

EVC Series

BACnet[®] or stand-alone VAV controller & actuator

The VAV package consists of 2 parts, namely the thermostat and the EVC which is a combination of an actuator and a controller.

The EVC's are available in the standalone version (EVC) or in a BTL listed BACnet Application Specific version (EVCB).

They are designed to control pressure dependant or pressure independent single duct VAV or fan powered VAV with or without terminal reheat.

The controller incorporates flow sensor, electronics and firmware of the VAV package. The EVC's mount directly to the damper jackshaft on the side of the VAV box.

The attractive thermostat has a large LCD display with four push buttons for set point, occupancy override and programming.



Applications

The EVC is suitable for networked or stand-alone VAV boxes and is fully programmable.

Change-over, heating and/or cooling with 4 stages ON/OFF or TPM or 2 stages floating and 2 outputs 0-10 Vdc.

Application examples:

- Single duct, cooling only
- Single duct cooling, 1-2 stage digital reheat
- Single duct cooling &/or heating, 0-10 Vdc reheat
- Single duct cooling &/or heating, one stage time proportioned (TPM) reheat

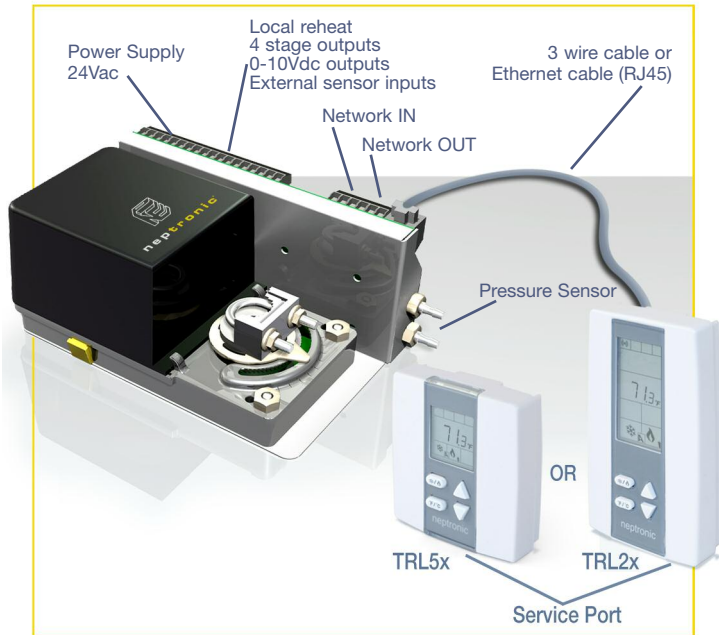
EVC Series Features

- Main supply 24 Vac
- Integrated actuator and control module
- Field configured VAV algorithms
- True differential pressure sensor
- Quick connect RJ45 available
- BACnet[®] MS/TP communications (EVCB)
- Micro-processor based backlit LCD thermostat
- BACnet[®] service port on the thermostat (with EVCB)
- Simple air balancing and commissioning with the thermostat keypad

EVC Series

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EVC Connections



EVC Series specifications

- **Input**
 - 2 thermistor input (10kΩ)
 - 1 digital input for night set back or occupancy
 - 1 extra digital input (BACnet® only)
- **Outputs**
 - 2 analog outputs
 - Up to 4 binary triac outputs (supporting TPM, floating or ON/OFF) (2 standard)
- **Controller Module - EVC Actuator**

The EVC comes with a 8Nm (70 in.lb.) or 20Nm (180 in.lb.) actuator
- **On Board Differential Pressure (Pressure Independent Models)**

0-1.0" WC
- **Communications Ports (EVCB)**

BACnet® MS/TP @ 9600, 19200, 38400 or 76800 bps (maximum of 99 device per BACnet® MS/TP segment)
- **BACnet® Device Profile**

BACnet® Application Specific Controller (B-ASC)
- **Connections**

Ethernet cable (RJ45) between the thermostat and the controller or 3 wire connection
- **Wiring Class: Class 2**
- **Ambient: 0°C to 50°C (32°F to 122°F)**

5-95% RH (non-condensing)
- **Dimensions & Weight**

17.2 x 11.0 x 7.9 cm
(6.75 x 4.3 x 3.13 in)
1.8 kg (4 lbs)
- **Compliance**

Thermostat Specifications

- **Thermostat**

Attractive modern look with large backlit LCD
Icons driven information and 1 line of text information
Available in 2 series: TRL5x or TRL2x
See the Ordering Information section for more details.
- **Push Buttons**

4 push buttons
- **Temperature Sensor**

Set point range 10°C to 40°C (50°F to 104°F)
Control accuracy +/- 0.4°C (0.8°F)
Thermistor input 10kΩ at 25°C (77°F)
Temperature resolution +/- 0.1°C (0.2°F)
- **Service Port**

Mini-USB connector giving access to the BACnet® network (If connected to EVCB)





Pressure Independent

BACnet® EVC Models

Actuator	Model	3 wire cable	RJ45 cable	Extra triac
70 in.lb actuator	EVCB74WIT2S	✓		
	EVCB74RIT2S		✓	
	EVCB74WIT3S	✓		1
	EVCB74RIT3S		✓	1
	EVCB74WIT4S	✓		2
	EVCB74RIT4S		✓	2
180 in.lb actuator	EVCB74WIT2T	✓		
	EVCB74RIT2T		✓	
	EVCB74WIT3T	✓		1
	EVCB74RIT3T		✓	1
	EVCB74WIT4T	✓		2
	EVCB74RIT4T		✓	2

Stand-Alone EVC Models

Actuator	Model	3 wire cable	RJ45 cable	Extra triac
70 in.lb actuator	EVC74WIT2S	✓		
	EVC74RIT2S		✓	
	EVC74WIT3S	✓		1
	EVC74RIT3S		✓	1
	EVC74WIT4S	✓		2
	EVC74RIT4S		✓	2
180 in.lb actuator	EVC74WIT2T	✓		
	EVC74RIT2T		✓	
	EVC74WIT3T	✓		1
	EVC74RIT3T		✓	1
	EVC74WIT4T	✓		2
	EVC74RIT4T		✓	2



Pressure Dependent

BACnet® EVC Models

Actuator	Model	3 wire cable	RJ45 cable	Extra triac
70 in.lb actuator	EVCB74WDT2S	✓		
	EVCB74RDT2S		✓	
	EVCB74WDT3S	✓		1
	EVCB74RDT3S		✓	1
	EVCB74WDT4S	✓		2
	EVCB74RDT4S		✓	2
180 in.lb actuator	EVCB74WDT2T	✓		
	EVCB74RDT2T		✓	
	EVCB74WDT3T	✓		1
	EVCB74RDT3T		✓	1
	EVCB74WDT4T	✓		2
	EVCB74RDT4T		✓	2

Stand-Alone EVC Models

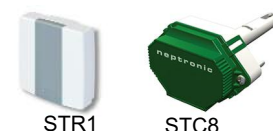
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70 in.lb actuator	EVC74WDT2S	✓		
	EVC74RDT2S		✓	
	EVC74WDT3S	✓		1
	EVC74RDT3S		✓	1
	EVC74WDT4S	✓		2
	EVC74RDT4S		✓	2
180 in.lb actuator	EVC74WDT2T	✓		
	EVC74RDT2T		✓	
	EVC74WDT3T	✓		1
	EVC74RDT3T		✓	1
	EVC74WDT4T	✓		2
	EVC74RDT4T		✓	2

Thermostats



Model	Size	3 wire cable	RJ45 cable
TRL54	3x3	✓	
TRL55	3x3		✓
TRL24	2x4	✓	
TRL25	2x4		✓

Accessories



Model	Temperature sensor	Duct Mount	Wall Mount
STR1-11	10kΩ		✓
STC8-11	10kΩ	✓	

NEPTRONIC FAMILY OF CONTROLS

Fan Coil



The BACnet® capable *EFC* controller module contains a configurable fan coil unit algorithm. This module, which is designed to mount on the side of the fan coil unit, comes complete with fan control, cooling and heating stages.

Temperature/Humidity



Neptronic® offers the most advanced wall and duct mounted temperature & humidity sensors. They can be used with building automation systems providing economical solutions for your sensing needs and are available in several configurations. These sensors combined with our controllers or the SK humidifier series will enhance the quality of your environment.

Fan coil/Heat Pump
Heat-Cool Control



The *TFC*, *TRO* & *TFP* are highly engineered products that will simplify your HVAC applications. Neptronic® offers a wide range of exceptional thermostats and control products for VAV, fan coil and heat pump applications. They are fully programmable with a modern design and have undergone rigorous tests and verifications.

Relay Card



The Neptronic® *Relay Interface Board* is the best solution where 240/120 V equipment must be controlled by a 24 V thermostat or controller. This simple to install interface isolates the low and high voltages through multiple relays.

Static Pressure



Featuring attractive and robust enclosures, the *SPC* static or differential pressure controllers are primarily used to control bypass damper actuators for VAV systems.

Velocity



The *Vector 2* measures air velocity with a linear proportional signal of 0-10 Vdc corresponding to 0-3000 feet/minute. It is primarily utilized in pressure independent VAV boxes.

SCR



The *SCR* controller can be typically used as an add on to modulate an electric reheat coil or an electric baseboard heater providing a better overall temperature control.

Transducer



Housed in a compact and durable extruded aluminum enclosure, the *VRC* voltage sensitive relay control operates on 24 Vac power supply and requires a 0-10 Vdc input signal to independently sequence one, two or four adjustable contacts.



neptronic®

Manufacturer of actuators, actuated valves, controls, humidifiers and electric heaters.

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