



Invensys Building Systems
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 United States of America

CC-8102 & CC-8103

Electronic Controlled Relays

General Instructions

APPLICATION

Electronic controlled relays are offered in dual, or dual with one having heat anticipation for time proportional control of electric heat.

SPECIFICATIONS

Input Signals: One or two 2 to 15 Vdc input signals.

Relay: SPDT. See Table 2 for electrical ratings.

Power Requirements: See Table 1.

Power Consumption: 2.4 VA.

Power Supply Available: 20 Vdc, 35 mA; filtered and regulated.

Environment:

Ambient Temperature Limits,

Shipping and Storage -40 to 140°F (-40 to 60°C).

Operating 40 to 135°F (4 to 57°C).

Humidity, 5 to 95% RH, non-condensing.

Locations, NEMA Type 1 indoor only.

Connections: Coded screw terminals for 12 to 20 AWG.

Cover: Aluminum.

Mounting: Unit is provided with plastic track for panel mounting. AD-8912 enclosure can be ordered separately for remote installations.

Dimensions: 3-7/8" high × 7-1/2" wide × 2-1/2" deep (98 mm × 191 mm × 63 mm).



TABLE 2. ELECTRICAL RATING PER RELAY

Contact Rating	24 Vac	120 Vac	240 Vac
Amps (Continuous)	—	1	0.5
Amps (Inrush)	—	10	5
Pilot Duty Sealed (VA)	25	125	125
Pilot Duty Inrush (VA)	250	1250	1250

ACCESSORIES

- AD-8969-901 Extended relay differential jumper
- AD-8912 12" (305 mm) enclosure
- TOOL-201 Calibration kit for System 8000

TABLE 1. SPECIFICATIONS

Part Number	Input Signals	Description	Power Requirements Vac (50/60 Hz) (+10, -15%)	Relay			
				Dropout	Deadband (Differential)	Pull-in	Relay 2 (CC-8103 Only) Time Proportioning
CC-8102	1 or 2	2 Relays	120	Adjustable 2 to 12 Vac (Input Signal) Factory Set 6 Vdc	Jumper Selectable 1/2, 1, 2, 4 Vdc† (Input Signal) Factory Set 1 Vdc	Pull-in Equals Dropout Plus Deadband	—
CC-8102-024			24				
CC-8102-240			240				
CC-8103	1 or 2	2 Relays, 1 Time Proportioning	120	Adjustable 2 to 12 Vac (Input Signal) Factory Set 6 Vdc	Jumper Selectable 1/2, 1, 2, 4 Vdc† (Input Signal) Factory Set 1 Vdc	Pull-in Equals Dropout Plus Deadband	Non-adjustable 6 Vdc Input: 100% Duty Cycle 7.5 Vdc Input: 50% Duty Cycle 9 Vdc Input: 0% Duty Cycle
CC-8103-240			240				

†1.5, 2.5, 3, 3.5, 4.5, 5, 5.5, 6, 6.5, 7, 7.5 Vdc differentials can be obtained with an AD-8969-901 (order separately).

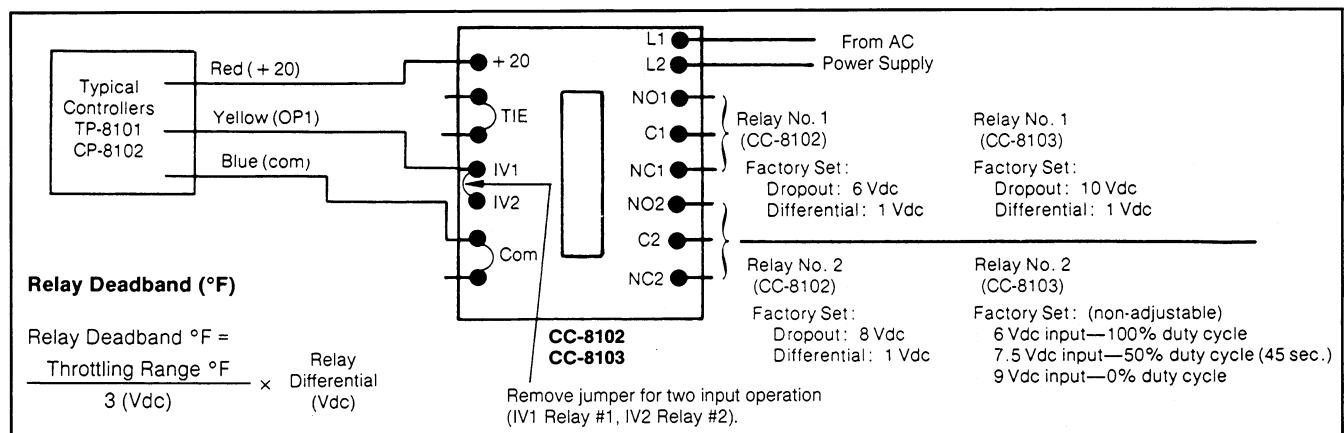


Figure 1. Typical Wiring Diagram for CC-810X

PRE-INSTALLATION

Inspection

Visually inspect the package for damage. If damaged, notify the appropriate carrier immediately. Visually inspect the device for obvious defects. Return damaged or defective products.

Required Installation Items

- Wiring diagrams
- Tools (not provided):
DVM (digital voltmeter)
TOOL-201 calibration kit for System 8000 controls
Appropriate screwdriver(s) for terminals and mounting screws
Appropriate drill and drill bit for mounting screws
- Appropriate accessories
- Mounting screws (2) #8 (not provided)

INSTALLATION

CAUTION

Installer must be a qualified, experienced technician. Disconnect power supply before installation to prevent electrical shock and equipment damage. Make all connections in accordance with the electrical wiring diagrams, and in compliance with national and local codes. *Use copper conductors only.* Do not exceed the ratings of the device. Avoid locations where excessive moisture, corrosive fumes or vibrations are present.

Mounting

The CC-810X can be mounted in any position.

CAUTION

NEMA Type 1 covers are intended for indoor use primarily to provide a degree of protection against contact with the enclosed components.

The CC-801X is supplied with a piece of mounting track for panel mounting (see Figure 2 for mounting dimensions). Two (2) #8 mounting screws are required (not provided) for mounting hardware.

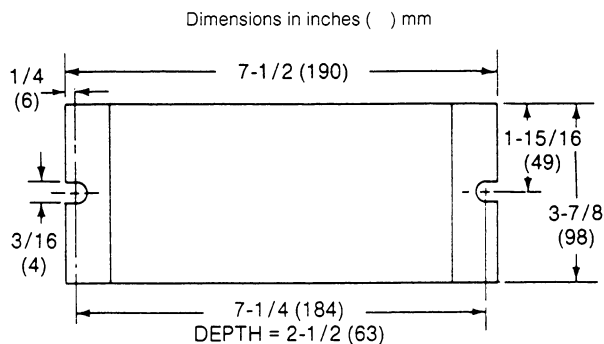


Figure 2. CC-810X Mounting Dimensions

Wiring

Make all electrical connections in accordance with wiring diagrams and in compliance with national and local electrical codes. *Use copper conductors only.* See Figure 1 for terminal designations.

CAUTION

Never connect +20 terminal to the red lead (or +20 terminal) of any other controlled device.

TABLE 3.

Wire Gauge	CC-810X to Loads — Length of Run in ft. (m)
16	25 (7.6)
12	55 (16.8)

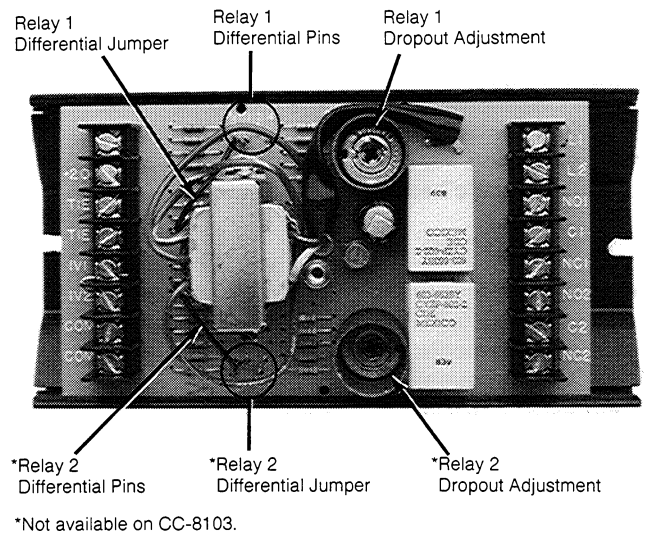


Figure 3. CC-810X Adjustments

ADJUSTMENTS (See Figure 3)

Remove the cover from the CC-810X.

Differential

Place differential jumper on required pin. The differential extension jumper (AD-8969-901) may be used to obtain additional differentials (see Table 1).

Dropout

1. Apply power to the CC-810X.
2. Connect DVM and manual positioner (TOOL-202) to terminals IV1 and COM (or IV1 and COM; IV2 and COM if separate control signals are applied to each input).
3. Set input voltage with TOOL-202 to the required dropout voltage as measured between IV1 (IV2) and COM.
4. Insert thin blade screwdriver (TOOL-10) into the stage adjustment potentiometer and turn until the continuity measured between C and NO of the relay selected is just made.
5. Remove DVM and TOOL-202 and replace field wiring.

CHECKOUT

1. Check field wiring.
2. Measure with DVM and verify:
 - Vac between L₁ and L₂.
 - Power supply available 20 Vdc between +20 and COM.
 - Control signal input 2 to 15 Vdc between IV1, IV2 and COM.

MAINTENANCE

Regular maintenance of the total system is recommended to assure sustained optimum performance.

FIELD REPAIR

Do not field repair. Replace the unit with a functional device.