

HORSE POWER RATED

HIGH CURRENT TIMING MODULE

FULLY SOLID STATE ENCAPSULATED
RATED TO 15 AMPERE / 1HP



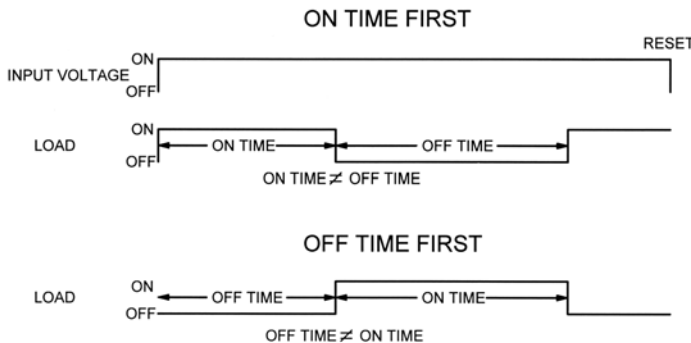
Series 646 - PROGRAMMABLE RECYCLE CMOS DIGITAL CIRCUITRY

- 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

Application of power simultaneously initiates timing and turns ON the load. The load will remain ON for the preset ON time period after which it turns OFF for the preset OFF time period. The ON/OFF cycling of the load will continue until power is removed. Removal of power at any point in the cycle causes the timer to reset. ON time and OFF time are independently adjustable or fixed. OFF time can be first, see the table below.

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 **646(I) - (T1) (T2) (V) (P1) (P2)**
646(I) R (T1) (T2) (V) (P1) (P2)

SERIES	(I) = CURRENT	(T1) = ON TIME	(T2) = OFF TIME	(V)=VOLTAGE	(P1) = ON OPTION (P2) = OFF OPTION
646 ON FIRST	A = 5 AMP	P = 0.1 - 5 SEC.	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 *FOR FIXED TIME SPECIFY THE VALUE IN SECONDS, MINUTES, OR HOURS
	B = 10 AMP	1 = 0.1 - 10 SEC.	1 = 0.1 - 10 SEC.	5 = 120VAC	
646(I)R OFF FIRST	C = 15 AMP	L = 0.2 - 20 SEC.	L = 0.2 - 20 SEC.	6 = 240VAC	
	J = 0.3 - 30 SEC.	J = 0.3 - 30 SEC.			
	M = 0.6 - 60 SEC.	M = 0.6 - 60 SEC.			
	2 = 1 - 100 SEC.	2 = 1 - 100 SEC.			
	K = 1.2 - 120 SEC.	K = 1.2 - 120 SEC.			
	F = 2 - 180 SEC.	F = 2 - 180 SEC.			
	E = 3 - 300 SEC.	E = 3 - 300 SEC.			
	3 = 10 - 1000 SEC.	3 = 10 - 1000 SEC.			
4 = 0.1 - 10 MIN.	4 = 0.1 - 10 MIN.				
G = 0.3 - 30 MIN.	G = 0.3 - 30 MIN.				
H = 0.6 - 60 MIN.	H = 0.6 - 60 MIN.				
5 = 1 - 100 MIN.	5 = 1 - 100 MIN.				
V = 3 - 300 MIN.	V = 3 - 300 MIN.				
6 = 10 - 1000 MIN.	6 = 10 - 1000 MIN.				
D = 1 - 24 HRS.	D = 1 - 24 HRS.				

MADE IN USA

EXAMPLE P/N: 646C-135CO/1S This is a PROGRAMMABLE RECYCLE 15A Rated Solid State Timer with a fixed 1 second ON Time and an adjustable 10 – 1000 second OFF time and an INPUT VOLTAGE of 120 VAC. The customer will supply the OFF time adjustment potentiometer. The ON 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

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Web Site: precisiontimer.com

TECHNICAL BULLETIN

SOLID STATE TIMING MODULE

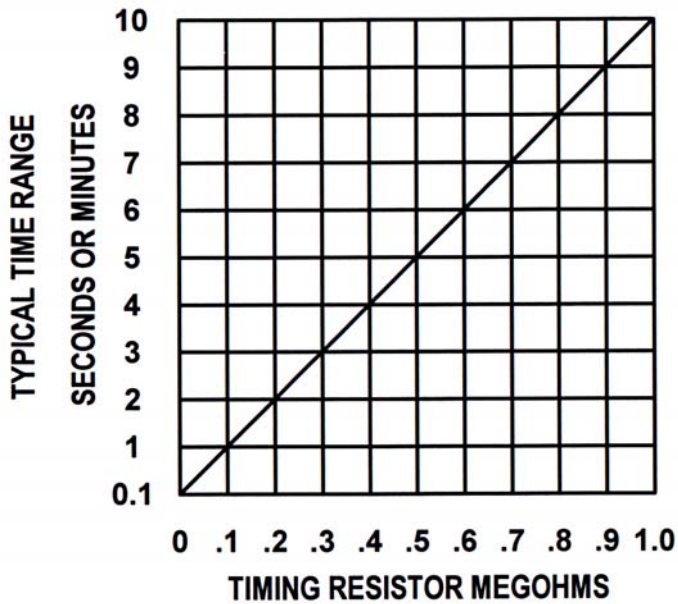
PAGE 1
OF 2

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6-4-01

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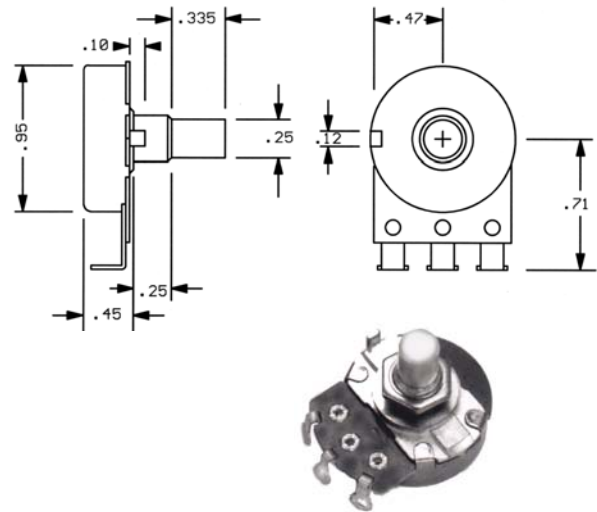
REV
B

CALIBRATION RESISTANCE VS TIME

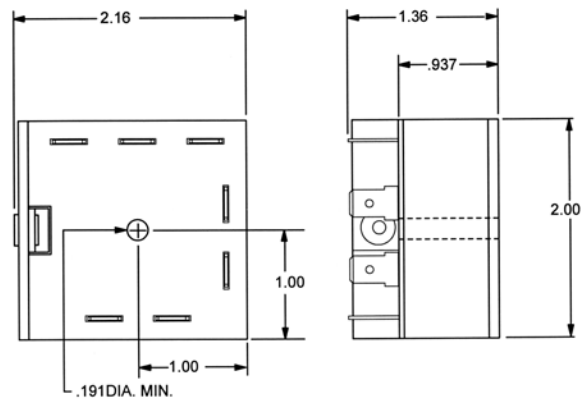


ACCESSORIES – AVAILABLE FROM STOCK

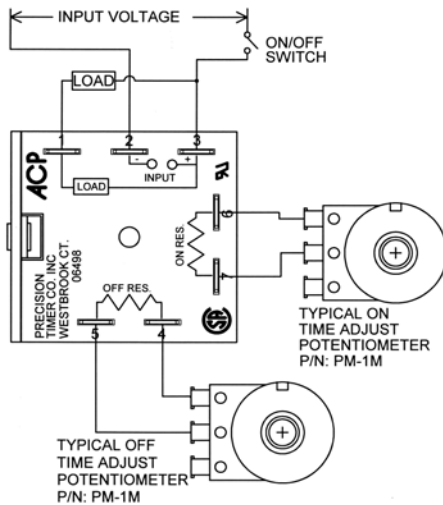
ORDER P/N: **PM – 1M 1 MEGOHM ± 20%**
PM – 100K 100 KOHM ± 20%



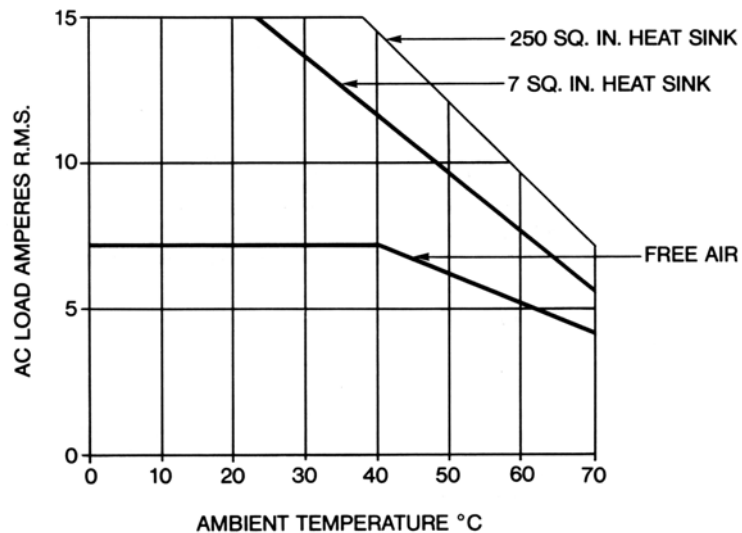
OUTLINE DRAWING



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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PAGE 2
 OF 2

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 6-4-01

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REV
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