



Solid State Timers and Controllers



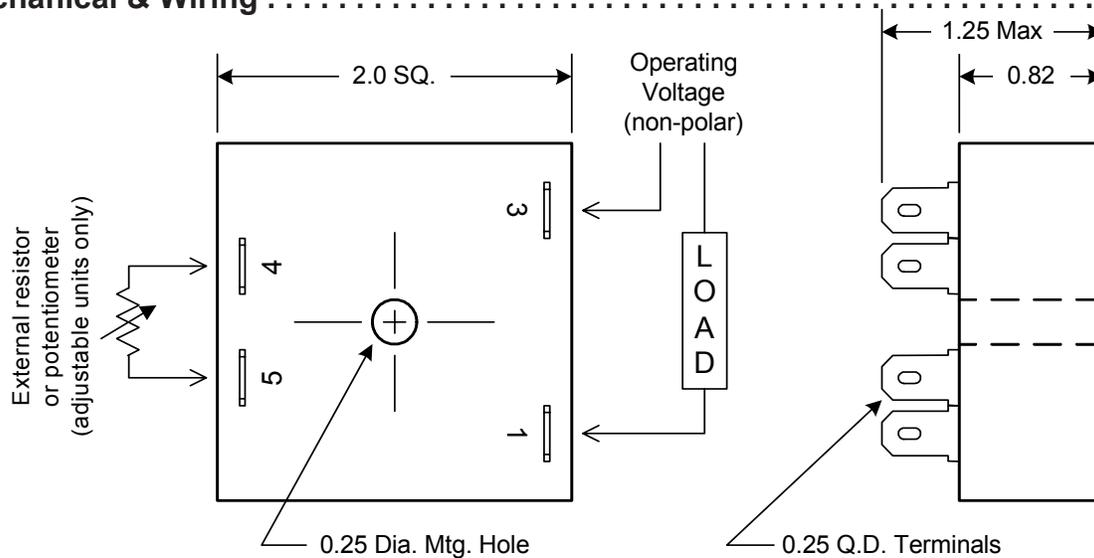
438FS / AS

Fixed or Adjustable Delay On Make Timer

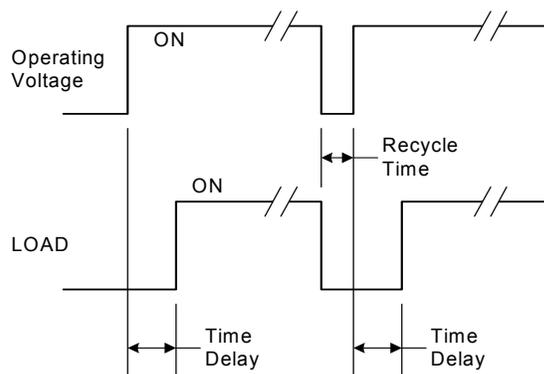


The Model 438FS & AS delay-on-make timers are members of the Artisan Controls Corporation family of Time Capsules®. Connect terminals 1 & 3 in series with any load circuit that draws between ten milliamperes and one ampere and then connect to the specified operating voltage between 12 and 240 volts either AC or DC. Connect the proper timing resistor across the center two terminals (adjustable models), and apply operating voltage. When the operating voltage is applied a small amount of current will flow through the load and the timer. At the end of the delay period, the timer turns ON and full load current is permitted to flow. To recycle, remove the operating voltage for at least 50 milliseconds.

Mechanical & Wiring



Timing Diagram



Load turns ON after time delay, remove power for Recycle Time to reset timer

External Resistance Timing Chart

External Resistor (Ohms)	Timing Range Dash Number				
	-1	-2	-3	-4	-5
0	0.1	1	2	10	30
1 Meg	4	30	100	500	900
3 Meg	12	90	300	1,500	2,700
5 Meg	20	150	500	2,500	4,500
10 Meg	30	300	1,000	4,500	8,000

How The Chart Works.

The -2 range indicates a timing range of 1 to 30 seconds when the external timing resistance varies from 1 to 30 meg ohm. The -2 extended range of 300 seconds can be achieved by using a 0 to 10 meg ohm external resistance.

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Specifications

Operating Voltage: 12V AC/DC, 24V AC/DC, 48V AC/DC, 115V AC/DC, 230V AC/DC.

Voltage Tolerance: ±20% at specified operating voltage.

Timing Mode: Delay-On-Make, external load energizes after preset timing period.

Fixed Timing: Factory fixed at any timing period from 0.1 to 10,000 seconds.

Tolerances On Fixed Timing: ±10%.

Adjustable Timing Ranges: Five (5) models of adjustable delay-on-make timing from 0.1 seconds to 8,000 seconds.

Adjustable Timing Setting Accuracy: Minimum time -15%, +0%. Maximum time -0%, +15%.

Timing Resistor Rating: Worst case power dissipation never exceeds 3 milliwatts.

Timing vs External Timing Resistor: See External Resistance Timing Chart.

Timing Variation: Less than 6% of set point over full temperature and voltage range.

Repeatability Of Timing Period: ±1% at stabilized operating voltage & temperature.

Recycle Time: Operating voltage must be removed for a minimum of 50mS after timing period, 200 milliseconds during timing period to assure new cycle repeats to full time delay period.

Output Rating: 10mA to 1A inductive with inrush current to 25A for 8 milliseconds.

Output Switch Characteristics: 4 volt drop across output switch when ON, 3mA leakage when OFF.

Transient Protection: Protected by silicon transient suppressors responding to transients within 1 x 10⁻¹² seconds to a peak pulse power dissipation of 1500 watts, with transient surge currents to 200 amperes for durations up to 1/120 second at 25° C. Maximum transient voltage protection is 6000 volts as delivered through a source resistance of 30 ohms with a maximum duration of 8.3ms.

Dielectric: 1500V rms all terminals to case.

Operating Temperature: -20°C to +85°C

Construction: Encapsulated module with .25 quick connect wiring terminals.

Agency Recognitions: UL File E47858, Appliance Controls - Component ATNZ2 (US) & ATNZ8 (Can), Auxiliary Devices - Component NKCR2 (US) & NKCR8 (Can).

Data Sheet Revision Date: June 3, 2004

Ordering Information

Part Number	Operating Voltage	Timing Information
438FS (FIXED TIMING)	-12	Specify the fixed timing period in seconds from 0.1 to 10,000
	-24	
	-48	
438AS (ADJUSTABLE TIMING)	-115	-1 (0.1 - 30)
	-230	-2 (1 - 300)
	AC or DC	-3 (2 - 1000)
		-4 (10 - 4,500)
		-5 (30 - 8,000)

Examples:

438FS-115-600 operates from 115V AC or DC with a fixed time delay of 600 seconds

438AS-24-3 operates from 24V AC or DC with an adjustable time delay period from 2 to 1000 seconds

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