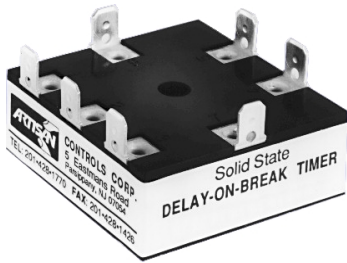




# Solid State Timers and Controllers

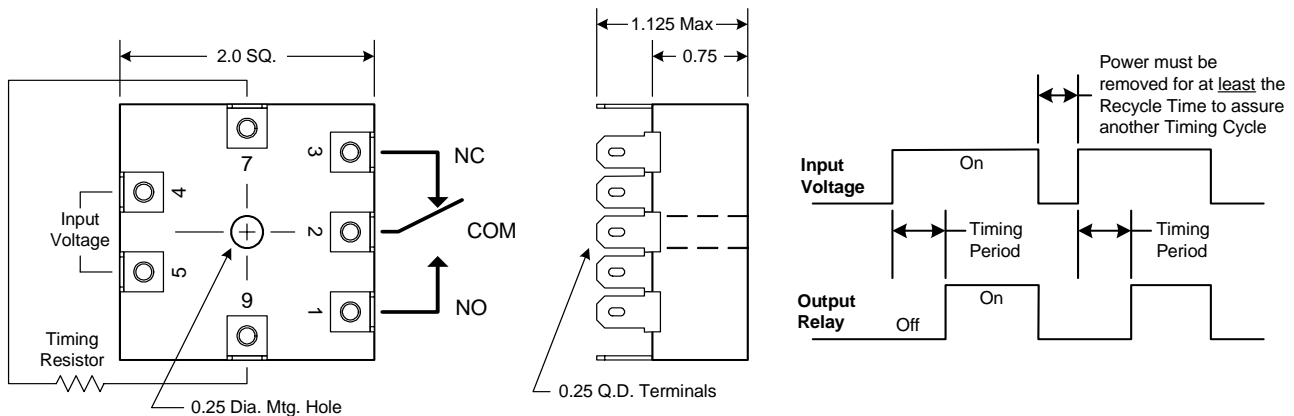
## 439

### Delay-On-Make Timing Module



The model 439 is an all solid state delay-on-make timing module operating a set of relay contacts as the output. When operating voltage is applied the timing period begins. At the end of the delay period, the output contacts transfer. Timing for the 439 is provided by an external resistor. The external resistor controls the timing period over the range of 15 to 300 or 30 to 600 seconds depending on model ordered. The timer is protected by transient absorption devices that provide for a highly reliable timing device when used in high electrical transient applications.

### Mechanical & Wiring ..... Timing Diagram .....



### Specifications .....

**Operating Voltage:** 12V DC, 28V DC, 48V DC, 24V AC, 115V AC, and 230V AC 50/60Hz.

**Voltage Tolerance:** ±10% AC models, ±15% DC models.

**Operating Current:** 50 milliamperes maximum.

**Timing Mode:** Delay-On-Make.

**Adjustable Timing Ranges:** 30 - 600 seconds standard, 15 - 300 seconds for the -A timing range.

**Tolerances On Timing Range:** -20%, +0% at low time (0 ohms) and -0%, +20%, at high time (1 Meg ohm).

**Timing Resistor Rating:** Worst case power dissipation never exceeds 15 milliwatts.

**Timing / Temperature Coefficient:** ±0.22%/°C.

**Repeatability Of Timing Period:** ±2% nominal.

**Recycle Time:** 100 milliseconds to assure all timing and output circuits are reset.

**Output:** SPDT relay contacts UL/CSA rated 5 amperes, 1/6HP 125V-250V AC.

**Transient Protection:** Protected by silicon transient suppressors responding to transients within 1 x 10<sup>-12</sup> 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.

**Data Sheet Revision Date:** October 20, 2004

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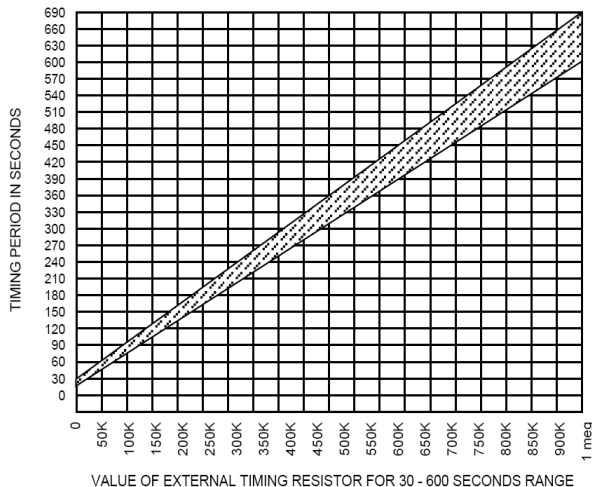
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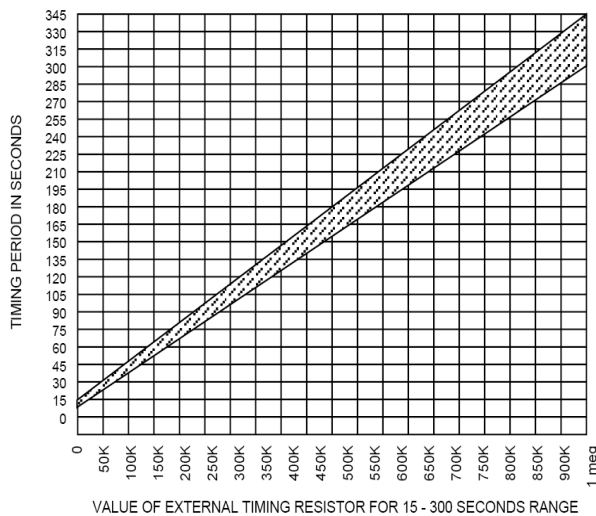


# Solid State Timers and Controllers

## External Resistance vs. Timing Chart.....



A 0 to 1 meg ohm potentiometer will adjust the model 439A - X over its useful timing range of 30 - 600 seconds .  
Timing resistance can be extended to as high as 2 meg ohms to yield a longer delay period if required.  
Timing curve is not linear beyond 1 Meg.



A 0 to 1 meg ohm potentiometer will adjust the model 439A - X - A over its useful timing range of 15 - 300 seconds .  
Timing resistance can be extended to as high as 2 meg ohms to yield a longer delay period if required.  
Timing curve is not linear beyond 1 Meg.

## Ordering Information For Adjustable Units.....

Part Number	Operating Voltage	Timing Range
439A - 1	24V AC	No Dash = 30 - 600 Seconds -A = 15-300 Seconds
439A - 2	115V AC	
439A - 3	230V AC	Both Models Utilize A 0 - 1 Meg Ohm External Timing Resistance
439A - 4	12V DC	
439A - 5	28V DC	
439A - 6	48V DC	

**EX: 439A - 1 - A**  
Is the 439A operating from 24V AC with an external timing range of 15 - 300 seconds.

## Ordering Information For Fixed Time Units.....

Part Number	Operating Voltage	Timing Period
439F - 1	24V AC	Specify Desired Timing Period As a Dash Number To The Basic Part Number Time Delay Can Be Specified From 1 To 10,000 Seconds
439F - 2	115V AC	
439F - 3	230V AC	
439F - 4	12V DC	
439F - 5	28V DC	
439F - 6	48V DC	

**EX: 439F - 4 - 150**  
Is the 439F operating from 12V DC at a fixed delay-on-make of 150 seconds

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