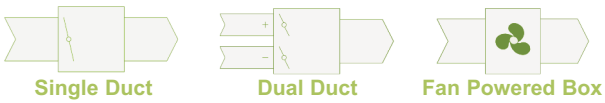
neptronic®

VAV Unit Controller

Now with CO_2



EVCB Series

Inputs

DI2	AI2		
2 Digital*	**2** Analog*	**Pressure Sensor** (select models)	**24**Vac

Outputs

BO4	AO2
Up to **4** TRIACs	**2** Analog*

Communication

BAC	Mod	
BACnet MS/TP	**Modbus** RTU Slave	**Room T-Stat** 3 Wires

**Configurable*

Optional CO_2 and %RH available on wall unit

Room Thermostat Features (TRL)

- Backlit LCD with simple icon and text driven menus
- Built-in, self-calibrating, non-dispersive infrared (NDIR) CO_2 sensor (select models)
- Built-in humidity sensor (select models)
- Select thermostat's default display (room temperature, humidity and/or CO_2, temp setpoint, and system demand)
- BACnet service port via on-board mini USB connector
- Selectable Fahrenheit or Celsius scale
- Manual night set back or no occupancy override
- Multi level lockable access menu
- 3-wire connection to controllers

Controller Features (EVCB)

- Built-in actuator, 70 in.lb. (select models)
- On board differential pressure sensor (select models)
- Simple air balancing and commissioning via thermostat
- Configurable Inputs: 2 analog and 2 digital
- Configurable Outputs: 2 analog and up to 4 TRIACs
- 2 in 1 (BACnet or Modbus): select protocol via thermostat menu
- Real Time Clock (RTC) with 24 hour backup
- Configurable PI (Proportional-Integral) function
- Independent, configurable proportional control band and dead band per ramp
- Selectable internal/external temperature sensor (10KΩ)
- Activate output with CO_2 from TRLG24, TRLGH24, or external sensor
- Change over by contact or external temperature sensor
- Potentioneter feedback for increased precision of motor position (select models)

Models (EVCB)

Model	TRIACS	Pressure Type	Feedback	Fan Powered Box options	BACnet or Modbus
EVCB14NIT0S	0	Indep.	-	-	Yes
EVCB14NIT2S	2	Indep.	-	-	Yes
EVCB14NIT4S	4	Indep.	-	Yes	Yes
EVCB14NDT4S	4	Dep.	-	Yes	Yes
EVCB14NIT0SF	0	Indep.	Yes	-	Yes
EVCB14NIT4SF	4	Indep.	Yes	Yes	Yes

External Motor

Model	TRIACS	Pressure Type	Feedback	Motor	BACnet or Modbus
EVCB14NIT4X	4	Indep.	-	External	Yes

Dual Duct

Model	TRIACs	Pressure Type	Type
EVCBM14NIT2S	2	Indep.	Master Controller
EVCS14N	-	-	Slave Controller

Models (TRL)

Models	Type	Sensor
TRL54	3X3	Temperature
TRL24	2X4	Temperature
TRLG24		Temperature and CO_2
TRLH24		Temperature and humidity(%RH)
TRLGH24		Temperature, humidity(%RH) and CO_2

Now with CO_2

TRL24

TRL54

BACnet Application Specific Controllers

BACnet Scheduler
Configure a weekly schedule with up to 6 events per day.

Firmware Upgradeable
Upgrade the controller version via BACnet to access new features and/or updates.

Copy and Paste Configuration
Copy the controller's entire configuration and broadcast it to other controllers of the same type on the same network. This can be done via menu or via BACnet.

COV (change of value)
Increase precision and reduce traffic by defining certain objects to communicate as soon as the value is changed.

Select Analog Output Direction
You can now select direct or reverse acting analog outputs

Configurable Thermostat Display
Define the thermostat's display to meet your needs:
- Temperature and demand
- Setpoint and demand
- Temperature only
- Setpoint only
- No display

Two MAC Address Configuration Methods
Set MAC address via user friendly menu on thermostat or locally on unit via DIP switches.

Auto Device Instance Configuration
The controller automatically configures its device instance to a default value + MAC address.

Auto Baud Rate Detection
The controller automatically configures its baud rate by detecting the network speed upon connection.

Over 150 BACnet Objects
Thanks to this open protocol, we provide over 150 BACnet Objects per controller so you can read, write information as you monitor and trend status of operation, alarms and schedules.

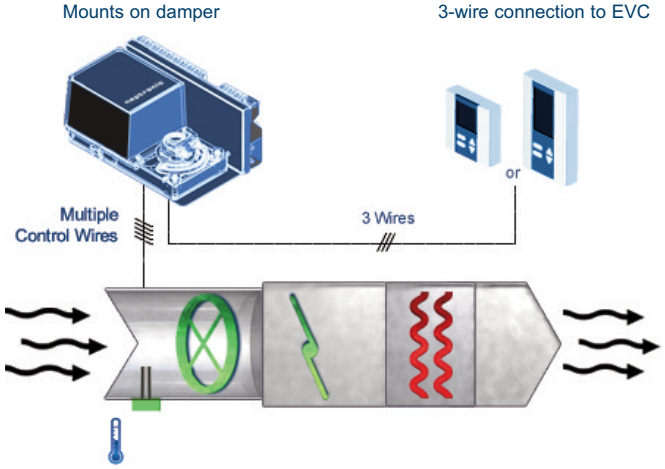
Service Display
If you are searching for a specific device, enabling the service mode will flash the device to easily locate the device.

Member of BACnet International

Single Duct

EVC / VAV Unit Controller
Mounts on damper

TRL5 or Room Thermostat
3-wire connection to EVC



EVC Unit Controller

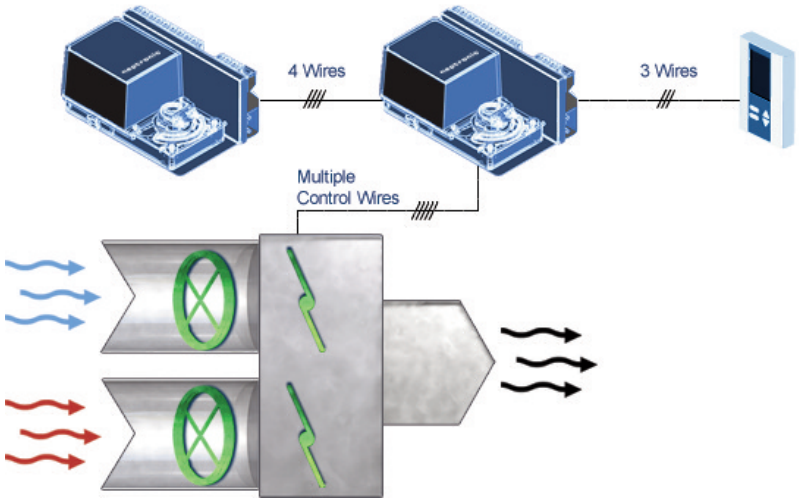
TO1	Optional TRIAC
TO2	Optional TRIAC
TO3	Optional TRIAC
TO4	Optional TRIAC
AO1	Cooling/Heating
AO2	Cooling/Heating
DI1	Sensor Input (on/off)
DI2	Sensor Input (on/off)
AI1	Sensor Input (analog)
AI2	Sensor Input (analog)
A+	
B-	BACnet
T-STAT	
LO	Optional differentiel
HI	Pressure Sensor

Dual Duct

EVC Controller (Slave)
Mounts on damper (hot duct)

EVC Controller (Master)
Mounts on damper (cold duct)

TRL2 Room Thermostat
3-wire connection to EVC



EVC Controller (Slave)

AO2	Pressure Sensor Output
AI1	Motor Signal Input
LO	Differential Pressure Sensor
HI	

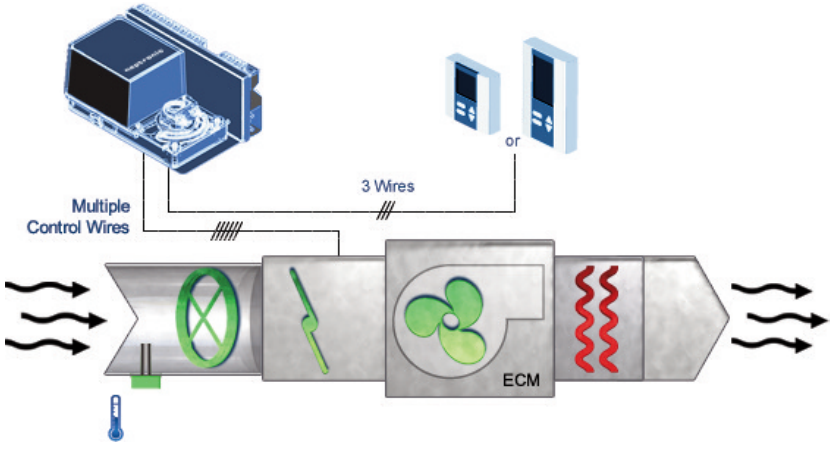
EVC Controller (Master)

TO1	Cooling/Heating TRIAC
TO2	Cooling/Heating TRIAC
AO1	Motor Signal Output
AO2	Cooling/Heating (analog)
DI1	Sensor Input (on/off)
DI2	Sensor Input (on/off)
AI1	Pressure Sensor Input
AI2	Sensor Input (analog)
A+	
B-	BACnet
T-STAT	
LO	
HI	Differentiel Pressure Sensor

Fan Powered Box

EVC Unit Controller
Mounts on damper

TRL5 or TRL2 Room Thermostat
3-wire connection to EVC



EVC Unit Controller

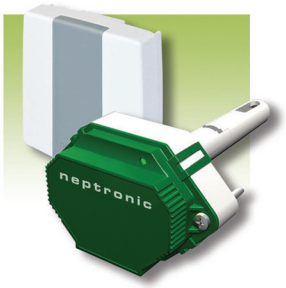
TO1	Optional TRIAC
TO2	Optional TRIAC
TO3	Optional TRIAC
TO4	Optional TRIAC
AO1	Cooling/Heating
AO2	Fan
DI1	Sensor Input (on/off)
DI2	Sensor Input (on/off)
AI1	Sensor Input (analog)
AI2	Sensor Input (analog)
A+	
B-	BACnet
T-STAT	
LO	Optional differentiel
HI	Pressure Sensor

NEPTRONIC FAMILY OF CONTROLS

Fan Coil

- Mounted in fan coil unit
- Connects to room thermo-stat via 3 wires
- BACnet MS/TP or Modbus communication
- 24, 120 or 240Vac
- Up to 11 inputs and 15 outputs

Temperature/Humidity



- Economical solutions for your sensing needs
- Wall, duct or water-pipe mounting
- Wireless, BACnet, temper-ature, humidity and more

Wall Mount Controller

- Combined controller and thermostat
- Run all wires directly to con-troller
- Stand-alone or BACnet
- 24Vac operation
- Fan coil, VAV, Heat pump, RTU, and more

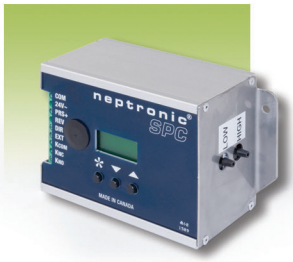
Dual Pro I/O Board

- 10 inputs and 10 outputs
- BACnet MS/TP or Modbus (selectable)
- LED status for each input and output

Relay Card

- 240/120 Vac
- 3, 4 or 5 contacts, (7A)
- Metal box with secure 4-point mounting
- LED indication of relay status
- Fused 240/120 Vac & 24 Vac circuits

Static Pressure



- Control bypass damper actuators, a VFD, orVortex for VAV systems
- Simple installation
- Adjust setpoint and deadband
- Fully calibrated

SCR

- Multi-fin, black anodized heat sink
- High heat dissipation rate
- UL & CSA approved
- Pulse status LED

Transducer

- 24Vac or 24 Vdc supply
- 2 or 4 SPDT relays (staged or sequenced operation)
- Voltage or current input
- Adjustable relay setpoint, hysteresis and activation delay

neptronic®

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

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