

P470 Electronic Pressure Control with Display

Description

The P470 Electronic Pressure Control with Display is a single-stage, On/Off, electronic pressure control with a Single-Pole Double-Throw (SPDT) output relay. The control may be field set to operate in one of three pressure ranges (0 to 100 psi, 0 to 500 psi, or 50 to 750 psi), as either an open-high or open-low control.

The P470 control features a large LCD that displays the sensed pressure and other system-status indicators, as well as the adjustable setpoints in the programming mode. The P470 control has a lockable, three-button touchpad for adjusting setpoints, and a front-panel LED that indicates the output relay status.

The P470 control uses a P499 Electronic Pressure Transducer in conjunction with a WHA-PDK3 Wiring Harness to sense system pressure. This arrangement virtually eliminates the chance of a refrigerant leak because there are no capillaries or bellows to break or fail.

Features

- Easy to Read Liquid Crystal Display (LCD)
- Three Field-Selectable Pressure Ranges between 0–750 psi
- 24 VAC, and 120 or 208/240 VAC Models
- Lockable, 3-Button, Front-Panel Touchpad
- Built-in, Adjustable, Anti-Short Cycle Time-Delay
- Uses an Economical and Versatile Transducer and Wiring Harness

Repair Information

The P470 pressure control and P499 transducer are not field repairable. Perform the following procedures, in the order they are presented, to determine the problem. If the problem is with the control or transducer, contact a Johnson Controls/PENN sales representative for a replacement.



P470 Pressure Control with Transducer and Wiring Harness (Control, transducer, and harness must be purchased separately.)

Selection Information

Ordering Table for P470 Controls, Transducers and Wiring Harnesses

Item	Product Code	Description
P470 (Low-Voltage) Electronic Pressure Control with Display	P470FB-1C	Low Voltage (<30 VAC) Electronic Pressure Control with Display Supply Voltage: 24 VAC Class 2 Transformer (See Technical Specifications for complete Relay Electrical Ratings.)
P470 (Line-Voltage) Electronic Pressure Control with Display	P470EB-1C	Line Voltage Electronic Pressure Control with Display Supply Voltage: 120 or 208/240 VAC (See Technical Specifications for complete Relay Electrical Ratings.)
P499 Electronic Pressure Transducers¹	P499RAP-101C P499RAP-101K	0 to 100 psi Pressure Transducer with 1/8 in. NPT Male Fitting
	P499RCP-101C P499RCP-101K	0 to 100 psi Pressure Transducer with 1/4 in. SAE (Schrader®) Female Fitting with integral valve depressor
	P499RAP-105C P499RAP-105K	0 to 500 psi Pressure Transducer with 1/8 in. NPT Male Fitting
	P499RCP-105C P499RCP-105K	0 to 500 psi Pressure Transducer with 1/4 in. SAE (Schrader) Female Fitting with integral valve depressor
	P499RAP-107C P499RAP-107K	0 to 750 psi Pressure Transducer with 1/8 in. NPT Male Fitting
	P499RCP-107C P499RCP-107K	0 to 750 psi Pressure Transducer with 1/4 in. SAE (Schrader) Female Fitting with integral valve depressor
Wiring Harnesses for P499 Transducers	WHA-PKD3-200C	6 ft 6-1/2 in. (2 m) 3-Wire Cable with Plug-in Connector for P499 Transducer
	WHA-PKD3-400C	13 ft 3 in. (4 m) 3-Wire Cable with Plug-in Connector for P499 Transducer
	WHA-PKD3-600C	19 ft 8 in. (6 m) 3-Wire Cable with Plug-in Connector for P499 Transducer

1. C suffix is transducer (only). K suffix is transducer with 2 meter long wiring harness.

Note: P470 controls do not include a transducer or wiring harness. P499 Transducer and wiring harness must be purchased separately. Transducer must be matched to the selected pressure range.

P470 Electronic Pressure Control with Display (Continued)

Technical Specifications

Output Relay Contacts Electrical Ratings

	P470EB-1			P470 FB-1
	120 VAC	208 VAC	240 VAC	24 VAC
Horsepower N.O. (N.C.)	1 (1/4)	1 (1/3)	1 (1/2)	100 VA, 30 VAC maximum, Class 2
Full Load Ampere N.O. (N.C.)	16 (5.8)	9.2 (4.0)	8.0 (4.9)	
Locked Rotor Ampere N.O. (N.C.)	96 (34.8)	55.2 (24)	498 (29.4)	
Non-Inductive Ampere N.O. (N.C.)	15 (10)	10 (10)	10 (10)	
Pilot Duty	125 VA (N.O.) at 24–240 VAC 125 VA (N.C.) at 120–240 VAC 50 VA (N.C.) at 24 VAC			

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Operating Pressure Ranges	0–100 psi	0–500 psi	50–750 psi
Minimum Differential Pressure	5 psi	20 psi	20 psi
Displayed Resolution	1 psi	3 psi	5 psi
Control Accuracy	± 1.5% of selected Operating Pressure Range plus transducer accuracy		
Supply Voltage	P470FB-1: 24 VAC, 50/60 Hz, Class 2 P470EB-1: 120 or 208/240 VAC, 50/60 Hz		
Power Consumption	1.8 VA Maximum		
Transducer Type	P499 Electronic Pressure Transducer		
Ambient Temperature at Control	Operating: -30–140°F (-34–60°C) Shipping: -40–185°F (-40–85°C)		
Ambient Humidity at Operating Control	0 to 95% RH noncondensing; Maximum Dew Point: 85°F (29°C)		
Enclosure	Case and Cover: NEMA 1 High-impact Thermoplastic		
Agency Information	UL: File SA516; CCN SDFY Canadian UL: File SA516; CCN SDFY7 FCC/DOC Part 15, Class A		