

P266xxx-x

# P266 Series Single-Phase Condenser Fan Speed Control

## Description

The P266 Series Single-Phase Condenser Fan Speed Control is a cost-effective, weather-resistant, durable motor speed control. The P266 Series controls are designed for approved single-phase, Permanent Split-Capacitor (PSC) motors commonly used in a wide variety of refrigeration and air conditioning condenser fan applications.

The P266 Series controls are designed to replace the Johnson Controls® P66 Series and P215 Series fan speed controls, providing additional features and flexibility, greater energy efficiency, and longer motor life in a compact, rugged, weather-resistant package.

P266 Series controls are available for 208 through 575 VAC 50/60 Hz range applications. P266 Series controls have current ratings from 4 to 12 A, depending on the voltage and model.

Some P266 Series controls provide optional control of up to three auxiliary (fixed-speed) fans or fan stages. In addition, some models provide two additional high-voltage triacs that allow you to split the source power to the main and auxiliary windings, and connect a low-speed capacitor to increase efficiency at low-speed operation.

Refer to the *P266 Series Single-Phase Condenser Fan Speed Control Product Bulletin (LIT-12011534)* for important product application information.

## Features

- One or two durable, accurate, stainless steel, remote-mount pressure transducers
- Available in 208/240 VAC (8 or 12 A), 380/460 VAC (4 A), or 460/575 VAC (4 A)
- Wide, adjustable pressure throttling range
- Optional auxiliary fan control
- Optional low-speed capacitor mode
- NEMA 3R, (IP54) enclosure with integral metal heat-sink and stand-off mounting feet

## Application

The P266 Series Single-Phase Condenser Fan Speed Control, in conjunction with a P266 Series Electronic Pressure Transducer, is a pressure-actuated, digital electronic motor speed control designed for approved single-phase, PSC motors used in a wide variety of Heating, Ventilation, Air Conditioning, and Refrigeration (HVACR) applications.

The P266 Series Fan Speed Control regulates supply voltage to the fan motor in response to the condenser refrigerant pressure and maintains the appropriate fan speed (air movement) through the condenser regardless of the ambient temperature or air delivery variations.

The P266 Series control is housed in a NEMA 3R (IP54) rainproof enclosure for outdoor applications.

The P266 Series control is an energy efficient and effective alternative to On/Off fan-cycling controls, multiple-speed motors, temperature fan-speed controls, modulating air-damper systems, condenser flood-back systems, and other condenser pressure control methods.



**P266 Series Single-Phase Condenser Fan Speed Control**

P266 Series Fan Speed Control applications include:

- computer room air conditioning
- commercial refrigeration
- commercial air conditioning

## Repair Information

If a P266 Series Single-Phase Condenser Fan Speed Control fails to operate within its specifications, replace the unit. For a replacement P266 Series control, contact the nearest Johnson Controls representative.

## Selection Charts

### P266 Series Fan Speed Control Model and Kit Product Code Numbers, Descriptions, and Details (Part 1 of 2)

Product Code Number	Description	Transducer Model Included in Kit	Voltage (VAC)	Maximum Output Amperes	High VAC Triacs	Available Auxiliary Fan Control Circuits <sup>1</sup>
P266AAA-100C <sup>2</sup>	P266 Fan Speed Control (only)	N/A	208/240	8	3	0
P266ABA-100C <sup>2</sup>	P266 Fan Speed Control (only)	N/A	208/240	8	3	3
P266ACA-100C <sup>2</sup>	P266 Fan Speed Control (only)	N/A	208/240	8	1	0
P266ADA-100C <sup>2</sup>	P266 Fan Speed Control (only)	N/A	208/240	8	1	3
P266BGA-100C <sup>2</sup>	P266 Fan Speed Control (only)	N/A	460/575	4	2	0
P266BHA-100C <sup>2</sup>	P266 Fan Speed Control (only)	N/A	460/575	4	2	3
P266BCA-100C <sup>2</sup>	P266 Fan Speed Control (only)	N/A	460/575	4	1	0
P266BDA-100C <sup>2</sup>	P266 Fan Speed Control (only)	N/A	460/575	4	1	3
P266CHA-100C <sup>2</sup>	P266 Fan Speed Control (only)	N/A	380/460	4	2	3
P266ABA-1K <sup>2</sup>	P266 Fan Speed Control with <b>one</b> P266 Pressure Transducer and one 2 m (6.6 ft) cable	P266SNR-1C, 0–35 bar (0–508 psi)	208/240	8	3	3
P266ABA-3K <sup>2</sup>	P266 Fan Speed Control with <b>one</b> P266 Pressure Transducer and one 2 m (6.6 ft) cable	P266SNR-2C, 0–52 bar (0–754 psi)	208/240	8	3	3

The performance specifications are nominal and conform to acceptable industry standards. For applications at conditions beyond these specifications, consult the local Johnson Controls office. Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products. © 2010 Johnson Controls, Inc. [www.johnsoncontrols.com](http://www.johnsoncontrols.com)

## P266 Series Single-Phase Condenser Fan Speed Control (Continued)

P266 Series Fan Speed Control Model and Kit Product Code Numbers, Descriptions, and Details (Part 2 of 2)

Product Code Number	Description	Transducer Model Included in Kit	Voltage (VAC)	Maximum Output Amperes	High VAC Triacs	Available Auxiliary Fan Control Circuits <sup>1</sup>
P266ABA-2K <sup>2</sup>	P266 Fan Speed Control with <b>two</b> P266 Pressure Transducers and two 2 m (6.6 ft) cables	P266SNR-1C, 0–35 bar (0–508 psi)	208/240	8	3	3
P266ABA-4K <sup>2</sup>	P266 Fan Speed Control with <b>two</b> P266 Pressure Transducers and two 2 m (6.6 ft) cables	P266SNR-2C, 0–52 bar (0–754 psi)	208/240	8	3	3
P266BHA-1K <sup>2</sup>	P266 Fan Speed Control with <b>one</b> P266 Pressure Transducer and one 2 m (6.6 ft) cable	P266SNR-1C, 0–35 bar (0–508 psi)	460/575	4	2	3
P266BHA-3K <sup>2</sup>	P266 Fan Speed Control with <b>one</b> P266 Pressure Transducer and one 2 m (6.6 ft) cable	P266SNR-2C, 0–52 bar (0–754 psi)	460/575	4	2	3
P266BHA-2K <sup>2</sup>	P266 Fan Speed Control with <b>two</b> P266 Pressure Transducers and two 2 m (6.6 ft) cables	P266SNR-1C, 0–35 bar (0–508 psi)	460/575	4	2	3
P266BHA-4K <sup>2</sup>	P266 Fan Speed Control with <b>two</b> P266 Pressure Transducers and two 2 m (6.6 ft) cables	P266SNR-2C, 0–52 bar (0–754 psi)	460/575	4	2	3
P266EAA-1K <sup>2</sup>	P266 Fan Speed Control with Internal Transformer and <b>one</b> P266 Pressure Transducer and one 2 m (6.6 ft) cable	P266SNR-1C, 0–35 bar (0–508 psi)	208/240	8	3	0
P266EAA-3K <sup>2</sup>	P266 Fan Speed Control with Internal Transformer and <b>one</b> P266 Pressure Transducer and one 2 m (6.6 ft) cable	P266SNR-2C, 0–52 bar (0–754 psi)	208/240	8	3	0
P266EBA-1K <sup>2</sup>	P266 Fan Speed Control with Internal Transformer and <b>one</b> P266 Pressure Transducer and one 2 m (6.6 ft) cable	P266SNR-1C, 0–35 bar (0–508 psi)	208/240	8	3	3
P266EBA-3K <sup>2</sup>	P266 Fan Speed Control with Internal Transformer and <b>one</b> P266 Pressure Transducer and one 2 m (6.6 ft) cable	P266SNR-2C, 0–52 bar (0–754 psi)	208/240	8	3	3
P266ECA-1K <sup>2</sup>	P266 Fan Speed Control with Internal Transformer and <b>one</b> P266 Pressure Transducer and one 2 m (6.6 ft) cable	P266SNR-1C, 0–35 bar (0–508 psi)	208/240	8	1	0
P266ECA-3K	P266 Fan Speed Control with Internal Transformer and <b>one</b> P266 Pressure Transducer and one 2 m (6.6 ft) cable	P266SNR-2C, 0–52 bar (0–754 psi)	208/240	8	1	0
P266EDA-1K <sup>2</sup>	P266 Fan Speed Control with Internal Transformer and <b>one</b> P266 Pressure Transducer and one 2 m (6.6 ft) cable	P266SNR-1C, 0–35 bar (0–508 psi)	208/240	8	1	3
P266EDA-3K <sup>2</sup>	P266 Fan Speed Control with Internal Transformer and <b>one</b> P266 Pressure Transducer and one 2 m (6.6 ft) cable	P266SNR-2C, 0–52 bar (0–754 psi)	208/240	8	1	3
P266EEA-1K <sup>2</sup>	P266 Fan Speed Control with Internal Transformer and <b>one</b> P266 Pressure Transducer and one 2 m (6.6 ft) cable	P266SNR-1C, 0–35 bar (0–508 psi)	208/240	12	1	0
P266EEA-3K <sup>2</sup>	P266 Fan Speed Control with Internal Transformer and <b>one</b> P266 Pressure Transducer and one 2 m (6.6 ft) cable	P266SNR-2C, 0–52 bar (0–754 psi)	208/240	12	1	0
P266EFA-1K <sup>2</sup>	P266 Fan Speed Control with Internal Transformer and <b>one</b> P266 Pressure Transducer and one 2 m (6.6 ft) cable	P266SNR-1C, 0–35 bar (0–508 psi)	208/240	12	1	3

1. 24 VAC Class 2 at 1/4 A.

2. Factory default settings: Start Voltage is set to 40% of the supply line-voltage. End Voltage is set to 95% of the supply line-voltage. Start Pressure is set to 44% of the P266 transducer's total pressure range. End Pressure is set to 51% of the P266 transducer's total pressure range.

### P266 Series SNR Electronic Pressure Transducers

Product Code Number	Description
P266SNR-1C	Electronic Pressure Transducer: <b>0 to 35 bar (0 to 508 psi)</b> total range with a 1/4 in. SAE Female Flare connection and a 2 meter (6.6 ft) cable.
P266SNR-2C	Electronic Pressure Transducer: <b>0 to 52 bar (0 to 754 psi)</b> total range with a 1/4 in. SAE Female Flare connection and a 2 meter (6.6 ft) cable.

## P266 Series Single-Phase Condenser Fan Speed Control (Continued)

### Technical Specifications

#### P266xxx-x Series Single Phase Condenser Fan Speed Controls

<b>Input Supply Power</b>	208/240 VAC 50/60 Hz, 380/460 VAC 50/60 Hz, or 460/575 VAC 50/60 Hz, depending on model (Refer to the label inside the P266 Series control housing cover for rated voltage range and model-specific wiring diagram.)
<b>Short Circuit Current Rating</b>	Suitable For Use On A Circuit Capable Of Delivering Not More Than 5,000 rms Symmetrical Amperes, 600 Volts Maximum When Protected By Class H Fuses.
<b>Low-Voltage Power Supply</b>	P266A, P266B, and P266C Types: External 24 VAC Class 2, 20 VA Supply Transformer P266E Types: Low-voltage power for P266 control is provided by an onboard transformer. Note: When auxiliary fan starters are connected to P266E type controls, you must provide an external Safety Extra-Low Voltage (SELV) AC supply to power the fan starters.
<b>Ambient Operating Conditions</b>	Temperature: -40 to 60°C (-40 to 140°F) Humidity: Up to 95% RH non-condensing; Maximum Dew Point 29°C (85°F)
<b>Ambient Shipping and Storage Conditions</b>	Temperature: -40 to 85°C (-40 to 185°F) Humidity: Up to 95% RH non-condensing; Maximum Dew Point 29°C (85°F)
<b>Low-Voltage Connections</b>	1/4 in. Quick-Connect terminals, 30 m (100 ft) maximum wiring runs
<b>Input Transducer</b>	P266SNR-x Pressure Transducer: 5 VDC for 0.5 to 4.5 VDC ratiometric analog signal
<b>Enclosure Type</b>	NEMA 3R, IP54
<b>Case Construction</b>	Aluminum Die Casting
<b>Cover Construction</b>	UV Stabilized Polycarbonate
<b>Dimensions (HxWxD)</b>	159 x 177 x 70 mm (6-1/4 x 7 x 2-3/4 in.)
<b>Weight</b>	Heaviest Model Weight: 1.0 kg (2.2 lb) Approximate Shipping Weight: 1.2 kg (2.6 lb)
<b>Compliance</b>	<b>Europe:</b> Mark: CE Compliant; CENELEC EN 60947-1 & 4-2; RoHS Directive (2002/95/EC); WEEE Directive (2002/96/EC) Low Voltage Directive 2006/95/EC and EMC Directive 2004/108/EC <b>North America:</b> cULus, File E244421; FCC Compliant to CFR47, Part 15, Subpart B, Class A Industry Canada (IC) Compliant to Canadian ICES-003, Class A limits <b>Australia:</b> C-Tick Compliant (N1813)