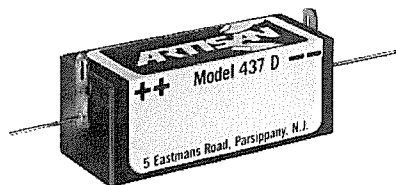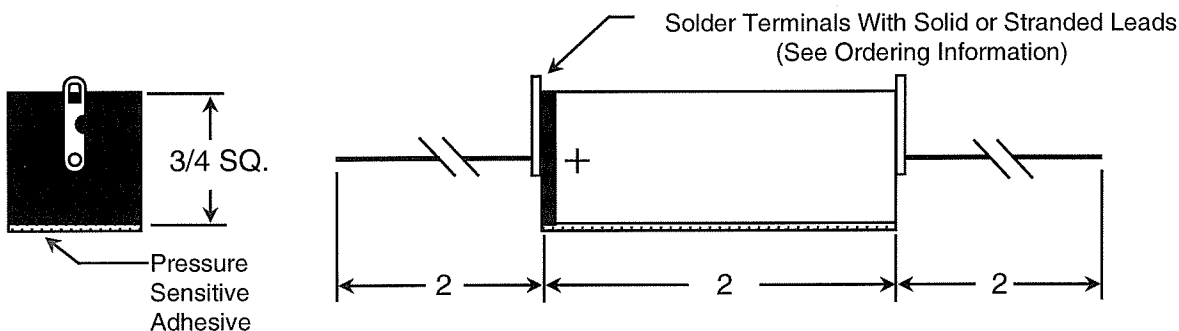# 437D

Interval Timing Module

The Model 437D interval timing module is an in-line timing device that energizes a load circuit for a preset timing period each time that operating voltage is applied. Ease of installation permits the model 437D to be connected in either leg of the relay or load circuit. When a DC operating voltage is applied the 437D turn ON and the load current is permitted to flow. At the end of the delay period, the model 437D turns OFF and only leakage current is permitted to flow. To recycle, remove the operating voltage for at least 50 mil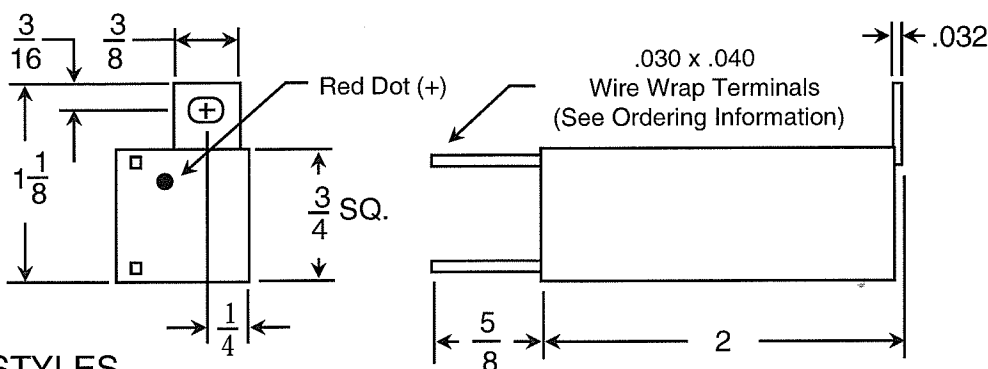liseconds then re-apply. The model 437D can handle 1/2 ampere continuously at 48 volts DC. When connecting the model 437D in the circuit, always make certain to observe polarity. The plus end of the timer always connects to the positive side of the DC voltage

Mechanical . . . .

Solder Terminals With Solid or Stranded Leads
(See Ordering Information)

3/4 SQ.

Pressure Sensitive Adhesive

CASE STYLES C & D

C - #20 Ga. Solid Wire & Solder Terminals (Shown)
D - #20 Ga. (6") Stranded Wire Without Solder Terminals

$\frac{3}{16}$ $\frac{3}{8}$

Red Dot (+)

$1\frac{1}{8}$

$\frac{3}{4}$ SQ.

$\frac{1}{4}$

.030 x .040 Wire Wrap Terminals (See Ordering Information)

→|←.032

$\frac{5}{8}$ 2

CASE STYLES E & F

E - #20 Ga. Solid Wire (Shown)   **F** - #20 Ga. (6") Stranded Wire

The Model 437D interval timing module was developed primarily for use in 48V DC systems in conjunction with relays that were able to energize with operating voltages as low as 32V DC. When these relays were wired in series with the model 437D, the 9 volt drop across the timer when it was ON provided 39 volts for the relay to energize, more than enough. When using the 437D in an application circuit make certain that the load circuit that is to be energized can be energized when the operating voltage has been reduced by the 9 volt drop across the model 437D when it is turned on. In addition make certain that the load circuit will not remain energized (on) after the model 437D turns off and leakage current is permitted to flow through the load. When using relays as the load circuit, you may want to consider a relay coil with a lower voltage pickup specification to avoid any problems.

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Specifications . . . .
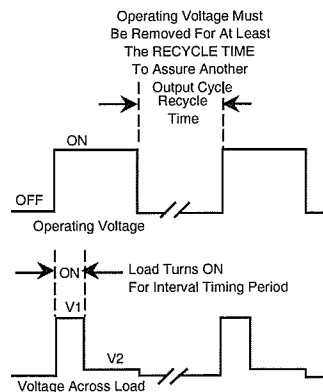
Operating Voltage:	48V DC.
Voltage Tolerance:	30V to 60V DC.
Timing Mode:	Interval - load energizes for preset timing period.
Fixed Timing:	Factory fixed at any timing period from 50 milliseconds to 600 seconds.
Tolerances On Fixed Timing:	10%.
Timing Variation:	< 15% of set point over specified temperature and voltage range.
Repeatability Of Timing Period:	±5% nominal.
Recycle Time:	50 milliseconds after the timing period with the output ON, 2 seconds during a timing cycle while output is OFF.
Output Rating:	20 milliamperes to 0.5 amperes resistive or inductive with inrush currents to 2 amperes for 1 second.
Output Switch Characteristics:	9V DC voltage drop when ON, and 2mA leakage when OFF.
Transient Protection:	1000V transients for durations up to 10 milliseconds will not destroy the timer. Severe transients may cause the timer to turn on prior to the end of the fixed delay period.
Inductive Load Warning:	Inductive loads must have a snubber device wired across the load circuit as shown below in the *Wiring Diagram.*
Operating Temperature:	-20°C to +85°C.
Construction:	Four (4) case styles available.
Data Sheet Revision Date:	October 19, 2000

Wiring Diagram . . . . Timing Diagram . . . .
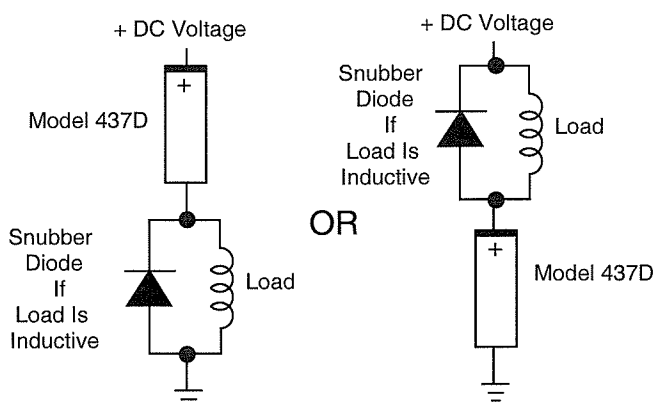
As a minimum protection against damage to the model 437D due to excessive transients generated by the inductive load circuit, always connect a snubber diode, or transient protector, across the load.

Operating Voltage Must Be Removed For At Least The RECYCLE TIME To Assure Another Output Cycle

V1 = Operating Voltage - 9 Volts
V2 = 2 Ma x Load Resistance
Ex: Assuming load resistance = 1K ohms at 48V operating voltage the ON voltage would = 48 - 9 = 36V min., and the OFF voltage would = 2 x 1K = 2 volts max.

Ordering Information . . . .

Part Number	▬	Fixed Timing In Seconds	▬	Case Style
437D -		Specify The Nominal Timing Period From 50 mS To 600 seconds		-C -D -E -F

Example:
437D - .05 - D Is a model 437D with a 50 millisecond timing period in an D style housing.

437D - 100 - A Is a model 437D with a 100 second timing period in an A style housing.

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