ALTERNATING RELAYS

- For duplex loads
- Control voltages of 12, 24, 120 & 240V AC
- Compact plug-in design utilizing industry-standard 8 or 11 pin octal socket
- Three 10A output contact configurations: SPDT, DPDT, or DPDT Cross-Wired
- Optional low profile selector switch to lock in one sequence
- 2 LED's indicate relay status

Alternating Relays are used in special applications where the optimization of load usage is required by equalizing the run time of two loads. They are also used where additional capacity is required in case of excess load requirements. This alternating action is initiated by a control switch, such as a float switch, manual switch, timing relay, pressure switch, or other isolated contact. Each time the initiating switch is opened, the output relay contacts will change state, thus alternating the two loads. Two LED indicators show the status of the output relay.

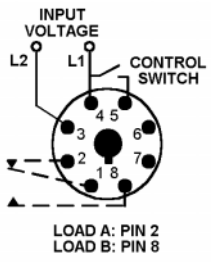
Alternating Relays are available in three output configurations: SPDT, DPDT and DPDT cross-wired. See "Typical Installations" on Page 15 for more information.

Each version is available with an optional three position selector switch. This allows the unit to alternate the two loads as normal, or lock the relay to one load or the other. By locking the Alternating Relay to one load, the other load can be removed for service without rewiring the first load for continuous operation. The selector switch has a low profile to prevent any accidental changes in status.

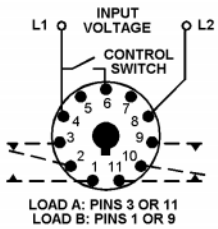
OUTPUT CONTACTS	CONTROL VOLTAGE	w/o SELECTOR SWITCH PRODUCT NUMBER	w/ SELECTOR SWITCH PRODUCT NUMBER	WIRING/ SOCKET■
SPDT	12V AC	ARP012A6	ARP012A6R	**DIAGRAM 17**
	24V AC	ARP024A6	ARP024A6R	8 Pin Octal
	120V AC	ARP120A6	ARP120A6R	**70169-D**
	240V AC	ARP240A6	ARP240A6R	
DPDT	12V AC	ARP012A2	ARP012A2R	**DIAGRAM 18**
	24V AC	ARP024A2	ARP024A2R	11 Pin Octal
	120V AC	ARP120A2	ARP120A2R	**70170-D**
	240V AC	ARP240A2	ARP240A2R	
DPDT CROSS-WIRED	12V AC	ARP012A3	ARP012A3R	**DIAGRAM 19**
	24V AC	ARP024A3	ARP024A3R	8 Pin Octal
	120V AC	ARP120A3	ARP120A3R	**70169-D**
	240V AC	ARP240A3	ARP240A3R	

■ See Page 19 for **Sockets & Accessories.**

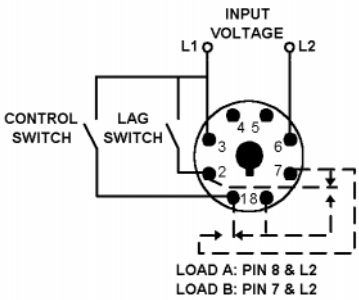
Wiring Diagrams



SPDT
DIAGRAM 17



DPDT
DIAGRAM 18



DPDT CROSS-WIRED
DIAGRAM 19

MACROMATIC

800-238-7474

Application Data

Voltage Tolerances: +10%/-15% of control voltage at 50/60Hz.

Load (Burden): 3VA

Output Contacts:
10A Resistive @240VAC/30VDC, 1/2HP @240VAC

Life:
Mechanical: 10,000,000 operations
Full Load: 150,000 operations

Temperature: -28° to 65°C (-20° to 150°F)

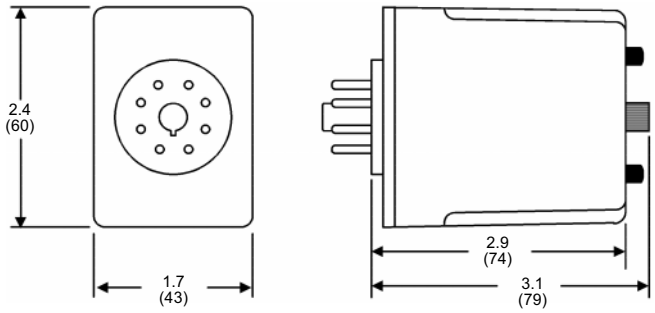
Transient Protection: 10,000 volts for 20 microseconds

Indicator LED's: 2 LED's marked LOAD A and LOAD B

Optional Selector Switch Settings:
ALTERNATE
LOCK LOAD A
LOCK LOAD B

Approvals: File #E109466 File #LR45565

Dimensions



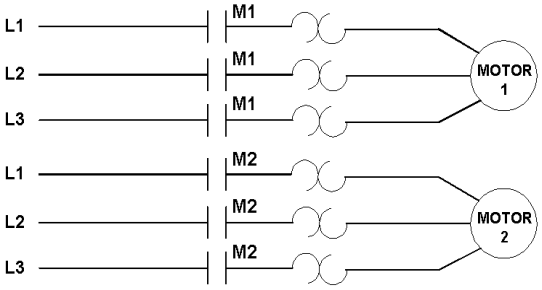
All dimensions are inches
(millimeters)

Typical Installations

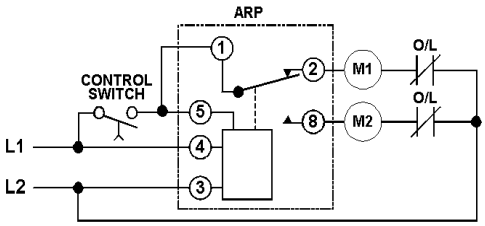
The loads in the following examples could be pumps, compressors, or air conditioning/refrigeration units:

SPDT & DPDT
In the off state, the Control Switch is open, the Alternating Relay is in the LOAD A position, and both loads (M1 & M2) are off. When the Control Switch closes, it energizes the first load (M1). The red LED marked "LOAD A" glows. As long as the Control Switch remains closed, M1 remains energized. When the Control Switch opens, the first load (M1) is turned off and the Alternating Relay toggles to the LOAD B position. When the Control Switch closes again, it energizes the second load (M2). The red LED marked "LOAD B" glows. When the Control Switch opens, the second load (M2) is turned off, the Alternating Relay toggles back to the LOAD A position, and the process can be repeated again. On relays with DPDT contacts, two pilot lights can be used for remote indication of LOAD A or LOAD B status.

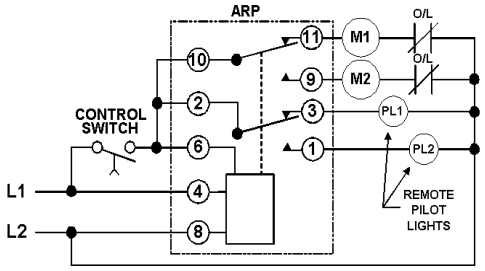
DPDT Cross-Wired
In the off state, both the Lead Control Switch and the Lag Control Switch are open, the Alternating Relay is in the LOAD A position, and both loads are off. When the Lead Control Switch closes, it energizes the first load (M1). The red LED marked "LOAD A" glows. As long as the Lead Control Switch remains closed, M1 remains energized. If the Lag Control Switch closes, it energizes the second load (M2). When the Lag Control Switch opens, the second load (M2) is turned off. When the Lead Control Switch opens, the first load (M1) is turned off and the Alternating Relay toggles to the LOAD B position. When the Lead Control Switch closes, it turns on the second load (M2). The red LED marked "LOAD B" glows. If the Lag Control Switch closes, it will energize the first load (M1). When the Lag Control Switch opens, the first load (M1) is turned off. When the Lead Control Switch opens, the second load (M2) is turned off, the Alternating Relay toggles back to the LOAD A position, and the process can be repeated again. NOTE: if the Lag Control Switch does not close while the Lead Control Switch is closed, the Alternating Relay will act as a normal unit.



SPDT



DPDT



DPDT Cross-Wired