



## P78 Series Controls for Dual Pressure Applications Catalog Page

LIT-1901041

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### Description

P78 Series Pressure Controls are designed primarily for high and low pressure cut-out control, pump-down control, condenser fan cycling, and capacity control on commercial refrigeration and air-conditioning applications.

These controls are available in several pressure ranges and are compatible with most common refrigerants. They may also be used on other non-corrosive fluid applications. Controls also are available in several different electrical ratings and Single-Pole, Double-Throw (SPDT) switch configurations.

Refer to the *P77 and P78 Series Controls for Single and Dual Pressure Applications Product Bulletin (LIT-12012399)* for important product application information.

### Features and benefits

#### **Splash-proof enclosure**

Built to provide long lasting, rugged protection for internal components.

#### **Sight-set calibrated pressure adjustment**

Displays a visible pressure scale, fully adjustable through the range without removing the cover.

#### **Manual reset lockout option**

Provides trip-free lockout that cannot be overridden or reset until pressure returns to a specified level.

#### **Generous wiring space**

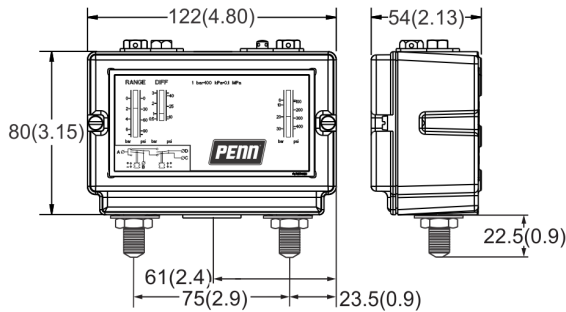
Provides ample space for easy wiring and maintenance.



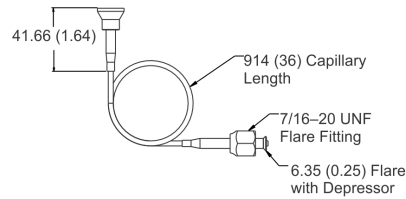
## Applications

The P78 Series Controls for dual pressure applications are designed primarily for use as combination high and low pressure controls on commercial refrigeration and air-conditioning applications.

**Figure 1: P77 Pressure Controls with 7/16-20 UNF 6 mm (1/4 in.) flare fitting dimensions, mm (in.)**



**Figure 2: Capillary connector dimensions, mm (in.)**



## Repair information

If the P78 Series Pressure Control fails to operate within its specifications, replace the unit. For a replacement P78 Control, contact the nearest Johnson Controls® representative.

## Selection chart

**Table 1: P78 Series Controls for dual pressure applications selection chart**

Model number	Individual pack	Bulkpack	Pressure connection	Low pressure side bar (psi)		High pressure side bar (psi)		Maximum bellows pressure psi (bar)
				Range	Diff.	Range	Diff.	
P78LCA	-13000C	-13000D	7/16-20 UNF6 mm (1/4 in.) flare fitting	-0.5 to 7 (7 to 102)	0.6 to 3 (9 to 44)	3 to 30 (44 to 435)	3 fixed (44)	LP: 20 (290) HP: 33 (479)
	-15000C	-15000D	914 mm (36 in.) capillary with 6 mm (1/4 in.) flare fitting					
P78MCA	-13000C	-13000D	7/16-20 UNF6 mm (1/4 in.) flare nut				Manual reset <sup>1</sup>	
	-15000D	-15000D	914 mm (36 in.) capillary with 6 mm (1/4 in.) flare fitting					

<sup>1</sup> The control cannot be reset until the pressure reduces 3 bar (44 psi) below the cut-out point.

## Technical specifications

**Table 2: P78 Series electrical ratings**

	UL60730 <sup>1</sup>						
	24	120		208		240	
Volts AC 50/60 Hz	-	Primary contact	Secondary contact	Primary contact	Secondary contact	Primary contact	Secondary contact
Horsepower	-	1	0.33	1	0.75	1	1
Full Load Amperes	-	16	7.2	9.2	7.6	8	8
Locked Rotor Amperes	-	96	43.2	55.2	45.6	48	48
Resistive Amperes	16/8	16	8	10	8	10	8
Pilot Duty VA	125/125	720	720	720	720	720	720

<sup>1</sup> The primary contact is A-C; the secondary contacts are A-B and A-D.

**Table 3: P78 Series applications**

Specification	Description
Product switch action	Single-Pole, Double-Throw (SPDT)
Pressure connection	7/16-20 UNF for 6 mm (1/4 in.) SAE external flare fitting), or 914 mm (36 in.) capillary with 6 mm (1/4 in.) flare fitting
Ambient storage conditions	Temperature: -40 to 60°C (-40 to 140°F) Humidity: 0 to 95% R.H. non-condensing
Enclosure	Type 1: cast aluminum

**Table 3: P78 Series applications**

Specification	Description
Dimensions (H x W x D)	Type 1 enclosure: 122 x 80 x 53 mm (4.80 x 3.15 x 2.09 in.)
Approximate shipping weight	Individual pack: (Type 1 enclosure): 0.7 kg (1.55 lbs) Bulk pack: (Type 1 enclosure in multiples of 24 controls): 24.5 kg (54.01 lbs)
Compliance	cULus Listed; UL 60730, File SA516

**Table 4: P78 for dual pressure applications UL conformity declaration information**

Specification	Description
Purpose of control	Pressure operating control: Automatic reset controls Pressure cut-out: Manual reset controls
Construction of control	Electromechanical
Number of cycles	Automatic 30,000 Cycles Manual Reset 6,000 Cycles
Method of mounting control	Independently-mounted control
Type 1 or Type 2 action	Automatic: Type 1; Type 1.C (Micro-Interruption) Manual Reset: Type 2
Pollution degree	Category 3
Heat and fire resistance category	N/A
Rated impulse voltage	4,000 V
Ball pressure temperature	N/A
Field wiring rating	90°C (194°F)
Maximum overpressure	LP: 20 bar (290 psi) HP: 33 bar (479 psi)
Cover screw torque requirements instruction	Tighten enclosure screws to: 1.1–1.4 N·m (10–12 in·lb)

## Product warranty

This product is covered by a limited warranty, details of which can be found at [www.johnsoncontrols.com/buildingswarranty](http://www.johnsoncontrols.com/buildingswarranty).

Contact Johnson Controls:  
[www.johnsoncontrols.com/contact-us](http://www.johnsoncontrols.com/contact-us)

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