

TIME DELAY RELAYS				
Input Voltage	Time Range	Type of Adjustment	Wiring Dia.	CR Part Number
Recycle Models				
120VAC	0.1-10 S 0.3-30 S 0.6-60 S	Knob	1	CRB-48-70010** CRB-48-70030** CRB-48-70060**
24VDC	1.8-180 S	Knob	1	CRD-48-30180**

WIRING DIAGRAM (BOTTOM VIEW)
Pins numbered clockwise from keyway

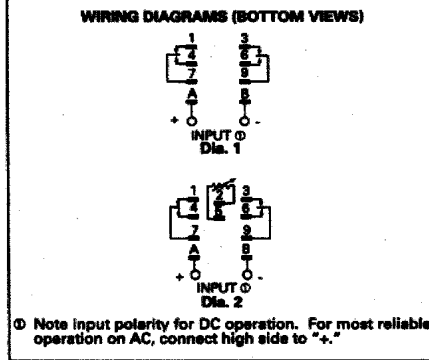
INPUT Ⓟ
Dia. 1

Ⓟ Note input polarity for DC operation. For most reliable operation on AC, connect high side to "+."

TIME DELAY RELAYS				
Input Voltage	Time Range	Type of Adjustment	Wiring Dia.	CL/CU Part Number
Delay On Operate Models				
Types With No Timing Cycle Interrupt Transfer				
24VAC	0.1-10 S	Knob	1	CLB-51-30010**
120VAC	0.1-10 S 0.3-30 S 1.2-120 S	Knob	1	CLB-51-70010** CLB-51-70030** CLB-51-70120**
120VAC	0.1-10 S 0.1-10 S	Resistor	2	CLF-41-70010** CLF-42-70010**
24VDC	0.1-10 S	Resistor	2	CLH-41-30010**
Types Which May Momentarily Transfer Contacts If Timing Cycle is Interrupted				
24VAC	10 S	Fixed	1	CUA-41-30010**
24VAC	1-10 S	Resistor	2	CUF-41-30010**
120VAC	1-10 S 1-30 S 1-60 S 1-120 S	Knob	1	CUB-51-70010** CUB-51-70030** CUB-51-70060** CUB-51-70120**
120VAC	1 S 3 S 5 S 10 S 10 S 120 S	Fixed	1	CUA-41-70001** CUA-41-70003** CUA-41-70005** CUA-41-70010** CUA-42-70010** CUA-41-70120**
120VAC	1-10 S 1-10 S 1-30 S 1-120 S 1-120 S	Resistor	2	CUF-41-70010** CUF-42-70010** CUF-41-70030** CUF-41-70120** CUF-42-70120**
24VDC	1-10 S 1-10 S 1-120 S	Resistor	2	CUH-41-30010** CUH-42-30010** CUH-41-30120**

CLF-42-70010 "42" denotes bracket mount case with two mounting slots on 2.5 (63.5) centers.
All Others All other models listed have a plain case for socket mounting.

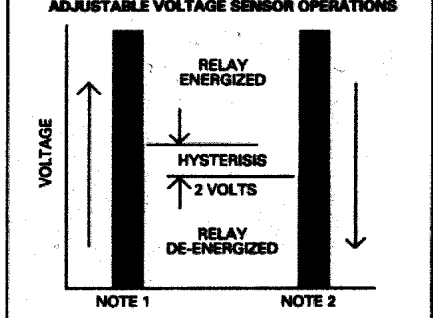
CLF/CLH/CUF/CUH EXTERNAL RESISTOR VALUES			
Time Delay	CL	AC Input	DC Input
1 S	0.1 S	Short	Short
10 S	10 S	200K Ohm	160K Ohm
1 S	0.3 S	Short	Short
30 S	30 S	600K Ohm	500K Ohm
1 S	1.2 S	Short	Short
120 S	120 S	2.4 Megohm	2.0 Megohm



* Denotes UL
* Denotes CSA

ADJUSTABLE VOLTAGE SENSORS				
Voltage Type	Pick-Up Voltage	Drop-Out Voltage†	Max. Voltage	Part Number
Adjustable Pick-Up and Drop-Out Models				
AC (50/60 Hz.)	92-140	90-138	150	CSJ-38-70010**
DC	20-30 40-58 92-140	18-28 38-56 90-138	40 60 150	CSL-38-30010** CSL-38-40010** CSL-38-60010**
Fixed Pick-Up and Adjustable Drop-Out Models				
AC (50/60 Hz.)	105	90-103	140	CSJ-38-71010**
DC	22	18-21	40	CSL-38-31010**

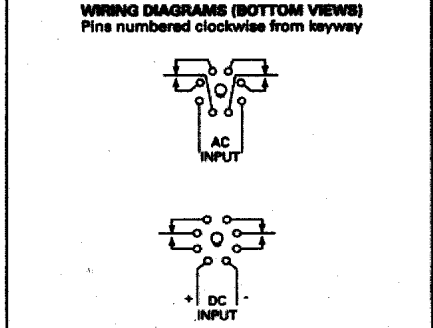
† Actual max. drop-out voltage is the selected pick-up voltage less hysteresis voltage.



Note 1: As voltage increases, the relay will pick up at its selected point and remain energized while voltage is maintained at that level or higher.

Note 2: As voltage decreases, after pick up, the relay will drop out at its selected point.

Note 3: Minimum hysteresis, the voltage differential between pick-up and drop-out, is typically 2% of pick-up.



OVERCURRENT SENSORS		
Part Number	Control Voltage (50/60 Hz. or DC ±10%)	Power Requirement
Overcurrent Sensor (1.5-15A AC Sense Range)		
SDAS-018Y2S1024	24V	1.7VA or 1W
Undercurrent Sensor (1.5-15A AC Sense Range)		
SDAS-017Y2S1024	24V	1.7VA or W

ADJUSTABLE CURRENT SENSOR OPERATIONS

Overcurrent Sensor: Internal relay energizes when sense current exceeds the user-set level for longer than the built-in time delay allows (200ms min.). Actual delay is dependent upon the potentiometer setting and the magnitude of the overcurrent (see curves). The relay remains energized until sensor control voltage is removed, even if the overcurrent ceases to exist.

Undercurrent Sensor: Internal relay energizes when sense current drops below the user-set level for at least 360ms. The relay remains energized until sense current exceeds the potentiometer setting or sensor control voltage is removed. A 360ms delay after control voltage is applied allows line components to turn on.

