

TIME-A-VALVE[®] SOLID STATE ELECTRONIC TIMERS

A high quality, Solid State Electronic Timer available integral with any Allenair Solenoid Valve. Eliminates the need for complicated wiring to a control panel. Air circuitry, maintenance and trouble shooting are simplified. Pre-assembled Time-A-Valves[®] are simpler to install than separate timing devices and they are less costly.

FEATURES:

- Sturdy housing and permanent connection make it immune to machine vibrations.
- Long life Light Emitting Diode (LED) gives visual indication of solenoid energization.
- Electrical Override is standard on all timers. Allows direct energization of solenoid coil, bypassing the timer.
- Only one electrical connection operates both timer and solenoid.
- Simple, screw-type time adjustments. Lock nut prevents time setting from changing.
- Time delay and speed control adjustments (on 4-Way Valves) made at the same time and place at the valve.
- Compact, space-saving assembly.
- Timer and solenoid replacements can be made without disturbing the valve body or piping.
- Auxiliary output is standard. This allows actuation of an external relay or control device and the Time-A-Valve[®], simultaneously. A load of no more than 1 AMP can be connected to the Auxiliary Output.

TIME-A-VALVE[®] SPECIFICATIONS

Time Ranges	Timer Voltages
(A) .2-2 seconds	(V) 12/60
(B) .5 - 5 seconds	(W) 12VDC
(C) 1 - 10 seconds	(X) 24/60
(D) 3 - 30 seconds	(Y) 24VDC
	(Z) 120/60

Models 1-7 "SINGLE TIMER"



Time-A-Valve[®] shown with an Allenair 3-Way Solenoid Valve. We will ship a Time-A-Valve with any Allenair Solenoid Valve, Cyl-Check[®], Index Table, Valve-in-Head Cylinder or other Allenair Solenoid Operated Fluid Power Products.

Models 8-10 "DUAL TIMER"



All 10 Time-A-Valve Models are designed only for Allenair Solenoid Operated Valves.

ENGINEERING DATA

1. Repeatability of Timing Period: $\pm 2\%$ @ nominal voltage & 72°F
2. Reset (Recycle) Time: 100 milliseconds (.1 second) minimum.
3. Operating Temperature Range: -20°F to +185°F
4. Operating Voltage Tolerance:

AC Models	+10%	-15%
DC Models	+10%	-20%
5. Timing Variation Over Temperature Range: $\pm 10\%$
6. Transient Protection: Will withstand up to 8 joules of transient energy.
7. Shock Protection: All timer electronic components are solid state and can withstand normal operating vibration and shock. The timers are encapsulated in epoxy to protect them against environmental liquids and gases.

OPTIONAL ACCESSORY

MODEL RP: REMOTE POTENTIOMETER TIME ADJUSTMENT
 Instead of mounting the time adjusting control (potentiometer) in the timer case, we will supply a separate potentiometer for remote mounting. Two color coded wires are used to connect the timer to the remote potentiometer. You can supply your own potentiometer for more precise time setting. Consult factory for advice.

Time-A-Valve[®] can be added to existing Allenair solenoid valves, consult factory.

ORDERING PROCEDURE

Model T Model No. Time Range Voltage Option

MODEL NO.

- (1) Interval
- (2) One Shot
- (3) Momentary Contact Interval or One Shot
- (4) Delay On Make
- (5) Delay On Break
- (6) On/Off Recycling - Equal Time
- (7) Off/On Recycling - Equal Time
- (8) On/Off Recycling - Un-equal Time
- (9) Off/On Recycling — Un-equal Time
- (10) Combination (Delay on Make + Interval)

TIME RANGES

- (A) .2-2 seconds
- (B) .5-5 seconds
- (C) 1-10 seconds
- (D) 3-30 seconds

VOLTAGES

- (V) 12/60
- (W) 12VDC
- (X) 24/60
- (Y) 24VDC
- (Z) 120/60

OPTION

- RP-
 Remote
 Potentiometer

The Time-A-Valve is an option. The Timer Part Number must be added to end of the Model Number of the Allenair product the Timer is to be assembled to. On Models 8, 9, 10 specify 2 time ranges, the first letter for the first part of the cycle and the second letter for the second part of the cycle.

EXAMPLE: 3 C B X 8 A T 1 C Z RP

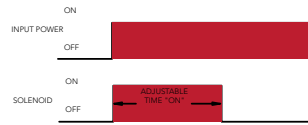
TIME-A-VALVE[®]

MODELS & APPLICATIONS

MODELS

Model 1 — Interval Timer.

Upon application of maintained input power, the solenoid energizes and time delay interval begins. At end of time delay, the solenoid de-energizes and remains off. To recycle, power is removed and re-applied.



Model 2 - One Shot Timer* (Same as interval but with factory pre-set time.)

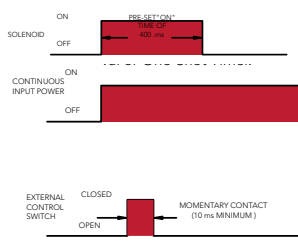
When input power is turned on, the solenoid energizes for 400 milliseconds (.4 sec.) and then shuts off. To reenergize, remove power and re-apply.

*A modern, solid state device similar in function to Palsa-Pak.**
**Reg. TM Schrader/Bellows Corp.



Model 3 — Momentary Contact Interval or One-Shot Timer.

Input power is on continuously. A 10 millisecond minimum closure of an external control switch (not supplied) energizes the solenoid and time delay interval begins. At the end of time delay, the solenoid de-energizes and remains off until the control switch is opened.



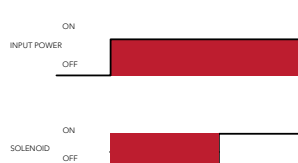
Model 4 — Delay On Make Timer.

The time delay period begins when the power is turned on. At end of the delay time period, the solenoid is energized and stays on as long as power is supplied. To reset, disconnect and then re-apply input power.



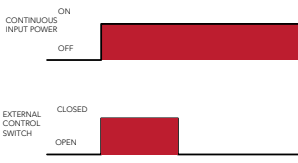
Model 5 — Delay On Break Timer.

Input power is on continuously. Closure of external control switch (not supplied) energizes solenoid. When the switch is opened, solenoid remains on and the time delay period begins. At the end of "on" time period, solenoid de-energizes.



Model 6 - On/Off Recycling (Equal On and Off Time). Model 7 - Off/On Recycling (Equal Off and On Time).

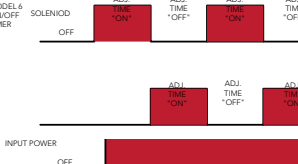
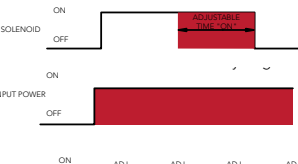
Depending on which model you choose — on/off or off/on — the solenoid is alternately energized and de-energized repeatedly with equal time on and off. This sequence is repeated until input power is removed. Single control adjusts both ON and OFF times.



Model 8 - On/Off Recycling (Un-equal On and Off Time).

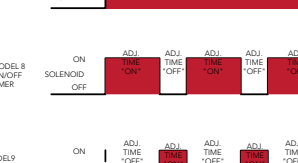
Model 9 — Off/On Recycling (Un-equal Off and On Time).

Depending on which model you choose — on/off or off/on — the solenoid is alternately energized and de-energized repeatedly with un-equal time on and off. This sequence is repeated until input power is removed. Two separate controls independently adjust ON and OFF times.



Model 10 — Combination Timer (Delay On Make & Interval).

When input power is turned on, delay (OFF) cycle begins. After delay time is completed, solenoid then energizes for "ON" time interval. When ON cycle is over, solenoid de-energizes until input power is removed and re-applied. Two separate controls independently adjust ON and OFF times.



APPLICATIONS

Use whenever you wish a device to stay on only for the adjustable time even though power is supplied continuously.

- Time-A-Valve will stroke a single solenoid Valve-in-Head Cylinder and hold it for the pre-set time before allowing it to return. This eliminates the need for momentary contact switches and other timing devices.
- Time-A-Valve replaces fixed or adjustable cam set-ups controlling cylinders and valves in parts feeding applications.
- Clamping operations: Energize Time-A-Valve to operate air clamps which will hold for pre-determined time and then release.

Use where you want a device to get a signal for 400 milliseconds and then turn off even though power is supplied continuously (a fixed interval timer).

- Use to operate index tables and automatic return cylinders. Eliminates the need for momentary contact switches.
 - Use with air cylinder to activate date coding equipment on conveyor lines.
 - Activate air blow-off valve on punch press to reduce compressed air consumption.
 - Greatly reduces power consumption on battery operated valves located in remote field positions
- Use whenever you want a device to stay on only for an adjustable time whether the external control switch is closed continuously or only for a moment. (10 milliseconds minimum).
- Use with 3-way solenoid valve for dispensing metered amounts of liquids, such as potting materials, glue, inks, dyes, etc.
 - Use for automatic operation of index table by actuating switch with V2 operating pin in drive cylinder.
 - Single solenoid valves and Valve-in-Head Cylinders - Momentary contact will stroke unit, hold in position and return unit to original position.
 - Use on automatic reciprocating (VCR) cylinder for pre-determined number of cycles. Mixing, pumping, shaking of dust collector bags.

Use whenever you want a device to go on after an adjustable time delay and then stay on as long as power is supplied.

- Two cylinders are to be fed forward, one before the other. Send the same signal to one cylinder directly, the other through a Delay-on-Make, Time-A-Valve. One cylinder advances immediately; the other a preset time later. Many cylinders can be sequenced in this fashion.
- You want a cylinder to go forward, dwell and return. Using double solenoid valve, have momentary switch contact energize one side of valve to feed cylinder forward. At end of stroke micro switch operates a delay-on-make timer on other side of valve. Cylinder will dwell for pre-set time period and then return

Use whenever you wish a device to stay on as long as external control switch is closed and to stay on for an adjustable time after control switch is open.

- Use with chemical processing equipment to operate purge valves when pumping stops.
- Use with three way valve operating liquid coolant flow on cutting tools. When control switch is turned off, coolant will continue to flow for a pre-determined time, washing away chips and cleaning fixture for insertion of next parts.
- Use to delay return stroke of a second cylinder after first unit has returned

Use when you want a device to turn on and off (adjustable equal intervals) as long as power is applied (a flasher).

- Use on double solenoid valve air return and double acting cylinder or 3-way valve on spring return single acting cylinder for automatic reciprocating of cylinder.
- Use on single solenoid valve applications for timed parts feeding — conveyor line feed for bulk packaging to control amount of product feed to each packing station

Use when you want a device to turn on and off (adjustable unequal intervals) as long as power is applied.

- Use to ratchet feed a rotating disc or a ratchet advanced conveyor continuously.
- On air-operated heat sealing equipment you can use a Time-A-Valve to control sealing time and "off" time independently.
- Use to control drill feeds for "pecking" operations.
- Alternate product flow between two conveyor lines. Independently adjustable delay times will help compensate for different size cartons and conveyor speeds.

Used for a device which when power is applied, device remains off for adjustable time, then on for a different adjustable time and then shuts off.

- Use on punch press blow-off operation to turn the part-eject air on and off at exactly the right points in the stamping cycle.
- Signal at start of stroke keeps air off until ram begins return stroke. Time-A-Valve then actuates solenoid valve to start blowing part clear of press and then shuts air off until next cycle begins. Saves valuable compressed air, reduces noise, allows for quicker and safer setups