EFC Series

BACnet® or stand-alone fan coil controller

The fan coil package consists of 2 parts, namely the thermostat and the EFC controller module. The EFC controller is available in a stand-alone version (EFC) or in a BTL listed BACnet application specific version (EFCB).

The controller incorporates a configurable fan coil algorithm, variable three speed fan control and either modulating or digital heating and cooling outputs. The EFC mounts in the fan coil cabinet.

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

Applications

The EFC is suitable for networked or stand-alone fan coil units with the following options:

- Compatible with 2 or 4 pipe systems
- Fan coil unit (up to 3 speeds and/or analog 0-10 Vdc)
- Cooling signal (on/off or modulating 0-10 Vdc)
- Heating signal (on/off, pulse or modulating 0-10 Vdc)
- Reheat signal (on/off, pulse or modulating 0-10 Vdc)
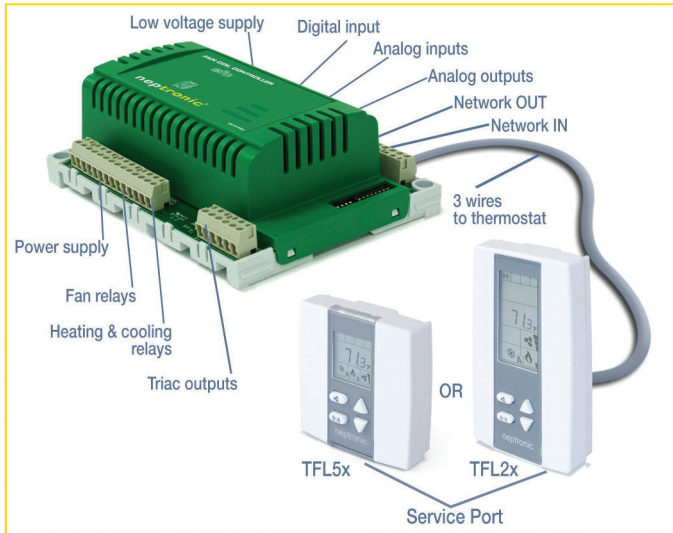- External sensor & changeover input

EFC Series Features

- Main supply: 24 Vac, 120 Vac or 240 Vac
- Field configured fancoil algorithms
- BACnet® MS/TP communications (EFCB)
- Micro-processor based backlit LCD thermostat
- BACnet® service port on the thermostat (EFCB)

EFC Series
BACnet® or stand-alone fan coil controller

EFC Connections

Thermostat Specifications

- **Thermostat**
  Attractive modern look with large backlight LCD
  Icons driven information and 1 line of text information
  Available in 2 series: TFL5x or TFL2x

- **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)

- **Humidity Sensor**
  The thermostat is also available with an on-board
  humidity sensor (TFLH5x or TFLH2x)
  Set point range 10 to 65% RH
  Sensor precision ±3.5%
  Relative humidity 5 to 95% non-condensing

- **Service Port**
  Mini-USB connector giving access to the BACnet®
  network (if connected to EFCB)

Member of
BACnet®
International

EFC Series Specifications

- **Input**
  - 4 analog programmable inputs (0-10 Vdc or 10 kΩ via DIP switches)
  - 5 dedicated sensor inputs (external temperature, change over, flow switch, dirty filter & occupancy)
  - 1 extra digital input (BACnet® only)

- **Outputs**
  - 2 analog programmable outputs (change over/ cooling/heating and/or reheat, 0-10 Vdc)
  - 3 triac programmable outputs (change over/ cooling/heating and/or reheat; triac)
  - 3 speed fan (7A contacts)
  - Up to 4 digital programmable outputs (change over/ cooling/heating and/or reheat; 7A dry contact)

- **Communications Ports (EFCB)**
  BACnet® MS/TP @ 9600, 19200, 38400 or 76800 bps (maximum of 99 devices per BACnet® MS/TP segment)

- **BACnet® Device Profile**
  BACnet® Application Specific Controller (B-ASC)

- **Connections**
  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**
  15.75 x 13.8 x 5.8 cm
  (6.2 x 5.43 x 2.27 in)
  0.7kg (1.5 lbs)

- **Compliance**
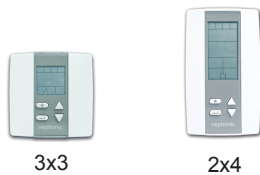
Fan Coil Controller

BACnet® EFC Models

Voltage	Model	Extra 7 amp relay
24 Vac	EFCB10W	
	EFCB10WQ1	1
	EFCB10WQ2	2
	EFCB10WQ3	3
	EFCB10WQ4	4
120 Vac	EFCB11W	
	EFCB11WQ1	1
	EFCB11WQ2	2
	EFCB11WQ3	3
	EFCB11WQ4	4
240 Vac	EFCB12W	
	EFCB12WQ1	1
	EFCB12WQ2	2
	EFCB12WQ3	3
	EFCB12WQ4	4

Stand-Alone EFC Models

Voltage	Model	Extra 7 amp relay
24 Vac	EFC10W	
	EFC10WQ1	1
	EFC10WQ2	2
	EFC10WQ3	3
	EFC10WQ4	4
120 Vac	EFC11W	
	EFC11WQ1	1
	EFC11WQ2	2
	EFC11WQ3	3
	EFC11WQ4	4
240 Vac	EFC12W	
	EFC12WQ1	1
	EFC12WQ2	2
	EFC12WQ3	3
	EFC12WQ4	4

Thermostats

3x3   2x4

Model	Size	3 wire cable
TFL54	3x3	✓
TFL24	2x4	✓
TFLH54-INT	3x3	✓
TFLH54-EXT *	3x3	✓
TFLH24-INT	2x4	✓
TFLH24-EXT *	2x4	✓

Accessories

STR1/SHR10   STC8/SHC80

Model	Temperature sensor	Humidity sensor	Duct Mount	Wall Mount
STR1-11	10kΩ			✓
STC8-11	10kΩ		✓	
SHR10	✓	✓		✓
SHC80	✓	✓	✓	

* The TFLHxy-EXT does not have a built-in sensor but a duct mount SHC80 humidity sensor will be included.
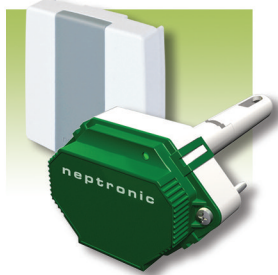
NEPTRONIC FAMILY OF CONTROLS

VAV

The BACnet® capable **EVC** controller which is designed to mount on the side of the VAV box, incorporates VAV pressure independent algorithm, flow sensor, integral actuator and housing. It also has termination points for optional control of a fan or a single stage of auxiliary reheat.

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.

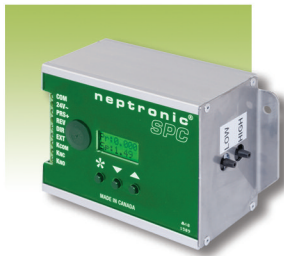## Fan Coil/Heat Pump Heat-Cool Control

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.
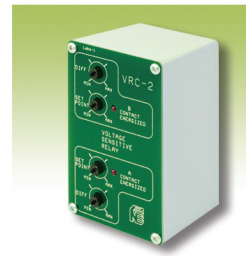
Static Pressure

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

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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