



# Solid State Timers and Controllers

## 4615

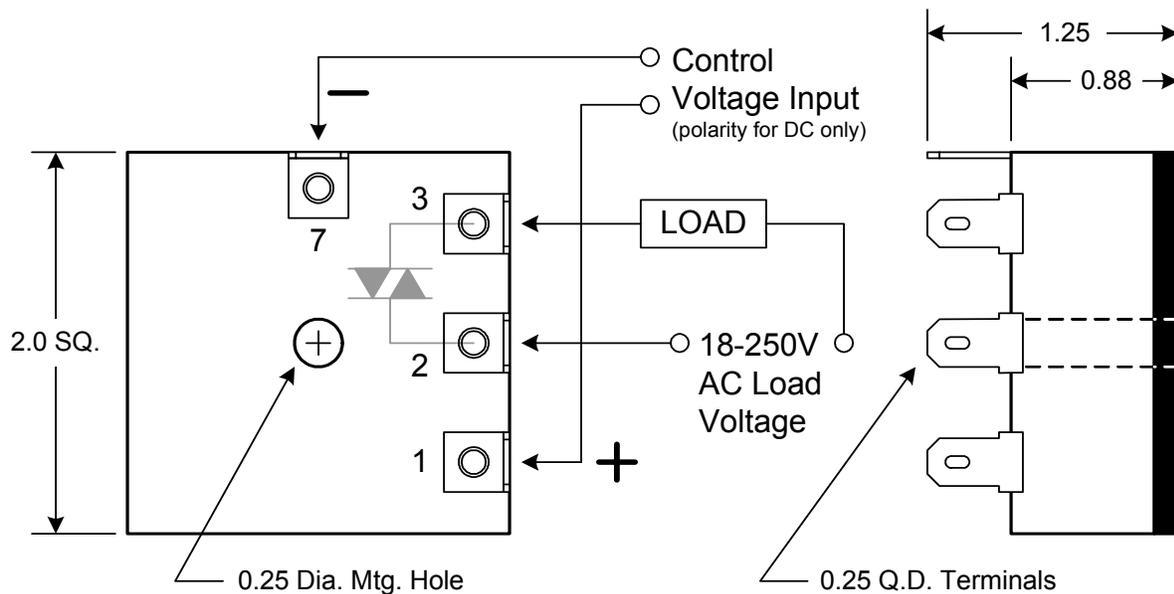
## Repeat Cycle Timer Isolated AC Output



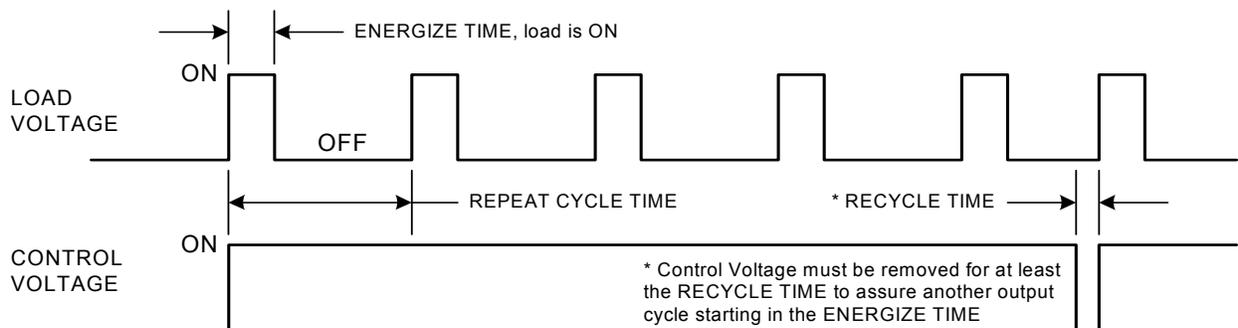
Intended for operation with AC loads only, the 4615 series was developed to emulate the older electromechanical synchronous motor type of repeat cycle timer. In these timers, a cam closed a switch on each rotational cycle of an AC synchronous motor. The cam driven rotational cycle has been replaced by the Repeat Cycle Time portion of the 4615. The switching action of the electromechanical timer has been replaced by an solid state AC switch energizing on each repeat cycle. The output of the model 4615 is a 5 ampere solid state zero voltage switching AC device, and this output switch is optically isolated from the incoming control voltage. The 5 ampere service

can be extended up to 10 amperes with proper heat sinking of the metal base on the timer housing. The 4615 is available in fixed timing models only.

### Mechanical & Wiring



### Timing Diagram



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# Solid State Timers and Controllers

## Specifications

- Control Voltage:** 12V DC, 24V DC, 48V DC, 24V AC, 48V AC, 115V AC, or 230V AC
- Control Voltage Tolerance:** ±20%, AC 50/60 Hz.
- Control Voltage Current:** All voltages < 20 mA.
- Output Voltage Rating:** Any AC voltage from 18 - 250V AC, 50/60Hz
- Timing Mode:** Repeat Cycle Timing - Energize portion of cycle turns on with application of operating voltage.
- Fixed Timing:** Repeat Cycle Time from 0.2 seconds to 86,400 seconds. Energize Time from 0.1 seconds to 50% of the Repeat Cycle Time.
- Fixed Timing Purchase Tolerance** ±5%, ±10% (std), and ±20% available.
- Timing Variation:** Less than 6% of set point over specified temperature and voltage range.
- Repeatability Of Timing Period:** ±2% nominal.
- Recycle Time:** Control voltage must be removed for a minimum of 200 milliseconds to guarantee all timing and output circuits have reset.
- Output Rating:** Rated for 70 mA to 5 A inductive with inrush current to 25A for 8 mS. Operation can be extended to 10A providing the metal base of the timer is maintained at a temperature no greater than 85°C. This can generally be achieved if ambient temperature does not exceed 30°C and the timer is mounted to a metal chassis that provides a minimum of 15 cubic inches of heat sink. Apply a thermal compound between the timer's base and the chassis.
- Zero Voltage (0°) Switching:** Load is energized at zero volts in the AC operating voltage to within ±50 microseconds of zero volts in the AC operating voltage.
- Output Voltage Drop in "ON" State:** 1.75 volts maximum at 5 amperes during Energize Time.
- Leakage Current in "OFF" State:** 5 mA maximum when output switch is not energized.
- Transient Protection:** Protected by silicon transient suppressors which respond to transients within  $1 \times 10^{-12}$  seconds to a peak pulse power dissipation of 1500 watts, with transient surge currents to 200 amperes for durations up to 1/120 second at 25° C. Maximum transient voltage protection is 6000 volts as delivered through a source resistance of 30 ohms with a maximum duration of 8.3 milliseconds.
- Dielectric:** 1500Vrms from all terminals to case or heatsink, 1200Vrms from control voltage terminals to AC output terminals.
- Operating Temperature:** -20°C to +85°C.
- Humidity:** 95% non-condensing.
- Construction:** Encapsulated module with .25 quick connect wiring terminals.
- Data Sheet Revision Date:** October 3, 2007

## Ordering Information

Model	Voltage	RCT Time	RCT Tolerance	ET Time	ET Tolerance
4615F  Fixed Timing	-1 12V DC	Specify the Fixed Repeat Cycle Time (RCT) In Seconds From 0.2 to 86,400	-B 5% -C 10% (std) -D 20%	Specify the Fixed Energize Time (ET) In Seconds From 0.1 to 50% of the RCT	-B 5% -C 10% (std) -D 20%
	-2 24V DC				
	-3 48V DC				
	-4 24V AC				
	-5 48V AC				
	-6 115V AC				
	-7 230V AC				

**Example :** 4615F-6-900-C-60-C Model 4615F with 115V AC control voltage, a fixed Repeat Cycle Time of 900 seconds ±10%, and a fixed Energize Time of 60 seconds ±10%.

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