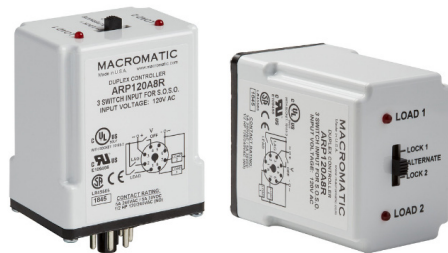


# DUPLEX CONTROLLERS

## 3 FLOAT SWITCH INPUTS FOR S.O.S.O. | ARP SERIES



- ◆ Combines functions of alternating relay, control relay & auxiliary contacts in one unit--saves money
- ◆ Offers Sequence On - Simultaneous OFF (S.O.S.O.) Operation with three float switch inputs
- ◆ Protects against failures of both OFF & LEAD switches
- ◆ Compact plug-in design utilizing industry-standard 8 pin octal socket saves space over separate components
- ◆ Low profile selector switch for normal alternation or to lock either load to be ON first
- ◆ 2 LEDs indicate load to energize first



with appropriate socket



Better. By Design.

800.238.7474

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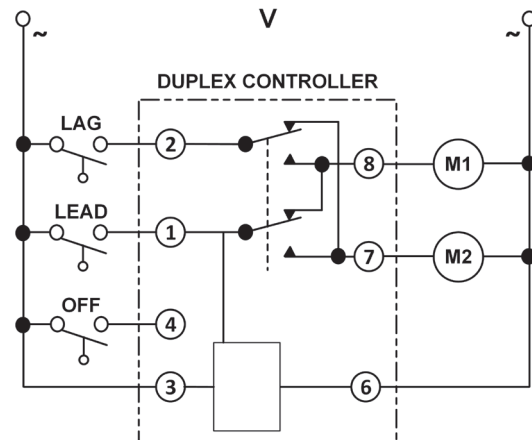
Many duplex pump applications require Sequence On – Simultaneous OFF operation with three float switch inputs and alternation of which pump is turned on first. The two loads are energized sequentially when the LEAD & LAG switches close, but remain on together until the OFF switch is opened.

Normally, this is all done with a separate alternating relay, a control relay and two auxiliary contacts. Macromatic Duplex Controllers combine the function of these individual components in one plug-in product utilizing an 8-pin socket. This reduces the cost of the control panel by saving space, reducing the number of components and minimizing assembly labor.

A low profile, three-position switch is provided to alternate the two loads as normal or lock the relay to always operate the same load first each time.

### Operation

In the initial OFF state, all three switches are open, the Duplex Pump Controller is in the LOAD 1 position, and both loads are off (see Diagram right). No action happens when the OFF switch closes. When the LEAD Switch closes, LOAD 1 turns on. When the LAG Switch closes, LOAD 2 turns on. Both loads remain on as long as all three switches are closed. When the LAG Switch opens, LOAD 2 remains on because the Duplex Controller simulates the function of an auxiliary contact. When the LEAD Switch opens, LOAD 1 remains on for the same reason. When the OFF Switch opens, both LOAD 1 and LOAD 2 are turned off simultaneously because all voltage is removed to both loads. The Duplex Controller toggles to the LOAD 2 position. The entire cycle is then repeated, but with LOAD 2 energized first followed by LOAD 1.



These products protect against failure of the OFF or LEAD Switches—if one or both of these switches fail to close in sequence, the two LOADS will be energized when the LAG switch closes. In addition, both LOADS are turned off simultaneously when the LAG switch opens.

CONTROL VOLTAGE	CATALOG NUMBER	WIRING/SOCKET
24V AC/DC 120V AC	ARP024A8R ARP120A8R	8 Pin Octal <b>70169-D</b>  <b>DIAGRAM 58</b>

Sockets & Accessories available

# DUPLEX CONTROLLERS

## 3 FLOAT SWITCH INPUTS FOR S.O.S.O. | ARP SERIES

### APPLICATION DATA

**Voltage Tolerances:**

AC Operation: +10/-15% of nominal at 50/60 Hz.

DC Operation: +10/-15% of nominal.

**Load (Burden):** Less than 3VA

**Output Contacts:** 5A@120V AC/24V DC, B300

**Life:**

Mechanical: 10,000,000 operations

Full Load: 100,000 operations

**Temperature:** Operating: -28° to 65°C (-18° to 149°F)  
Storage: -40° to 85°C (-40° to 185°F)

**Indicator LEDs:** 2 LEDs marked LOAD 1 and LOAD 2

**Selector Switch Settings:**

LOAD 1 (always energizes first)

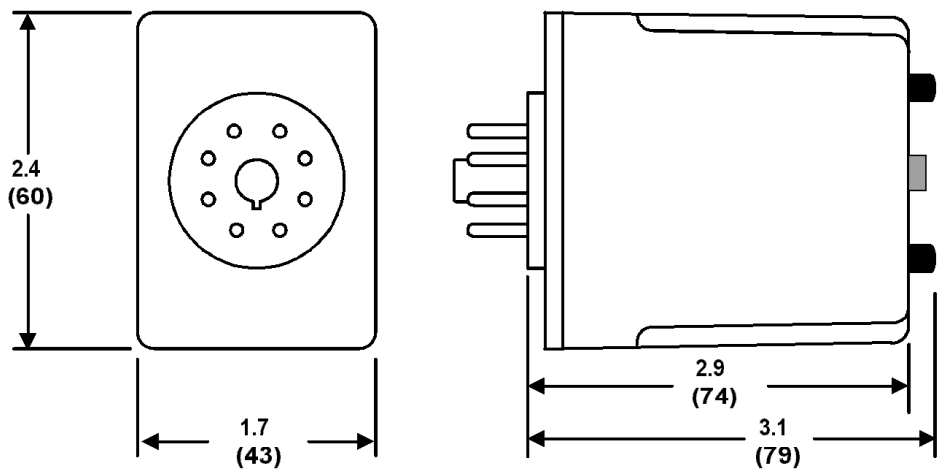
ALTERNATE

LOAD 2 (always energizes first)

**Approvals:**



### DIMENSIONS



All Dimensions in Inches (Millimeters)