THERMOSTATS

The power behind **your mission**

Johnson Controls

THERMOSTATS

ELECTRIC FANCOIL THERMOSTATS

SMART THERMOSTAT CONTROLLERS

ANALOG ROOM CONTROLLERS

PNEUMATIC AND TRANSDUCERS

ELECTRO-PNEUMATIC TRANSDUCERS

ELECTRIC
FANCOIL THERMOSTATS

T125-E

STAND-ALONE FANCOIL THERMOSTATS

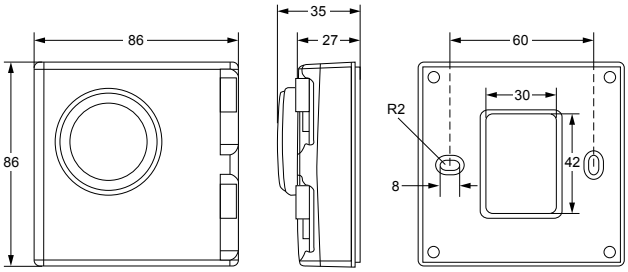
T125 electric fan coil thermostats are designed to control heating, cooling, or air conditioning unit in commercial, industrial and residential installation.

Typical application includes the control of fan coil units, packaged terminal air conditioners and combination heating and cooling equipment. As part of the system that consists of a two-way or three-way valve and a multi-speed line voltage fan.

FEATURES

- 220 V power supply
- Heating and Cooling mode
- 2-4 pipes configuration
- 3-speed fan override
- 86 x 86 mm room enclosures
- Temperature dial ranges 10 to 30°C
- Relay output max. 5A

DIMENSIONS *(in mm)*



ORDERING INFORMATION

CODES	BUILT-IN NTC	SETPOINT RANGE	2 PIPES (HEATING OR COOLING)	4 PIPES (HEATING AND COOLING)	OUTPUTS	
					PAT	ON/OFF
T125BAC-JS0-E	■	10 to 30°C	■	---	■	■
T125FAC-JS0-E			---	■	---	■

ELECTRIC
FANCOIL THERMOSTATS

T7600

MODBUS® FANCOIL THERMOSTATS

The T7600 Series Modbus® LCD thermostats are designed to control heating and cooling through air conditioning unit in commercial and residential application.

Typical applications include the control of fancoil units, floor heating, packaged terminal air conditioners and combination of heating and cooling equipment. As part of the system, T7600 series thermostat can control 2-way or 3-way valve and multiplespeed line voltage fan or ECM fan.

T7600 with its large LCD screen displays the working mode (cooling, heating, air venting, floor heating), fan speed, indoor temperature and set point.

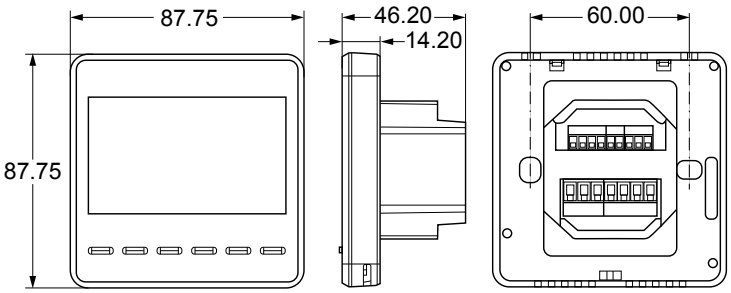
FEATURES

- Flush mount for a stylish appearance
- Large screen backlighted with timeout
- Stand Alone or Communicating in Modbus® RTU
- 2 or 4-pipes ON/OFF or Proportional
- Multispeed Fan or Proportional Fan speed (ECM)
- Customizable display can show actual temperature or setpoint only
- Protected against misuse in public spaces
- Configurable inputs
- Function, On/Off Timer, ESP filter control

ELECTRIC FANCOIL THERMOSTATS

T7600 MODBUS® FANCOIL THERMOSTATS

DIMENSIONS *(in mm)*



ORDERING INFORMATION

CODES	POWER	MODE	INPUT	VALVES OUTPUTS	FAN CONTROLS	OPERATING CONDITION	COMM
T7601-TF20-9JS0	100-240 VAC 50/60 Hz	2 or 4-pipe On/Off 2-pipe three wires On/Off 2-pipe with floor heating 2-pipe with TiO2/ESP filter 2-pipe proportional (AO) Water source heat pump	**Input 1:** Remote Sensor or Autochangeover *	2 x SPST Relay 2.2A @ 240 VAC	ECM AO = 0 to 10 V Configurable with Cut-off relay	0 to 40°C 10 - 90 RH% non condensing	Modbus®
T7600-TF21-9JS0		Two pipe proportional (AO) Four pipe proportional (AO)	**Input 2 Configurable:** Occupancy, SP reduction Dew point alarm Shut off Filter alarm	2 x AO 0 to 10 V (100 K Ohms)	3 x SPST Relay 2.2A @ 240 VAC		
T7600-TF20-9JS0		Two or four pipe On/Off Two pipe three wires On/Off Two pipe with floor heating Two pipe with TiO2/ESP filter Water source heat pump		2 x SPST Relay 2.2A @ 240 VAC	3 x SPST Relay 2.2A @ 240 VAC		
T7600-TB21-9JA0		Two pipe Proportional with Feedback	**Input 1:** Remote Sensor or Autochangeover [1] **Input 2 Configurable:** Occupancy, SP reduction Dew point alarm Shut off Filter alarm **Input 3:** AI for Valve Motor feedback to BMS	1 x AO 0 to 10 V (100 K Ohms)	3 x SPST Relay 2.2A @ 240 VAC		

Note

1 Input 1 can be used for remote temperature monitoring or in two pipe system to determine the seasonal changeover. Requires a 10K NTC JC Type II.

ELECTRIC
FANCOIL THERMOSTATS

T8800

BACnet® MS/TP THERMOSTATS

The T8800 touch screen thermostats designed to control heating and cooling in commercial, industrial and residential installation.

Typical applications include the control of fan coil units, packaged terminal air conditioners and combination of heating and cooling equipment. As part of the system, the T8800 thermostats control two-way or three-way valves and multi-speed line voltage fans.

The T8800 can communicate with any Building Automation System. The T8800 models are designed to be connected to the Johnson Controls Building Automation System Metasys® using BACnet MS/TP communication.

The integration in Metasys improves usability and enhances energy saving strategies.

The large LCD touchscreen display of the T8800 thermostat provides the status of current working mode, the fan speed, the indoor temperature and the temperature set point.

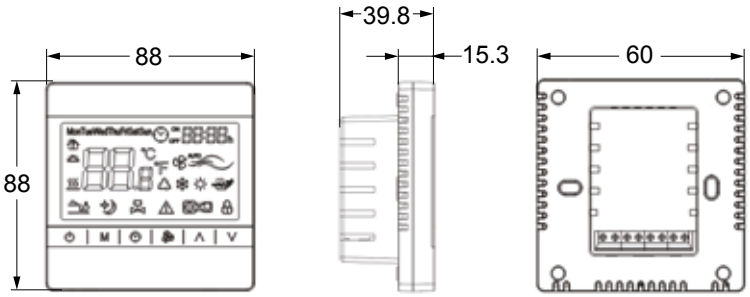
FEATURES

- Stylish appearance
- Touch screen backlighted with timeout
- Stand Alone or Communicating
- BACnet MS/TP
- Protected against misuse (Keys lockable)
- Remote or occupancy options
- Timer function, runtime and On/Off Timer

ELECTRIC FANCOIL THERMOSTATS

T8800 BACnet® MS/TP THERMOSTATS

DIMENSIONS *(in mm)*



ORDERING INFORMATION

CODES	POWER	MODE	INPUT	VALVES CONTROL	FAN CONTROLS	WORKING RANGE	COMMUNICATION
T8800-TB40-9JS0	AC 20-30 V 50/60 Hz	2-pipe, On/Off heating or cooling	Remote sensor * OR Occupancy NO/NC contact	On/Off relay 2A 24 Vn	Three speed relays 2A 24 Vn	0 to 45°C 90 Rh% non condensing	BACnet MS/TP
T8800-TF40-9JS0		4-pipe, On/Off heating and cooling					

Note

Input accepts standard NTC 10K Type II, TS-6340K-F00 cable sensor can be order when appropriated.

SMART THERMOSTAT CONTROLLERS

TEC3000

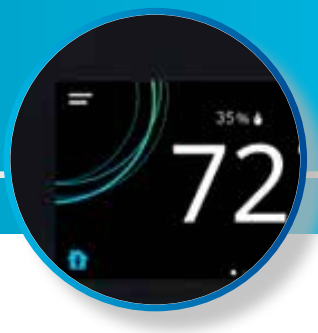
STAND-ALONE, BACnet® MS/TP OR N2 NETWORKED

The TEC3000 Color Series Thermostat Controllers are stand-alone and field-selectable BACnet MS/TP or N2 networked devices that provide on/off, floating, and proportional control of the following:

- Local hydronic reheat valves
- Pressure-dependent VAV equipment with or without local reheat
- Two- or four-pipe fan coils
- Cabinet unit heaters
- Other zoning equipment using an on/off, floating, or 0 to 10 VDC proportional control input
- Single- or two-stage control of unitary rooftop units (RTUs)
- Single- or two-stage control of RTUs with economizers
- Single- or two-stage control of heat pumps
- Single- or two-stage control of heat pumps with economizers

FEATURES

- **Two configurable binary inputs -** Provide additional inputs for advanced functions such as remote night setback, service or filter alarms, motion detector, and window status.
- **Field-Selectable BACnet MS/TP or N2 Networked Communication (TEC36xx-1x-000 Models) -** Simplifies the upgrade from N2 networked communication to BACnet MS/TP networked communication without changing hardware.
- **USB port configuration -** Rapidly clone the configuration between like units through simple backup and restore features from a USB drive to reduce installation time.
- **Programmable in seven languages -** Provides English, Spanish, French, German, Italian, Dutch, Portuguese (requires a downloadable language pack)
- **Backlit full-color liquid crystal display (LCD) -** Offers an intuitive color backlit display that makes setup and operation quick and easy. The new display features on all models and offers real-time control status of the environment in easy-to-read, plain text messages with an adjustable backlight that brightens during user interaction.
- **Configurable touchscreen UI -** Facility managers can limit the user interaction with the thermostat controller display based on specific energy policies.
- **Various models available -** Offers models in modern black (*hex #2d2926 or RAL 9017*) or white (*hex #F4F5F0 or RAL 9016*) highgloss designs with or without the Johnson Controls logo.



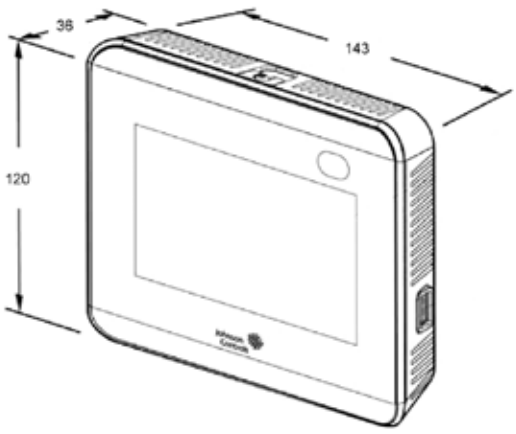
SMART THERMOSTAT CONTROLLERS

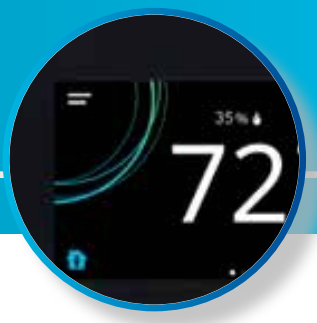
TEC3000 STAND-ALONE, BACnet® MS/TP OR N2 NETWORKED

FEATURES

- **End-of-line switch -** Simplifies the layout and installation of communication buses.
- **Mobile Access Portal (MAP) Gateway compatibility (MAP Release 4.0 or later) -** View the equipment and control the conditions through your mobile devices.
- **Onboard occupancy sensor (TEC3031-1x-000 and TEC3xx3-1x-000 Models) -** Provides energy savings in high-energy usage commercial buildings without additional installation time or cost.
- **Integral humidity sensor -** Monitors space humidity on all models. Activates dehumidification control on two-pipe fan coil units with reheat and four-pipe fan coil units with or without reheat.
- **Multiple fan configurations for fan coil equipment types -** Provide fieldselectable single-speed, multi-speed, and variable-speed fan control capabilities.
- **Full line of remote TE-6300 Series Temperature Sensors -** Support a wide usage commercial buildings without additional installation time or cost.
- **Built-in schedule object -** Allows all wireless and wired models of thermostat controllers to be scheduled as stand-alone devices; allows wireless and BACnet MS/TP models to be defined and adjusted through the building automation system.
- **Optimal start -** Allows each thermostat controller to anticipate the heating or cooling needs of a space by starting the equipment early enough to reach the setpoint at the beginning of the scheduled occupancy.
- **Auto-tuned control loops -** Reduce commissioning time, eliminate change-ofseason recommissioning, and reduce wear and tear of the mechanical devices.
- **Load shed -** Commands a load shed input to offset the heating and cooling setpoints by a fixed amount on networked models. The change rate of the setpoints is adjustable. The load shed feature is in place to help satisfy the California Title 24 requirements that are defined in joint appendix JA5, section JA5.2.4 for demand signal response. The trigger for this event is defined in another controller and passed through the network command.

DIMENSIONS *(in mm)*





SMART THERMOSTAT CONTROLLERS

TEC3000 STAND-ALONE, BACnet® MS/TP OR N2 NETWORKED

ORDERING INFORMATION

CODES	CONTROL OUTPUT	DEHUMIDIFICATION	OCCUPANCY	COLOR	JCI LOGO
Stand-alone thermostat controller models					
TEC3312-13-000	On/off or floating fan coil and zoning	■	---	■	■
TEC3312-14-000	On/off or floating fan coil and zoning	■	---	□	■
TEC3313-13-000	On/off or floating fan coil and zoning	■	■	■	■
TEC3313-14-000	On/off or floating fan coil and zoning	■	■	□	■
TEC3322-13-000	0 to 10 VDC proportional fan coil and zoning	■	---	■	■
TEC3322-14-000	0 to 10 VDC proportional fan coil and zoning	■	---	□	■
TEC3323-13-000	0 to 10 VDC proportional fan coil and zoning	■	■	■	■
TEC3323-14-000	0 to 10 VDC proportional fan coil and zoning	■	■	□	■
TEC3330-13-000	Single-or two-stage RTU/heat pump with economizer	---	---	■	■
TEC3330-14-000	Single-or two-stage RTU/heat pump with economizer	---	---	□	■
TEC3331-13-000	Single-or two-stage RTU/heat pump with economizer	---	■	■	■
TEC3331-14-000	Single-or two-stage RTU/heat pump with economizer	---	■	□	■
Field-selectable BACnet MS/TP or N2 Networked Thermostat Controller models					
TEC3612-13-000	On/off or floating fan coil and zoning	■	---	■	■
TEC3612-14-000	On/off or floating fan coil and zoning	■	---	□	■
TEC3613-13-000	On/off or floating fan coil and zoning	■	■	■	■
TEC3613-14-000	On/off or floating fan coil and zoning	■	■	□	■
TEC3622-13-000	0 to 10 VDC proportional fan coil and zoning	■	---	■	■
TEC3622-14-000	0 to 10 VDC proportional fan coil and zoning	■	---	□	■
TEC3623-13-000	0 to 10 VDC proportional fan coil and zoning	■	■	■	■
TEC3623-14-000	0 to 10 VDC proportional fan coil and zoning	■	■	□	■
TEC3630-13-000	Single-or two-stage RTU/heat pump with economizer	---	---	■	■
TEC3630-14-000	Single-or two-stage RTU/heat pump with economizer	---	---	□	■
TEC3631-13-000	Single-or two-stage RTU/heat pump with economizer	---	■	■	■
TEC3631-14-000	Single-or two-stage RTU/heat pump with economizer	---	■	□	■

ANALOG
ROOM CONTROLLERS

TC-8900 / PM-8900

ROOM THERMOSTATS

TC-8900 is a family of analogue controllers designed for control of fan coils with 2-pipe, 2-pipe with change-over, 2-pipe with electrical coil or 4-pipe configurations.

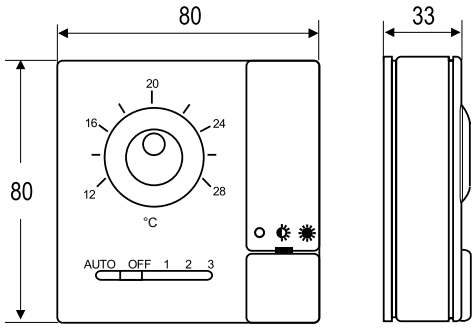
For applications without fan speed control the family includes stand alone units (TC-890x), local controllers (TC-893x) with remote setpoint module (ES-8930) and local controllers (TC-894x) with central setpoint module (ES-8940).

For applications with fan speed control the family includes the PM-8900 power modules in connection with TC-894x with or without central setpoint module (ES-8940).

FEATURES

- 2-pipe, 2-pipe with change-over, 2-pipe with electrical coil or 4-pipe configurations with and withoput 3-speed fan override
- 80 x 80 mm room enclosures
- Temperature dial ranges 12 to 28°C, +/-
- 24 VAC power supply for the TC-8900 controls, 230 VAC in connection the the PM-8900 power module

DIMENSIONS *(in mm)*



ORDERING INFORMATION

TC-890x STAND ALONE CONTROLLERS

CODES	BUILT-IN NTC K10 SENSING ELEMENT	SETPOINT RANGE	INPUT 0...10 V	FAN OUTPUT	OUTPUTS PAT	OUTPUTS 0...10 V	OUTPUTS DAT	OUTPUTS ON/OFF
TC-8903-1131-WK	■	12 to 28°C	---	---	1	---	---	---
TC-8901-2131-WK					---	2	---	---
TC-8904-2131-WK					---	---	2	---
TC-8906-2131-WK					---	---	---	2
TC-8903-1132-WK	---				1	---	---	---
TC-8901-2132-WK					---	2	---	---
TC-8904-2132-WK					---	---	2	---
TC-8906-2132-WK					---	---	---	2
TC-8903-1151-WK	■	0 to 40°C			1	---	---	---
TC-8903-1152-WK	---				1	---	---	---
TC-8903-1183-WK		0...100%	■		1	---	---	---
TC-8901-2183-WK					---	2	---	---

TC-893x LOCAL CONTROLLERS WITH ES-8930-3031-WK REMOTE SETPOINT MODULE

CODES	BUILT-IN NTC K10 SENSING ELEMENT	SETPOINT RANGE	FAN OUTPUT	OUTPUTS PAT	OUTPUTS 0...10 V	OUTPUTS DAT	OUTPUTS ON/OFF
TC-8933-1112-W	---	---	---	1	---	---	---
TC-8931-2112-W				---	2	---	---
TC-8934-2112-W				---	---	2	---
TC-8936-2112-W				---	---	---	2
ES-8930-3031-WK	■	12 to 28°C		---	---	---	---

TC-8900 / PM-8900 ROOM THERMOSTATS

ORDERING INFORMATION

TC-894x LOCAL CONTROLLERS WITH ES-8940 CENTRAL SETPOINT MODULE

CODES	BUILT-IN NTC K10 SENSING ELEMENT	SETPOINT RANGE	FAN OUTPUT	OUTPUTS			
				PAT	0...10 V	DAT	ON/OFF
TC-8943-1141-WK	■	+/-	---	1	---	---	---
TC-8941-2141-WK				---	2	---	---
TC-8944-2141-WK				---	---	2	---
TC-8946-2141-WK				---	---	---	2
ES-8940-4130-WK	---	12 to 28°C		---	---	---	---

TC-894x LOCAL CONTROLLERS WITH ES-8940 CENTRAL SETPOINT MODULE

CODES	BUILT-IN NTC K10 SENSING ELEMENT	SETPOINT RANGE	FAN OUTPUT	OUTPUTS	POWER MODULE CODES	CONFIGURATION
TC-8902-1031-WK	■	12 to 28°C	3 Speed	1 x 0...10 VDC 1 x DAT 230 V 1 x DAT 24 V	PM-8902-0500 PM-8905-0300 PM-8905-0500	2-pipe with change over
TC-8907-1031-WK				1 x Relay 3A 230 V/24 V	PM-8907-0300	
TC-8902-2031-WK				2 x 0...10 VDC 2 x DAT 230 V 2 x DAT 24 V	PM-8902-0500 PM-8905-0300 PM-8905-0500	4-pipe
TC-8907-2031-WK				2 x Relay 3A 230 V/24 V	PM-8907-0300	
TC-8902-1032-WK	---			1 x 0...10 VDC 1 x DAT 230 V 1 x DAT 24 V	PM-8902-0500 PM-8905-0300 PM-8905-0500	2-pipe with change over
TC-8907-1032-WK				1 x Relay 3A 230 V/24 V	PM-8907-0300	
TC-8902-2032-WK				2 x 0...10 VDC 2 x DAT 230 V 2 x DAT 24 V	PM-8902-0500 PM-8905-0300 PM-8905-0500	4 pipe
TC-8907-2032-WK				2 x Relay 3A 230 V/24 V	PM-8907-0300	
TC-8942-2041-WK (only in connection with ES-8940-4130-WK)	■	+/- on local controller TC-89, 12 to 28°C on ES-8940 central setpoint module		2 x 0...10 VDC 2 x DAT 230 V 2 x DAT 24 V	PM-8902-0500 PM-8905-0300 PM-8905-0500	
TC-8947-2041-WK (only in connection with ES-8940-4130-WK)				2 x Relay 3A 230 V/24 V	PM-8907-0300	

Johnson Controls

PNEUMATIC AND TRANSDUCERS

ELECTRO-PNEUMATIC TRANSDUCERS

EP-1110

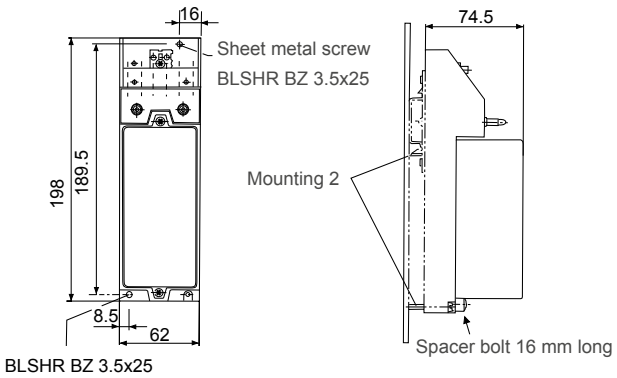
ELECTRIC TO AIR PRESSURE TRANSDUCER

The EP-1110 is an electric to air pressure transducer designed to convert an electrical input signal into a pressure output with a linear relationship.

It is using a force balance with moving coil system.

The input signal 0...+10 V or 0...20 mA is converted to an output signal 0,2...1 bar.

DIMENSIONS *(in mm)*



ORDERING INFORMATION

CODES	INPUT	OUTPUT
EP-1110-7001	0...10 V (DC), Ri ≥ 1 kΩ, current through coil approx. 10 mA	20-100 kPa, linearly proportional to input
EP-1110-7002	2...10 V (DC), 0...10 V (DC), Ri ≥ 1 kΩ, current through coil approx. 10 mA	20-100 kPa, 3...100 kPa, linearly proportional to input
EP-1110-7003	0...20 mA (DC), Ri ≤ 450 Ω, current through coil approx. 10 mA	20-100 kPa, linearly proportional to input
EP-1110-7004	4...20 V (DC), 0...20 mA (DC), Ri ≤ 450 Ω, current through coil approx. 10 mA	20-100 kPa, 3...100 kPa, linearly proportional to input

PNEUMATIC AND TRANSDUCERS

ELECTRO-PNEUMATIC TRANSDUCERS

EP-2000

ELECTRO-PNEUMATIC TRANSDUCER

The EP-2000 electro-pneumatic transducer with motor drive is used for converting an electrical contact signal into a 0.2 to 1.0 bar pneumatic standard signal.

The instrument is suitable for connection of electrical incremental controllers with pneumatic devices or for electrical remote adjustement of the set point of pneumatic controllers.

A reversible synchronous motor drives a cam disk over a gear box.
The direction of travel of the cam disk is transformed by a leaf spring into a change of force, which by a pneumatic force comparison system is converted into a control pressure change.

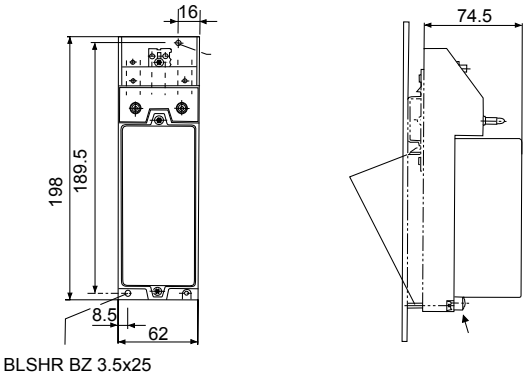
On models with position transmitter a positiometer is installed for electrical position feed back.

FEATURES

- High linearity
- Low hysteresis
- High accuracy
- Small supply air influence
- Small air consumption
- High air capacity

EP2000 ELECTRO-PNEUMATIC TRANSDUCERS

DIMENSIONS *(in mm)*



BLSHR BZ 3.5x25

ORDERING INFORMATION

CODES	LIMIT SWITCH AND 2 kΩ FEEDBACK POTENTIOMETER	ACCESSORIES	VOLTAGE SUPPLY (50/60 Hz)
EP-2000-7001	120 seconds	---	230 V
EP-2000-7004			24 V
EP-2000-7021		2 kΩ potentiometer	230 V
EP-2000-7024			24 V

PNEUMATIC AND TRANSDUCERS

ELECTRO-PNEUMATIC TRANSDUCERS

EP-8000

ELECTRO-PNEUMATIC TRANSDUCER

EP-8000 series electro-pneumatic transducers convert a voltage or current signal from an electronic controller into a pneumatic output pressure signal. An increase or decrease in the input signal proportionally increases or decreases (respectively) the output pressure signal from the EP-8000.

It is designed to output a proportional pneumatic control signal in response to an electronic control signal.
All units feature barbed air connections for 5/32 or 1/4 inch O.D. polytubing.
Sequencing of pneumatic valve or damper actuators can be accomplished using a Johnson Controls V-9502 (valve) or D-9502 (damper) actuator positioner.

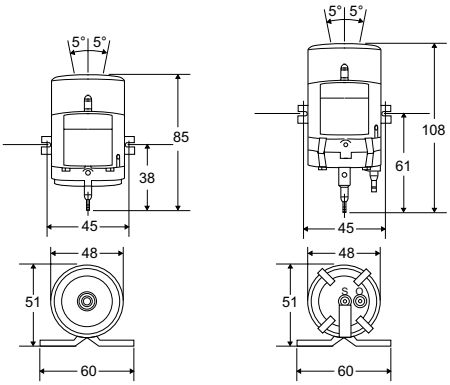
Four models are available, which are grouped into two basic versions: low volume output units (nonrelay) and high volume output units (relay).

FEATURES

- Compact, simple design
- Choice of 0 to 10 VDC or 4 to 20 mA input range
- Hypodermic needle test point
- Factory set, fully adjustable zero and span
- High accuracy with low hysteresis

EP8000 ELECTRO-PNEUMATIC TRANSDUCERS

DIMENSIONS *(in mm)*



ORDERING INFORMATION

CODES	OUTPUT	INPUT RANGE	FACTORY OUTPUT RANGE kPa (psig)
EP-8000-1	Low volume (non-relay)	0.5...9 VDC	7...126 (1-18)
EP-8000-2	High volume (relay)	0.25...9.5 VDC	3.5...133 (0.5-19)
EP-8000-3	Low volume (non-relay)	4...20 mADC	21...105 (3-15)
EP-8000-4	High volume (relay)	4...20 mADC	21...105 (3-15)

ACCESSORIES

CODES	DESCRIPTION
R-3710 Series	0.18 mm restrictor (required for low volume models)
EP-8000-101	Electro-pneumatic transducer mounting kit
A-4000-8001	Inline air filter (required for all models)
JC 5361	Hypodermic needle test probe assembly