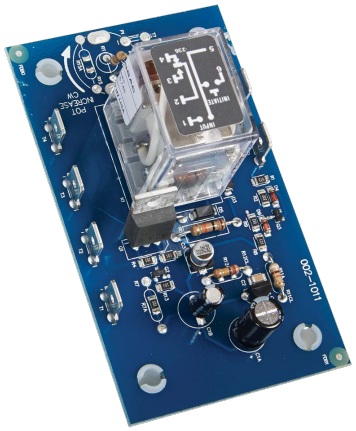
ORB SERIES



Description

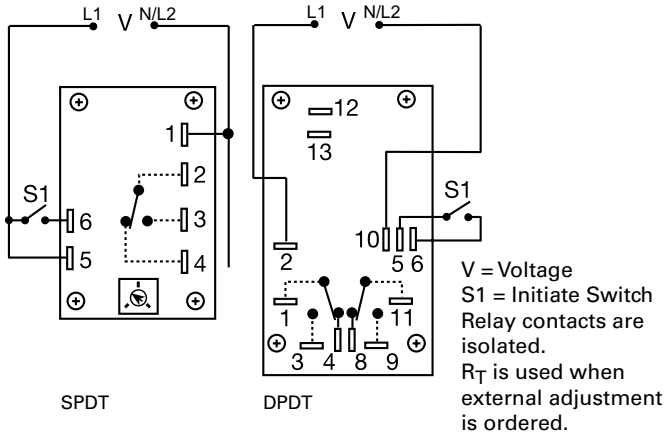
The ORB Series' open PCB construction offers the user good economy without sacrificing performance and reliability. The output relay is available in isolated, 10A, DPDT or SPDT forms. The time delay may be ordered as factory fixed, onboard knob, or external adjustment. All connections are 0.25 in. (6.35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

Wiring Diagram



V = Voltage
S1 = Initiate Switch
Relay contacts are isolated.
R_T is used when external adjustment is ordered.

Features & Benefits

FEATURES	BENEFITS
Open PCB construction	Reduces cost for OEM applications
Analog circuitry	Repeat accuracy + / - 2%, Factory calibration + / - 10%
Isolated, 10A, SPDT or DPDT output contacts	Allows control of loads for AC or DC voltages
Line voltage initiation	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.

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

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ORB SERIES

Specifications

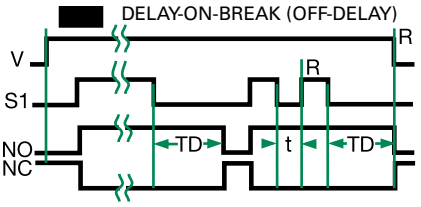
Time Delay	
Type	Analog circuitry
Range	0.05 - 300s in 5 adjustable ranges or fixed
Repeat Accuracy	±2% or 20ms, whichever is greater
Tolerance (Factory Calibration)	Adjustable: guaranteed range Fixed: ±10%
Reset Time	≤ 50ms
Initiate Time	≤ 70ms
Time Delay vs Temp. & Voltage	≤ ±10%
Input	
Voltage	24, 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 - $1x10^7$; Electrical - $1x10^6$
Protection	
Isolation Voltage	≥1500V RMS input to output
Mechanical	
Mounting	Surface mount with four #6 (M3.5 x 0.6) screws
Dimensions	**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_T Selection Chart					
Desired Time Delay* Seconds					R_T
1	2	3	4	5	Megohm
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_T add at least 20% for tolerance of unit and the R_T.

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

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