



Standard Electromechanical Pressure Controls

P70, P72, and P170 Series Controls for High Pressure Applications (Continued)

Selection Chart (Part 2 of 2)

Product Code Number	Switch Action	Range psi (kPa)	Differential psi (kPa)	Pressure Connection	Max. Working Pressure
Models for High Pressure Non-Corrosive Refrigerants ²					
P70AA-2C	SPST Open Low	0 to 150 (0 to 1,034)	Minimum 10 (69); Maximum 70 (483)	36 in. Cap. with 1/4 in. Flare Nut	325 psig
P170AA-2C				1/4 in. External Flare Connector	(2,241 kPa)
P70AA-400C		100 to 470 (689 to 3,241)	Minimum 35 (241); Maximum 200 (1,379)	36 in. Cap. with 1/4 in. Flare Nut	690 psig
P170AA-400C				1/4 in. External Flare Connector	(4,757 kPa)
P70CA-400C ¹	SPST Open High	200 to 610 (1,379 to 4,206)	Minimum 60 (414); Maximum 150 (1,034)	36 in. Cap. with 1/4 in. Flare Nut	
P170CA-400C ¹				1/4 in. External Flare Connector	
P70DA-400C ¹			Manual Reset Lockout	36 in. Cap. with 1/4 in. Flare Nut	
P170DA-400C ¹				1/4 in. External Flare Connector	
Ammonia Compatible Models					
P70AA-119C	SPST Open Low	50 to 300 (345 to 2,068)	Minimum 20 (138); Maximum 120 (827)	1/4 in. SS Internal NPT	400 psig (2,758 kPa)
P70CA-5C ¹	SPST Open-High	50 to 500 (345 to 3,448)	Minimum 60 (414); Maximum 150 (1,034)		525 psig (3,620 kPa)
P70DA-2C ¹			Manual Reset Lockout		
P70KA-7C	Four-wire, Two-circuit Line-M1 Close-high Line-M2 Open High				

- UL Listed as refrigeration pressure limiting controls
- Compatible with R410A refrigerant.

Note: To order models not listed in the selection chart, please contact Johnson Controls/PENN Refrigeration Application Engineering at 1-800-275-5676.

Technical Specifications

Single Pressure Controls Switch Action, Low Event, High Event, and Models

Switch and Action	Low Event	High Event	Models
SPST Open Low	Cut-Out (Opens Line to M1)	Cut-In (Closes Line to M1)	P70A, P70B, P170A
SPST Open High	Cut-In (Closes Line to M1)	Cut-Out (Opens Line to M1)	P70C, P70D, P170C, P170D
SPDT	Opens 1 to 2 and closes 1 to 3	Closes 1 to 2 and Opens 1 to 3	P70E, P70F
Four-wire, Two-circuits, 1 N.O., 1 N.C. Open Low	Cut-Out (Opens M2 to Line and Closes M1 to Line)	Cut-In (Closes M2 to Line and Opens M1 to Line)	P70G, P70H
Four-wire, Two-circuits, 1 N.O., 1 N.C. Open High	Cut-In (Closes M2 to Line and Opens M1 to Line)	Cut-Out (Opens M2 to Line and Closes M1 to Line)	P70J, P70K, P170K
DPST Open Low	Cut-Out (Opens M1 to Line and M2 to Line)	Cut-In (Closes M1 to Line and M2 to Line)	P72A, P72B
DPST Open High	Cut-In (Closes M1 to Line and M2 to Line)	Cut-Out (Opens M1 to Line and M2 to Line)	P72C, P72D

ALCO® Cross Reference

Temperature Controls



Product #	Range	Differential	Switch	Capillary	Bulb	Cover	Notes
ALCO TF115-S2 AE00	-20/60F	3/30F ADJ	SPDT	NONE	COILED	NEMA 1	
ALCO TSI-X2E 30/40	-20/60F	3/30F ADJ	SPDT	NONE	COILED	NEMA 1	
PENN A19BBC-2C	-30/100F	3/12F ADJ	SPDT	None	Coiled	NEMA 1	(1)
PENN A19BBC-6C	-30/100F	3/12F ADJ	SPDT	None	Coiled	NEMA 1	(1)(2)
ALCO TF115-S3 AE00	15/95F	3/30F ADJ	SPDT	NONE	COILED	NEMA 1	
ALCO TSI-X3E 64/48	15/95F	3/30F ADJ	SPDT	NONE	COILED	NEMA 1	
PENN A19BBC-2C	-30/100F	3/12F ADJ	SPDT	None	Coiled	NEMA 1	(1)
PENN A19BBC-6C	-30/100F	3/12F ADJ	SPDT	None	Coiled	NEMA 1	(1)(2)
ALCO TF115-S4 AF10	-20/95F	5/35F ADJ	SPDT	120"	3/8x2-3/4	NEMA 1	
ALCO TSI-X4F 32/41	-20/95F	5/35F ADJ	SPDT	120"	3/8x2-3/4	NEMA 1	
PENN A19ABC-24C	-30/100F	3/12F ADJ	SPDT	96"	3/8x4	NEMA 1	(1)
PENN A19ABC-36C	-30/100F	3/12F ADJ	SPDT	240"	3/8x4	NEMA 1	(1)

Notes:

- (1) Can use A419ABC-1, -30/212F range, 1/30F differential, SPDT, 78" lead, 0.25 x 2 PTC sensor, NEMA 1.
 (2) Knob assembly/concealed adjustment packed separately.

Pressure Controls



Product #	Range	Differential	Switch	Capillary	Connection	Cover	Notes
ALCO FF115-S1 BAK	24"/42	3/30 ADJ	SPDT	36"	w/ Flare	NEMA 1	
ALCO PS1-X1K 7/15	24"/42	3/30 ADJ	SPDT	36"	w/ Flare	NEMA 1	
PENN P70AB-12C	12"/80	5/35 ADJ	Open LO	36"	w/ Flare	NEMA 1	
ALCO FF115-S3 BAK	15"/100	7/70 ADJ	SPDT	36"	w/ Flare	NEMA 1	
ALCO PS1-X3K 50/65	15"/100	7/70 ADJ	SPDT	36"	w/ Flare	NEMA 1	
PENN P70AB-2C	20"/100	7/50 ADJ	Open LO	36"	w/ Flare	NEMA 1	
ALCO FF115-S3 BAA	15"/100	7/70 ADJ	SPDT	None	External Flare	NEMA 1	
ALCO PS1-X3A 50/65	15"/100	7/70 ADJ	SPDT	None	External Flare	NEMA 1	
PENN P170AB-2C	20"/100	7/50 ADJ	Open LO	None	External Flare	NEMA 1	
ALCO FF115-S4 BAK	15/290	15/145 ADJ	SPDT	36"	w/ Flare	NEMA 1	
ALCO PS1-X4K 115/145	15/290	15/145 ADJ	SPDT	36"	w/ Flare	NEMA 1	
PENN P70AA-2C	0/150	12/40 ADJ	Open LO	36"	w/ Flare	NEMA 1	
PENN P70AA-3C	100/300	25/75 ADJ	Open LO	36"	w/ Flare	NEMA 1	
ALCO FF115-S5 BAK	90/450	30/220	SPDT	36"	w/ Flare	NEMA 1	
ALCO PS1-X5K 230/290	90/450	30/220	SPDT	36"	w/ Flare	NEMA 1	
PENN P70AA-118C	100/400	35/200	Open LO	36"	w/ Flare	NEMA 1	
PENN P70CA-3C	50/450	60/150	Open HI	36"	w/ Flare	NEMA 1	
ALCO FF115-S5 BAA	90/450	30/220	SPDT	None	External Flare	NEMA 1	
ALCO PS1-X5A 140/280	90/450	30/220	SPDT	None	External Flare	NEMA 1	
PENN P170AA-118C	100/400	35/200	Open LO	None	External Flare	NEMA 1	
PENN P170CA-3C	50/450	60/150	Open HI	None	External Flare	NEMA 1	
ALCO FF115-S5 BRK	90/450	Manual	SPDT	36"	w/ Flare	NEMA 1	
ALCO PS1-Y5K 230/290	90/450	Manual	SPDT	36"	w/ Flare	NEMA 1	
PENN P70DA-1C	50/450	Manual	Open HI	36"	w/ Flare	NEMA 1	
PENN P70KA-1C	50/450	Manual	M-Block	36"	w/ Flare	NEMA 1	(3)
ALCO FF115-S5 BRA	90/450	Manual	SPDT	None	External Flare	NEMA 1	
ALCO PS1-Y5A 330/390	90/450	Manual	SPDT	None	External Flare	NEMA 1	
PENN P170DA-1C	50/450	Manual	Open HI	None	External Flare	NEMA 1	

Notes:

- (3) Main opens HI, auxilliary opens LO (primarily used for alarm circuit).