

APPLICATION SOLUTION **PAXTM #02**

REPEAT CYCLE BATCH TIMER APPLICATION

A manufacturer of electronic devices wants to setup a power cycle test for his products. When the test starts, he wants the power to be on for 60 seconds then off for 120 seconds. This sequence will repeat for ten cycles then stop with the product power left on. He wants the operators to be able to adjust the timing and number of cycles.

PRODUCTS USED: PAXTM000, PAXCDS10

The solution is the PAXTM000 Preset Timer with the PAXCDS10 Dual Relay Setpoint Card. Along with the timing feature of the PAXTM, it also has a cycle counting feature that makes it perfect for this application.

HOW IT WORKS

The timer is programmed, in 1-INP, for the range of seconds to 0.00 and the input operation as EdrS-2 (edge two with reset on start). In this mode when a pulse is sent to Input A, the on/off cycle will start. When using the normally closed contacts of Relay 1, the devices under test will be on from time start to SP1 value. They will be off from SP1 value to SPOF1 value. The timer will auto reset at SPOF1 value and the cycle repeats. This is programmed in module 6-SPt with SP1 parameters.

The counter will increment by one at the end of each cycle (when SP1 turns off). This is accomplished by programming, in module 4-CNT, Count Source as 01-OFF. When the counter reaches the desired number of cycles (SP2 value), it turns on Relay 2. Relay 2 is wired to Input B, which is programmed to stop repeating the on/off cycle. When using the normally closed contacts of Relay 1, the devices under test will be kept on when the cycling stops. The on/off cycling will only start after the counter is reset to zero. The counter can be reset using the RST button or each time the meter and tester combination are powered up.

With the programming in module 3-LOC, operator access can be limited to only the on/off cycle times and number of cycles allowed. This requires User 1, in module 2-FNC, to be programmed as PLOC and User 1 terminal wired to User Common.

DESIGN ADVANTAGES

Operators no longer have to stand at the power switch and turn the devices on/off by hand. They no longer have to guess if they had enough on/off time to ensure program quality. They just power up and do other tasks.

ADDITIONAL CAPABILITIES

A serial communications card can be installed allowing the on/off cycle times and number of cycles to be changed by a PC. A real time clock card can be installed, with a PAXCDS20 Quad Relay Setpoint Card, so the testing could be setup to be performed at certain times of the day.

DIP SWITCH OR JUMPER SETTINGS

All are at factory settings.

PROGRAMMING (Only non-factory settings shown)

1-INP

rANGE : SSSS.SS

INP-OP : EdrS-2

2-FNC

USEr-1 : PLOC

RSt : rSt-E

t-dSP : YES (reset timer)

C-dSP : YES (reset counter)

3-LOC

t-dSP : rEd (read timer display)

C-dSP : rEd (read counter display)

SP-1 : Ent (enter SP1 at program lock)

SP-2 : Ent (enter SP2 at program lock)

SPOF-1 : Ent (enter SP1 stop at lock)

4-CNt

C Src : 01-OFF (count by 1 when SP1 off)

C P-UP : YES (reset at power up)

6-SPt

SPSEL : SP-1

ASN-1 : t-dSP (timer display)

ACT-1 : ON-OFF

ON-1 : VALUE

SP-1 : 60.00 (on 0-60 seconds)

OFF-1 : VALUE

SPOF-1 : 120.00 (off 60.01 to 120 seconds)

AutO : O-OFF (auto reset timer)

SPSEL : SP-2

ASN-2 : C-dSP (counter display)

ACT-2 : LatCH ()

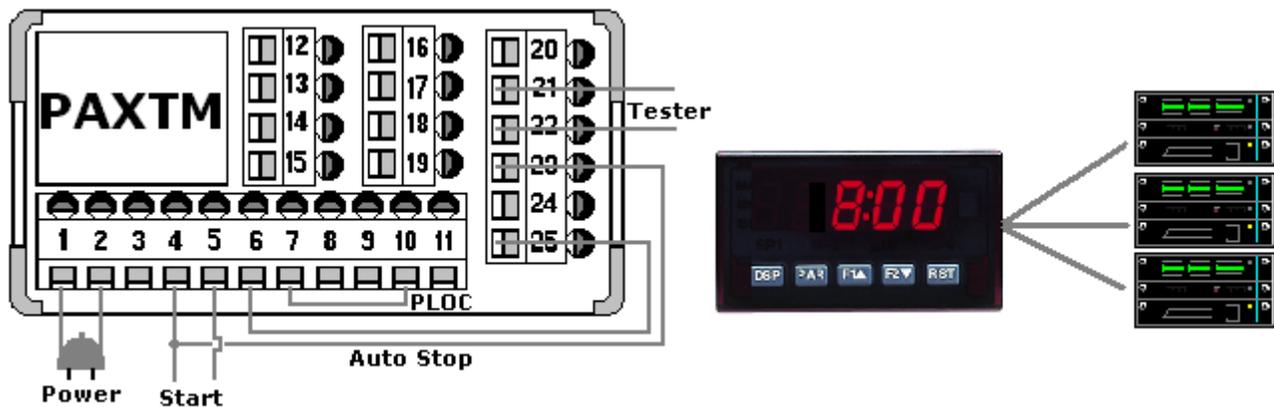
ON-2 : VALUE

SP-2 : 10 (At # sends signal to Input B stop)

OrDd-2 : YES (reset with counter reset)

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.