



**HORSE POWER RATED**

# HIGH CURRENT TIMING MODULE

**COOL DOWN TIMER**

**ENCAPSULATED**

**RATED TO 15 AMPERE / 1HP**

## Series 642 - OFF DELAY

**FULLY SOLID STATE**

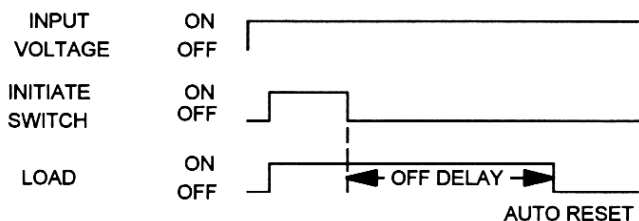
**CMOS DIGITAL CIRCUITRY**



- Life Expectancy –unlimited
- Environment Protected
- Tamper Proof
- No False Operate
- Switches 1800W @120V, 3600W @ 240V
- Small Size – 2" x 2" x 15/16"
- Lightweight – approximately 2.5 oz.
- Rugged
- Transient Protected to 6000V
- Choice of 5, 10, 15 Amp. Load Rating

To operate power is applied continuously. A normally open isolated initiate switch closure causes the solid state load switch to turn ON, energizing the load. This condition is maintained for as long as the initiate switch remains closed. Opening the initiate switch starts the preset delay period. At the end of the preset delay period the solid state switch turns OFF, de-energizing the load. A new cycle can be started via the isolated initiate switch. Should the initiate switch be re-closed during the preset delay period, timing will stop but the load will remain energized. Re-opening the initiate switch re-triggers the OFF delay. When completed the load is de-energized and the timer reset. This timer is commonly referred to as the "COOL DOWN TIMER". Control the timing of high power electric heaters, motors, lamps, transformers and other high current loads rated less than 15 amps (150 amps inrush). CMOS digital circuitry is combined with a high current solid state switch. P/C board and internal components are encapsulated in a flame retardant molded housing, fitted with quick connect wiring terminals. Available in all standard voltages and frequencies. Fixed or adjustable timing from .1 seconds to 24 hours.

### TIMING DIAGRAM



### HOW TO ORDER 642(I) – (T) (V) (P)

### SPECIFICATIONS

1. Repeat Accuracy:  $\pm 0.25\%$
2. Combined Effect of Temperature and Voltage upon Repeat Accuracy:  $\pm 2\%$
3. Reset Time: 150 ms.
4. Operating Voltage Tolerance:  $\pm 20\%$
5. Load Current: Steady State – 80 ma. Min., 5 Amps, 10 Amps, or 15 Amps Max.
6. Voltage Drop: 2.5V Typical at 15 Ampere
7. Leakage Current: 7 ma. max.
8. Dielectric Strength: 1500 VRMS
9. Insulation Resistance: 100 Megohms Min.
10. Input Transient Protection: 3000V 120V UNITS, 6000V 240V units
11. Temperature Ambients: Operating -40°C to +70°C Storage -55°C to +70°C
12. Humidity-Operating: 95% Relative
13. Linearity (Option A or D):  $\pm 5\%$  Minimum from 10% to 90% of range
14. Timing Tolerance:  $\pm 9\%$  + Tolerance of Rt Std.,  $\pm 5\%$  Special (Fixed)
15. Maximum Allowable Bracket Temperature: 80°C
16. Isolation Output Switch to Bracket: 2500 VRMS
17. Maximum Inrush: 10 Times Rated Load Current

SERIES	(I) = CURRENT	(T) = TIME RANGE	(V)=VOLTAGE	(P) = OPTIONS
<b>642</b>	A = 5 AMP	P = 0.1 - 5 SEC.	4 = 24VAC	O - CUSTOMER SUPPLIES OWN POTENTIOMETER OR RESISTOR A - POTENTIOMETER SUPPLIED AS LOOSE PART *B - EXTERNALLY INSTALLED RESISTOR *C - FACTORY FIXED INTERNAL D - TRIMMER POTENTIOMETER INSTALLED ON TERMINALS R - INTERNAL POTENTIOMETER WITH THRU SHAFT S - INTERNAL POTENTIOMETER WITH SCREWDRIVER SLOT  <div style="border: 1px solid black; padding: 5px; text-align: center;"> <i>* For Fixed Time Specify The Value In Seconds, Minutes, Or Hours</i> </div>
	B = 10 AMP	1 = 0.1 - 10 SEC.	5 = 120VAC	
	C = 15 AMP	L = 0.2 - 20 SEC.	6 = 240VAC	
		J = 0.3 - 30 SEC.		
		M = 0.6 - 60 SEC.		
		2 = 1 - 100 SEC.		
		K = 1.2 - 120 SEC.		
		F = 2 - 180 SEC.		
		E = 3 - 300 SEC.		
		3 = 10 - 1000 SEC.		
		4 = 0.1 - 10 MIN.		
		G = 0.3 - 30 MIN.		
		H = 0.6 - 60 MIN.		
	5 = 1 - 100 MIN.			
	V = 3 - 300 MIN.			
	6 = 10 - 1000 MIN.			
	D = 1 - 24 HRS.			

**MADE IN USA**

**EXAMPLE P/N: 642B-460** This is an OFF DELAY 10A Rated Solid State Timer with an adjustable .1 – 10 minute DELAY and an INPUT VOLTAGE of 230 VAC. The customer will supply the time adjust potentiometer or resistor.

### AMERICAN CONTROL PRODUCTS

A DIV. OF PRECISION TIMER CO., INC.  
47 WESTBROOK INDUSTRIAL PARK ROAD  
WESTBROOK, CT. 06498

PHONE: (860)399-6253  
EMAIL: info@precisiontimer.com

FAX: (860)399-5619  
Web Site: precisiontimer.com

### TECHNICAL BULLETIN

### SOLID STATE TIMING MODULE

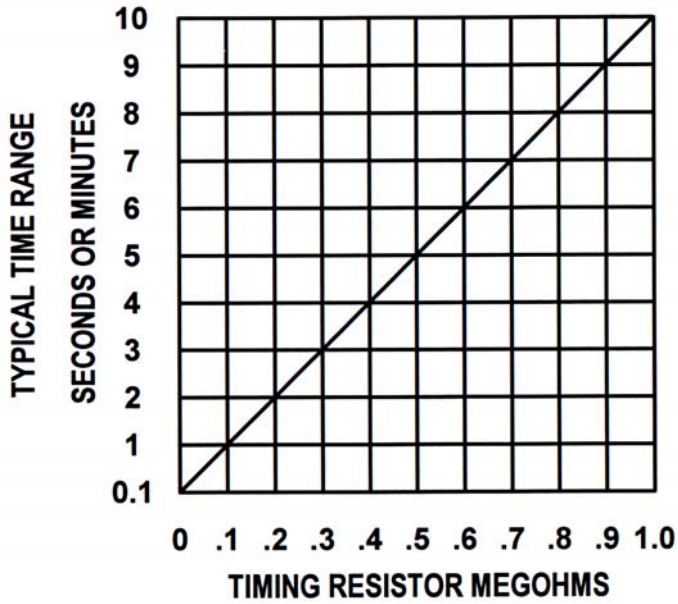
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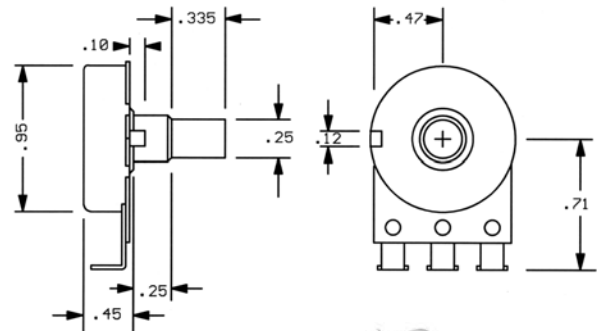
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## CALIBRATION RESISTANCE VS TIME

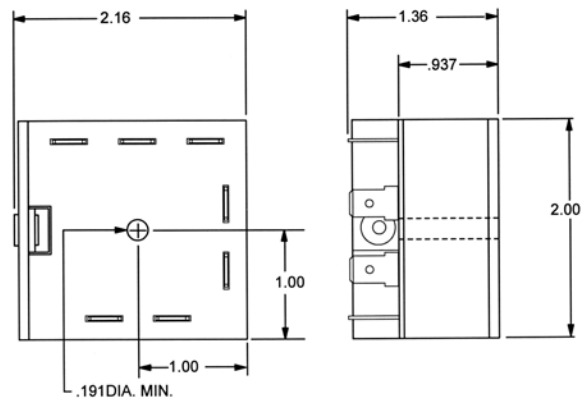


## ACCESSORIES – AVAILABLE FROM STOCK

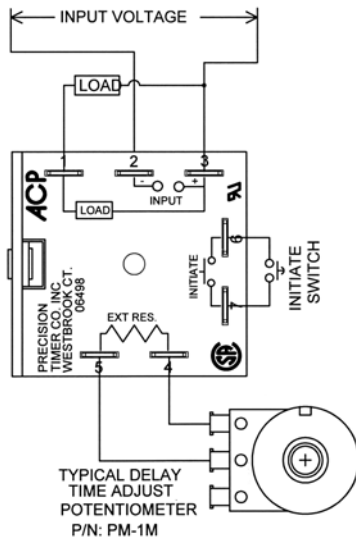
ORDER P/N: **PM – 1M 1 MEGOHM ± 20%**  
**PM – 100K 100 KOHM ± 20%**



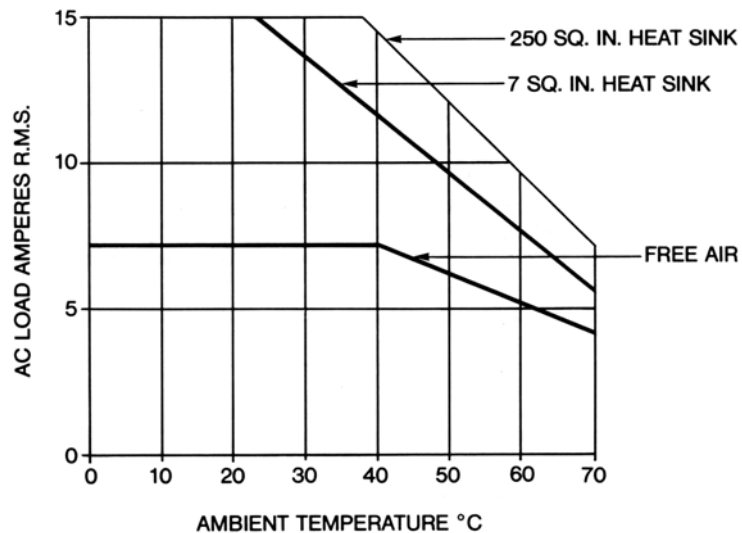
## OUTLINE DRAWING



## TYPICAL WIRING



## TYPICAL DERATING



Current Designation	HORSEPOWER	
	120 V	240V
A	1/8	1/6
B	1/4	1/2
C	1/3	1

**NOTE:** Thermal joint compound is necessary to insure proper heat transfer from the Timing Module mounting surface to the heat sink.

AMBIENT TEMPERATURE °C

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