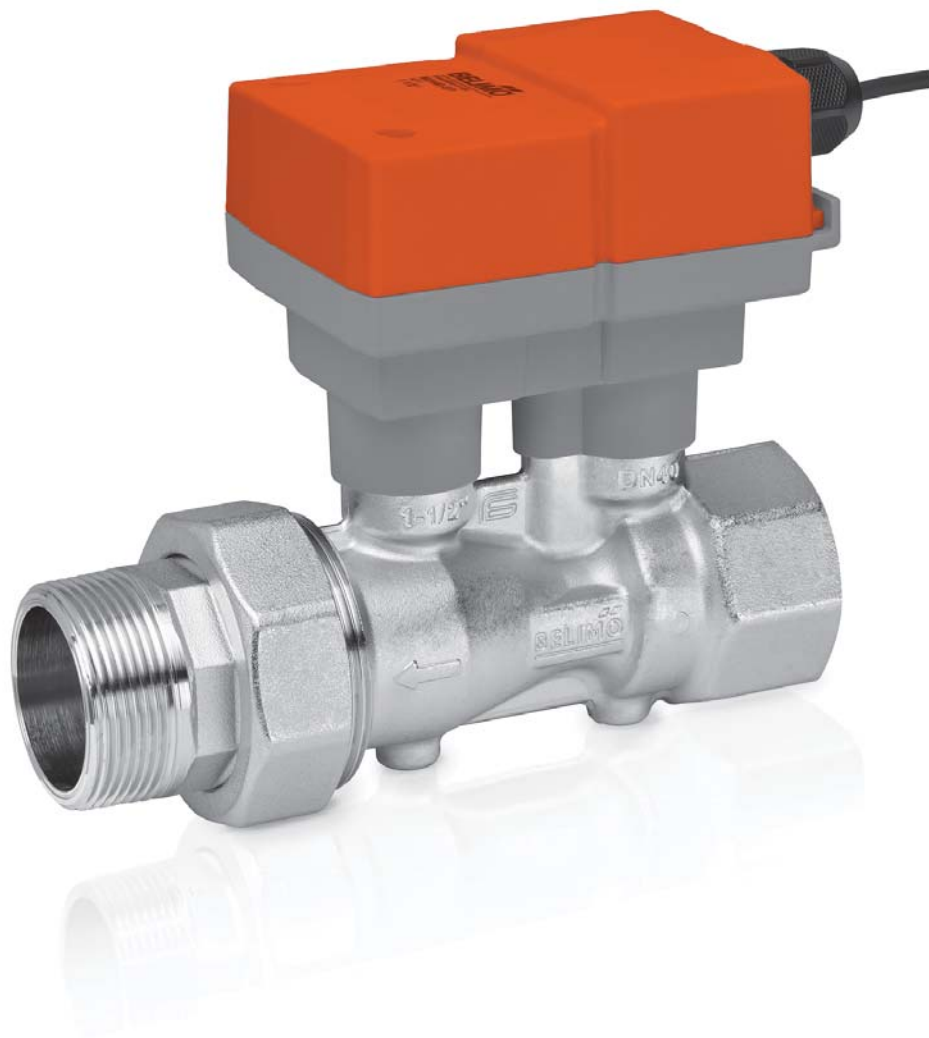
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Model Number	01DT	22DT	01ST	01HT	22WP	22WDP	List Price
A-22P-A05 Thermowell (2 part) stainless steel 2" (50 mm) ½" NPT	•	•					\$41
A-22P-A07 Thermowell (2 part) stainless steel 4" (100 mm) ½" NPT	•	•					\$43
A-22P-A09 Thermowell (2 part) stainless steel 6" (150 mm) ½" NPT	•	•					\$51
A-22P-A11 Thermowell (2 part) stainless steel 8" (200 mm) ½" NPT	•	•					\$64
A-22P-A13 Thermowell (2 part) stainless steel 12" (300 mm) ½" NPT	•	•					\$97
A-22P-A15 Thermowell (2 part) stainless steel 18" (450 mm) ½" NPT	•	•					\$131
A-22P-A17 Thermowell (2 part) brass 2" (50 mm) ½" NPT	•	•					\$30
A-22P-A19 Thermowell (2 part) brass 4" (100 mm) ½" NPT	•	•					\$36
A-22P-A21 Thermowell (2 part) brass 6" (150 mm) ½" NPT	•	•					\$43
A-22P-A23 Thermowell (2 part) brass 8" (200 mm) ½" NPT	•	•					\$52
A-22P-A25 Thermowell (2 part) brass 12" (300 mm) ½" NPT	•	•					\$75
A-22P-A27 Thermowell (2 part) brass 18" (450 mm) ½" NPT	•	•					\$94
A-22P-A36 Thermowell (machined) stainless steel 2" (50 mm) ½" NPT	•	•					\$109
A-22P-A37 Thermowell (machined) stainless steel 4" (100 mm) ½" NPT	•	•					\$146
A-22P-A38 Thermowell (machined) stainless steel 6" (150 mm) ½" NPT	•	•					\$150
A-22P-A39 Thermowell (machined) stainless steel 8" (200 mm) ½" NPT	•	•					\$172
A-22P-A40 Tightening strap 2" (50 mm) for pipe sensor with contact fluid			•	•			\$11
A-22P-A42 Tightening strap 2-35" (900 mm) for pipe sensor with contact fluid			•	•			\$19
A-22P-A44 Thermal contact fluid 0.04 oz (1.2 ml)	•	•	•	•			\$7
A-22WP-A01 Adapter ¼" NPT to ½" NPT					•		\$21
A-22WP-A03 Adapter connection set 6 mm ¼" NPT brass (2x)						•	\$32
A-22WP-A05 Adapter connection set 6 mm ¼" NPT stainless steel (2x)						•	\$142
A-22WP-A07 Adapter connection set 8 mm ¼" NPT brass (2x)						•	\$36
A-22WP-A09 Adapter connection set 8 mm ¼" NPT stainless steel (2x)						•	\$165

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SENSORS



Accurate Flow Measurement Out of the Box

Belimo ultrasonic flow meters are available in 1/2" - 2" sizes and utilize ultrasonic transit time technology to provide an accurate and repeatable hot or chilled water flow measurement.

The flow meter features a patented temperature and glycol compensation logic eliminating calibration requirements, $\pm 2\%$ accuracy of reading and a $\pm 0.5\%$ repeatability to provide precise flow measurement and the maintenance free design ensures reliable operation.

> [Learn More at www.belimo.us](http://www.belimo.us)