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# TPCR SERIES COIN VENDING TIMER

## FEATURES

- Microcontroller Circuitry
- Accumulates 1 to 255 Coins
- Multiple Time Delay Selection
- Encapsulated to Withstand Harsh Environment
- 0.5% Repeat Accuracy
- Contacts Rated Up to 30 Amps, 2HP @ 240 VAC
- UL/cUL Recognized
- CE Marking

## SPECIFICATIONS

### 1. Time Delay

- 1.1 Type: Microcontroller Circuitry
- 1.2 Range: Adjustable 1 Second to 254 Minutes in 9 Ranges  
(See Ordering Information)
- 1.3 Adjustment: Via DIP Switch  
(See Adjustment Information)
- 1.4 Repeat Accuracy:  $\pm 0.5\%$  Under Fixed Conditions
- 1.5 Setting Accuracy:  $\pm 1\%$
- 1.6 Reset Time: 250 Milliseconds Maximum
- 1.7 Recycle Time: 100 Milliseconds During Timing  
250 Milliseconds After Timing
- 1.8 Time Delay vs Voltage & Temperature:  $\pm 2\%$

### 2. Input

- 2.1 Operating Voltage: 24, 120, 240 VAC, 12, 24/28 VDC  
(See Ordering Information)
- 2.2 Tolerance:  $\pm 20\%$  Of Nominal
- 2.3 Frequency: 50 - 60 Hertz

### 3. Output

- 3.1 Type: Electromechanical Relay
- 3.2 Form: SPST or SPDT (See Ordering Information)
- 3.3 Ratings: See Output Rating Chart  
**Note:** Available with isolated or non-isolated contacts.
- 3.4 Life: Electrical - Full Load - 100,000 Operations  
Mechanical - 10,000,000 Operations

### 4. Last Coin Indicator Output ('L' Mode Only)

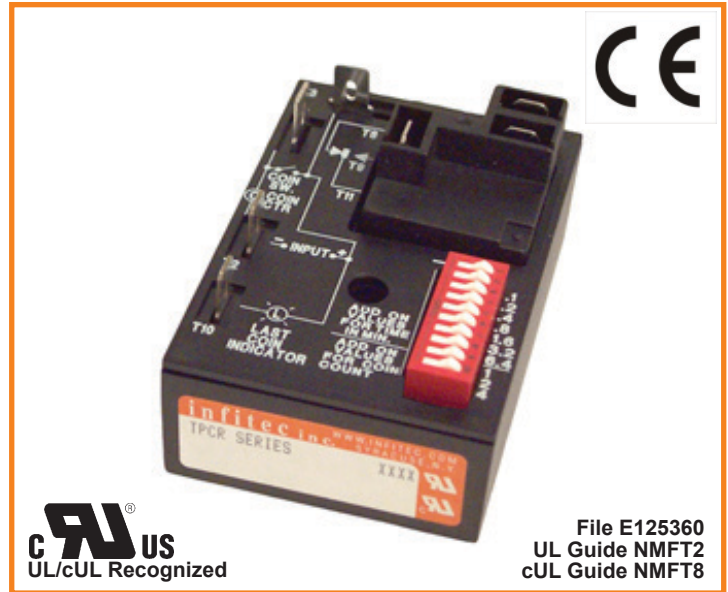
- 4.1 Type: Solid State
- 4.2 Form: SPST, N.O.
- 4.3 Rating: AC: 500 mA RMS, Half-wave  
DC: 500 mA DC

### 5. Coin Count Functions

- 5.1 Switch Type: Mechanical or Electronic  
(Counts On Closure) Consult factory for proper connections to electronic switches
- 5.2 Minimum Switch Closure Time: 25 Milliseconds
- 5.3 Minimum Switch Open Time (Between Closures):  
20 Milliseconds minimum
- 5.4 Count Range: 1 - 7 or 1 - 15 Closures
- 5.5 Count Adjustment: Via DIP Switch  
(See Adjustment Information)

### 6. Protection

- 6.1 Electrical Fast Transient Immunity: IEC 61000-4-4
- 6.2 Surge Immunity: IEC 61000-4-5
- 6.3 Dips, Shorts, & Interruptions Immunity: IEC 61000-4-11
- 6.4 DC Units Are Reverse Polarity Protected
- 6.5 Dielectric Breakdown: 1500 Volts RMS Minimum



### 7. Mechanical

- 7.1 Mounting: One #8 or #10 Screw
- 7.2 Termination: 1/4" Quick Connect Terminals
- 7.3 Style: Surface Mount / Encapsulated

### 8. Environmental

- 8.1 Operating Temperature:  $-20^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$
- 8.2 Storage Temperature:  $-30^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$
- 8.3 Humidity: 95% Relative, Non-Condensing

OUTPUT CONTACT RATING CHART			
	30 VDC	125 VAC	240 VAC
<b>HIGH POWER</b>			
N.O.	20A	20A, 1hp	20A, 2hp
N.C.	10A	10A, 1/4hp	10A, 1/2hp
<b>HEAVY DUTY</b>			
N.O.	30A	30A, 1hp	30A, 2hp

## MODE OF OPERATION

### STANDARD COIN TOTALIZER & VENDING TIMER

Power is applied to the unit at all times prior to and during timing. Coin switch closures are counted until their total equals the dip switch setting. At this point the output contact transfers and the time delay begins. Upon completion of the pre-selected time delay the output contact reverts to its original position and the control resets. Removal and re-application of input power will reset the control.

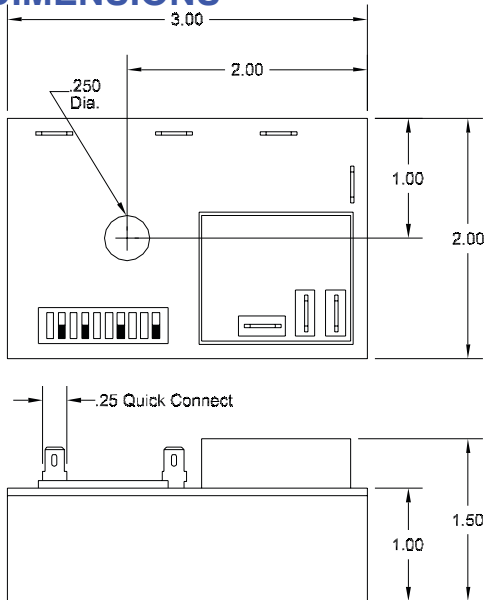
### ACCUMULATING VENDING TIMER

Power is applied to the unit at all times prior to and during timing. Coin switch closures are counted until their total equals the dip switch setting. At this point the output contact transfers and the time delay begins. For every coin switch closure counted, prior to or during timing, the unit adds the time set to the total vending time. Upon completion of the time delay, the output contact reverts to its original position and the control resets. Removal and re-application of input power will reset the control.

### ACCUMULATING VENDING TIMER/ LAST COIN INDICATOR

Same as ACCUMULATING VENDING TIMER except when the remaining time is less than the set time, the last coin indicator is activated. If additional coins are added the last coin indicator is deactivated until the remaining time is again less than the set time.

## DIMENSIONS



ON →

TIME RANGE 1 (SEC.)	TIME RANGE 2 (SEC.)	TIME RANGE 3 (MIN.)	TIME RANGE 4 (MIN.)	TIME RANGE 8 (MIN.)
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1	5	0.1	.25	.2
2	10	0.2	.5	.4
4	20	0.4	1	.8
8	40	0.8	2	1.6
16	80	1.6	4	3.2
32	160	3.2	8	6.4
64	320	6.4	16	1
1	1	1	1	2
2	2	2	2	4
4	4	4	4	8

ADD 'ON' VALUES AS INDICATED FOR TIME IN SECONDS (OR MINUTES)

ADD 'ON' VALUES FOR COINT COUNT

### MODE A & L

#### ACCUMULATING TIMER

(Example Setting)

Time Range: 2

Time Delay: 60 Seconds

Per Coin, 2 Coins to Start

Total Time: 120 Seconds

### MODE S

#### COIN TOTALIZER

(Example Setting)

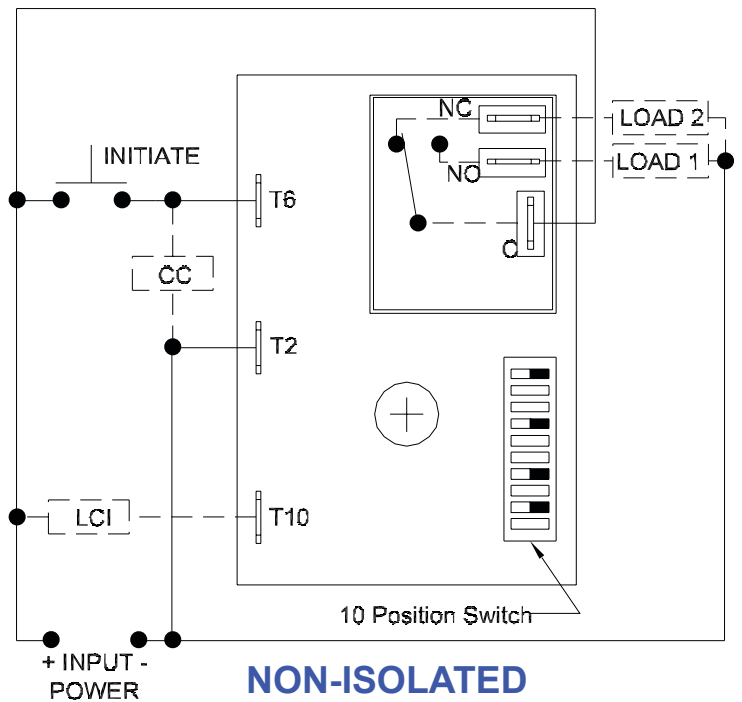
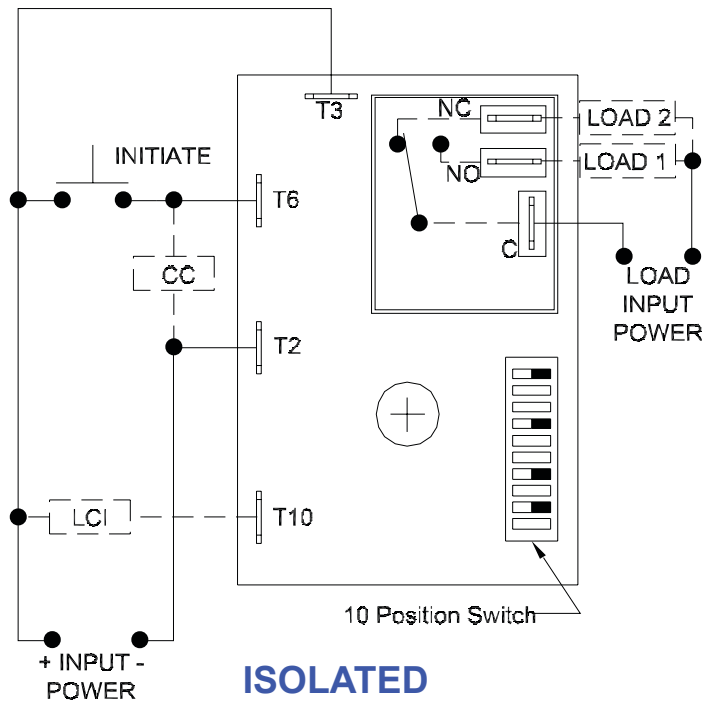
Time Range: 2

Time Delay: 60 Seconds,

2 Coins to Start

Total Time: 60 Seconds

## CONNECTION DIAGRAMS



## OPTIONAL OUTPUTS / LOADS

**LOAD 2** - Auxiliary Load (Off During Timing)

**CC** - Coin Counter

**LCI** - Last Coin Indicator ('L' Mode Only - Must Be Same Voltage As Input Voltage)

## ORDERING INFORMATION

SERIES	INPUT VOLTAGE	RATING	TIME DELAY RANGE	MODE
TPCR	1 - 12 VDC 2 - 24/28 VDC 4 - 24 VAC 5 - 120 VAC 6 - 230 VAC	B - High Power, SPDT, (Isolated) C - Heavy Duty, SPST, (Isolated) F - High Power, SPDT, (Non-Isolated) G - Heavy Duty, SPST, (Non-Isolated)	1 - 1 - 127 SECONDS	S - Standard Coin Totalizer/Timer A - Accumulating Timer w/Last Coin Indicator Output
			2 - 5 - 635 SECONDS	
			3 - 0.1 - 12.7 MINUTES	
			4 - 0.25 - 31.75 MINUTES	
			5 - 2 - 254 MINUTES	
			6 - 0.5 - 63.5 HOURS	
			7 - 0.1 - 12.7 SECONDS	
			<b>COIN COUNT</b>	<b>TIME DELAY RANGE</b>
			1-15	8 - 0.2 - 12.6 MINUTES 9 - 2 - 126 SECONDS