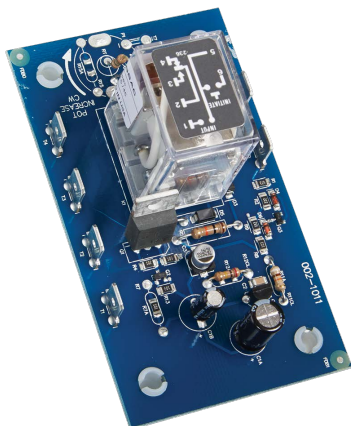
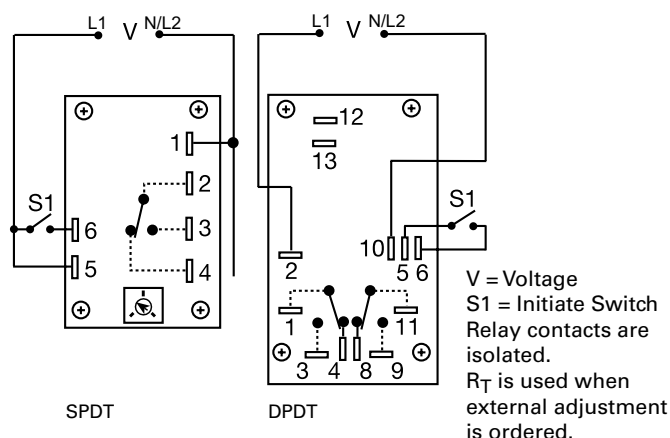


## ORB SERIES



### Wiring Diagram



### Ordering Information

| MODEL      | INPUT VOLTAGE | ADJUSTMENT | TIME DELAY | OUTPUT FORM |
|------------|---------------|------------|------------|-------------|
| ORB120A160 | 120VAC        | Fixed      | 60s        | SPDT        |
| ORB120A25  | 120VAC        | Onboard    | 3 - 300s   | SPDT        |
| ORB24A11D  | 24VAC         | Fixed      | 1s         | DPDT        |
| ORB24A21D  | 24VAC         | Onboard    | 0.05 - 3s  | DPDT        |
| ORB24A25   | 24VAC         | Onboard    | 3 - 300s   | SPDT        |

If you don't find the part you need, call us for a custom product 800-843-8848

### Description

The ORB Series' open PCB construction offers the user good economy without sacrificing performance and reliability. The output relay is available in isolated, 10A, DPDT or SPDT forms. The time delay may be ordered as factory fixed, onboard knob, or external adjustment. All connections are 0.25 in. (6.35 mm) male quick connect terminals.

#### Operation (Delay-on-Break)

Input voltage must be applied before and during timing. Upon closure of the initiate switch, the output relay energizes. The time delay begins when the initiate switch is opened (trailing edge triggered). The output remains energized during timing. At the end of the time delay, the output de-energizes. The output will energize if the initiate switch is closed when input voltage is applied.

**Reset:** Reclosing the initiate switch during timing resets the time delay. Loss of input voltage resets the time delay and output.

### Features & Benefits

| FEATURES                                           | BENEFITS                                                   |
|----------------------------------------------------|------------------------------------------------------------|
| <b>Open PCB construction</b>                       | Reduces cost for OEM applications                          |
| <b>Analog circuitry</b>                            | Repeat accuracy + / - 2%,<br>Factory calibration + / - 10% |
| <b>Isolated, 10A, SPDT or DPDT output contacts</b> | Allows control of loads for AC or DC voltages              |
| <b>Line voltage initiation</b>                     | Separate control voltage is not required for operation     |

### Accessories



#### P1004-12, P1004-12-X Versa-Pot

Panel mountable, industrial potentiometer recommended for remote time delay adjustment.



#### P0700-7 Versa-Knob

Designed for 0.25 in (6.35 mm) shaft of Versa-Pot. Semi-gloss industrial black finish.



#### P1015-64 (AWG 14/16)

##### Female Quick Connect

These 0.25 in. (6.35 mm) female terminals are constructed with an insulator barrel to provide strain relief.



#### P1015-18 Quick Connect to Screw Adapter

Screw adapter terminal designed for use with all modules with 0.25 in. (6.35 mm) male quick connect terminals.

## ORB SERIES

### Specifications

#### Time Delay

**Type** Analog circuitry  
**Range** 0.05 - 300s in 5 adjustable ranges or fixed  
**Repeat Accuracy** ±2% or 20ms, whichever is greater

**Tolerance**  
**(Factory Calibration)** Adjustable: guaranteed range  
Fixed: ±10%

**Reset Time** ≤ 50ms

**Initiate Time** ≤ 70ms

**Time Delay vs Temp. & Voltage** ≤ ±10%

#### Input

**Voltage** 24, 120, or 230VAC

**Tolerance**

**24VAC** -15% - 20%

**120 & 230VAC** -20% - 10%

**AC Line Frequency** 50/60 Hz

**Power Consumption** 2.25W

#### Output

**Type** Electromechanical relay

**Form** Isolated, SPDT or DPDT

**Rating** 10A resistive @ 120/240VAC & 28VDC;

1/3 hp @ 120/240VAC

**Life** Mechanical - 1x10<sup>7</sup>; Electrical - 1x10<sup>6</sup>

#### Protection

**Isolation Voltage** ≥1500V RMS input to output

#### Mechanical

##### Mounting

**Dimensions** Surface mount with four #6 (M3.5 x 0.6) screws

**H** 53.8 mm (2.12"); **W** 93.7 mm (3.69");

**D** 47.8 mm (1.88")

**Termination** 0.25 in. (6.35 mm) male quick connect terminals

#### Environmental

##### Operating/Storage

**Temperature** -20° to 65°C / -30° to 85°C

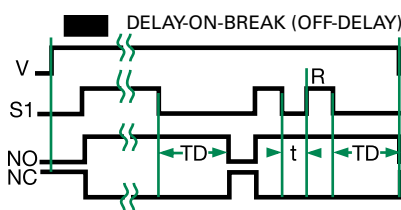
**Weight** ≈ 2.7 oz (77 g)

### Selection Guides

| R <sub>T</sub> Selection Chart |     |     |     |     |                           |
|--------------------------------|-----|-----|-----|-----|---------------------------|
| Desired Time Delay*            |     |     |     |     | R <sub>T</sub><br>Megohms |
| Seconds                        |     |     |     |     |                           |
| 1                              | 2   | 3   | 4   | 5   |                           |
| 0.05                           | 0.5 | 0.6 | 1.2 | 3.0 | 0.0                       |
| 0.5                            | 5.0 | 10  | 20  | 50  | 0.5                       |
| 1.0                            | 10  | 20  | 40  | 100 | 1.0                       |
| 1.5                            | 15  | 30  | 60  | 150 | 1.5                       |
| 2.0                            | 20  | 40  | 80  | 200 | 2.0                       |
| 2.5                            | 25  | 50  | 100 | 250 | 2.5                       |
| 3.0                            | 30  | 60  | 120 | 300 | 3.0                       |

\* When selecting an external R<sub>T</sub> add at least 20% for tolerance of unit and the R<sub>T</sub>.

### Function Diagram



V = Voltage  
S1 = Initiate Switch  
NO = Normally Open Contact  
NC = Normally Closed Contact  
TD = Time Delay  
t = Incomplete Time Delay  
R = Reset  
— = Undefined Time