120 Series

EXPLOSION-PROOF PRESSURE, VACUUM, DIFFERENTIAL PRESSURE AND TEMPERATURE SWITCHES

FEATURES

- Class I, Div. 1 & 2, (Zone 1)
  Class II, Div. 1 & 2
  Class III
- Worldwide approvals and certifications
- Choice of one or two SPDT, optional DPDT output
- Dual electrical conduit openings
- Terminal block wiring
- Welded diaphragm or bellows sensor
- Ultra-low pressure ranges

ISO 9001 CERTIFIED COMPANY

UNITED ELECTRIC CONTROLS

OVERVIEW

As safety requirements become more stringent, the determining factor in specifying an industrial pressure, differential pressure and/or temperature switch rests upon that switch protecting equipment, processes and personnel. Meeting hazardous location requirements through worldwide approvals and certifications, UE's 120 Series is the choice where potentially explosive or highly corrosive atmospheres exist.

The 120 Series offers a variety of pressure, vacuum, differential pressure and temperature ranges, as well as process connections, wetted materials and sensor types. With a common flexible platform, models can quickly be adapted at the factory for special requirements, such as ranges, process connections and electrical ratings. Typical industries using 120 Series switches include chemical, petrochemical, refinery, oil and gas production and transmission, and pharmaceuticals.

FEATURES

- Standard product approvals include cULus, ATEX & IECEx
- Optional approvals for Russia, Ukraine and China
- Internal adjustment hex or external adjustment via calibrated dial(s) with tamper resistant cover
- Integral cover lock
- SPDT, DPDT or dual SPDT output
- Wide variety of sensor materials
- Optional Hastelloy® and Monel® sensor material for corrosive media
- Wide adjustable deadband models
- Flush mount sensors
- Heat tracing temperature models
- Most models available for immediate delivery!

SPECIFICATIONS

STORAGE TEMPERATURE	-65 to 160°F (-54 to 71°C)
AMBIENT TEMPERATURE LIMITS	-58 to 160°F (-50 to 71°C); models 36-39, 520-525, 540-548, 701-705, 15834-15839: 0 to 160°F (-17 to 71°C); types 820E, 822E: -40 to 160°F (-40 to 71°C) set point typically shifts less than 1% of range for a 50°F (28°C) ambient temperature change; less than 2% for types E121& E122
SET POINT REPEATABILITY	Temperature models: Type B, C and F: ±1% of full scale range Type E: ±2% of full scale range Pressure models 126-164, S126B-S164B, 171-174, 270-274, 358-376, 520-535, 540-543, 560-564, 701-705, 15622, 15834,-15839: ±1% of full scale range; models 450-559: ±1/2% of full scale range; models 36-39, 183-194, 483-494, 544-548, 565-567, 612-680, 15875: ±1-1/2% of full scale range
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; coverlock; internal set point lock standard on types J, C, F; gasketed stainless steel tamper-resistant dial cover on types B, H, E; aluminum nameplate
ENCLOSURE CLASSIFICATION	Certified to enclosure type 4X. Class I, Division 1 product meets enclosure type 7; Class II, Division 1 product meets enclosure type 9. Certified to IP66 requirements
SWITCH OUTPUT	One or two SPDT; dual switch may be separated up to 100% of range; except type 822E where switch #2 can be set up to 25% of range span below switch #1 setpoint; switches may be wired "normally open" or "normally closed". Two SPDT hermetic sealed switches available on H122P models
ELECTRICAL RATING	15A 125/250/480 VAC resistive (standard) except types J120-15622, 15834-15839, H121-15875: 20A 125/250/480 VAC resistive; H122P; 11A 125/250 VAC resistive; B121-13272, B122-13322, E121-13273, E122-13321; 22A 480VAC resistive. Electrical switches have limited DC capabilities. Consult factory for additional information
REFERENCE SCALES	Types B, E & H: external dial. Scale divisions vary with range (see model charts)
WEIGHT	3-8 lbs. Varies with type and model
ELECTRICAL CONNECTION	Type H, B, E; one 3/4" NPT E/C; type J, C, F, 820E, 822E; two 3/4" NPT E/C; terminal block standard
PRESSURE CONNECTION	Models S126B-S164B, 171-194, 483-494, 520-535: 1/2" NPT (female); models 560-564: 2" flush mount connection; models 565-567: 1-1/2" flush mount connection; models 540-548: 1/8" NPT (female); all others: 1/4" NPT (female)
TEMPERATURE ASSEMBLY	Bulb and capillary: 6 feet 304 stainless steel (standard) except for E121-13273 and E122-13321: 10 feet; Immersion stem: nickel-plated brass (standard) except for B121-13272 and B122-13322: stainless steel. Fill: Model 1BS: solvent filled; models 2BS-8BS: non-toxic oil filled
TEMPERATURE DEADBAND	Type F120, 820E, 822E: typically 1%; type B-, C-, and E- 121 and 122: typically 2% of range under laboratory conditions (70°F [21°C] ambient circulating bath at rate of 1/2°F per minute change)
PRESSURE DEADBAND	See Individual model charts on pages 5-14
DIFFERENTIAL PRESSURE INDICATOR (OPTION M210)	Differential pressure indication available types H121K and H122K with option M210 (check model availability under options); accuracy approximately 1% mid 50% of range, 3% at ends; window is plexiglass and gasketed; indicator may be field adjusted for approximately ±1% accuracy at any set point within range
TEMPERATURE INDICATION	Temperature indication available types 820E and 822E. Indication accuracy is ±1% of adjustable range

AGENCY APPROVALS

UNITED STATES AND CANADA
Class I, Division 1 and 2, Groups B, C & D
Class II, Division 1 and 2, Groups E, F & G
Class III
Class I, Zone 1, Group IIB + H2 T6
Enclosure Type 4X
UL Listed, cUL Certified
Pressure: UL 50 & 698; CSA C22.2
No. 25 & 30 - File # E40857
Temperature: UL 50 & 698; CSA C22.2
No. 25 & 30 - File # E43374

EUROPE
ATEX Directive (94/9/EC)
II 2 G Ex d IIC T6
II 2 D Ex tD A21 IP66 T+85°C
Tamb = -40°C to +75°C
UL International DEMKO A/S (N.B.# 0539)
Certificate # DEMKO 09 ATEX 0815573X
EN 60079-0, 60079-1, 61241-0 & 61241-1

II 1 G EEx ia IIC T6 **(OPTIONAL – code M405)**
(not available types 820E, 822E)
Tamb = -50°C to +60°C
UL International DEMKO A/S (N.B.# 0539)
Certificate # DEMKO 03 ATEX 0335063
EN 50014, 50020 & 50284

Pressure Equipment Directive (PED) (97/23/EC)
Compliant to PED
Products rated lower than 7.5 psi are outside the scope of the PED

Low Voltage Directive (LVD) (73/23/EC & 93/68/EEC)
UEC compliant to LVD
Products rated lower than 50 VAC and 75 VDC are outside of the scope of the LVD
The Low Voltage Directive does not apply to products for use in hazardous locations

RUSSIA
Type 120, 121 and 122
Gosgortechnadzor Permit **(OPTIONAL – code M406)**
0ExiaIICT6
Tamb = -50°C to +60°C
NANIO CCVE Certification Center
Certificate # ROSS US.GB05.Bo2933
GOST R 51330.0, 51330.1, 51330.10 & 51330.14

Type 120, 121, 122, 820 & 822
1ExdIICT6X
Tamb = -56°C to +85°C (models 120, 121 & 122)
Tamb = -40°C to +71°C (models 820 & 822)
NANIO CCVE Certification Center
Certificate # ROSS US.GB05.Bo2933
GOST R 51330.0, 51330.1, 51330.10 & 51330.14

UKRAINE
Gosnadzorohrantruda Permit **(OPTIONAL - code M404)**
1ExdIICT6X
Tamb = -56°C to +85°C (types 120, 121 & 122)
Tamb = -40°C to +71°C (types 820 & 822)
SVODOTSTVO #720 by DVSTS VE (TCCExEE)

CHINA
CQST Certified **(OPTIONAL – code M408)**
Exd IIC T6
DIP A21 TA +85°C
Tamb. = -40°C to +75°C
GB 3836.1, 3836.2 & 12476.1
Pressure: Certificate # CNEx 09.2181X
Temperature: Certificate # CNEx 09.2180X

GLOBAL CERTIFICATION* (INCLUDES AUSTRALIA)
IECEx Certified
Ex d IIC T6
Ex tD A21 IP66 T+85°C
Tamb. = -40°C to 75°C
IEC 60079-0 & 60079-1, 61241-0 & 61241-1
Certificate # IECEx UL 03.0001X
Note: not available on Types 820E & 822E

* See http://www.iecex.com/countries.htm for a list of participating members.

PRESSURE MODEL CHART

- **Type J120, single switch with internal adjustment, dual conduits**

Model	Adjustable Set Point Range Low end of range on fall; High end of range on rise		Deadband		Over Range Pressure*		Proof Pressure**	
	"wc	mbar	"wc	mbar	psi	bar	psi	bar
Buna N diaphragm and O-Ring with epoxy coated aluminum, 1/2" NPT (female) pressure connection, large 0.72" orifice for clean-out purposes (other wetted materials available see pg. 18)								
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	1,2 to 12,4	0.1 to 0.3	0,2 to 0,7	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 14,9	200	13,8	400	27,6
Welded 316L stainless steel diaphragm and 1/2" NPT (female) 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	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 (unless noted)	psi	mbar (unless noted)	psi	bar	psi	bar
2" sanitary welded 316L stainless steel diaphragm and pressure connection. Mates with Tri-Clamp® fitting systems, (not UE supplied)								
560	0.5 to 15	34,5 mbar to 1,0 bar	0.1 to 1	6,9 to 68,9	200	13,8	300	20,7
561	1 to 25	68,9 mbar to 1,7 bar	0.1 to 1.5	6,9 to 103,4	200	13,8	300	20,7
562	2 to 50	0,1 to 3,4	0.1 to 2.5	6,9 to 172,4	200	13,8	300	20,7
563	4 to 100	0,3 to 6,9	0.1 to 4	6,9 to 275,8	200	13,8	300	20,7
564	8 to 200	0,6 to 13,8	0.1 to 5	6,9 to 344,7	200	13,8	300	20,7
1.5" sanitary welded 316L stainless steel diaphragm and pressure connection. Mates with Tri-Clamp® fitting systems, (not UE supplied)								
565	5 to 30	0,3 to 2,1	1 to 5	68,9 mbar to 0,3 bar	1000	68,9	1500	103,4
566	10 to 100	0,7 to 6,9	1 to 12	68,9 mbar to 0,8 bar	1000	68,9	1500	103,4
567	15 to 300	1,0 to 20,7	3 to 22	0,2 to 1,5	1000	68,9	1500	103,4
Welded 316L stainless steel diaphragm and 1/2" NPT (female) pressure connection, large 0.72" orifice for clean-out purposes (NACE MR-0175 compliant)								
171	1 to 20	68,9 mbar to 1,4 bar	0.1 to 1	6,9 to 68,9	500	34,5	1000	68,9
172	2 to 50	0,1 to 3,4	0.1 to 1.5	6,9 to 103,4	500	34,5	1000	68,9
173	4 to 100	0,3 to 6,9	0.1 to 2.5	6,9 to 172,4	500	34,5	1000	68,9
174	8 to 200	0,6 to 13,8	0.1 to 3.5	6,9 to 241,3	500	34,5	1000	68,9

Application Note: 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 might exceed 26 " Hg Vac

*__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 MODEL CHART

- **Type J120, single switch with internal adjustment, dual conduits (cont.)**

Model	Adjustable Set Point Range Low end of range on fall; High end of range on rise		Deadband		Over Range Pressure*		Proof Pressure**	
	psi (unless noted)	bar (unless noted)	psi (unless noted)	bar (unless noted)	psi (unless noted)	bar	psi	bar
316L stainless steel diaphragm (optional Hastelloy® C or Monel®); Viton® GLT O-Ring (optional Kalrez®, Ethylene Propylene or Aflas®); 316 stainless steel 1/2" NPT (female) pressure connection (optional Hastelloy® C or Monel®), 0.72" orifice for clean-out purposes. Models 188 and 189 have a 316L stainless steel 1/2" NPT (female) pressure connection (NACE MR-0175 compliant)								
183	1 to 20	0,1 to 1,4	0.3 to 2.5	20,7 to 172,4 mbar	500	34,5	1000	68,9
184	2 to 50	0,1 to 3,4	0.3 to 3	20,7 to 206,8 mbar	500	34,5	1000	68,9
185	4 to 100	0,3 to 6,9	0.5 to 6	34,5 to 413,7 mbar	500	34,5	1000	68,9
186	8 to 200	0,6 to 13,8	1 to 11	0,1 to 0,8	500	34,5	1000	68,9
188	50 to 1000	3,4 to 68,9	25 to 125	1,7 to 8,6	2000	137,9	7000	482,6
189	250 to 3500	17,2 to 241,3	50 to 300	3,4 to 20,7	4000	275,8	7000	482,6
316L stainless steel diaphragm (optional Hastelloy® C or Monel®); Viton®GLT O-Ring (optional Kalrez®, Ethylene Propylene or Aflas®); 316 stainless steel 1/2" NPT (female) pressure connection (optional Hastelloy® C or Monel®), 0.06" orifice to dampen pulsations. Models 488 and 489 have a 316L stainless steel 1/2" NPT (female) pressure connection (NACE MR-0175 compliant)								
483	1 to 20	0,1 to 1,4	0.3 to 2.5	20,7 to 172,4 mbar	500	34,5	1000	68,9
484	2 to 50	0,1 to 3,4	0.3 to 3	20,7 to 206,8 mbar	500	34,5	1000	68,9
485	4 to 100	0,3 to 6,9	0.5 to 6	34,5 to 413,7 mbar	500	34,5	1000	68,9
486	8 to 200	0,6 to 13,8	1 to 11	0,1 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
Welded 316L stainless steel bellows and 1/2" NPT (female) pressure connection								
S126B	30 to 3 "Hg Vac	-1 to -0,1	0.2 to 0.6 "Hg	6,8 to 20,3 mbar	80 "wc	199,1 mbar	5	0,3
S134B	30 "Hg Vac to 20 psi	-1 to 1,4	0.2 to 0.6 "Hg	6,8 to 20,3 mbar	20	1,4	25	1,7
S137B	15 to 80 "wc	37,3 to 199,1 mbar	2 to 6 "wc	5,0 to 14,9 mbar	80 "wc	199,1 mbar	5	0,3
S144B	0.5 to 20	34,5 mbar to 1,4 bar	0.1 to 0.3	6,9 to 20,7 mbar	20	1,4	25	1,7
S152B	1 to 50	0,1 to 3,4	0.1 to 0.5	6,9 to 34,5 mbar	50	3,4	75	5,2
S156B	2 to 100	0,1 to 6,9	0.2 to 0.6	13,8 to 41,4 mbar	100	6,9	125	8,6
S164B	4 to 200	0,3 to 13,8	0.2 to 1	13,8 to 68,9 mbar	200	13,8	200	13,8

PRESSURE MODEL CHART

- **Type J120, single switch with internal adjustment, dual conduits (cont.)**

Model	Adjustable Set Point Range Low end of range on fall; High end of range on rise		Deadband Lower 75% range span		Top 25% range span		Over Range Pressure*		Proof Pressure**	
	psi	bar	psi	bar	psi	bar	psi	bar	psi	bar
Welded 316 stainless steel diaphragm and 1/2" NPT (female) pressure connection, large 0.72" orifice for clean-out purposes (NACE MR-0175 compliant, except model 194)										
190	5 to 30	0,3 to 2,1	1 to 3	0,1 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	0,1 to 0,6	15 max	1,0	1500	103,4	2500	172,4
192	15 to 300	1,0 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 and 1/2" NPT (female) pressure connection, 0.06" orifice to dampen pulsations										
490	5 to 30	0,3 to 2,1	1 to 3	0,1 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	0,1 to 0,6	15 max	1,0	1500	103,4	2500	172,4
492	15 to 300	1,0 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 Low end of range on fall; High end of range on rise		Deadband		Over Range Pressure*		Proof Pressure**	
	psi (unless noted)	bar (unless noted)	psi (unless noted)	bar (unless noted)	psi (unless noted)	bar	psi	bar
Brass bellows with nickel-plated brass 1/4" NPT (female) pressure connection; models 126 & 134 have zinc-plated steel spring which is exposed to media								
126	30 to 3 "Hg Vac	-1 to -0,1	0.2 to 0.6 "Hg	6,8 to 20,3 mbar	80 "wc	199,1 mbar	5	0,3
134	30 "Hg Vac to 20 psi	-1 to 1,4	0.2 to 0.6 "Hg	6,8 to 20,3 mbar	20	1,4	25	1,7
137	15 to 80 "wc	37,3 to 199,1 mbar	2 to 6 "wc	5,0 to 14,9 mbar	80 "wc	199,1 mbar	5	0,3
144	0.5 to 20	34,5 mbar to 1,4 bar	0.1 to 0.3	6,9 to 20,7 mbar	20	1,4	25	1,7
152	1 to 50	0,1 to 3,4	0.1 to 0.5	6,9 to 34,5 mbar	50	3,4	75	5,2
156	2 to 100	0,1 to 6,9	0.2 to 0.6	13,8 to 41,4 mbar	100	6,9	125	8,6
164	4 to 200	0,3 to 13,8	0.2 to 1	13,8 to 68,9 mbar	200	13,8	200	13,8
Welded 316L stainless steel bellows and 1/4" NPT (female) pressure connection								
356	15 to 100	1,0 to 6,9	0.7 to 1.8	48,3 to 124,1 mbar	100	6,9	800	55,2
358	15 to 200	1,0 to 13,8	1 to 3	0,1 to 0,2	200	13,8	800	55,2
361	20 to 300	1,4 to 20,7	1 to 4	0,1 to 0,3	300	20,7	800	55,2
376	25 to 500	1,7 to 34,5	1.5 to 5	0,1 to 0,3	500	34,5	800	55,2
Phosphor bronze bellows with nickel-plated brass 1/4" NPT (female) pressure connection								
270	4 to 200	0,3 to 13,8	1 to 4	0,1 to 0,3	200	13,8	250	17,2
274	6 to 300	0,4 to 20,7	1 to 5	0,1 to 0,3	300	20,7	350	24,1

*__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)
__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.

PRESSURE MODEL CHART

- **Type J120, single switch with internal adjustment, dual conduits (cont.)**

Model	Adjustable Set Point Range Low end of range on fall; High end of range on rise		Deadband		Over Range Pressure*		Proof Pressure**	
	psi (unless noted)	bar (unless noted)	psi (unless noted)	bar (unless noted)	psi (unless noted)	bar	psi	bar
303 stainless steel piston with Buna N O-Ring and 303 stainless steel 1/4" NPT (female) pressure connection (not recommended for gas service since drying of the O-Ring seal can allow bleeding of medium into the atmosphere)								
612	125 to 3000	8,6 to 206,8	40 to 250	2,8 to 17,2	6000	413,7	10000	689,5
616	700 to 5000	48,3 to 344,7	40 to 375	2,8 to 25,9	6000	413,7	10000	689,5
316 stainless steel bellows and 1/4" NPT (female) pressure connection (not recommended 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
Buna N diaphragm and O-Ring with nickel-plated brass 1/4" NPT (female) pressure connection; Optional Viton diaphragm and O-Ring available								
701	1.5 to 30	103,4 mbar to 2,1 bar	1 to 2	68,9 mbar to 0,1 bar	500	34,5	1000	68.9
702	3 to 100	0,2 to 6,9	1 to 4	68,9 to 0,3 bar	500	34,5	1000	68,9
703	9 to 300	0,6 to 20,7	1 to 5	68,9 to 0,3 bar	500	34,5	1000	68,9
704	15 to 500	1,0 to 34,5	2 to 8	0,1 to 0,6	1500	103,4	2500	172,4
705	30 to 1000	2,1 to 68,9	3 to 20	0,2 to 1,4	1500	103,4	2500	172,4
Buna N diaphragm and O-Ring with 1/4" NPT (female) aluminum connection and cap								
450	30 "Hg Vac to 3 "Hg Vac	-1 to -0,1	0.1 to 0.3 "Hg	3,4 to 10,2 mbar	80 "wc	199,1 mbar	225	15,5
451	2 to 80" wc	5 to 199,1 mbar	0.8 to 2 "wc	2 to 5 mbar	80 "wc	199,1 mbar	225	15,5
452	30 "Hg Vac to 20 psi	-1,0 to 1,4	0.1 to 0.4 "Hg	3,4 to 13,5 mbar	20	1,4	225	15,5
453	0.5 to 20	34,5 mbar to 1,4 bar	0.05 to 0.1	3,4 to 6,9 mbar	20	1,4	225	15,5
454	0.8 to 30	55,2 mbar to 2,1 bar	0.05 to 0.2	3,4 to 13,8 mbar	30	2,1	225	15,5
Teflon® diaphragm and Viton O-Ring 316 stainless steel with 1/4" NPT (female) 316 stainless steel pressure connection and cap								
550	30 "Hg Vac to 3 "Hg Vac	-1 to -0,1	0.1 to 0.4 "Hg	3,4 to 13,5 mbar	80 "wc	199,1 mbar	225	15,5
551	2 to 80 "wc	5 to 199,1 mbar	1 to 4 "wc	2,5 to 10 mbar	80 "wc	199,1 mbar	225	15,5
552	30 "Hg Vac to 20 psi	-1,0 to 1,4	0.2 to 0.5 "Hg	6,8 to 16,9 mbar	20	1,4	225	15,5
553	0.5 to 20	34,5 mbar to 1,4 bar	0.1 to 0.2	6,9 to 13,8 mbar	20	1,4	225	15,5
554	0.8 to 30	55,2 mbar to 2,1 bar	0.1 to 0.3	6,9 to 20,7 mbar	30	2,1	225	15,5
555	2 to 100	0,1 to 6,9	0.2 to 0.4	13,8 to 27,6 mbar	100	6,9	225	15,5

*__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 MODEL CHART

- **Type J120, single switch with internal adjustment, dual conduits with adjustable deadband mirco-switch**

Model	Adjustable Set Point Range Low end of range on fall; High end of range on rise		Adjustable Deadband						Over Range Pressure*		Proof Pressure**	
	psi (unless noted)	bar (unless noted)	psi (unless noted)		bar				psi (unless noted)	bar	psi (unless noted)	bar
Viton® diaphragm and O-ring with 1/4" NPT (female) 316 stainless steel pressure connection												
15622	20 to 200	1,4 to 13,8	12 to 26		0,8 to 1,8				500	34,5	1000	68,9
			Low end		Mid Range		High End					
	psi	bar	psi	bar	psi	bar	psi	bar	psi	bar	psi	bar
Buna N diaphragm and O-Ring with nickel-plated brass 1/4" NPT (female) pressure connection												
15834	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	1000	68,9
15835	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	1000	68,9
15836	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	1000	68,9
15837	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
15838	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
15839	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

- **H121, single switch with external adjustment via reference dial, single conduit with adjustable deadband micro-switch**

Model	Adjustable Set Point Range Low end of range on fall; High end of range on rise		Adjustable Deadband						Proof Pressure**		Dial Divisions
			Low end		Mid Range		High End				
	psi	bar	psi	bar	psi	bar	psi	bar	psi	bar	psi
303 stainless steel piston with Buna N O-Ring and 303 stainless steel 1/4" NPT (female) pressure connection, includes adjustable deadband micro-switch (not recommended for gas service since drying of the O-Ring seal can allow bleeding of medium into the atmosphere)											
15875†	500 to 6000	34,5 to 413, 7	150 to 400	10,3 to 27,6	250 to 500	17,2 to 34,5	450 to 750	31,0 to 51,7	10,000	689,5	100

*__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)
†*Not available on type H122*

PRESSURE MODEL CHART

- **Type H121, single switch with external adjustment via reference dial, single conduit**
- **Type H122, dual switch with external adjustment via reference dial, single conduit**

Model	Adjustable Set Point Range Low end of range on fall; High end of range on rise		Deadband		Proof Pressure**		Dial Divisions
	psi (unless noted)	bar (unless noted)	psi (unless noted)	bar (unless noted)	psi	bar	psi (unless noted)
Welded 316L stainless steel bellows and 1/2" NPT (female) pressure connection							
S126B	30 "Hg Vac to 0 psi	-1 to 0	0.2 to 0.9 "Hg	6,8 to 30,5 mbar	5	0, 3	0.5 "Hg
S134B	30 "Hg Vac to 20 psi	-1 to 1,4	0.2 to 1.2 "Hg	6,8 to 40,6 mbar	25	1, 7	1 "Hg & 0.5 psi
S137B†	2 to 80 "wc	5 to 199,1 mbar	2 to 10 "wc	5 to 24,9 mbar	5	0,3	2 "wc
S144B	0 to 20	0 to 1,4	0.1 to 0.5	6,9 to 34,5 mbar	25	1,7	0.5
S146B	0 to 30	0 to 2,1	0.1 to 0.6	6,9 to 41,4 mbar	40	2,8	0.5
S156B	0 to 100	0 to 6,9	0.2 to 0.8	13,8 to 55,2 mbar	125	8,6	2
S164B	0 to 200	0 to 13,8	0.3 to 2	20,7 to 137,9 mbar	200	13,8	5
Brass bellows with nickel-plated brass 1/4" NPT (female) pressure connection; models 126 & 134 have a zinc-plated steel spring which is exposed to media							
126	30 "Hg Vac to 0 psi	-1 to 0	0.2 to 0.9 "Hg	6,8 to 30,5 mbar	5	0,3	0.5 "Hg
134	30 "Hg Vac to 20 psi	-1 to 1,4	0.2 to 1.2 "Hg	6,8 to 40,6 mbar	25	1,7	1 "Hg & 0.5 psi
137†	2 to 80 "wc	5 to 199,1 mbar	2 to 10 "wc	5 to 24,9 mbar	5	0,3	2 "wc
144	0 to 20	0 to 1,4	0.1 to 0.5	6,9 to 34,5 mbar	25	1,7	0.5
146	0 to 30	0 to 2,1	0.1 to 0.6	6,9 to 41,4 mbar	40	2,8	0.5
156	0 to 100	0 to 6,9	0.2 to 0.8	13,8 to 55,2 mbar	125	8,6	2
164	0 to 200	0 to 13,8	0.3 to 2	20,7 to 137,9 mbar	200	13,8	5
316L stainless steel bellows and 1/4" NPT (female) pressure connection							
358	0 to 200	0 to 13,8	1.5 to 8	0,1 to 0,6	250	17,2	5
361	0 to 300	0 to 20,7	2 to 9	0,1 to 0,6	350	24,1	10
376	0 to 500	0 to 34,5	3 to 12	0,2 to 0,8	575	39,6	10
303 stainless steel piston with Buna N O-Ring and 303 stainless steel 1/4" NPT (female) pressure connection (not recommended for gas service since drying of the O-Ring seal can allow bleeding of medium into the atmosphere)							
612	200 to 3000	13,8 to 206,8	40 to 250	2,8 to 17,2	10,000	689,5	50
614	500 to 6000	34,5 to 413,7	50 to 400	3,4 to 27,6	10,000	689,5	100

**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)

†*Not available on type H122*

PRESSURE MODEL CHART

- **Type H121, single switch with external adjustment via reference dial, single conduit**
- **Type H122, dual switch with external adjustment via reference dial, single conduit**

Model	Adjustable Set Point Range Low end of range on fall; High end of range on rise		Deadband		Proof Pressure**		Dial Divisions
	psi (unless noted)	bar	psi (unless noted)	bar (unless noted)	psi	bar	psi (unless noted)
Phosphor bronze bellows with nickel-plated brass 1/4" NPT (female) pressure connection							
270	0 to 200	0 to 13,8	1.5 to 8	0,1 to 0,6	250	17,2	5
274	0 to 300	0 to 20,7	2 to 10	0,1 to 0,7	350	24,1	10
Buna N diaphragm and O-Ring with aluminum 1/4" NPT (female) pressure connection and cap							
450	30 "Hg Vac to 0 psi	-1 to 0	0.1 to 0.4 "Hg	3,4 to 13,5 mbar	225	15,5	0.5 "Hg
452	30 "Hg Vac to 20 psi	-1 to 1,4	0.1 to 1 "Hg	3,4 to 33,9 mbar	225	15,5	1 "Hg & 0.5 psi
453	0 to 20	0 to 1,4	0.05 to 0.2	3,4 to 13,8 mbar	225	15,5	0.5
454	0 to 30	0 to 2,1	0.05 to 0.3	3,4 to 20,7 mbar	225	15,5	0.5
Teflon® diaphragm and Viton O-Ring with 316 stainless steel 1/4" NPT (female) pressure connection and cap							
550	30 "Hg Vac to 0 psi	-1 to 0	0.1 to 0.6 "Hg	3,4 to 20,3 mbar	225	15,5	0.5 "Hg
552	30 "Hg Vac to 20 psi	-1 to 1,4	0.2 to 1 "Hg	6,8 to 33,9 mbar	225	15,5	1 "Hg & 0.5 psi
553	0 to 20	0 to 1,4	0.05 to 0.3	3,4 to 20,7 mbar	225	15,5	0.5
554	0 to 30	0 to 2,1	0.1 to 0.4	6,9 to 27,6 mbar	225	15,5	0.5
555	0 to 100	0 to 6,9	0.25 to 0.75	17,2 to 51,7 mbar	225	15,5	2
Buna N diaphragm and O-Ring with nickel-plated brass 1/4" NPT (female) pressure connection; Optional Viton diaphragm and O-Ring available (models 701-703)							
701†	3 to 30	0,2 to 2,1	1 to 3	0,1 to 0,2	1000	68,9	0.5
702	10 to 100	0,7 to 6,9	1 to 5	0,1 to 0,3	1000	68,9	2
703	30 to 300	2,1 to 20,7	2 to 7	0,1 to 0,5	1000	68,9	10
704	50 to 500	3,4 to 34,5	3 to 12	0,2 to 0,8	2500	172,4	10
705	200 to 1000	13,8 to 68,9	5 to 25	0,3 to 1,7	2500	172,4	25

****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)

†*Not available on type H122*

PRESSURE MODEL CHART

- **Type H122P*, two hermetically sealed single switches with external common adjustment via reference dial, single conduit**

Model	Adjustable Set Point Range Low end of range on fall; High end of range on rise		Deadband		Proof Pressure**		Dial Divisions
	psi (unless noted)	bar (unless noted)	psi (unless noted)	mbar (unless noted)	psi	bar	psi (unless noted)
Welded 316L stainless steel bellows and 1/2" NPT (female) pressure connection							
S126B	30 "Hg Vac to 0 psi	-1 to 0	0.7 to 4 "Hg	23,7 to 135,4	5	0, 3	0.5 "Hg
S134B	30 "Hg Vac to 20 psi	-1 to 1,4	1 to 6 "Hg	33,9 to 203,2	25	1, 7	1 "Hg & 0.5 psi
S144B	0 to 20	0 to 1,4	0.3 to 3	20,7 to 206,8	25	1,7	0.5
S146B	0 to 30	0 to 2,1	0.4 to 4	27,6 to 275,8	40	2,8	0.5
S156B	0 to 100	0 to 6,9	0.6 to 6	40,4 to 413,7	125	8,6	2
S164B	0 to 200	0 to 13,8	1.5 to 13	0,1 to 0,9 bar	200	13,8	5
Brass bellows with nickel-plated brass 1/4" NPT (female) pressure connection; models 126 & 134 have a zinc-plated steel spring which is exposed to media							
126	30 "Hg Vac to 0 psi	-1 to 0	0.7 to 4 "Hg	23,7 to 135,4	5	0,3	0.5 "Hg
134	30 "Hg Vac to 20 psi	-1 to 1,4	1 to 6 "Hg	33,9 to 203,2	25	1,7	1 "Hg & 0.5 psi
144	0 to 20	0 to 1,4	0.3 to 3	20,7 to 206,8	25	1,7	0.5
146	0 to 30	0 to 2,1	0.4 to 4	27,6 to 275,8	40	2,8	0.5
156	0 to 100	0 to 6,9	0.6 to 6	40,4 to 413,7	125	8,6	2
164	0 to 200	0 to 13,8	1.5 to 13	0,1 to 0,9 bar	200	13,8	5
Phosphor bronze bellows with nickel-plated brass 1/4" NPT (female) pressure connection							
270	0 to 200	0 to 13,8	6 to 30	0,4 to 2,1 bar	250	17,2	5
274	0 to 300	0 to 20,7	8 to 40	0,6 to 2,8 bar	350	24,1	10
316L stainless steel bellows and 1/4" NPT (female) pressure connection							
358	0 to 200	0 to 13,8	6 to 30	0,4 to 2,1 bar	250	17,2	5
361	0 to 300	0 to 20,7	8 to 40	0,6 to 2,8 bar	350	24,1	10
376	0 to 500	0 to 34,5	10 to 60	0,7 to 4,1 bar	575	39,6	10
Buna N diaphragm and O-Ring with aluminum 1/4" NPT (female) pressure connection and cap							
450	30 "Hg Vac to 0 psi	-1 to 0	0.4 to 3 "Hg	13,5 to 101,6	225	15,5	0.5 "Hg
452	30 "Hg Vac to 20 psi	-1 to 1,4	0.8 to 6 "Hg	27,1 to 203,2	225	15,5	1 "Hg & 0.5 psi
453	0 to 20	0 to 1,4	0.2 to 2	13,8 to 137,9	225	15,5	0.5
454	0 to 30	0 to 2,1	0.3 to 3	20,7 to 206,8	225	15,5	0.5
Teflon® diaphragm and Viton O-Ring with stainless steel 1/4" NPT (female) 316 pressure connection and cap							
550	30 "Hg Vac to 0 psi	-1 to 0,	0.4 to 3 "Hg	13,5 to 101,6	225	15,5	0.5 "Hg
552	30 "Hg Vac to 20 psi	-1 to 1,4	0.8 to 6 "Hg	27,1 to 203,2	225	15,5	1 "Hg & 0.5 psi
553	0 to 20	0 to 1,4	0.2 to 2	13,8 to 137,9	225	15,5	0.5
554	0 to 30	0 to 2,1	0.3 to 3	20,7 to 206,8	225	15,5	0.5
555	0 to 100	0 to 6,9	0.7 to 7	48,3 to 482,6	225	15,5	2
303 stainless steel piston with Buna N O-Ring and 303 stainless steel 1/4" NPT (female) pressure connection (not recommended for gas service since drying of the O-Ring seal can allow bleeding of medium into the atmosphere)							
612	200 to 3000	13,8 to 206,8	150 to 450	10,3 to 31 bar	10,000	689,5	50
614	500 to 6000	34,5 to 413,7	200 to 500	13,8 to 34,5 bar	10,000	689,5	100

* **Please note**: Must specify option code 1180 with all models (i.e. H122P-270-1180)

DIFFERENTIAL PRESSURE MODEL CHART

- **Type J120K, single switch with internal adjustment, dual conduits**

Model	Adjustable Set Point Range Low end of range on fall; High end of range on rise		Deadband		Working Pressure***		Proof Pressure**	
	psid (unless noted)	bar (unless noted)	psi (unless noted)	bar (unless noted)	psi (unless noted)	bar	psi	bar
Welded 316L stainless steel bellows and 1/2" NPT (female) pressure connections								
S147B	3 to 30	0,2 to 2,1	0.3 to 1.5	20,7 to 103,4 mbar	30 "Hg Vac to 100	-1 to 6,9	300	20,7
S157B	10 to 100	0,7 to 6,9	0.5 to 2	34,5 to 137,9 mbar	30 "Hg Vac to 180	-1 to 12,4	300	20,7
Welded brass bellows with nickel-plated brass 1/4" NPT (female) pressure connections								
147	3 to 30	0,2 to 2,1	0.3 to 1.5	20,7 to 103,4 mbar	30 "Hg Vac to 100	-1 to 6,9	180	12,4
157	10 to 100	0,7 to 6,9	0.5 to 2	34,5 to 137,9 mbar	30 "Hg Vac to 150	-1 to 10,3	180	12,4
Welded 316L stainless steel bellows and 1/4" NPT (female) pressure connections								
367	10 to 100	0,7 to 6,9	4 to 10	0,3 to 0,7	0 to 350	0 to 24,1	500	34,5
Buna N diaphragm and O-Ring with 316 stainless steel 1/4" NPT (female) pressure connections								
36	3 to 30	0,2 to 2,1	1 to 5	0,1 to 0,3	0 to 350	0 to 24,1	1000	68,9
37	10 to 100	0,7 to 6,9	2 to 8	0,1 to 0,6	0 to 500	0 to 34,5	1000	68,9
38	30 to 300	2,1 to 20,7	2 to 15	0,1 to 1,0	0 to 1000	0 to 68,9	2500	172,4
39	50 to 500	3,4 to 34,5	3 to 20	0,2 to 1,4	0 to 1000	0 to 68,9	2500	172,4
Buna N diaphragm and O-Ring with aluminum 1/4" NPT (female) pressure connections								
455	5 to 80 "wcd	12,4 to 199,1 mbar	1 to 4 "wc	2,5 to 10 mbar	30 "Hg Vac to 225	-1 to 15,5	225	15,5
456	2 to 20	0,1 to 1,4	0.1 to 0.3	6,9 to 20,7 mbar	30 "Hg Vac to 225	-1 to 15,5	225	15,5
457	3 to 30	0,2 to 2,1	0.1 to 0.4	6,9 to 27,6 mbar	30 "Hg Vac to 225	-1 to 15,5	225	15,5
Teflon® and Buna N diaphragms, Buna N O-Ring with aluminum 1/4" NPT (female) pressure connections								
559	10 to 100	0,7 to 6,9	0.2 to 1	13,8 to 68,9 mbar	30 "Hg Vac to 225	-1 to 15,5	225	15,5
Buna N diaphragm and sealing diaphragms with 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 mbar	30 "Hg to 200	-1 to 13,8	400	27,6
541	1 to 20 "wcd	2,5 to 49,8 mbar	0.1 to 1.0 "wc	0.2 to 2,5 mbar	30 "Hg to 200	-1 to 13,8	400	27,6
542	5 to 50 "wcd	12,4 to 124,5 mbar	0.2 to 2.5 "wc	0,5 to 6,2 mbar	30 "Hg to 200	-1 to 13,8	400	27,6
543	10 to 200 "wcd	24,9 to 497,8 mbar	0.5 to 8 "wc	1,2 to 19,9 mbar	30 "Hg to 200	-1 to 13,8	400	27,6
544	2 to 20	0,1 to 1,4	0.1 to 1.3	6,9 to 89,6 mbar	30 "Hg to 1200	-1 to 82,7	2500	172,4
545	5 to 50	0,3 to 3,4	0.2 to 2.2	13,8 mbar to 0,1 bar	30 "Hg to 1200	-1 to 82,7	2500	172,4
546	10 to 125	0,7 to 8,6	0.4 to 5.0	27,6 mbar to 0,3 bar	30 "Hg to 1200	-1 to 82,7	2500	172,4
547	50 to 250	3,4 to 17,2	0.8 to 10	0,1 to 0,7	30 "Hg to 1200	-1 to 82,7	2500	172,4
548	100 to 500	6,9 to 34,5	2.0 to 15	0,1 to 1,0	30 "Hg to 1200	-1 to 82,7	2500	172,4

****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.

DIFFERENTIAL PRESSURE MODEL CHART

- **Type H121K, single switch with external adjustment dial via reference dial, single conduit**
- **Type H122K, dual switch with external adjustment dial via reference dial, single conduit**

Model	Adjustable Set Point Range Low end of range on fall; High end of range on rise		Deadband		Working Pressure***		Proof Pressure**		Dial Divisions
	psid	bar	psi	mbar	psi (unless noted)	bar	psi	bar	psi
Welded 316L stainless steel bellows and 1/2" NPT (female) pressure connections									
S147B	3 to 30	0,2 to 2,1	0.3 to 2	20,7 to 137,9	30 "Hg Vac to 100	-1 to 6,9	300	20,7	0.5
S157B	10 to 100	0,7 to 6,9	0.5 to 3	34,5 to 206,8	30 "Hg Vac to 180	-1 to 12,4	300	20,7	2
Brass bellows with nickel-plated brass 1/4" NPT (female) pressure connections									
147	3 to 30	0,2 to 2,1	0.3 to 2	20,7 to 137,9	30 "Hg Vac to 100	-1 to 6,9	180	12,4	0.5
157	10 to 100	0,7 to 6,9	0.5 to 3	34,5 to 206,8	30 "Hg Vac to 150	-1 to 10,3	180	12,4	2
Buna N diaphragm, O-Ring with aluminum 1/4" NPT (female) pressure connections									
456	2 to 20	0,1 to 1,4	0.1 to 0.3	6,9 to 20,7	30 "Hg Vac to 225	-1 to 15,5	225	15,5	0.5
457	3 to 30	0,2 to 2,1	0.1 to 0.4	6,9 to 27,6	30 "Hg Vac to 225	-1 to 15,5	225	15,5	0.5
Teflon® and Buna N diaphragms, Buna N O-Ring with aluminum 1/4" NPT (female) pressure connections									
559	10 to 100	0,7 to 6,9	0.2 to 1	13,8 to 68,9	30 "Hg Vac to 225	-1 to 15,5	225	15,5	2

****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.

Differential Pressure Indicating Option M210

TEMPERATURE MODEL CHART

- **Type B121, single switch, immersion stem, external adjustment via reference dial, single conduit**
- **Type B122, dual switch, immersion stem, external adjustment via reference dial, single conduit**
- **Type C120, single switch, immersion stem, internal adjustment , dual conduits**
- **Type E121, single switch, bulb and capillary, external adjustment via reference dial, single conduit**
- **Type E122, dual switch, bulb and capillary, external adjustment via reference dial, single conduit**
- **Type F120, single switch, bulb and capillary, internal adjustment, dual conduits**

Model	Adjustable Set Point Range		Max. Temp.		Scale Div.		Stem or Bulb Size*/Finish**
	°F	°C	°F	°C	°F	°C	OD x Length
Type B121, single switch, immersion stem, external adjustment via reference dial. Type B122, dual switch, immersion stem, external adjustment via reference dial. Type C120, single switch, immersion stem, internal adjustment							
120	0 to 225	-17.8 to 107.2	275	135	5†	5†	9/16" x 1-7/8" below thread, 1/2" NPT nickel-plated brass
121	200 to 425	93.3 to 218.3	475	246.1	5†	5†	9/16" x 1-7/8" below thread, 1/2" NPT nickel-plated brass
13272 (B121) 13322 (B122) (Heat Tracing)	15 to 140	-9.4 to 60	160	71.1	2†	2†	9/16" x 2-11/16" long stainless steel
Type E121, single switch, bulb and capillary, external adjustment via reference dial. Type E122, dual switch, bulb and capillary, external adjustment via reference dial							
2BSA	-120 to 100	-84.4 to 37.8	150	65.6	5	5	3/8 x 2-5/8"
2BSB	30 to 250	-1.1 to 121.1	300	148.9	5	5	3/8 x 2-5/8"
3BS	100 to 400	37.8 to 204.4	450	232.2	5	5	3/8 x 2-1/8"
4BS	25 to 100	-3.9 to 37.8	150	65.6	2	1	3/8 x 6-3/4"
5BS	-20 to 80	-28.9 to 26.7	130	54.4	2	2	3/8 x 5"
8BS	350 to 640	176.7 to 337.8	690	365.6	5	5	3/8 x 3-1/4"
13273 (E121) 13321 (E122) (Heat Tracing)	25 to 325	-3.9 to 162.8	360	182.2	5	5	1/4" x 10-1/4"
Type F120, single switch, bulb and capillary, internal adjustment							
1BS	-180 to 120	-117.8 to 48.9	170	76.7	N/A		3/8 x 3-3/4"
2BS	-125 to 350	-87.2 to 176.7	400	204.4	N/A		3/8 x 2-5/8"
3BS	-125 to 500	-87.2 to 260	550	287.8	N/A		3/8 x 2-1/8"
4BS	-40 to 120	-40 to 48.9	170	76.7	N/A		3/8 x 6-3/4"
5BS	-40 to 180	-40 to 82.2	230	110	N/A		3/8 x 5"
6BS	0 to 250	-17.8 to 121.1	300	148.9	N/A		3/8 x 4-1/2"
7BS	0 to 400	-17.8 to 204.4	450	232.2	N/A		3/8 x 3"
8BS	50 to 650	10 to 343.3	700	371.1	N/A		3/8 x 3-1/4"

† Types B121, B122 only.

*__Optional immersion__ stem lengths and capillary lengths are available – consult UE. Standard capillary length is 6 FT except HTFP models which are 10 FT.

**__Optional__ stainless steel __immersion__ stem, and __stainless steel armored__ or __Teflon covered capillary__ available – consult UE.

INDICATING TEMPERATURE CONTROL MODEL CHART

- **Type 820E, single switch, external adjustment and temperature indication, dual conduits**
- **Type 822E, dual switch, external adjustment and temperature indication, dual conduits**

Model	Adjustable Set Point Range		Max. Temp.		Scale Div.		Bulb Size
	°F	°C	°F	°C	°F	°C	OD x Length
1BS	-180 to 120	-117.8 to 48.9	170	76.7	5	5	3/8 x 3-3/4"
2BS	-125 to 350	-87.2 to 176.7	400	204.4	10	5	3/8 x 2-5/8"
3BS	-125 to 500	-87.2 to 260	550	287.8	10	5	3/8 x 2-1/8"
4BS	-40 to 120	-40 to 48.9	170	76.7	5	2	3/8 x 6-3/4"
5BS	-40 to 180	-40 to 82.2	230	110	5	2	3/8 x 5"
6BS	0 to 250	-17.8 to 121.1	300	148.9	5	2	3/8 x 4-1/2"
7BS	0 to 400	-17.8 to 204.4	450	232.2	10	5	3/8 x 3"
8BS	50 to 650	10 to 343.3	700	371.1	10	10	3/8 x 3-1/4"

Standard capillary length is 6ft. optional lengths and capillary protection available – consult UE.

Explosion proof indicating temperature switch, available with single or dual set points

HOW TO ORDER

BUILDING A PART NUMBER

Select a **Type**

Refer to the "Type" section below.

Determine type number based on switch output, enclosure, adjustment and reference.

Fill in the type portion of your part number with the corresponding number.

Select a **Model**

Refer to the "Model Charts"

Determine model based on adjustable range, deadband and proof pressure.

Fill in the model portion of your part number with the corresponding number.

Select an **Option**

Refer to the "Options" section

Determine option number based on switch output, optional materials or other product enhancements.

Fill in the option portion of your part number with the corresponding number.

Leave "option" portion blank if no options are needed. FOR MULTIPLE OPTIONS: Call United Electric Controls.

TYPE	DESCRIPTION
Pressure	Type J120 - One SPDT; epoxy coated enclosure; internal adjustment with no reference scale, dual conduits
	Type H121 - **One** SPDT; epoxy coated enclosure; **external** adjustment **with reference dial**, **single** conduit
	Type H122 - **Two** SPDT; epoxy coated enclosure; **external** adjustment **with reference dial**, **single** conduit
	Type H122P - **Two** SPDT; **hermetically** sealed switches; epoxy coated enclosure; **external** common adjustment **with reference dial**, **single** conduit
Differential Pressure	Type J120K - **One** SPDT; epoxy coated enclosure; **internal** adjustment with **no reference scale**, **dual** conduits
	Type H121K - **One** SPDT; epoxy coated enclosure; **external** adjustment **with reference dial**, **single** conduit
	Type H122K - **Two** SPDT; epoxy coated enclosure; **external** adjustment **with reference dial**, **single** conduit
Temperature	Type B121 - Immersion stem; **one** SPDT; epoxy coated enclosure; **external** adjustment **with reference dial**, **single** conduit
	Type B122 - Immersion stem; **two** SPDT; epoxy coated enclosure; **external** adjustment **with reference dial**, **single** conduit
	Type C120 - Immersion stem; **one** SPDT; epoxy coated enclosure; **internal** adjustment with **no reference scale**, **dual** conduits
	Type E121 - Bulb and capillary; **one** SPDT; epoxy coated enclosure; **external** adjustment **with reference dial**, **single** conduit
	Type E122 - Bulb and capillary; **two** SPDT; epoxy coated enclosure; **external** adjustment **with reference dial**, **single** conduit
	Type F120 - Bulb and capillary; **one** SPDT; epoxy coated enclosure; **internal** adjustment with **no reference dial**, **dual** conduits
	Type 820E - Bulb and capillary; **one** SPDT; **external** adjustment and temperature **indication**, **dual** conduits
	Type 822E - Bulb and capillary; **two** SPDT; **external** adjustment and temperature **indication**, **dual** conduits

SWITCH OPTIONS**	
0140	Gold contacts, 1 amp 125 VAC resistive, NOT AVAILABLE TYPE H122P, 820E, & 822E
0500	Close deadband, 5 amp 125/250 VAC resistive. NOT AVAILABLE TYPE H122P AND MODELS 520-535
1010	DPDT switch, 10 amp 125/250 VAC resistive; deadband and minimum set point will increase. NOT AVAILABLE TEMPERATURE VERSIONS; TYPES H122, H122P H122K; OR J120K MODELS 36-39, 367, AND 540-548; OR J120 MODELS 171-194, 483-494, 520-535, 560-567, 680
1070	10 amp 125 VDC or VAC resistive; deadband and minimum set point will increase. NOT AVAILABLE TYPES 820E, 822E, H122P, H122K, B122, AND J120K MODELS 36-39; J120 MODELS 171-194, 483-494, 520-535, 560-567
1180	Hermetically sealed, with gold flash contacts, SPDT, 11 amp 125/250 VAC resistive, must be specified with type H122P. NOT AVAILABLE TYPES B122, E122, H122, H121K and H122K, 820 AND 822E; deadband and minimum set point will increase.
1190	Hermetically sealed, with gold flash contacts, DPDT, 11 amp 125/250 VAC; products set on rising pressure or temperature due to inherent separation of circuits on falling pressure or temperature; specify option 1195 if setting on fall is required; deadband and minimum set point will increase. NOT AVAILABLE TYPES 820E, 822E, B122, E122, H122, H121K, H122K, H122P
1195	Hermetically sealed, with gold flash contacts, DPDT, 11 amp 125/250 VAC; products set on falling pressure or temperature due to inherent separation of circuits on rising pressure or temperature; specify option 1190 if setting on rise is required; deadband and minimum set point will increase. NOT AVAILABLE TYPES 820E, 822E, B122, E122, H122, H121K, H122K, H122P

** All switches have limited DC capabilities. Consult factory for details.

SWITCH OPTIONS** (CONT.)

1519*	Adjustable deadband, 15 amp 125/250/480 VAC resistive; adjustable wheel changes rise setting only; if adjustment of fall setting is required use primary adjustment; deadband and minimum set point will increase. NOT AVAILABLE TYPES 820E, 822E, B121, B122, E121, E122, H121, H122, H121K, H122K, H122P or models 171-194, 483-494, 520-535, 560-567, 612-616
1530	External manual reset, 15 amp 125/250/480 VAC resistive; latches on rise only. NOT AVAILABLE TYPES 820E, 822E, B122, E122, H122, H121K, H122K, H122P
1535	High ambient, 15 amp 125/250/480 VAC resistive; temperatures up to 250°F (120°C). NOT AVAILABLE TYPES 820E, 822E, H122P models 520-535
1537	Vapor sealed switch, 15 amp 125/250 VAC resistive. NOT AVAILABLE TYPES 820E, 822E, H122P or models 520-535
1539	Fungus resistant case, 15 amp 125/250 VAC resistive. NOT AVAILABLE TYPES 820E, 822E, H122P or models 520-535
2000	20 amp 125/250/480 VAC resistive. NOT AVAILABLE MODELS H122P, 520-535, 540-548
3000	30 amp 125/250/277 VAC resistive. NOT AVAILABLE TYPES 820E, 822E, B121, B122, E122, H121, H122, H121K, H122K, H122P, J120K or models 171-194, 483-494, 520-535, 540-548, 560-567

SENSOR OPTIONS

M504	316L stainless steel stem. AVAILABLE TEMPERATURE MODELS 120 AND 121 ONLY
M540	Viton® wetted parts with standard pressure connection. Deadbands and low end of range may increase. AVAILABLE MODELS 36-39, 450-454, 540-548. Models 455-457 (Viton® sealing diaphragms and O-rings with Teflon® main diaphragm). Models 612-616 (O-Ring only). AVAILABLE TYPE J120 MODELS 701-705 and TYPES H121 and H122 MODELS 701-703 with stainless steel pressure connection.
M913	1/4" NPT (female) stainless steel pressure connection. AVAILABLE ON MODELS S126B - S146B, S152B, S156B, S164B, 188 AND 189 ONLY
M914	1/2" NPT (female) stainless steel pressure connection. AVAILABLE ON MODELS 356, 358, 361, 376, 612 AND 616 ONLY
6361-762	1/2" NPT MALE to G1/2 male stainless steel pressure fitting adaptor kit
6361-761	1/4" NPT male to G1/2 male stainless steel pressure fitting adaptor kit

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 MATERIAL 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 (NACE MR-0175 compliant)

*__Please note__: In order to accommodate free movement of adjustable wheel, left hand electrical conduit is permanently sealed.

** All switches have limited DC capabilities. Consult factory for details.

OPTIONAL SENSOR MATERIAL FOR CORROSIVE MEDIA (CONT.)

XR211	Kalrez® O-Ring
XR213	Ethylene propylene O-Ring
XR214	Aflas® O-Ring

OTHER OPTIONS

M201	Factory set one switch
M202	Factory set two switches. NOT AVAILABLE SINGLE SWITCH VERSIONS
M210	Differential pressure indication. AVAILABLE ON H121K, H122K, MODELS 147, 157, S147B, S157B ONLY
M277	Range indicated on nameplate in kPa or MPa. NOT AVAILABLE ON TEMPERATURE VERSIONS
M278	Range indicated on nameplate in Kg/cm^2. NOT AVAILABLE ON TEMPERATURE VERSIONS
M320	Tamper resistant cover for indication portion of control, internal adjustment. AVAILABLE TYPES 820E AND 822E ONLY
M404	Flameproof compliance for Ukraine per Gosnadzorohrantruda permits.
M405	Intrinsic safety compliance for European Union per ATEX standards. NOT AVAILABLE TYPES 820E AND 822E
M406	Flameproof and intrinsic safety compliance for Russia per Gosgortechnadzor permit. Intrinsic safety NOT AVAILABLE TYPES 820E & 822E
M408	Flameproof compliance for China per CQST standards
M440	Cover chain
M444	Paper ID tag
M446	Stainless steel ID tag & wire attachment
M449	Surface mounting hardware kit that is required for models 520-535 & 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 seperate order or for other models.
M450	Breather drain. NOT AVAILABLE WITH OPTIONS 1530, M210 OR WITH ATEX CERTIFICATION
M550	Oxygen service cleaning; alcohol cleaning to remove residue from the process connection. NOT AVAILABLE ON H122, MODELS 704 AND 705
6361-704	Surface and pipe mounting hardware kit for all models. Required for surface mounting models 520-535 & 540-548 if not previously ordered with option M449.

ALSO AVAILABLE: 150# and 300# flanges (consult factory for part numbers)

NOTE: Options available on models 13272, 13273, 13321, 13322, 15622, 15834-15839 and 15875 are M201, M202, M444, M446 and various certification related documentation only.

OPTIONS FOR TEMPERATURE MODELS

UNION CONNECTORS

Option	Replacement Number	Description
	Brass	
W027	SD6213-27	1/2" NPT w/ 3/4" bushing
W045	SD6213-45	3/4" NPT
W051	SD6213-51	1/2" NPT
	304 Stainless Steel	
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 Models 13273 and 13321

	Brass	
W075	SD6225-75	3/4" NPT bushing adapter, 4" BT
W191	SD6225-191	1/2" NPT, 4" BT
W118	SD6225-118	3/4" NPT bushing adapter, 7" BT
W192	SD6225-192	1/2" NPT, 7" BT
	316 Stainless Steel	
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 Models 13272 and 13322

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

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 ST/ST thermowell

OPTIONAL LENGTHS

Optional immersion stem lengths to 15" available in brass, with or without 316 ST/ST thermowell. Consult UE for additional information.

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

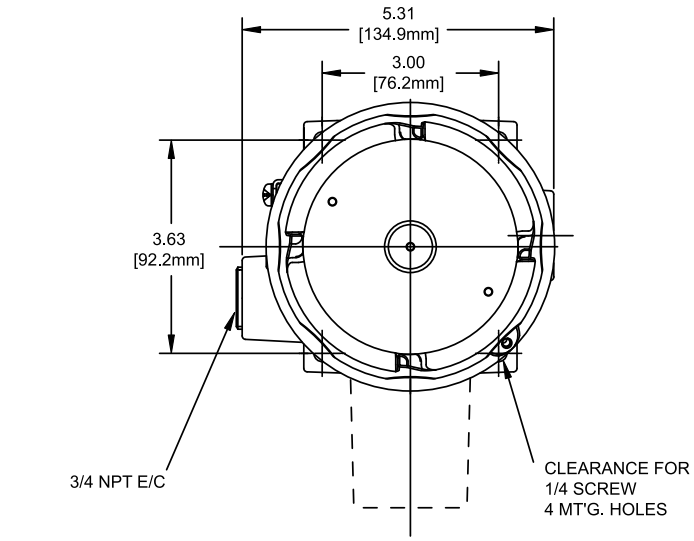
*Consult UE regarding repeatability and ambient effects on capillary lengths over 30'.

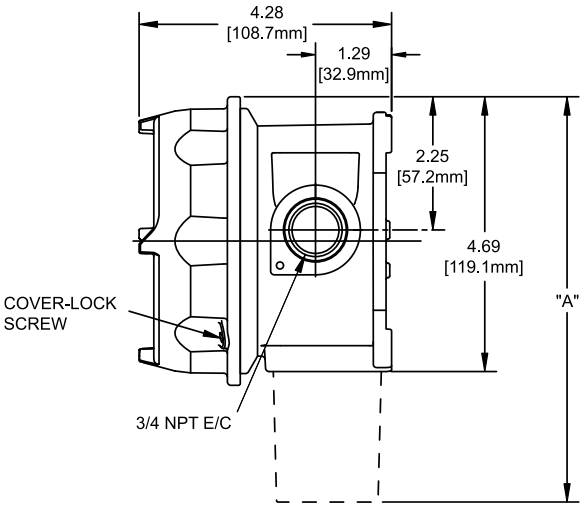
DIMENSIONAL DRAWINGS

(Dimensional drawings for all models may be found at www.ueonline.com)

Internal Set Point Adjustment, dual conduits

Types J120, J120K, C120, F120





Dimension A			
Models	**Inches**	**mm**	**NPT**
Pressure			
126-164	7.25	184.2	1/4
S126B-S164B	7.63	193.8	1/2
171-174	8.72	221.5	1/2
183-186, 483-486	8.41	213.6	1/2
188-189, 488-489	7.47	189.7	1/2
190-194, 490-494	7.44	189.0	1/2
270-274	8.13	206.5	1/4
356-361, 376	8.09	205.5	1/4
450, 452	8.81	223.8	1/4
451, 453, 454	8.06	204.7	1/4
520-525	9.25	235.0	1/2
530-535	8.84	224.5	1/2
550, 552	8.81	223.8	1/4
551, 553-555	8.34	211.8	1/4
560-564	7.53	191.3	2" Sanitary
565-567	7.53	191.3	1-1/2" Sanitary
612, 616	7.88	200.2	1/4
680	8.13	206.5	1/4
701-705, 15622	7.44	189.0	1/4
Differential Pressure			
36-39, 147-157, 367	7.59	192.8	1/4
S147B-S157B	7.59	192.8	1/2
455-457, 559	8.44	214.4	1/4
540-543	9.34	237.2	1/8
544-548	9.41	239.0	1/8
Temperature			
120-121	9.13	231.9	Immersion Stem
1BS-8BS	8.47	215.1	Bulb & capillary

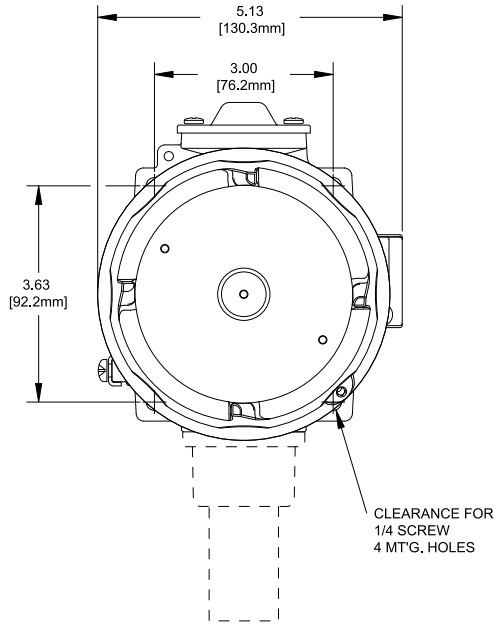
All dimensions stated in inches (millimeters)

DIMENSIONAL DRAWINGS

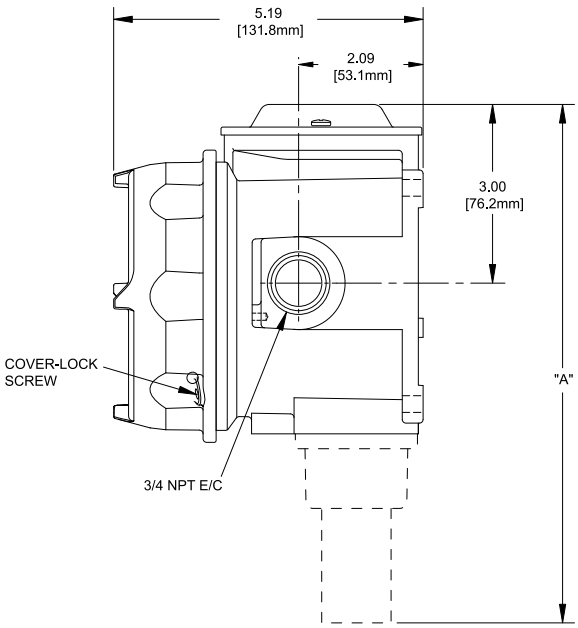
(Dimensional drawings for all models may be found at www.ueonline.com)

External Set Point Adjustment, single conduit

Types B121, B122, E121,
E122, H121, H122,
H122P, H121K, H122K



Dimension A			
Models	**Inches**	**mm**	**NPT**
Pressure			
126-164	8.09	205.5	1/4
S126B-S164B	8.50	215.9	1/2
270-274	7.88	200.2	1/4
358-376	7.81	198.4	1/4
450, 452	9.69	246.1	1/4
453, 454	8.94	227.1	1/4
550, 552	9.75	247.7	1/4
553-555	9.31	236.5	1/4
612, 614	8.75	222.3	1/4
701-705	8.31	211.1	1/4
Differential Pressure			
147-157	8.44	214.4	1/4
S147B-S157B	8.44	214.4	1/2
456-457, 559	9.31	236.5	1/4
Temperature			
120,121	10.00	254.0	Immersion Stem
2BS-8BS	9.31	236.5	Bulb & capillary
13272, 13322	10.00	254.0	Immersion Stem (Heat tracing)
13273, 13321	9.31	236.5	Bulb & capillary (Heat tracing)

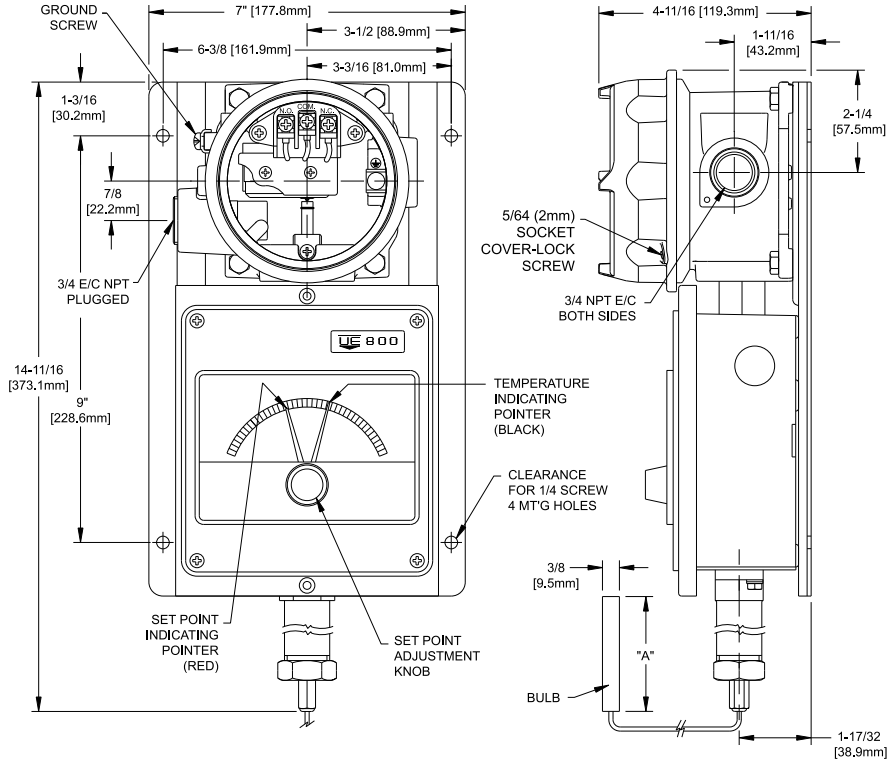


DIMENSIONAL DRAWINGS

(Dimensional drawings for all models may be found at www.ueonline.com)

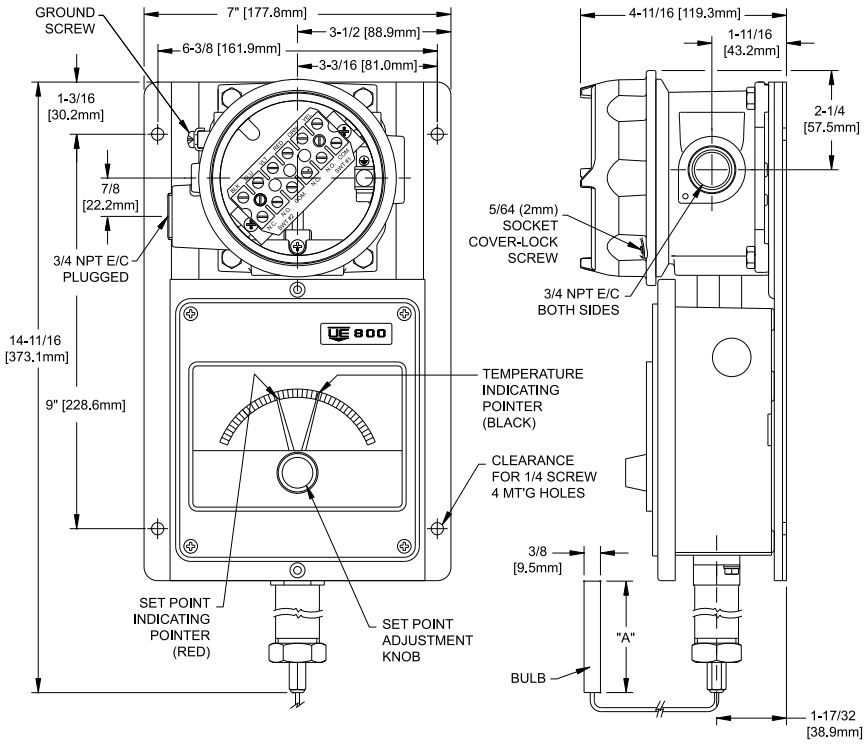
External Set Point Adjustment & Temperature Indication

Type 820E
single switch



Dimension A		
Models	**Inches**	**mm**
1BS	3-3/4	95,3
2BS	2-5/8	66.7
3BS	2-1/8	54,0
4BS	6-3/4	171,5
5BS	5	127,0
6BS	4-1/2	114,3
7BS	3	76,2
8BS	3-1/4	82,6

Type 822E
dual switch

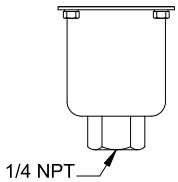


DIMENSIONAL DRAWINGS

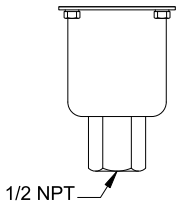
SENSORS

Pressure Sensors

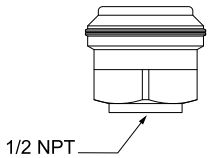
(see drawings and charts on page 21 & 22 for complete dimensions)



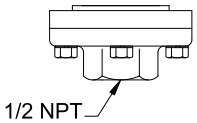
Models 126-164



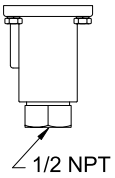
Models S126B-S164B



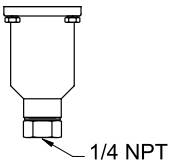
Models 171-174



Models 183-186, 483-486



Models 188-194, 488-494



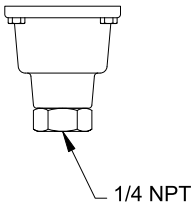
J120 Models 270-376, 680

DIMENSIONAL DRAWINGS

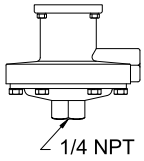
SENSORS

Pressure Sensors

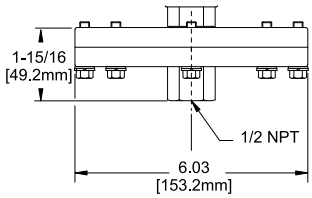
(see drawings and charts on page 21 & 22 for complete dimensions)



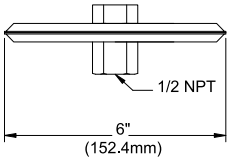
H121/H122 Models 270-376



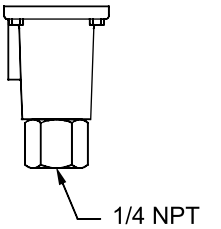
Models 450-454, 550-555



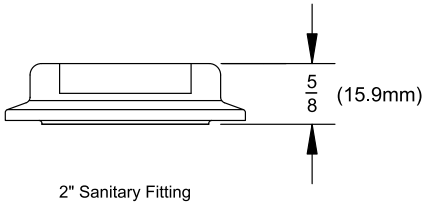
Models 520-525



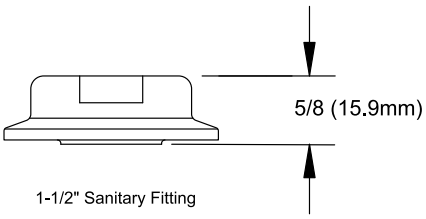
Models 530-535



Models 612-616, 701-705, 15622



Models 560-564



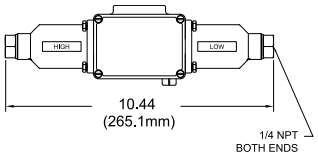
Models 565-567

DIMENSIONAL DRAWINGS

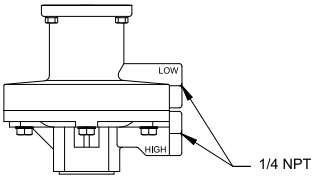
SENSORS

Differential Pressure Sensors

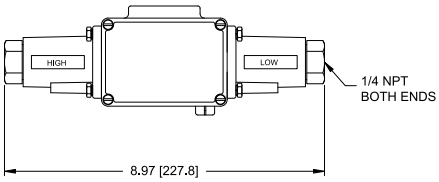
(see drawings and charts on page 21 & 22 for complete dimensions)



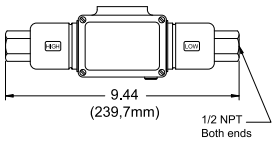
J120K Models 367



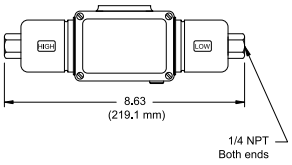
Models 455-457, 559



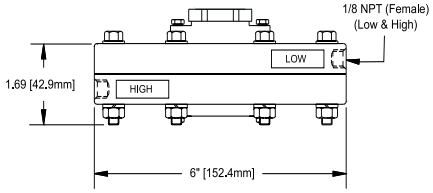
J120K Models 36-39



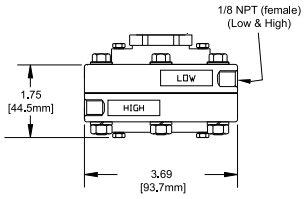
Models S147B-S157B



Models 147-157



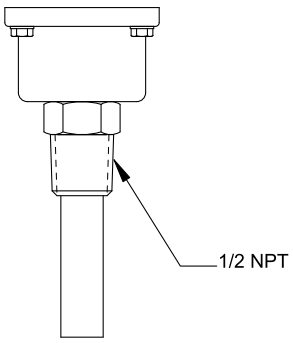
Models 540-543



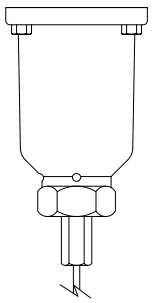
Models 544-548

Temperature Sensors

(See drawings and charts on pages 21-23 for complete dimensions, as well as Temperature Model Chart on pages 15-16 for immersion stem and bulb dimensions. The standard capillary length is 6 feet except for models 13273 & 13321 which is 10 feet)



Models
120-121, 13272, 13322



Models
1BS-8BS, 13273, 13321

ALTERNATIVE PRODUCTS FROM UE

One Series for Division 1 (Zone 1)

- Electronic pressure and temperature switches with no moving parts
- Fully adjustable deadband and smart self diagnostics
- 4-20 mA output and digital process display
- Explosion-proof enclosure for Division 1 (Zone 1) hazardous areas
- 2-wire, 4-wire and loop powered models available

TX200 Series HART® & ASIC Pressure Transmitter

- Smart TX200H offers HART 7 communciation and 4-20 mA output
- TX200H 10:1 range turndown helps reduce inventory
- ASIC based TX200 offers 4-20 mA output or 1-5 VDC or 0-10 VDC output
- Rugged 316 stainless steel construction, welded and hermetically sealed
- Wide variety of process connections available for pressure ranges from 0 to 15 psi up to 0 to 25,000 psi

Stainless Steel 12 Series

- Compact, cylindrical 316 stainless steel design
- Hermetically sealed micro-switch
- Explosion Proof
- Snap-acting belleville spring mechanism for maximum vibration resistance and set point stability
- Pressure ranges 1 to 12,500 psi; DP working pressure ranges 0 to 2500 psid; temperature ranges -130 to 650°F
- Dual seal compliance to ANSI/ISA 12.27.01

One Series for Division 2 (Zone 2)

- Electronic solid-state reliability
- Two-wire operation
- Digital display with keypad set-up
- 100% of range adjustable on-off deadband
- 4-20 mA output models
- Continuous diagnostic health check

Temperature Sensors

Rugged RTD's and Thermocouples for process and energy applications, available with Nema 4X and explosion-proof heads to match heat-trace, turbine, combustion, and stack-emission applications

HART® is a registered trademark of the HART Communication Foundation.

RECOMMENDED PRACTICES AND WARNINGS

United Electric Controls Company recommends careful consideration of the following factors when specifying and installing UE pressure and temperature units. Before installing a unit, the Installation and Maintenance instructions provided with unit must be read and understood.

- To avoid damaging unit, proof pressure and maximum temperature limits stated in literature and on nameplates must never be exceeded, even by surges in the system. Operation of the unit up to maximum pressure or temperature is acceptable on a limited basis (e.g., start-up, testing) but continuous operation must be restricted to the designated adjustable range. Excessive cycling at maximum pressure or temperature limits could reduce sensor life.
- A back-up unit is necessary for applications where damage to a primary unit could endanger life, limb or property. A high or low limit switch is necessary for applications where a dangerous runaway condition could result.
- The adjustable range must be selected so that incorrect, inadvertent or malicious setting at any range point cannot result in an unsafe system condition.
- Install unit where shock, vibration and ambient temperature fluctuations will not damage unit or affect operation. When applicable, orient unit so that moisture does not enter the enclosure via the electrical connection. When appropriate, this entry point should be sealed to prevent moisture entry.
- Unit must not be altered or modified after shipment. Consult UE if modification is necessary.
- Monitor operation to observe warning signs of possible damage to unit, such as drift in set point or faulty display. Check unit immediately.
- Preventative maintenance and periodic testing is necessary for critical applications where damage could endanger property or personnel.
- Electrical ratings stated in literature and on nameplate must not be exceeded. Overload on a switch can cause damage, even on the first cycle. Wire unit according to local and national electrical codes, using wire size recommended in installation sheet.
- Do not mount unit in ambient temp. exceeding published limits.

LIMITED WARRANTY

Seller warrants that the product hereby purchased is, upon delivery, free from defects in material and workmanship and that any such product which is found to be defective in such workmanship or material will be repaired or replaced by Seller (Ex-works, Factory, Watertown, Massachusetts. INCOTERMS); provided, however, that this warranty applies only to equipment found to be so defective within a period of 24 months from the date of manufacture by the Seller. Seller shall not be obligated under this warranty for alleged defects which examination discloses are due to tampering, misuse, neglect, improper storage, and in any case where products are disassembled by anyone other than authorized Seller's representatives. EXCEPT FOR THE LIMITED WARRANTY OF REPAIR AND REPLACEMENT STATED ABOVE, SELLER DISCLAIMS ALL WARRANTIES WHATSOEVER WITH RESPECT TO THE PRODUCT, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

LIMITATION OF SELLER'S LIABILITY

SELLER'S LIABILITY TO BUYER FOR ANY LOSS OR CLAIM, INCLUDING LIABILITY INCURRED IN CONNECTION WITH (I) BREACH OF ANY WARRANTY WHATSOEVER, EXPRESSED OR IMPLIED, (II) A BREACH OF CONTRACT, (III) A NEGLIGENT ACT OR ACTS (OR NEGLIGENT FAILURE TO ACT) COMMITTED BY SELLER, OR (IV) AN ACT FOR WHICH STRICT LIABILITY WILL BE INPUTTED TO SELLER, IS LIMITED TO THE "LIMITED WARRANTY" OF REPAIR AND/OR REPLACEMENT AS SO STATED IN OUR WARRANTY OF PRODUCT. IN NO EVENT SHALL THE SELLER BE LIABLE FOR ANY SPECIAL, INDIRECT, CONSEQUENTIAL OR OTHER DAMAGES OF A LIKE GENERAL NATURE, INCLUDING, WITHOUT LIMITATION, LOSS OF PROFITS OR PRODUCTION, OR LOSS OR EXPENSES OF ANY NATURE INCURRED BY THE BUYER OR ANY THIRD PARTY.

UE specifications subject to change without notice.

Be sure to visit www.ueonline.com for the latest information.

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