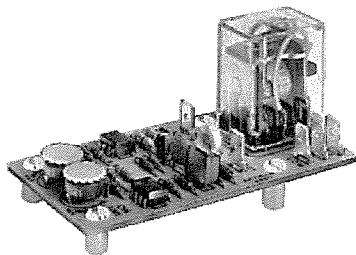




# Solid State Timers and Controllers

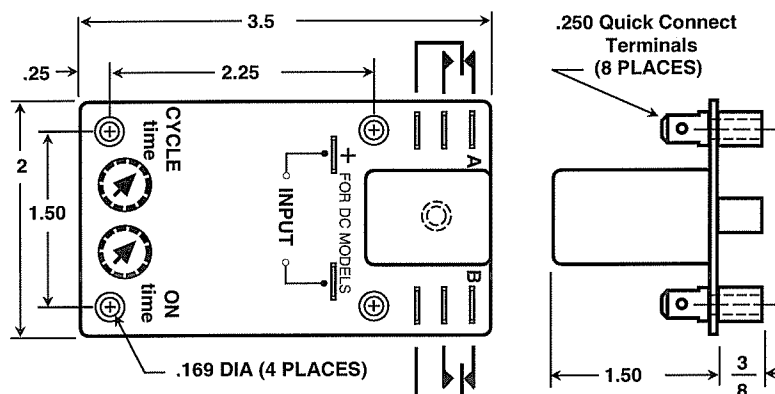
## 4603

## Repeat Cycle Timer

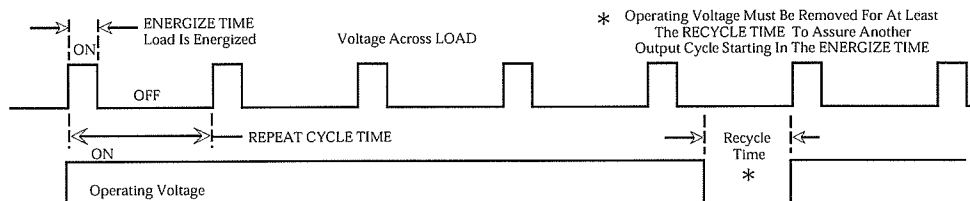


The model 4603, open board timer, combines digital timing techniques with 10 ampere output contacts to form a true repeat cycle timer that is available in either AC or DC operating voltages. The model 4603 is available in fixed repeat cycle timing periods to 20,000 seconds, and energize times from 0.1 second to 90% of the fixed repeat cycle time. Adjustable models provide repeat cycle times from 2 to 8000 seconds in four ranges, and adjustable energize times from 0.1 to 900 seconds in five ranges. When adjusting the repeat cycle time, the energize time does not vary, and when adjusting the energize time, the repeat cycle time does not vary. This makes the model 4603 a true repeat cycle timer.

### Mechanical & Wiring



### Timing Diagram



### Specifications

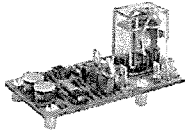
- Timing Mode:** Repeat Cycle Timing - Energize portion of cycle turns on with application of operating voltage.
- Operating Voltage:** 12V DC, 24V DC, 48V DC, 110V DC, 24V AC, 48V AC, 115V AC, 230V AC. AC models are rated for 50/60 Hz..
- Operating Voltage Tolerance:** -10%, +15%.
- Operating Current:** 12V DC 85mA, 24V DC 45mA, 48V DC 25mA, 110V DC 15mA, 24V AC 60mA, 48V AC 30mA, 115V AC 16mA, 230V AC 12mA.
- Fixed Timing Ranges:** Fixed Repeat Cycle Times from 2 seconds to 20,000 seconds. Fixed Energize Time from 0.1 seconds to 90% of the Repeat Cycle Time.
- Tolerances On Fixed Timing Ranges:** 5% and 10% available (see *Ordering Information*).
- Adjustable Timing Ranges:** 4 ranges of adjustable Repeat Cycle Timing: 2 seconds - 50 seconds, 20 seconds - 500 seconds, 30 seconds - 1500 seconds, and 100 seconds - 8000 seconds. (see *Ordering Information*)
- Tolerances On Adjustable:** Repeat Cycle and Energize Time envelopes guaranteed with a timing tolerance of +0%, -15% on the low time, and -0%, +15% on the high timing period. Example: The - 2 repeat cycle timing range is specified as adjustable from 20 seconds to 500 seconds, and including tolerance specification can range from a low of 20seconds - 15% to 500seconds +15%, or 17 seconds to 575 seconds.





# Solid State Timers and Controllers

## Specifications Continued



- Repeatability Of Timing Periods:** ±1% nominal.
- Timing Variation:** ±6% maximum variation from preset timing periods over entire operating voltage and temperature range specified.
- Recycle Time:** 200 milliseconds maximum.
- Output:** DPDT relay contacts.
- Output Rating:** UL rated for 10A, 1/3 HP, 125V, 250V AC, 10A 30V DC  
 CSA rated for 10A, 1/4 HP, 125V, 250V AC, 10A 30V DC relay is covered by UL File No. E57520, and CSA File No. LR26550.
- Output life Expectancy:** 50,000 operations at 10A 250V AC and 3A at 30V DC.  
 1,500 Vrms for one minute between contact sets, 1,000 Vrms for one minute between open contacts, and 2,000 Vrms between contacts and operating voltage terminals for one minute.
- Transient Protection:** The timing circuit and the solid state output switch are protected by silicon transient absorption devices that shunt transients which exceed 2 times the operating voltage. Transient protection devices are capable of withstanding up to 1500 watts of transient energy.
- Terminations:** .25 quick disconnect type
- Operating Temperature:** -20°C to +70°C
- Agency recognition:** UL File E47858 ( Component Auxiliary Devices ATNZ2).
- Data Sheet Revision Date:** October 18, 1996

## Ordering Information For Fixed Timing Models

Part Number	Operating Voltage	Repeat Cycle Time	RCT Tolerance	Energize Time	ET Tolerance
4603F	-2 (12V DC)	Specify From 2 To 20,000 Seconds	-B 5% -C 10%	Specify From 0.1 Second To 90% of The Repeat Cycle Time Specified	-B 5% -C 10%
	-3 (24V DC)				
	-4 (48V DC)				
	-5 (110V DC)				
	-6 (24V AC)				
	-7 (48V AC)				
	-8 (115V AC)				
	-9 (230V AC)				

4603F - 2 - 0.8 - C - 0.2 - C (12V DC operating voltage with a Repeat Cycle Time of 0.8 seconds (800 milliseconds) to a 10% tolerance, with an Energize Time of 0.2 seconds (200 milliseconds) to a tolerance of 10%)

4603F - 8 - 4000 - B - 800 - C (115V AC operating voltage with Repeat Cycle Time of 4000 seconds to a 5% tolerance, with an Energize Time of 800 seconds to a tolerance of 10%)

## Ordering Information For Adjustable Timing Models

Part Number	Operating Voltage	Repeat Cycle Time	Energize Time
4603A	-2 (12V DC)	-1 2 - 50	-1 0.1 - 3
	-3 (24V DC)	-2 20 - 500	-2 1 - 30
	-4 (48V DC)	-3 30 - 1500	-3 2 - 100
	-5 (110V DC)	-4 100 - 8000	-4 10 - 500
	-6 (24V AC)	Repeat Cycle Time In Seconds	-5 30 - 900
	-7 (48V AC)		Energize Time In Seconds
	-8 (115V AC)		
	-9 (230V AC)		

*Note:  
Some combinations of Repeat Cycle Time and Energize Time will permit the Energize Time to be adjusted to a time that is greater than the Repeat Cycle Time. If this occurs, the output relay will remain energized for 100% of the time. Exercise caution in selection, and care in setting up the timing periods to avoid this problem.*

4603A - 2 - 3 - 2 (12V DC operating voltage with an adjustable Repeat Cycle Time from 30 to 1500 seconds, and an adjustable Energize Time from 1 to 30 seconds)

4603A - 9 - 4 - 3 (230V AC operating voltage with an adjustable Repeat Cycle Time from 100 to 8000 seconds, and an adjustable Energize Time from 2 to 100 seconds)