

J400- 520, J400- 521, J400- 522, J402- 523,
J402- 524, J402- 525, J403- S126B, J403- S134B,
J403- 532, H400- S126B, H400- S134B, H400- S137B,
H402- S144B, H403-358, H403- 361 и др.

Атмосферостойкие реле давления с несколькими выходами серии 400. Технические характеристики.



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OVERVIEW

The 400 Series is a versatile family of pressure, differential pressure and temperature switches for applications which require single or multiple switching capabilities. Dual and triple switch versions provide multi-output for alarm and shutdown, pre-alarm and alarm, high/low limit or level staging functions.

A wide variety of microswitch and process connection options, along with a weather-tight enclosure, make the 400 Series an ideal choice for most ordinary location applications. Its worldwide use is assured with approvals and certifications to agency standards.

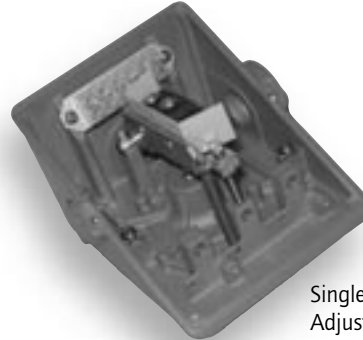
Widely used throughout the process industries, the 400 Series provides threshold protection and control for many critical functions. Typical installations are found in industrial gas production, energy generation including pumps, turbines and compressors, pulp and paper, and water and wastewater treatment.

FEATURES

- UL listed and cUL certified. FM approved. CE compliant to low voltage directive and pressure equipment directive. Optional ATEX intrinsic safety compliance.
- One, two or three switch output may be separated up to 100% of range.
- Setting via reference dial or hex screw adjustment.
- Wide variety of available options and pressure sensor modules.
- Most models available for immediate delivery.



Differential Pressure Model with M210 Option - Dial Indication



Single Switch Output, Hex Screw Adjustment Model with M100 option - Terminal Block Wiring



Temperature Model with Remote Bulb & Capillary and M321 option - Gasketed Lexan Window

Dual Switch, Low Water Column Differential Pressure Model



SPECIFICATIONS

STORAGE TEMPERATURE	-65 to 160°F (-54 to 71°C)
AMBIENT TEMPERATURE LIMITS	-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
SET POINT REPEATABILITY	Temperature models: ± 2% of adjustable range Pressure: models 126-376, 520-535, 540-547, 570-572, S126B-S164B: ± 2% of adjustable range; models 440-457, 550-559: ± 1% of adjustable range; models 610-614: ± 3% of adjustable 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, captive cover screws
ENCLOSURE CLASSIFICATION	Designed to meet enclosure type 4X requirements
SWITCH OUTPUT	One, two or three SPDT switches, may be separated up to 100% of range except models 521-524, 531-534: 50%; models 520, 525, 530, 535, 570-572: 30%; switches may be wired "normally open" or "normally closed"
ELECTRICAL RATING	15 A 125/250/480 VAC resistive. Electrical switches have limited DC capabilities. Consult factory for additional information.
WEIGHT	Approx. 3 to 7.5 lbs.; varies with model
ELECTRICAL CONNECTION	One 3/4" NPT and two 7/8" diameter knockouts
PRESSURE CONNECTION	All models 1/4" NPT (female) except models S126B-S164B, 520-535: 1/2" NPT (female); models 540-547: 1/8" NPT (female)
TEMPERATURE ASSEMBLY	'E' types use the same assemblies as 'F' types, however, range spans are limited due to use of reference dials Bulb and capillary: 6 feet 304 stainless steel Immersion stem: models 120 & 121: nickel-plated brass; optional 316L stainless steel available
FILL	Temperature Models: Model 1BS: solvent filled; models 2-8: non-toxic oil filled
TEMPERATURE DEADBAND	Type F typically 1% and type E, B & C typically 2% of range under laboratory conditions (70°F ambient circulating bath at rate of 1/2°F per minute change)
DIFFERENTIAL PRESSURE INDICATOR (OPTION M210)	Differential pressure indication available J400K, J402K models 147-S157B; accuracy approximately 1-1/2% 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

PRESSURE MODEL CHART

Type J400, single switch output with internal hex screw adjustment

Type J402, dual switch output with internal hex screw adjustment

Type J403, triple switch output with internal hex screw adjustment

Model	Adjustable Set Point Range		Deadband		Over Range Pressure*		Proof Pressure**	
	Low end of range on fall; High end of range on rise		Deadband doubles for 2 and 3 switch types					
	"wc	mbar	"wc	mbar	psi	bar	psi	bar
Buna-N diaphragm and O-Ring with epoxy coated aluminum 1/2" NPT (female) pressure connection (Other wetted materials available, see pg. 12)								
520†	300 Vac to 0	-746,7 to 0	0.2 to 12	0,5 to 29,9	200	13,8	400	27,6
521†	10 Vac to 10	-24,9 to 24,9	0.1 to 1	0,2 to 2,5	200	13,8	400	27,6
522†	50 Vac to 50	-124,5 to 124,5	0.1 to 5	0,2 to 12,4	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 0,7	200	13,8	400	27,6
524†	2.5 to 50	6,2 to 124,5	0.1 to 2	0,2 to 5,0	200	13,8	400	27,6
525†	10 to 250	24,9 to 622,3	0.1 to 10	0,2 to 24,9	200	13,8	400	27,6
Welded 316L stainless steel diaphragm and 1/2" NPT (female) pressure connection								
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 1	0,2 to 2,5	50	3,4	100	6,9
532†	50 Vac to 50	-124,5 to 124,5	0.1 to 6	0,2 to 14,9	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 2.5	0,2 to 6,2	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 (unless noted)	bar (unless noted)	psi (unless noted)	bar (unless noted)	psi (unless noted)	bar (unless noted)	psi (unless noted)	bar (unless noted)
316L stainless steel diaphragm, Viton® O-Ring with 316L stainless steel 1/4" NPT (female) pressure connection								
570	0 to 20	0 to 1,4	0.2 to 4	13,8 to 275,8 mbar	20	1,4	225	15,5
571	0 to 50	0 to 3,4	0.7 to 6	48,3 to 413,7 mbar	50	3,4	225	15,5
572	0 to 100	0 to 6,9	1 to 7	0,1 to 0,5	100	6,9	225	15,5
Welded 316L stainless steel bellows and 1/2" NPT (female) pressure connection								
S126B	30 "Hg Vac to 0	-1 to 0	0.2 to 0.9 "Hg	-6,8 to -30,5 mbar	3	0,2	5	0,3
S134B	30 "Hg Vac to 20 psi	-1 to 1,4	0.2 to 1.2 "Hg	-6,9 to -40,6 mbar	20	1,4	25	1,7
S137B	0 to 80 "wc	0 to 199,1 mbar	2 to 6 "wc	5 to 14,9 mbar	80 "wc	199,1 mbar	5	0,3
S144B	0 to 20	0 to 1,4	0.1 to 0.5	6,9 to 34,5 mbar	20	1,4	25	1,7
S146B	0 to 30	0 to 2,1	0.1 to 0.6	6,9 to 41,4 mbar	30	2,1	40	2,8
S156B	0 to 100	0 to 6,9	0.2 to 0.8	13,8 to 55,2 mbar	100	6,9	200	13,8
S164B	0 to 200	0 to 13,8	0.3 to 2	20,7 to 137,9 mbar	200	13,8	200	13,8
Welded 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	200	13,8	250	17,2
361	0 to 300	0 to 20,7	2 to 9	0,1 to 0,6	300	20,7	350	24,1
376	0 to 500	0 to 34,5	3 to 12	0,2 to 0,8	500	34,5	575	39,6
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)								
610	100 to 1,000	6,9 to 68,9	30 to 150	2,1 to 10,3	1,000	68,9	10,000	689,5
612	200 to 3,000	13,8 to 206,8	40 to 250	2,8 to 17,2	3,000	206,8	10,000	689,5
614	500 to 6,000	34,5 to 413,7	50 to 400	3,4 to 27,6	6,000	413,7	10,000	689,5

***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 subjected, which causes no permanent damage. The unit may require calibration (e.g. start-up, testing).

Viton® is a registered trademark of Dupont Dow Elastomers.

† Model not available on types J400 and J403



PRESSURE MODEL CHART

Type J400, single switch output with internal hex adjustment

Type J402, dual switch output with internal hex adjustment

Type J403, triple switch output with internal hex adjustment

Model	Adjustable Set Point Range		Deadband		Over Range Pressure*		Proof Pressure**	
	Low end of range on fall; High end of range on rise		Deadband doubles for 2 and 3 switch types					
	psi (unless noted)	bar (unless noted)	psi	bar	psi (unless noted)	bar	psi	bar
Brass bellows with nickel-plated brass 1/4" NPT (female) pressure connection; Models 126 and 134 have zinc-plated steel spring exposed to media								
126	30 "Hg Vac to 0	-1 to 0	0.2" to 0.9 "Hg	-6,8 to 30,5 mbar	3	0,2	5	0,3
134	30 "Hg Vac to 20 psi	-1 to 1,4	0.2" to 1.2 "Hg	-6,8 to 40,6 mbar	20	1,4	25	1,7
137	0 to 80 "wc	0 to 199,1 mbar	2 to 6 "wc	5 to 14,9 mbar	80 "wc	199,1 mbar	5	0,3
144	0 to 20	0 to 1,4	0.1 to 0.5	6,9 to 34,5 mbar	20	1,4	25	1,7
146	0 to 30	0 to 2,1	0.1 to 0.6	6,9 to 41,4 mbar	30	2	40	2,8
156	0 to 100	0 to 6,9	0.2 to 0.8	13,8 to 55,2 mbar	100	6,9	125	8,6
164	0 to 200	0 to 13,8	0.3 to 2	20,7 to 137,9 mbar	200	13,8	200	13,8
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	200	13,8	250	17,2
274	0 to 300	0 to 20,7	2 to 10	0,1 to 0,7	300	20,7	350	24,1
Buna-N diaphragm and O-Ring with aluminum 1/4" NPT (female) pressure connection and cap								
440††	0 to 2 "wc	0 to 5 mbar	0.07 to 0.25 "wc	0,2 to 0,6 mbar	3	0,2	225	15,5
441†††	0 to 10 "wc	0 to 24,9 mbar	0.15 to 0.3 "wc	0,4 to 0,7 mbar	3	0,2	225	15,5
442	0 to 20 "wc	0 to 49,8 mbar	0.2 to 0.5 "wc	0,5 to 1,2 mbar	3	0,2	225	15,5
443	0 to 80 "wc	0 to 199,1 mbar	0.5 to 1.8 "wc	1,2 to 4,5 mbar	3	0,2	225	15,5
448	80 Vac to 0 "wc	-199,1 to 0 mbar	1 to 3 "wc	2,5 to 7,5 mbar	3	0,2	225	15,5
449†††	0 to 20 "wc	0 to 49,8 mbar	1 to 2 "wc	2,5 to 5,0 mbar	3	0,2	225	15,5
450	30 "Hg Vac to 0	-1 to 0	0.1 to 0.4 "Hg	-3,4 to 13,5 mbar	3	0,2	225	15,5
451	0 to 80 "wc	0 to 199,1 mbar	1 to 3 "wc	2,5 to 7,5 mbar	3	0,2	225	15,5
452	30 "Hg Vac to 20 psi	-1 to 1,4	0.2 to 1 "Hg	-6,8 to 33,9 mbar	20	1,4	225	15,5
453	0 to 20	0 to 1,4	0.05 to 0.2	3,4 to 13,8 mbar	20	1,4	225	15,5
454	0 to 30	0 to 2,1	0.05 to 0.3	3,4 to 20,7 mbar	30	2,1	225	15,5
Teflon® diaphragm and O-Ring with 316L stainless steel 1/4" NPT (female) pressure connection and cap								
550	30 "Hg Vac to 0	-1 to 0	0.1 to 0.6 "Hg	-3,4 to 20,3 mbar	3	0,2	225	15,5
551	0 to 80 "wc	0 to 199,1 mbar	1.5 to 3.5 "wc	3,7 to 8,7 mbar	80"wc	199,1 mbar	225	15,5
552	30 "Hg Vac to 20 psi	-1 to 1,4	0.2 to 1 "Hg	-6,8 to 33,9 mbar	20	1,4	225	15,5
553	0 to 20	0 to 1,4	0.05 to 0.3	3,4 to 20,7 mbar	20	1,4	225	15,5
554	0 to 30	0 to 2,1	0.1 to 0.4	6,9 to 27,6 mbar	30	2,1	225	15,5
555	0 to 100	0 to 6,9	0.25 to 0.75	17,2 to 51,7 mbar	100	6,9	225	15,5

Teflon® is a registered trademark of E.I. DuPont.

†† Model not available on types J402 and J403

††† Model not available on type J403

PRESSURE MODEL CHART

Type H400, single switch output with internal adjustment via reference dial

Type H402, dual switch output with internal adjustment via reference dial

Type H403, triple switch output with internal adjustment via reference dial

Model	Adjustable Set Point Range		Deadband		Proof Pressure**		Scale Division
	High end of range on rise Low end of range on fall; psi (unless noted)	bar (unless noted)	Deadband doubles for 2 and 3 switch types 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	-1 to 0	0.2 to 0.9 "Hg	-6,8 to -30,5 mbar	5	0,3	2 "Hg
S134B	30 "Hg Vac to 20 psi	-1 to 1,4	0.2 to 1.2 "Hg	-6,8 to -40,6	25	1,7	2 "Hg & 2 psi
S137B†	0 to 80 "wc	0 to 199,1 mbar	2 to 6 "wc	5 to 14,9 mbar	5	0,3	5 "wc
S144B	0 to 20	0 to 1,4	0.1 to 0.5	6,9 to 34,5 mbar	25	1,7	1
S146B	0 to 30	0 to 2,1	0.1 to 0.6	6,9 to 41,4 mbar	40	2,8	1
S156B	0 to 100	0 to 6,9	0.2 to 0.8	13,8 to 55,2 mbar	200	13,8	5
S164B	0 to 200	0 to 13,8	0.3 to 2	20,7 to 137,9 mbar	200	13,8	10
Welded 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	10
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	20
Brass bellows with nickel-plated brass 1/4" NPT (female) pressure connection; Models 126 and 134 have zinc-plated steel spring exposed to media							
126	30 "Hg Vac to 0	-1 to 0	0.2 to 0.9 "Hg	-6,8 to -30,5 mbar	5	0,3	2 "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	2 "Hg & 2 psi
137†	0 to 80 "wc	0 to 199,1 mbar	2 to 6 "wc	5 to 14,9 mbar	5	0,3	5 "wc
144	0 to 20	0 to 1,4	0.1 to 0.5	6,9 to 34,5 mbar	25	1,7	1
146	0 to 30	0 to 2,1	0.1 to 0.6	6,9 to 41,4 mbar	40	2,8	1
156	0 to 100	0 to 6,9	0.2 to 0.8	13,8 to 55,2 mbar	125	8,6	5
164	0 to 200	0 to 13,8	0.3 to 2	20,7 to 137,9 mbar	200	13,8	10
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	10
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							
440†	0 to 2 "wc	0 to 5 mbar	0.07 to 0.25 "wc	0,2 to 0,6 mbar	225	15,5	0.1 "wc
441†	0 to 10 "wc	0 to 24,9 mbar	0.15 to 0.3 "wc	0,4 to 0,7 mbar	225	15,5	0.5 "wc
442†	0 to 20 "wc	0 to 49,8 mbar	0.2 to 0.5 "wc	0,5 to 1,2 mbar	225	15,5	1 "wc
443†	0 to 80 "wc	0 to 199,1 mbar	0.5 to 1.8 "wc	1,2 to 4,5 mbar	225	15,5	5 "wc
448†	80 "wc Vac to 0	-199,1 to 0 mbar	1 to 3 "wc	2,5 to 7,5 mbar	225	15,5	5 "wc
450††	30 "Hg Vac to 0	-1 to 0	0.1 to .04 "Hg	-3,4 to -13,5 mbar	225	15,5	2 "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	2 "Hg & 2 psi
453††	0 to 20	0 to 1,4	0.05 to 0.2	3,4 to 13,8 mbar	225	15,5	1
454††	0 to 30	0 to 2,1	0.05 to 0.3	3,4 to 20,7 mbar	225	15,5	1

****Proof pressure:** The maximum pressure to which a pressure sensor may be subjected, which causes no permanent damage. The unit may require calibration (e.g. start-up, testing).

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† Model not available on types H402 and H403

†† Model not available on type H403



400 Series

400 Series

PRESSURE MODEL CHART

Type H400, single switch output with internal adjustment via reference dial

Type H402, dual switch output with internal adjustment via reference dial

Type H403, triple switch output with internal adjustment via reference dial

Model	Adjustable Set Point Range		Deadband		Proof Pressure**		Scale Division
	Low end of range on fall; High end of range on rise		Deadband doubles for 2 and 3 switch types		psi	bar	psi (unless noted)
	psi (unless noted)	bar (unless noted)	psi (unless noted)	bar (unless noted)			
Teflon® diaphragm, O-Ring with 316L stainless steel 1/4" NPT (female) pressure connection and cap							
550††	30 "Hg Vac to 0	-1 to 0	0.1 to 0.6 "Hg	-3,4 to -20,3 mbar	225	15,5	2 "Hg
551†	0 to 80 "wc	0 to 199,1 mbar	1.5 to 3.5 "wc	3,7 to 8,7 mbar	225	15,5	5 "wc
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	2 "Hg & 2 psi
453††	0 to 20	0 to 1,4	0.05 to 0.3	3,4 to 20,7 mbar	225	15,5	1
454††	0 to 30	0 to 2,1	0.1 to 0.4	6,9 to 27,6 mbar	225	15,5	1
555††	0 to 100	0 to 6,9	0.25 to 0.75	17,2 to 51,7 mbar	225	15,5	5

****Proof pressure:** The maximum pressure to which a pressure sensor may be subjected, which causes no permanent damage. The unit may require calibration (e.g. start-up, testing).

† Model not available on types H402 and H403

†† Model not available on type H403

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