

UNITED ELECTRIC

100 Series, Pressure, Vacuum, Diff. Pressure & Temp. Switches Adjustable Ranges 30" Vac to 5000 PSI, -180 to 650°F

DESCRIPTION

The 100 Series is a cost-effective pressure and temperature control for process plants and OEM equipment. The rugged, one piece enclosure features a slanted cover for wiring accessibility. A wide variety of electrical and process-connection options make this series ideal for many applications, where weather-proof, ruggedness and versatility are required.

Various applications utilize the 100 Series: heat tracing, freeze protection, processing equipment (pumps, compressors), inputs for annunciator panels and fire suppression systems.



SPECIFICATIONS

GENERAL

Storage Temperature: -65° to 160°F (-54 to 71°C)
 Ambient Temperature: -40 to 160°F (-40 to 71°C); models 520-525, 540-548, 700-706, 15731-15736: 0 to 160°F (-18 to 71°C); Set point typically shifts less than 1% of range for a 50°F (28°C) ambient temperature change
 Set Point Repeatability: Temperature models: Temperature models: ± 1% of adjustable range Pressure models 15623, 15731-15737, 171-174, 218, 270-376, 520-535, 540-543, 700-706, 560-564: ± 1% of adjustable range; models 190-194, 183-189, 483-494, 544-548, 565-567, 610-680, 15884: ±1.5% of adjustable range
 Internal set point lock on all pressure models
 Shock: Set point repeats after 15 G, 10 millisecond duration
 Vibration: Set point repeats after 2.5 G, 5-500 Hz
 Enclosure: Die cast aluminum, epoxy powder coated, gasketed, captive cover screws
 Enclosure Class: Enclosure type 4X
 Switch Output: One SPDT snap action switch
 Electrical Rating: 15A 125/250/480 VAC resistive except for H100-15623, 15731-15737, 15884, 20A 125/250/480 VAC resistive, B100-13546 and E100-13545, 22A/480 VAC. Electrical switches have limited DC capabilities at 24-30 VDC, 2A resistive and 1A inductive. 125 VDC, 0.5A resistive, 0.03A inductive.
 Electrical Connection: 1/2" NPT (female); Two 7/8" diameter knockouts
 Pressure Connection: Models 15623, 218, 270-376, 610-680, 701-706, 15731-15884: 1/4" NPT (female); Models 171-194, 483-494, 520-535, 15737: 1/2" NPT (female); Models 540-548: 1/8" NPT (female); Models 560-564: 2" Sanitary Fitting; Models 565-567: 1.5" Sanitary Fitting (Sanitary fittings mate with Tri-Clamp® fitting systems)

Weight: 2-7 lbs; Varies with model
 Temperature Assembly:
 Bulb and capillary: 6 feet 304 stainless steel except for E100-13545, 10 feet 304 stainless steel
 Immersion stem: nickel-plated brass (standard) except for B100-13546 stainless steel; optional 316L stainless steel
 Fill: Models 1BS/BC are solvent filled, models 2-8 non-toxic oil filled
 Temperature Deadband: Type F typically 1% and type B, C, and E typically 2% of range under laboratory conditions (70°F ambient circulating bath at rate of 1/2°F per minute change)
 Heat Tracing or Freeze Protection: Thermostats designed specifically for heat tracing and freeze protection ambient sensing applications are available with types B100 and E100
 Approvals:
 United States & Canada
 UL Listed, cUL Certified
 Temperature: UL 873; CSA C22.2 no. 24, File # E10667
 Pressure: UL 508; CSA C22.2 no. 14, File # E42272;
 Enclosure Type 4X
 Europe
 ATEX Directive (94/9/EC) II 1 G EEx ia IIC T6, (OPTIONAL - code M405) Tamb. = -50°C to +60°C; UL International DEMKO A/S (N.B.#0539), Certificate #DEMKO 03
 ATEX 0335063EN 50014, 50020, 50284
 Low Voltage Directive (LVD) (73/23/EC & 93/68/EEC)
 Pressure Equipment Directive (PED) (97/23/EC)

Pressure Type H100 Chart

Model	Adjustable Set Point Range		Deadband		*Over Range Pressure		**Proof Pressure	
	" w.c.	mbar	" w.c.	mbar	psi	bar	psi	bar
Buna-N diaphragm & O-Ring with 1/2" NPT (female) aluminum press. conn. (other wetted materials available, see Order Info), large 0.72" orifice for clean-out purposes								
520	300 Vac to 0	-746.7 to 0	0.2 to 8	0.5 to 19.9	200	13.8	400	27.6
521	10 Vac to 10	-24.9 to 24.9	0.1 to 0.6	0.2 to 1.5	200	13.8	400	27.6
522	50 Vac to 50	-124.5 to 124.5	0.1 to 3	0.2 to 7.5	200	13.8	400	27.6
523	0.5 to 5.0	1.2 to 12.4	0.1 to 0.3	0.2 to 0.75	200	13.8	400	27.6
524	2.5 to 50	6.2 to 124.5	0.1 to 0.8	0.2 to 2.0	200	13.8	400	27.6
525	10 to 250	24.9 to 622.3	0.1 to 6	0.2 to 24.9	200	13.8	400	27.6
Welded 316L stainless steel diaphragm with 1/2" NPT (female) 316L pressure connection, large 0.72" orifice for clean-out purposes								
530	300 Vac to 0	-746.7 to 0	0.2 to 15	0.5 to 37.3	50	3.4	100	6.9
531	10 Vac to 10	-24.9 to 24.9	0.1 to 0.6	0.2 to 1.5	50	3.4	100	6.9
532	50 Vac to 50	-124.5 to 124.5	0.1 to 3	0.2 to 7.5	50	3.4	100	6.9
533	0.5 to 5.0	1.2 to 12.4	0.1 to 0.3	0.2 to 0.7	50	3.4	100	6.9
534	2.5 to 50	6.2 to 124.5	0.1 to 0.8	0.2 to 2.0	50	3.4	100	6.9
535	10 to 250	24.9 to 622.3	0.1 to 10	0.2 to 24.9	50	3.4	100	6.9
	psi	bar	psi	bar	psi	bar	psi	bar
Welded stainless steel diaphragm with 1/2" NPT (female) pressure connection, large 0.72" orifice for clean-out purposes (NACE MR-0175 compliant)								
171	1 to 20	0.07 to 1.4	0.1 to 1.0	0.01 to 0.07	500	34.5	1000	68.9
172	2 to 50	0.14 to 3.4	0.1 to 1.5	0.01 to 0.10	500	34.5	1000	68.9
173	4 to 100	0.3 to 6.9	0.1 to 2.5	0.01 to 0.17	500	34.5	1000	68.9
174	8 to 200	0.6 to 13.7	0.1 to 3.5	0.01 to 0.24	500	34.5	1000	68.9
2" sanitary welded 316L stainless steel diaphragm and pressure connection. Mates with Tri-Clamp® fitting systems								
560	0.5 to 15	0.03 to 1.03	0.1 to 1	0.01 to 0.07	200	13.8	300	20.7
561	1 to 25	0.07 to 1.72	0.1 to 1.5	0.01 to 0.10	200	13.8	300	20.7
562	2 to 50	0.14 to 3.45	0.1 to 2.5	0.01 to 0.17	200	13.8	300	20.7
563	4 to 100	0.03 to 6.9	0.1 to 4	0.01 to 0.2	200	13.8	300	20.7
564	8 to 200	10.6 to 13.8	0.1 to 5	0.01 to 0.3	200	13.8	300	20.7

Pressure Type H100

Model	Adjustable Set Point Range		Deadband		*Over Range Pressure		**Proof Pressure	
	psi	bar	psi	bar	psi	bar	psi	bar
1.5" sanitary welded 316L stainless steel diaphragm and pressure connection. Mates with Tri-Clamp® fitting systems								
565	5 to 30	0.3 to 2.1	1 to 5	0.07 to 0.3	1000	68.9	1500	103.4
566	10 to 100	0.7 to 6.9	1 to 12	0.07 to 0.8	1000	68.9	1500	103.4
567	15 to 300	1.0 to 20.7	3 to 22	0.21 to 1.5	1000	68.9	1500	103.4
Buna-N diaphragm and O-Ring with 1/4" NPT (female) nickel-plated brass pressure connection; Option M540 Viton® diaphragm & O-Ring available for code 704-705								
701	1.5 to 30	0.1 to 2	1 to 2	0.07 to 0.14	500	34.5	600	41.4
702	3 to 100	0.2 to 6.9	1 to 4	0.07 to 0.28	500	34.5	600	41.4
703	9 to 300	0.7 to 20.7	1 to 5	0.07 to 0.34	500	34.5	600	41.4
704	15 to 500	1.0 to 34.5	2 to 8	0.14 to 0.55	1500	103.4	2500	172.4
705	30 to 1000	2.1 to 69	3 to 20	0.21 to 1.38	1500	103.4	2500	172.4
706	100 to 1700	6.9 to 117	10 to 30	0.07 to 2.07	2000	137.9	2500	172.4
Viton® diaphragm and O-Ring with 316 stainless steel 1/4" NPT (female) pressure connection (includes adjustable deadband switch)								
15623	20-200	1.4 to 13.8	12 to 16	0.8 to 1.8	500	34.5	1000	68.9
316L stainless steel diaphragm (optional Hastelloy® C, Monel® or Tantalum); Viton® GLT O-Ring (optional Kalrez®, Silicone, Ethylene Propylene, or Aflas®); 316 stainless steel 1/2" NPT (female) pressure connection (optional Hastelloy® B or C, or Monel®), large 0.72" orifice for clean-out purposes. Models 188 & 189 have a 316L stainless steel 1/2" NPT (female) pressure connection (NACE MR-0175 compliant)								
183	1 to 20	0.07 to 1.4	0.3 to 2.5	0.021 to 0.17	500	34.5	1000	68.9
184	2 to 50	0.14 to 3.4	0.3 to 3	0.021 to 0.2	500	34.5	1000	68.9
185	4 to 100	0.3 to 6.9	0.5 to 6	0.03 to 0.4	500	34.5	1000	68.9
186	8 to 200	0.6 to 13.8	1 to 11	0.07 to 0.8	500	34.5	1000	68.9
188	50 to 1000	3.45 to 68.9	25 to 125	1.7 to 8.6	2000	137.9	7000	482.6
189	250 to 3500	17.3 to 241.3	50 to 300	3.4 to 20.7	4000	275.8	7000	482.6

Model	Adjustable Set Point Range		Deadband				*Over Range Pressure		**Proof Pressure	
			Lower 75% range		Top 25% Range					
	psi	bar	psi	bar	psi	bar	psi	bar	psi	bar
Welded stainless steel diaphragm with 1/2" NPT (female) pressure connections, large 0.072" orifice for clean-out purposes (NACE MR-0175 compliant)										
190	5 to 30	0.3 to 2.1	1 to 3	0.07 to 0.2	6 max	0.4	1500	103.4	2500	172.4
191	10 to 100	0.7 to 6.9	1 to 8	0.07 to 0.6	15 max	1.0	1500	103.4	2500	172.4
192	15 to 300	1 to 20.7	3 to 18	0.2 to 1.2	25 max	1.7	1500	103.4	2500	172.4
193	20 to 500	1.4 to 34.5	4 to 30	0.3 to 2.1	45 max	3.1	1500	103.4	2500	172.4
194	80 to 1700	5.5 to 117.2	5 to 120	0.3 to 8.3	150 max	10.3	2000	137.9	2500	172.4
Welded 316 stainless steel diaphragm with 1/2" NPT (female) pressure connection, 0.06" orifice to dampen pulsations										
490	5 to 30	0.3 to 2.1	1 to 3	0.07 to 0.2	6 max	0.4	1500	103.4	2500	172.4
491	10 to 100	0.7 to 6.9	1 to 8	0.07 to 0.6	15 max	1.0	1500	103.4	2500	172.4
492	15 to 300	1 to 20.7	3 to 18	0.2 to 1.2	25 max	1.7	1500	103.4	2500	172.4
493	20 to 500	1.4 to 34.5	4 to 30	0.3 to 2.1	45 max	3.1	1500	103.4	2500	172.4
494	80 to 1700	5.5 to 117.2	5 to 120	0.3 to 8.3	150 max	10.3	2000	137.9	2500	172.4

Model	Adjustable Set Point Range		Deadband		*Over Range Pressure		**Proof Pressure	
	psi	bar	psi	bar	psi	bar	psi	bar
316L stainless steel diaphragm (optional Hastelloy®C, Monel® or Tantalum) Viton® GLT O-Ring (optional Kalrez®, Silicone, ethylene propylene or Aflas®), 316 stainless steel 1/2" NPT (female) pressure conn. (optional Hastelloy® B, or C, or Monel®), 0.06" orifice. Models 488 & 489, 316L pressure connection. (NACE MR-0175 compliant)								
483	1 to 20	0.07 to 1.4	0.3 to 2.5	0.02 to 0.17	500	34.5	1000	68.9
484	2 to 50	0.14 to 3.4	0.3 to 3	0.02 to 0.2	500	34.5	1000	68.9
485	4 to 100	0.3 to 6.9	0.5 to 6	0.03 to 0.4	500	34.5	1000	68.9
486	8 to 200	0.6 to 13.8	1 to 11	0.07 to 0.8	500	34.5	1000	68.9
488	50 to 1000	3.4 to 68.9	25 to 125	1.7 to 8.6	2000	137.9	7000	482.6
489	250 to 3500	17.2 to 241.3	50 to 300	3.4 to 20.7	4000	275.8	7000	482.6
Phosphor bronze bellows with 1/4" NPT (female) nickel-plated brass pressure connection. Model 218 has 300 series stainless steel spring in media								
218	30" Hg Vac to 0	-1 to 0	1 to 2" Hg	0.03 to 0.07	3	0.2	30	2.1
270	4 to 200	0.3 to 13.8	1 to 8	0.07 to 0.6	200	13.8	250	17.2
274	6 to 600	0.4 to 20.7	1 to 10	0.07 to 0.7	300	20.7	350	24.1
Welded 316L stainless steel bellows with 1/4" NPT (female) pressure connections								
358	15 to 200	1 to 13.8	1 to 3	0.07 to 0.2	200	13.8	800	55.2
361	20 to 300	1.38 to 20.7	1 to 4	0.07 to 0.3	300	20.7	800	55.2
376	25 to 500	1.8 to 34.5	1.5 to 5	0.10 to 0.3	500	34.5	800	55.2
303 stainless steel piston, Buna-N O-Ring with 1/4" NPT (female) 303 stainless steel pressure connection(not recommended for gas service since drying of O-Ring seal can allow bleeding of medium into the atmosphere)								
610	75 to 1000	5.2 to 68.9	30 to 150	2.07 to 10.3	6000	413.7	10,000	689.5
612	125 to 3000	8.6 to 206	40 to 250	2.76 to 17.2	6000	413.7	10,000	689.5
616	700 to 5000	48.5 to 344	40 to 375	2.76 to 25.9	6000	413.7	10,000	689.5
303 stainless steel piston, Buna N O-Ring with 303 stainless steel 1/4" NPT (female) pressure connection (includes adjustable deadband switch)								
15884	700 to 5000	48.3 to 344.7	80 to 500	5.5 to 34.5	6000	413.7	10,000	689.5
316 stainless steel bellows with 1/4" NPT (female) pressure connection (not recommended for gas applications or for rapid or high cycling pressure changes)								
680	100 to 1700	6.9 to 117.2	9 to 40	0.6 to 2.8	1700	117.2	2500	172.4

* **Over Range Pressure:** The maximum pressure that may be applied continuously without causing damage and maintaining set point repeatability.
**** Proof Pressure:** The maximum pressure to which a pressure sensor may be occasionally subjected, which causes no permanent damage. The unit may require calibration (e.g., start-up, testing).

Pressure Type H100: Field Adjustable Deadband

Model	Adjustable Set Point Range High end of range on rise, low end on fall		Adjustable Deadband						*Over Range Pressure		**Proof Pressure	
	psi (unless noted)	bar (unless noted)	Low End		Mid Range		High End		psi	bar	psi	bar
			psi (unless noted)	bar (unless noted)	psi (unless noted)	bar (unless noted)	psi (unless noted)	bar (unless noted)				
Buna N diaphragm and O-Ring with epoxy coated aluminum, 1/2" NPT (female) pressure connection, large 0.72" orifice for clean-out purposes; includes adjustable deadband microswitch												
15737	50 vac to 50" wc	-124.5 to 124.5 mbar	0.5 to 7" wc	1.2 to 17.4 mbar	1 to 10" wc	2.5 to 24.9 mbar	2 to 13" wc	5.0 to 32.4 mbar	200	13.8	400	27.6
15731	3 to 30	0.2 to 2.1	1.5 to 4	0.1 to 0.3	2 to 4.5	0.1 to 0.3	2.5 to 5	0.2 to 0.3	500	34.5	600	41.4
15732	5 to 100	0.3 to 6.9	3 to 6	0.2 to 0.4	4 to 7.5	0.3 to 0.5	5 to 9	0.3 to 0.6	500	34.5	600	41.4
15733	9 to 300	0.6 to 27	4 to 11	0.3 to 0.8	5 to 13	0.3 to 0.9	5 to 16	0.3 to 1.1	500	34.5	600	41.4
15734	15 to 500	1 to 34.5	8 to 25	0.6 to 1.7	9 to 28	0.6 to 1.9	10 to 31	0.7 to 2.1	1500	103.4	2500	172.4
15735	30 to 1000	2.1 to 68.9	9 to 30	0.6 to 2.1	10 to 35	0.7 to 2.4	30 to 90	2.1 to 6.2	1500	103.4	2500	172.4
15736	100 to 1700	6.9 to 117.2	25 to 60	1.7 to 4.1	40 to 80	2.8 to 5.5	50 to 100	3.4 to 6.9	2000	137.9	2500	172.4

Differential Pressure Type H100K

Model	Adjustable Set Point Range		Deadband		***Working Pressure Range		**Proof Pressure	
	"wcd/psid	mbar/bar	psi	mbar/bar	psi	bar	psi	bar
Kapton® diaphragm, Buna-N sealing diaphragms and epoxy coated aluminum 1/8" NPT (female) pressure connections								
540	0.2 to 7" wcd	0.5 to 17.4 mbar	0.05 to 0.6" wc	0.1 to 1.5 bar	30" Hg Vac to 200	-1 to 13.8	400	27.6
541	1 to 20" wcd	2.5 to 49.7 mbar	0.1 to 1.0" wc	0.2 to 2.5 bar	30" Hg Vac to 200	-1 to 13.8	400	27.6
542	5 to 50" wcd	12.4 to 124.4 mbar	0.2 to 2.5" wc	0.5 to 6.2 bar	30" Hg Vac to 200	-1 to 13.8	400	27.6
543	10 to 200" wcd	24.9 to 497.0 mbar	0.5 to 8" wc	1.2 to 19.9 bar	30" Hg Vac to 200	-1 to 13.8	400	27.6
544	2 to 20 psid	0.1 to 1.4 bar	0.1 to 1.3 psi	6.9 to 89.6 bar	30" Hg Vac to 1200	-1 to 82.7	2500	172.4
545	5 to 50 psid	0.3 to 3.4 bar	0.2 to 2.2 psi	0 to 0.15 bar	30" Hg Vac to 1200	-1 to 82.7	2500	172.4
546	10 to 125 psid	0.7 to 8.6 bar	0.4 to 5.0 psi	0 to 0.34 bar	30" Hg Vac to 1200	-1 to 82.7	2500	172.4
547	50 to 250 psid	3.4 to 17.2 bar	0.8 to 10 psi	0.1 to 0.69 bar	30" Hg Vac to 1200	-1 to 82.7	2500	172.4
548	100 to 500 psid	6.9 to 34.5 bar	2.0 to 15 psi	0.1 to 1.03 bar	30" Hg Vac to 1200	-1 to 82.7	2500	172.4

Application Notes: The use of metallic diaphragms where higher pressure shock or heavy cycling is expected should be avoided. Models 171-174 should not be used where system or start-up vacuum pressure might exceed 26" Hg Vac (-0.9 bar). Use of optional diaphragm materials for models 483-489 may increase deadband.
Deadband Note: Models 190-194, 490-494 are expressed as the lower 75% and top 25% of the range span because of the operating characteristics of the diaphragm sensor and switch.

- *Over Range Pressure:** The maximum pressure that may be applied continuously without causing damage and maintaining set point repeatability.
- **Proof Pressure:** The maximum pressure to which a pressure sensor may be occasionally subjected, which causes no permanent damage. The unit may require calibration (e.g., start-up, testing).
- ***Working Pressure Range:** The pressure range within which two opposing sensors can be safely operated and still maintain set point adjustability provided the difference in pressure between them does not exceed the designated adjustable range.

Tri-Clamp® is a registered trademark of Alfa Laval
Hastelloy® is a registered trademark of Haynes International, Inc .
Monel® is a registered trademark of The Special Metals Corporation.
Viton® and Kalrez® are registered trademarks of E. I. duPont de Nemours and Company.
Aflas® is a registered trademark of Asahi Glass, Inc .

Temperature Type B100: Internal Adjustment via Reference Dial

Temperature Type C100: No Reference Dial, Model 13546 not Available

Model	Adjustable Set Point Range		Max. Temp		Scale Division		Stem/Bulb Size* OD x Length
	°F	°C	°F	°C	°F	°C	
120	0 to 225	-17.8 to 107.2	275	135	10**	5**	9/16" x 1-7/8" below 1/2" NPT thread (nickel-plated brass)
121	200 to 425	93.3 to 218.3	475	246.1	10**	5**	9/16" x 1-7/8" below 1/2" NPT thread (nickel-plated brass)
13546**	15 to 140	-9.4 to 60	60	71.1	5**	2**	9/16" x 2-11/16" long stainless steel (Freeze Protection)

Temperature Type E100 Internal Adjustment via Reference Dial

Stainless steel bulb & capillary							
2BSA	-120 to 100	-84.4 to 37.8	150	65.5	10	5	3/8 x 2-5/8"
2BSB	30 to 250	-1.1 to 121.1	300	148.9	10	5	3/8 x 2-5/8"
3BS	100 to 400	37.8 to 201.1	450	232.2	10	5	3/8 x 2-1/8"
4BS	25 to 100	-3.9 to 37.8	150	65.5	2	1	3/8 x 6-3/4"
5BS	-20 to 80	-28.9 to 26.7	130	54.4	5	2	3/8 x 5"
8BS	350 to 640	176.7 to 337.8	690	365.6	10	5	3/8 x 3-1/4"
13545	25 to 325	-3.9 to 162.8	360	182.2	10	5	1/8 x 11-5/8" (Heat Tracing)
Copper bulb & capillary							
2BCA	-120 to 100	84.4 TO 37.8	150	65.5	10	5	3/8 X 2-5/8"
2BCB	30 to 250	-1.1 TO 121.1	300	18.9	10	5	3/8 X 2-5/8"
3BC	100 to 400	37.8 TO 204.4	450	232.2	10	5	3/8 X 2-1/8"
4BC	25 to 100	-3.9 TO 37.7	150	65.5	2	1	3/8 X 6-3/4"
5BC	-20 to 80	-28.9 TO 26.7	130	54.4	5	2	3/8 X 5"
8BC	350 to 640	176.7 TO 337.8	690	365.5	10	5	3-3/8" 3-1/4"

Temperature Type F100 No Reference Dial

Stainless steel bulb & capillary							
1BS	-180 to 120	-117.8 to 48.9	170	76.6	-	-	3/8 x 3-3/4"
2BS	-125 to 350	-87.2 to 176.7	400	204.4	-	-	3/8 x 2-5/8"
3BS	-125 to 500	-87.2 to 260	550	287.8	-	-	3/8 x 2-1/8"
4BS	-40 to 120	-40 to 48.9	170	76.6	-	-	3/8 x 6-3/4"
5BS	-40 to 180	-40 to 82.2	230	110	-	-	3/8 x 5"
6BS	0 to 250	-17.8 to 121.1	300	148.8	-	-	3/8 x 4-1/2"
7BS	0 to 400	-17.8 to 204.4	450	232.2	-	-	3/8 x 3"
8BS	50 to 650	10 to 343.3	700	371.1	-	-	3/8 x 3-1/4"
Copper bulb & capillary							
1BC	-180 to 120	-117.8 to 48.9	170	76.6	-	-	3/8 x 3-3/4"
2BC	-125 to 350	-87.2 to 176.7	400	204.4	-	-	3/8 x 2-5/8"
3BC	-125 to 500	-87.2 to 260	550	287.8	-	-	3/8 x 2-1/8"
4BC	-40 to 120	-40 to 48.9	170	76.6	-	-	3/8 x 6-3/4"
5BC	-40 to 180	-40 to 82.2	230	110	-	-	3/8 x 5"
6BC	0 to 250	-17.8 to 121.1	300	148.8	-	-	3/8 x 4-1/2"
7BC	0 to 400	-17.8 to 204.4	450	232.2	-	-	3/8 x 3"
8BC	50 to 650	10 to 343.3	700	371.1	-	-	3/8 x 3-1/4"

*Optional stainless steel immersion stem, and armored capillary covering available.

**Type B100 only

ORDERING INFORMATION

SPECIFY MODEL TYPE, MODEL (FROM CHARTS) THEN OPTIONS IF REQUIRED

EXAMPLE: H100-483-0140-M201(10 PSI RISING)

Type

- H100 -One SPDT output; epoxy coated enclosure; internal adjustment with "High-Low" reference scale
- H100K -One SPDT output; epoxy coated enclosure; internal adjustment with "High-Low" reference scale
- B100 -Immersion stem; one SPDT output; internal adjustment with reference dial
- C100 -Immersion stem; one SPDT output; internal adjustment with no reference scale
- E100 -Bulb and capillary; one SPDT output; internal adjustment with reference dial
- F100 -Bulb and capillary; one SPDT output; internal adjustment with no reference scale

Switch Options

- 0140- Gold contacts, 1A 125 VAC resistive. NOT AVAILABLE MODELS 13545, 13546, 15623, 15731-15884
- 0500- Close deadband, 5A 125/250 VAC resistive. NOT AVAILABLE MODELS 520-535, 13545, 13546, 15623, 15731-15884
- 1010- DPDT switch, 10 A 125/250 VAC resistive; deadband and minimum set point will increase. NOT AVAILABLE TEMPERATURE VERSIONS, TYPE H100K OR RANGES 171-194, 483-567 AND RANGE 680
- 1070- 10 A 125 VDC resistive; deadband and minimum set point will increase. NOT AVAILABLE MODELS 171- 194, 483-535, 560-567, 13545, 13546, 15623, 15731-15884

- 1519- Adjustable deadband, 15 A 125/250/480 VAC resistive; adjustment wheel char rise setting only. If adjustment on fall setting is required, use primary adjustm NOT AVAILABLE TYPES B100, E100 OR MODELS 171-194, 483-494, 560-567, 616, 51623, 15731-15884
- 1530- External manual reset, 15 A 125/250/480 VAC resistive; latches on rise, only. I AVAILABLE MODELS 13545, 13546, 15623, 15731-15884
- 1535- High ambient, 15 A 125/250 VAC resistive; temperatures up to 250°F (121.1°C) NOT AVAILABLE MODELS 520-535, 13545, 13546, 15623, 15731-15884
- 1537- Vapor sealed switch, 15 A 125/250 VAC resistive. NOT AVAILABLE MODELS 52 533, 13545, 13546, 15623, 15731-15884
- 2000- 20 A 125/250/480 VAC resistive. NOT AVAILABLE TYPE H100K OR MODELS 52 535, 13545, 13546, 15623, 15731-15884
- 3000- 30 A 125/250/277 VAC resistive. NOT AVAILABLE TYPE H100K OR MODELS 17 194, 483-567, 680, 13545, 13546, 15623, 15731-15884

Other Options

- M020- Red status light, 115 VAC only. NOT AVAILABLE MODELS 13545, 13546, 15623, 15731-15884
- M201- Factory set one switch; specify increasing or decreasing pressure or temperature and setpoint
- M276- Range indicated on nameplate in bars/mbars. NOT AVAILABLE ON TEMPERATURE VERSIONS
- M278- Range indicated on nameplate in Kg/cm2. NOT AVAILABLE ON TEMPERATURE VERSIONS
- M405- Intrinsic safety compliance for European Union per ATEX standards
- M444- Paper ID tag
- M446- Stainless steel ID tag & wire attachment
- M449- Surface mounting hardware kit that is required for models 520-535, 15737, & 540-548 when surface mounting. Use option code only at time of ordering product, otherwise use surface and pipe mounting kit part number 6361-704 as a separate order or for other models.
- M504- 316L stainless steel immersion stem. AVAILABLE TEMPERATURE MODELS 120, 121 ONLY
- M540- Viton® construction (deadband and low end range may increase slightly); wetted parts include Viton® diaphragm and O-ring plus stainless steel pressure connection. ON RANGES 610-616 (O-RING ONLY), 701-705, Kapton® diaphragm, Viton® O-Ring and sealing diaphragms and aluminum pressure connections ON RANGES 540-548
- M550- Oxygen service cleaning; internal construction may change
- M914- 1/2" NPT (female) stainless steel pressure connection. Available models 358-376, 610-616
- M921- Brass pressure connection. Available models 610-616
- 6361-704- Surface and pipe mounting hardware kit for all models. Required for surface mounting models 520-535, 15737 & 540-548 if not previously ordered with option M449.
- SD6286-51- Watertight conduit fitting; connects 7/8" hole to 1/2" NPT (female) fitting

Optional Sensor Material for "WC Ranges. Available Models 520-525

- XC001- Aluminum pressure connection, Viton® diaphragm, Viton® O-ring
- XC002- Aluminum pressure connection, Kapton® diaphragm, Buna-N O-ring
- XC003- Aluminum pressure connection, Kapton® diaphragm, Viton® O-ring
- XC004- 316L Stainless steel pressure connection, 316L stainless steel diaphragm, Viton® O-ring. (Over range pressure is limited to 100 psi)
- XC005- 316L Stainless steel pressure connection, Viton® diaphragm, Viton® O-ring
- XC007- 316L Stainless steel pressure connection, Teflon® diaphragm, Viton® O-ring

OPTIONAL SENSOR MATERIALS FOR CORROSIVE MEDIA AVAILABLE MODELS 183-189,483-489

- XD002- Hastelloy C diaphragm (NACE MR-0175 compliant)
- XD003- Monel diaphragm (NACE MR-0175 compliant)
- XP112- Hastelloy C pressure connection (NACE MR-0175 compliant)
- XP113- Monel pressure connection
- XR211- Kalrez® O-ring(NACE MR-0175 compliant)
- XR213- Ethylene propylene O-ring
- XR214- Aflas® O-ring

OPTIONAL FLUSH MOUNT FLANGES AVAILABLE Models 560-567

- F196- Flush mounted flange,150#, 1" lap joint, raised face
AVAILABLE RANGES 565-567 ONLY
- F197- Flush mounted flange,150#, 2" lap joint, raised face
AVAILABLE RANGES 560-564 ONLY
- F198- Flush mounted flange,300#, 1" lap joint, raised face
AVAILABLE RANGES 565-567 ONLY
- F199- Flush mounted flange,300#, 2" lap joint, raised face
AVAILABLE RANGES 560-564 ONLY

OPTIONS FOR TEMPERATURE MODELS

UNION CONNECTORS

Option	Replacement Number	Description
<u>Brass</u>		
W027	SD6213-27	1/2" NPT w/3/4" bushing
W045	SD6213-45	3/4" NPT
W051	SD6213-51	1/2" NPT
<u>304 Stainless Steel</u>		
W028	SD6213-28	1/2" NPT w/3/4" bushing
W046	SD6213-46	3/4" NPT
W050	SD6213-50	1/2" NPT

THERMOWELLS

For all bulb & capillary switches, except Model 13545

<u>Brass</u>		
W075	SD6225-75	1/2" NPT with 3/4" NPT adapter bushing, 4" BT
W191	SD6225-191	1/2" NPT, 4" BT
W118	SD6225-118	1/2" NPT with 3/4" NPT adapter bushing, 7" BT
W192	SD6225-192	1/2" NPT, 7" BT
<u>316 Stainless Steel</u>		
W076	SD6225-76	3/4" NPT, 4.5" BT
W193	SD6225-193	1/2" NPT, 4.5" BT
W119	SD6225-119	3/4" NPT, 7.5" BT
W177	SD6225-177	1/2" NPT, 7.5" BT

For all immersion stem switches; except Model 13546

W139	SD6225-139	3/4" NPT X 1 23/32" BT, BRASS
W140	SD6225-140	3/4" NPT X 1 23/32" BT, 316 SS

W000 IMMERSION STEM AND THERMOWELLS

Note: Option W000 is a special Immersion Stem construction that has no external thread. This option fits inside a special thermowell and is secured with a set-screw.

Option	Description
W000	Immersion stem only, Brass
W097	Immersion stem and thermowell. Includes W000 stem and 1/2" NPT x 1 23/32" BT Brass thermowell
W099	Immersion stem and thermowell. Includes W000 stem and 1/2" NPT x 1 23/32" BT 316 SS thermowell.

OPTIONAL LENGTHS:

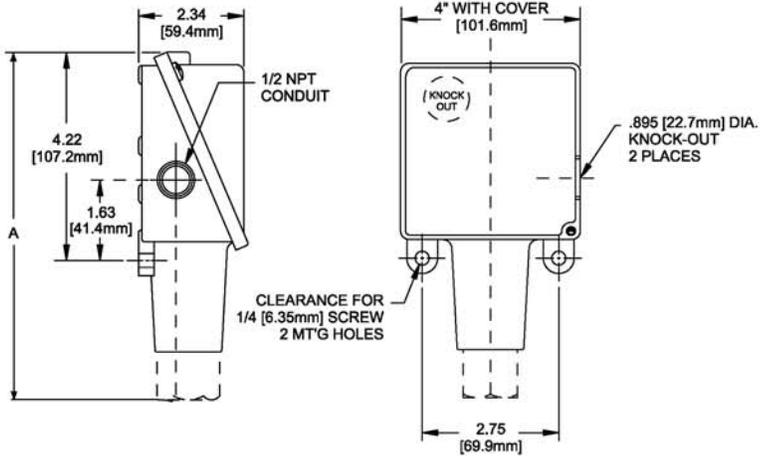
Optional immersion stem lengths to 15" may be available in brass, with or without 316 SS thermowell. Consult Clark for additional information.

Optional capillary length to *50' available in copper or 304 SS. Armor or Teflon® capillary protection available to lengths less than or equal to capillary length. Consult Clark for additional information.

*Consult Clark regarding repeatability and ambient effects on capillary lengths over 30'.

DIMENSIONS INCHES (MM)

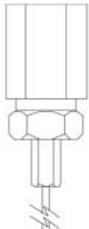
TYPES B100, C100, E100, F100, H100, H100K



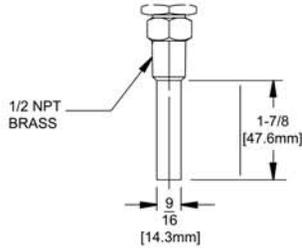
Dimension A			
Range Code	Inches	mm	NPT
171-174	7.63	193.8	1/2
183-186, 484-486	7.56	192.0	1/2
188, 189, 488-489	6.63	168.4	1/2
190-194, 490-494	6.63	168.4	1/2
218	6.56	166.6	1/4
270-274	7.00	177.8	1/4
358-376	7.00	177.8	1/4
520-525, 15737	6.44	214.4	1/2
530-535	6.00	203.2	1/2
560-564	6.63	168.4	2" Sanitary Fitting
565-567	6.63	168.4	1-1/2" Sanitary Fitting
610-616, 680, 15884	7.00	177.8	1/4
701-706, 15623, 15731-15736	6.63	168.4	1/4
Differential Pressure			
540-543	8.47	215.1	1/8
544-548	8.53	216.7	1/8
Temperature			
120, 121, 13546	9.38	238.3	Imersion Stem
1BC-8BC, 1BS-8BS, 13545	8.69	220.7	Bulb & Capillary

Temperature Sensors

Models 1BC-8BC, 1BS-8BS, 13545

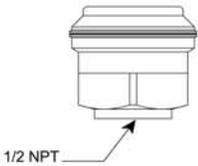


Models 120,121 Model 13546

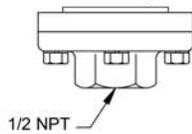


Pressure Sensors

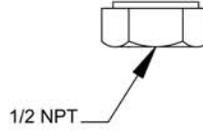
Models 171-174



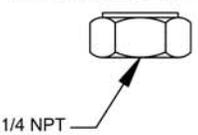
Models 183-186, 483-486



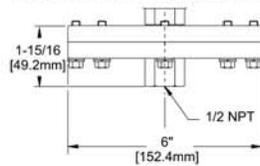
Models 188-194, 488-494



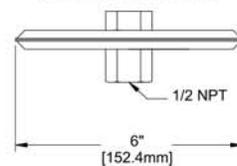
Models 218-376, 610-706, 15623, 15731-15736



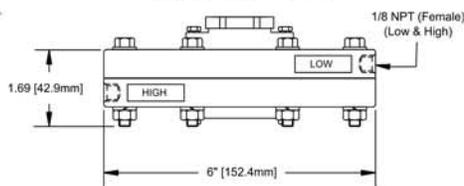
Models 520-525, 15737



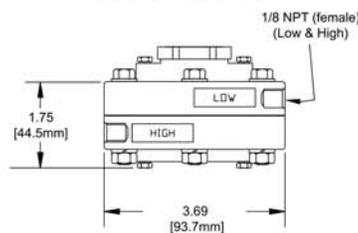
Models 530-535



Models 540-543



Models 544-548



Models 560-564



Models 565-567

