

# APPLICATION SOLUTION **CUB5T #01**

## **10,000 HOURS OF OPERATION ALARM APPLICATION**

A manufacturer wants a timer that will give an indication of every 10,000 hours of operation of his machine. A large red light will give a visual indication that preventive maintenance is needed. Only the service person will have the ability to turn off the light with a key switch. The signal and power to the timer will be 115 VAC.

### **PRODUCTS USED: CUB5TB00, CUB5RLY0, MLPS1000, VCM20000, PKS10000**

The CUB5TB00 Miniature Preset Timer with the CUB5RLY0 Relay Output Card is perfect for this application. The MLPS1000 Power Supply will handle the DC power for the CUB5T. The 115 VAC signal will be converted by the VCM20000 (Voltage Converter Module). The PKS10000 is the key switch for reset.

### **HOW IT WORKS**

The CUB5T is programmed for Level Input Operation. This means that when a signal is sent from the machine to timer through the VCM, time will accumulate. When there is no signal, the timer will stop and hold. When the machine is turned on again, then the timer continues from where it left off. Because the display range is in hours, the value of the timer will not update until after each hour of operation. Internal memory will accumulate running times less than an hour. An annunciator will flash in the top left to indicate that the timer is running.

When the 10,000-hour setpoint value is reached, the optional relay will close, turning on the light. The display will also change from green to red color and the time will stop. Because the setpoint is programmed as latch, it can only be turned off by a reset. An external key switch is wired into User Input to provide this reset. Entering in a Pro Code will lock the program mode from the operators.

### **DESIGN ADVANTAGES**

With the CUB5T timer installed, the machines were no longer missing their preventative maintenance. This latched alarm indication greatly improved the quality and productivity due to less machine down time.

### **ADDITIONAL CAPABILITIES**

A communication card could be added to the CUB5T. This will enable the running time to be monitored by serial communications.

## DIP SWITCH OR JUMPER SETTINGS

All are at factory settings.

## PROGRAMMING (Only non-factory settings shown)

### 1-INPUt

RANGE : HHHHHHHH

INPUt OP : LEVEL (Times while signal is present.)

RSt P-UP : NO

USEr INP : rESEt (reset by key switch)

### 3-dSPLAY

SEL EnB : NO

RSt Enb : NO (disable front button reset)

d-COLOr : Gm

Pro CodE : xxx (user's choice)

### 4-SEtPt

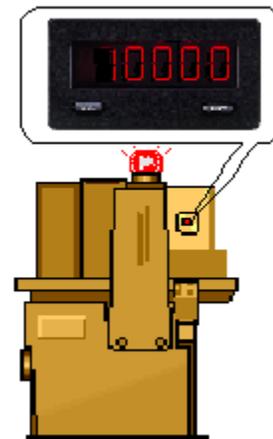
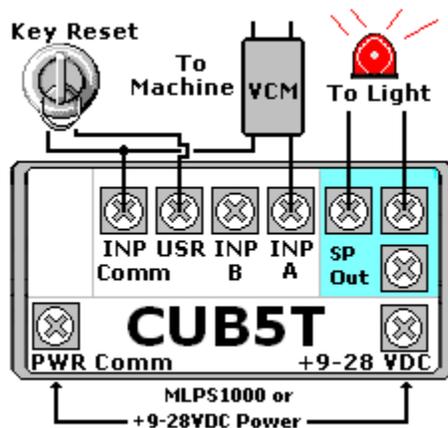
SPt VAL : 10000

Ch-COLOr : YES (change display color to red at 10000)

SPt P-UP : SAVE

## WIRING DIAGRAM

All wiring must be according to the installation guidelines listed in the product's specifications. For the setpoint outputs to function an external isolated voltage source (not shown below) must be connected in series.



This application note is intended to be an example. Your specific application may require changes in products, programming and/or wiring. For specific assistance, you may contact your local Red Lion products supplier or Red Lion Controls Technical Support at 717-767-6511.