



HORSE POWER RATED

# HIGH CURRENT TIMING MODULE

FULLY SOLID STATE ENCAPSULATED  
RATED TO 15 AMPERE / 1HP



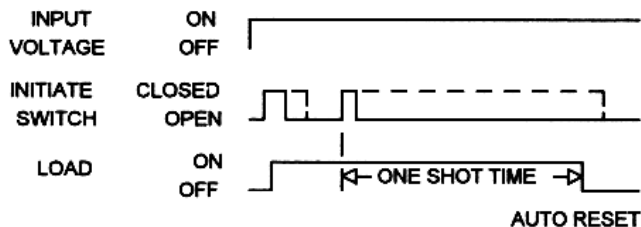
## Series 648 – RETRIGGERABLE ONE SHOT CMOS DIGITAL CIRCUITRY

- 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

Input power is applied continuously. The first closure, momentary or sustained, of a normally open isolated initiate switch closure will simultaneously start the time delay turn the load ON. When the initiate switch is re-closed during timing, a new delay is started without affecting the load. Upon completion of the preset delay the load turns OFF and the delay time is reset to T = 0.

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



### 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

### HOW TO ORDER 648(I) – (T) (V) (P)

SERIE	(I) = CURRENT	(T) = TIME RANGE	(V)=VOLTAGE	(P) = OPTIONS
648	A = 5 AMP B = 10 AMP C = 15 AMP	P = 0.1 - 5 SEC. 1 = 0.1 - 10 SEC. L = 0.2 - 20 SEC. 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.	4 = 24VAC 5 = 120VAC 6 = 240VAC	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  * For Fixed Time Specify The Value In Seconds, Minutes, Or Hours

MADE IN USA

EXAMPLE P/N: 648A-D4C/6M This is a RETRIGGERABLE ONE SHOT 5 AMP Rated Solid State Timer with an fixed 6 minute DELAY and an INPUT VOLTAGE of 24 VAC. The delay time is factory fixed internal.

### 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

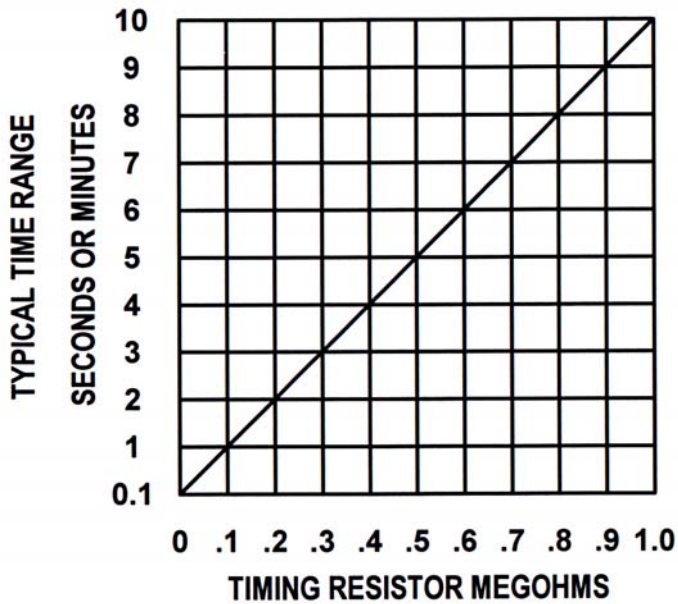
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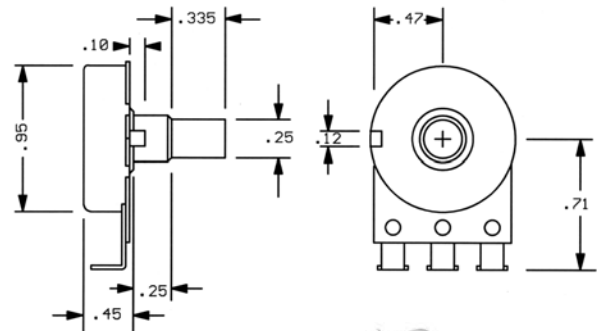
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## CALIBRATION RESISTANCE VS TIME

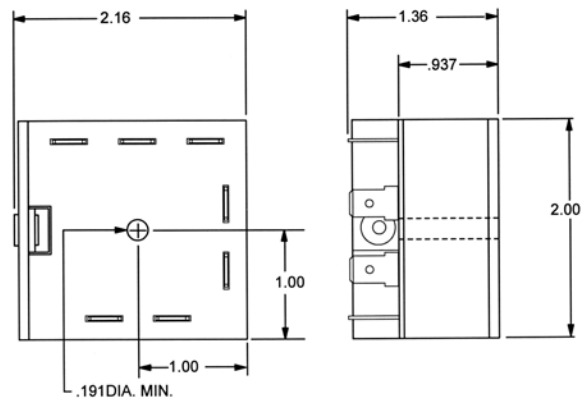


## ACCESSORIES – AVAILABLE FROM STOCK

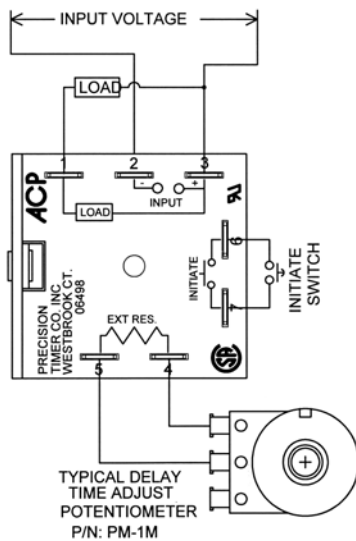
ORDER P/N: **PM – 1M 1 MEGOHM ± 20%**  
**PM – 100K 100 KOHM ± 20%**



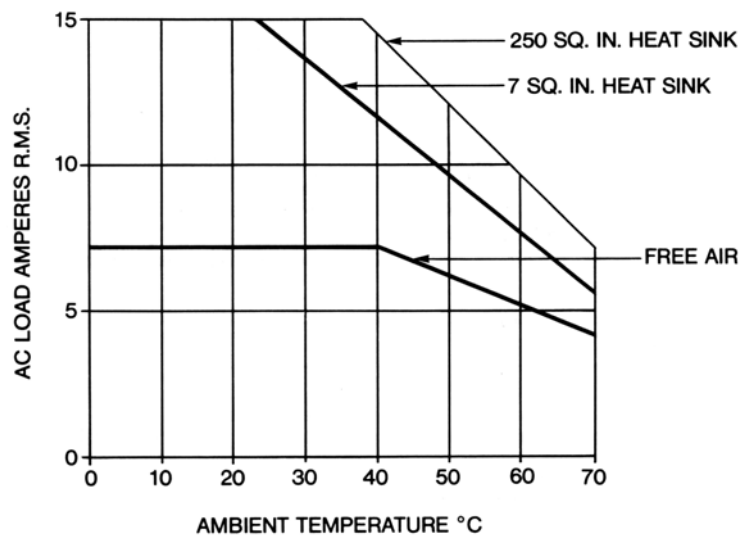
## OUTLINE DRAWING



## 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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