

MODULAR ELECTRONIC CONTROL SYSTEM

SYSTEM 450

DESCRIPTION

The **System 450** from **Johnson Controls/PENN** is a family of modular digital electronic controllers that is easily assembled and configured to provide reliable temperature, pressure, and humidity control for a wide variety of commercial HVAC and industrial process applications. The **System 450** is designed to replace the System 350 and System 27, and provide many additional features and benefits with a small number of model variations. All of the modules are field configurable out-of-the-box and can monitor and control temperature, pressure and humidity simultaneously.



Johnson
Controls



FEATURES

- *Versatile all-in-one stand-alone control modules provide for scalable digital and/or analog control for temperature, pressure, and humidity*
- *Plug-together modules for DIN rail or direct mounting*

- *Field-configurable, and designed for typical field component devices*
- *Backlit LCD and 4-button touch pad user interface*
- *Up to 3 inputs and up to 10 outputs allow flexibility in configuring systems from simple to complex*

SPECIFICATIONS

Supply Power Module

C450YNN-1

Input 110/120 VAC or 220/240 VAC @ 50/60 Hz
Output 24 VAC, 10 VA max.

Control Modules vA

C450CPN-1C

1.3 VA maximum using 0-10V out
1.5 VA maximum using 4-20 mA out
2.0 VA maximum using 0-10V out
2.4 VA maximum using 4-20 mA out

C450CQN-1C

C450CBN-1C

C450RBN-1C

C450CCN-1C

C450RCN-1C

C450SPN-1C

0.9 VA maximum
0.9 VA maximum
1.3 VA maximum
1.3 VA maximum
1.1 VA maximum using 0-10V out
1.3 VA maximum using 4-20 mA out
1.8 VA maximum using 0-10V out
2.2 VA maximum using 4-20 mA out
0.8 VA maximum
1.2 VA maximum

C450SQN-1C

C450SBN-1C

C450SCN-1C

Setpoint

Temperature (A99) -40° to 250°F (-40° to 121°C)

RH 0-100%

Pressure Per Sensor Range

Input Signal

Temperature 1,035Ω at 25°C (77°F) for A99 PTC

RH 0-5 VDC

Pressure 0.5 to 4.5 VDC

Analog Output

Voltage Mode (0-10 VDC)

Current Mode (4-20 mA) load between 0-300Ω

Relay Outputs

SPDT 1/2 HP at 120/240 VAC, SPDT
AC Motor Ratings 120 VAC 208/240 VAC
AC Full-load Amperes: 9.8A 4.9A
AC Locked-Rotor Amperes: 58.8A 29.4A
10A AC Non-inductive at 24/240 VAC
Pilot Duty: 125 VA at 24/240 VAC

Mounting

Lexan 950 enclosure suitable for DIN rail mounting or direct surface mount

Operating Temperature

0-10V & Relays

-40° to 150°F (-40° to 66°C)

4-20 mA

-40 to 104°F (-40° to 40°C)

Operating Humidity

0 to 95% RH (non-condensing)

Dimensions

5.0"H x 2.4"W x 2.4"D
(12.7 x 6.1 x 6.1 cm)

Weight

C450CPN-1C

0.43 lb (0.19 Kg)

C450CQN-1C

0.43 lb (0.19 Kg)

C450CBN-1C

0.46 lb (0.21 Kg)

C450RBN-1C

0.46 lb (0.21 Kg)

C450CCN-1C

0.49 lb (0.22 Kg)

C450RCN-1C

0.49 lb (0.22 Kg)

C450SPN-1C

0.33 lb (0.15 Kg)

C450SQN-1C

0.33 lb (0.15 Kg)

C450SBN-1C

0.38 lb (0.17 Kg)

C450SCN-1C

0.41 lb (0.18 Kg)

C450YNN-1C

0.86 lb (0.39 Kg)

Approvals

North America

UL File #E27734, FCC Compliant to CFR47, Part 15, Subpart B, Class B Industry Canada (IC) Compliant to Canadian ICES-003, Class B limits CE Compliant; Low Voltage Directive (2006/95/EC); EMC Directive (2004/108/ED); RoHS Directive (2002/95/EC); WEEE Directive (2002/96/EC) Australia C-Tick Compliant (N1813)

Europe

Warranty

3 years

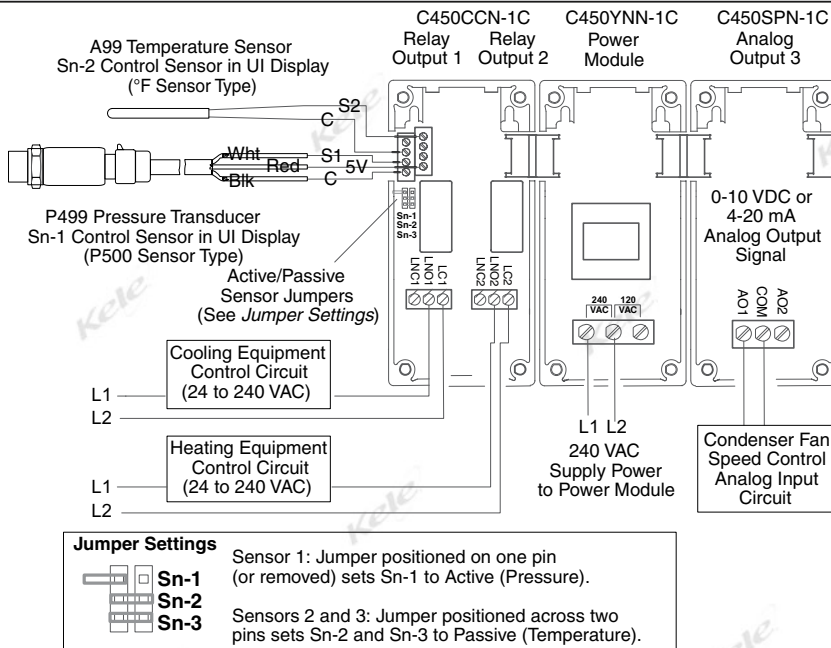
THERMOSTATS & CONTROLLERS

MODULAR ELECTRONIC CONTROL SYSTEM

SYSTEM 450



WIRING - EXAMPLE FOR ROOM HEATING AND COOLING WITH CONDENSER FAN SPEED CONTROL (SEE JCI BULLETINS FOR OTHER EXAMPLES)



ORDERING INFORMATION

MODEL

C450CBN-1C*
C450CCN-1C*
C450CPN-1C*
C450CQN-1C*
C450RBN-1C
C450RCN-1C
C450SBN-1C
C450SCN-1C
C450SPN-1C
C450SQN-1C
C450YNN-1C

DESCRIPTION

Controller module with set point, F.B. LCD, 1xSPDT output (Only one per system)
 Controller module with set point, F.B. LCD, 2xSPDT output (Only one per system)
 Controller module with set point, F.B. LCD, 1 analog output (Only one per system)
 Controller module with set point, F.B. LCD, 2 analog output (Only one per system)
 Reset control module with LCD, 1xSPDT output
 Reset control module with LCD, 2xSPDT outputs
 Relay expansion module with 1xSPDT output
 Relay expansion module with 2xSPDT outputs
 Analog expansion module with 1 analog output
 Analog expansion module with 2 analog outputs
 Power module, 120 or 240 VAC input (only one per system)

* Required System Component

Note: Sensors not included

ACCESSORIES

A99-CLP-1 Mounting clip for A99 temperature sensor
A99BA-200C PTC Sensor with 6.5 ft (2m) shielded cable
A99BB-200C PTC Sensor with 6.5 ft (2m) PVC cable
A99BB-25C PTC Sensor with 9.75 in (0.25m) PVC cable
A99BB-600C PTC Sensor with 19.5 ft (6m) PVC cable
A99BC-1500C PTC Sensor with high temperature 49 ft (15m) silicon cable
A99BC-25C PTC Sensor with high temperature 9.75 in (0.25m) silicon cable
A99BC-300C PTC Sensor with high temperature 9.75 ft (3m) silicon cable
BOX10A-600R PVC enclosure for A99 temperature sensor for outdoors
DPT2650-0R5D-AB Low differential pressure transducer 0 to 0.5 in WC
DPT2650-10D-AB Differential pressure transducer 0 to 10 in WC
HE-67S3-0N00P Duct mount humidity sensor with A99B type temperature sensor
HE-67S3-0N0BT Wall mount humidity sensor with A99B type temperature sensor
P499RCP-101K Electronic pressure transducer 0-100 psi
P499RCP-105K Electronic pressure transducer 0-500 psi
P499RCP-107K Electronic pressure transducer 0-750 psi
SHL10A-603R Sun shield for A99 sensor for outdoor sunny locations
TE-6001-1 Duct temperature element holder with box
WEL11A-601R Immersion well for A99 sensor for fluid temperature liquid sensing