## Features

- Crystal Controlled to .005\% Accuracy
- Programmable Resolution - 1/10ths,1/100ths, 1/1000ths, 1/10,000ths
- 8 Digits .375 " High, 6 Digits .430 High or 4 Digits 600" High
- Built-in Battery
- Display Hold Memory Feature
- 110/220-50 to 400 Hz Power Supply
- 5 and 12 Volts Available for Peripherals


## Application:

This crystal controlled electronic timer is ideal for monitoring tests or elapsed time of events where accuracy and durability are required.

## Description:

The new 8200-8400 electronic timers feature crystal controlled accuracy together with built-in DIP switches for convenient field programming. Tenths, hundredths, thousandths, and ten thousandths of either minutes or seconds can be switch selected with quality assured accuracy to $\pm .005 \%$. In addition, the 8200-8400 features a built-in 110/220-50 to 400 Hz power supply, brilliant red orange LED digits and a built-in battery to protect the data from power failure.

Memory: When enabled, the memory function "freezes" the display while the timer continues accumulating time. When unlatched, the display instantly advances to the actual total. +5 VDC will enable. Not available on wire lead versions.

## Specifications

Timing Ranges: Programmable seconds and $1 / 10$ ths, $1 / 100$ ths, $1 / 1000$ ths, $1 / 10,000$ ths or minutes and $1 / 100$ ths also available. Other resolutions available-optional.
Operating Voltages: 5, 12, 24 VDC. Built-in 110/220 Volts AC $50 / 400 \mathrm{~Hz}$. AC supplies generate an additional 80 milliamps of 5 or 12 volts VDC for powering peripherals.

Elapsed Timer with LED Display


Power Consumption: All 8 digits lit to number 8, 200 milliamps.
Battery Standby: Built-in. During power failure, display blanks to conserve energy. Time is stored by built-in battery for up to 1 week. Timer may be stored for 6 months before 24 hours operation is needed for recharge.
Initiation Circuitry: Two modes may be "DIP SWITCH" field selected. Mode "C" causes the timer to start and stop by simply closing and opening a relatively bounce free switch. The "JK" pulse on, pulse off mode causes the timer to start and stop with the leading edges of 3-30 VDC signals. All inputs are adaptable to open collector devices. Impedance is 10 K .
Reset: 3-30 VDC positive going pulses, open collectors or simple mechanical switches to reset. Impedance is 10 K . Reset triggers on leading edge, and overrides timing.
Temperature: $+32^{\circ} \mathrm{F}\left(0^{\circ} \mathrm{C}\right)$ to $+130^{\circ} \mathrm{F}\left(54^{\circ} \mathrm{C}\right)$.
Mounting: Rugged metal bracket for panel mounting.
Termination: Printed circuit board edge connector supplied (standard).
8 " wire leads or terminal block optional.
Memory: When enabled, the memory function "freezes" the display, while the counter continues accepting pulses. When unlatched, the display instantly advances to the actual total. +5 VDC will enable. Not available on wire lead versions.

## Terminal Designations:

DC PULSES/AC POWER DC PULSES/DC POWER


Mounting:


How To Order


| EXAMPLE: 8 | $\mathbf{2}$ | $\mathbf{5}$ | $\mathbf{0}$ | JK(5) | P | E | $\mathbf{2}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Digits <br> 2, 4, 6, 8 |  |  |  |  |  |  |  |  |
| Operation |  |  |  |  |  |  |  |  |

2 = Programmable (specify) - sec. \& 1/10ths, 1/100ths,
$1 / 1000$ ths, $1 / 10,000$ ths or minutes and $1 / 100$ ths.
3 = Hours, minutes, seconds - 9999, 59, 59
4 = Minutes, seconds 1/100ths - 59, 59, 99 (six .375" digits)
Operating Voltage $-1 \quad \mid$
$7=5$ VDC (must be regulated $\pm 5 \%$ )
$1=12 \mathrm{VDC}$
$2=24 \mathrm{VDC}$
$5=110$ VAC -50 to 400 Hz
$6=220$ VAC -50 to 400 Hz
Slze of Digits
$0=.375$ " (eight max.)
1 = .430" (six max.)
$2=.600$ (four max.)
Initiate Timing


C ( ) = Switch closure or 3-30 VDC levels (specify voltage)
JK()$=$ Pulse on, pulse off (specify voltage - i.e. $\mathrm{JK}(5)=5 \mathrm{~V}$ )
Mounting $\qquad$
P = Panel
Termination
E = Edge connector (supplied) standard
T = Terminal block (not on BCD)
Reset
2 = Remote
3 = Panel and remote

