

#### Models

**CVC002** | 2 Relays **CVC004** | 4 Relays

#### Description

The CVC Relay Control Module converts an analog signal (Vdc or mA) into a staged or sequenced digital on/off output. The CVC features an LCD-driven menu for simple configuration and Snap Track mounting with raising clamp terminals for easy installation.

### **Applications**

- 1 to 4 stage control in HVAC systems
- Sequencing boilers or chillers

### **Features**

- 24Vac or 24 Vdc supply
- 2 or 4 SPDT relays (staged or sequenced operation)
- Voltage or current input
- Menu-driven LCD
- Adjustable relay setpoint, hysteresis and activation delay
- Input signal management (loss of signal)
- Displays input voltage or current
- LED status indication of each relay
- Snap Track mounting
- Non-strip, raising clamp terminals

### **Technical Specifications**

Specifications	CVC002   CVC004	
Input Voltage	24 Vac or 21-26 Vdc	
Consumption	- CVC002: 152mA max @ 24 Vac (4 VA)   52mA max @ 24 Vdc (1.5W) - CVC004: 229mA max @ 24 Vac (5.5VA)   83mA max @ 24 Vdc (2W)	
Input	0-10 Vdc or 0-20 mA (jumper selectable)	
Input signal management	<ul> <li>Input signal less than 2% (0.2Vdc/0.4mA) becomes 0</li> <li>Input signal greater than 98% (9.8Vdc/19.6mA becomes 100%</li> </ul>	
SPDT relay outputs	<ul> <li>- 2 (CVC002) / 4 (CVC004)</li> <li>- 5A Max @ 24 Vac   1A Max @ 24 Vdc</li> <li>- normally open or normally closed with independent common per relay</li> </ul>	
Electrical Connections	0.8 mm <sup>2</sup> [18 AWG] minimum	
Operational Temperature	0°C to 50°C [32°F to 122°F]	
Storage Temperature	-30°C to 50°C [-22°F to 122°F]	
Relative Humidity	5 to 95% non condensed	
Weight	0.21 lbs [95g] (CVC002) / 0.28 lbs [125g] (CVC004)	
Dimensions (including Snap Trak)	Width: 6.0" (152mm)   Height: 3.0" (76mm)   Depth: 1.3" (33mm)	

## **Connections and Configurations**



\* Relay 3 & 4 with model CVC004



CVC004

# **Relay Control Module**

Specification and Installation Instructions



### **Configuration Menu**

Press Menu at any time to enter the configuration menu. Once in the menu, the Menu button will always go to the next menu item. The arrow keys are used to view or change the value of the current menu item. Changes are automatically saved upon making a change. The CVC automatically exits the menu after 60 seconds of inactivity.

Step	LCD	Description	Range	Default
1		<b>Display Input Value</b> In normal operation mode, the LCD displays the value read at the INP terminal in percentage. For example, if the display shows 20, this would represent that the input is 2Vdc or 4mA. <i>Press Menu to enter the configuration menu (step 2).</i>	0 to 100% Proportional to (0.0 to 10.0 Vdc) (0.0 to 20.0 mA)	-
2		Select Relay Identifies the relay to be configured. The associated relay's LED will also illuminate. Use the arrow keys to change relay, or press menu to go to the next step.	R1 = Relay 1 R2 = Relay 2 R3 = Relay 3* R4 = Relay 4* RA = All relays	-
3		Set Point Defines the % value of the input signal that will activate the relay. For example at 50%, the relay will activate at 5Vdc or 10mA. Use arrows to view/change the value, or press Menu to go to the next step.	0 to 100%	$\begin{array}{l} R1 &= 20\% \; (2 \; \text{Vdc}  /  4 \; \text{mA}) \\ R2 &= 40\% \; (4 \; \text{Vdc}  / \; 8 \; \text{mA}) \\ R3^{*} &= 60\% \; (6 \; \text{Vdc}  / \; 12 \; \text{mA}) \\ R4^{*} &= 80\% \; (8 \; \text{Vdc}  / \; 16 \; \text{mA}) \end{array}$
4		Hysteresis Defines the % differential below the setpoint before reacting to a change of state. For example, by default relay 1 will activate at 20% and will deactivate at Set Point – Hysteresis (set point 20% - hysteresis 2% = 18%). Use arrows to view/change the value, or press Menu to go to	0 to 20%	R1-R4* = 2%
	▼	the next step.		
5		Activation/Deactivation Delay Upon reaching the setpoint, the relay will activate or deactivate after the delay defined here has elapsed. Use arrows to view/change the value, or press Menu to go to the next step.	2 to 199 sec.	R1-R4* = 30 sec.
6	<u>г</u> 2 г3, гЧ,	Steps 3 to 5 are repeated for each relay (R1, R2, R3 $^{*}$ , and R4 $^{*}$ )	1	1
7		All Relays Identifies that the following options apply to all relays. All relay LEDs will also illuminate. Use the arrow keys to change relay, or press menu to go to the next step.	RA = All relays R1 = Relay 1 R2 = Relay 2 R3 = Relay 3* R4 = Relay 4*	-
8		Operation Mode SA   Staged: Each relay activates without deactivating the previously activated relays. The LEDs illuminate to represent staged operation. SE   Sequenced: When one relay activates, the previously activated relay, deactivates. The LEDs flash to represent sequenced operation.	SA = Staged SE = Sequenced	SA (Staged)
		Press Menu to return to relay 1 (R1), or press and hold the Menu button to exit the configuration menu.		

\* Relay 3 (R3) and relay 4 (R4) appear only on model CVC004.