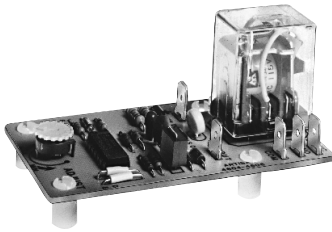




## Solid State Timers and Controllers

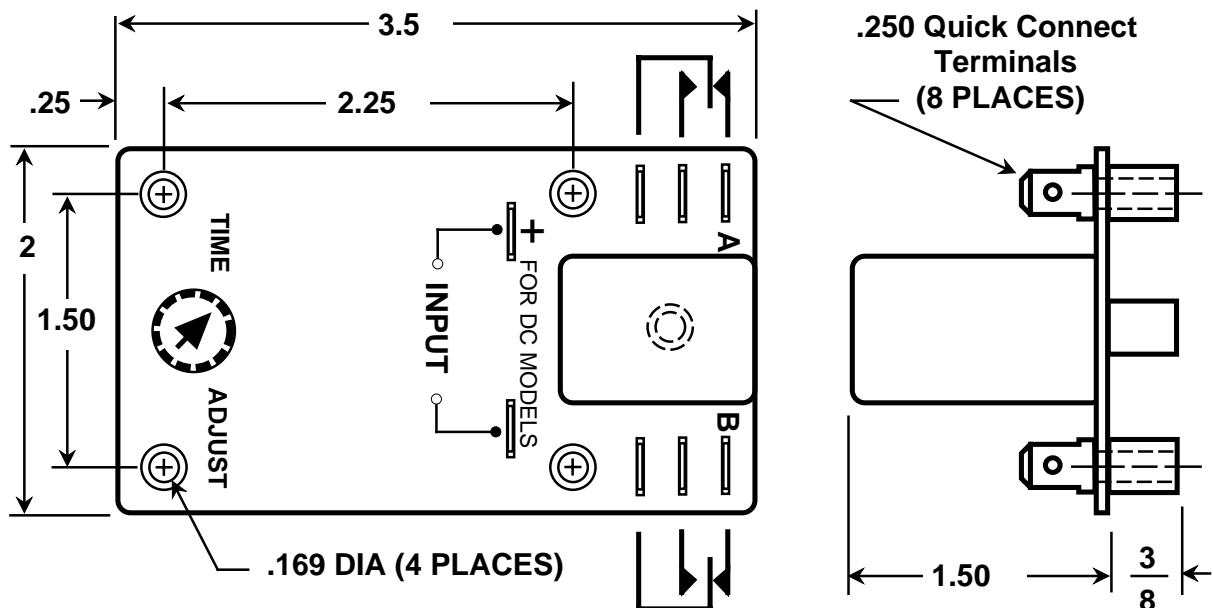
# 4605

### Delay-On-Make Timing Relay

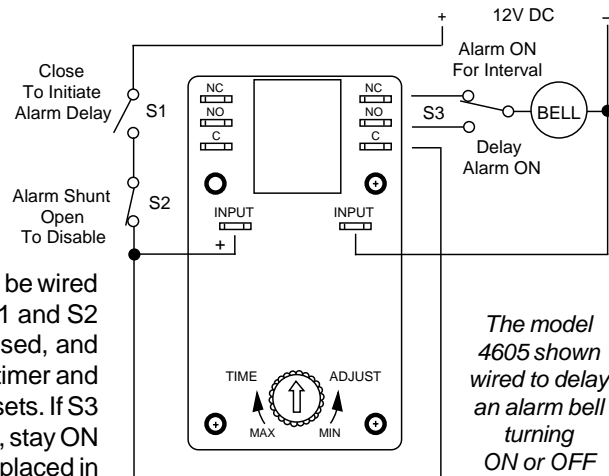
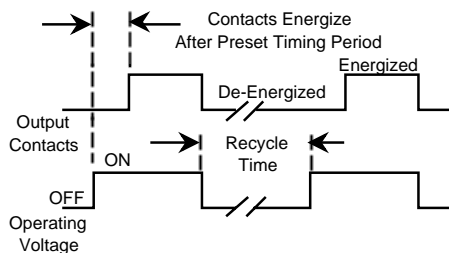


The model 4605, open board timer combines digital timing techniques with 10 ampere output contacts to form a delay-on-make timer that is available in either AC or DC operating voltages. The model 4605 is available in fixed timing periods to 2000 seconds and adjustable timing periods to 900 seconds. When operating voltage is applied to the input terminals the relay remains de-energized until the end of the preset timing period and then energizes. To recycle the timer the operating voltage must be removed for a minimum of the recycle time and then reapplied.

#### Mechanical & Wiring



#### Timing Diagram ..... 4605 Wired As A Interval Timer .....



The wiring diagram shown illustrates how the 4605 can be wired as either a delay-on-make, or interval timer. Switch S1 and S2 form the alarm input circuit. Switch S2 is normally closed, and when switch S1 closes, the +12V DC is applied to the timer and also to the common of one of the SPDT output contact sets. If S3 is selected as shown, the alarm will sound immediately, stay ON for the delay period, and then turn OFF. If switch S3 is placed in the down position, the delay period will have to complete before the alarm sound. In either case, switch S2 is always normally closed and can be used as an alarm shunt switch. When S2 is open, the alarm will turn OFF, if sounding, or never turn ON if S3 is in the Delay ON position.

*The model 4605 shown wired to delay an alarm bell turning ON or OFF*

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## Solid State Timers and Controllers

### Specifications .....

**Operating Voltage:** 12V DC, 24V DC, 48V DC 110V DC, 24V AC, 48V AC, 115V AC, 230V AC.

**Voltage Tolerance:** -10%, +15% AC and DC models, AC 50/60Hz.

**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.

**Timing Mode:** Delay-On-Make.

**Fixed Timing:** From 0.1 seconds to 2,000 seconds.

**Fixed Timing Purchase Tolerance** 2%, 5%, 10%, and 20%.

**Adjustable Timing:** 5 ranges: 0.1-3, 1-30, 2-100, 10-500, 30-900 seconds

**Timing Range Tolerance:** Adjustable Delay-On-Make timing guaranteed with maximums of -15% on the low times and +15% on the high times. Ex: The -4 timing range is specified as adjustable from 10 to 500 seconds, and including tolerance specification can range from as low as 8.5 seconds to a high of 575 seconds.

**Timing Variation:** Less than 6% of set point over specified temperature and voltage range.

**Repeatability Of Timing Period:**  $\pm 1\%$  nominal.

**Recycle Time:** Operating voltage must be removed for a minimum of 200 milliseconds to guarantee all timing and output circuits have reset.

**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. 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 is protected with a zener type voltage limiting device and an MOV rated for transient limiting at a voltage below that of the solid state switching element. The MOV is rated for transient absorption to 25 joules.

**Operating Temperature:** -20°C to +70°C.

**Construction:** Open PC board with .25 quick connect wiring terminals.

**Data Sheet Revision Date:** June 20, 1995

### Ordering Information .....

Part Number	Operating Voltage	Timing Period	Timing Tolerance
<b>4605F -</b> (Fixed Timing)	-2 (12V DC)	Specify the fixed timing period in seconds from 0.1 to 2000 for 4605F	-A 2%
	-3 (24V DC)		-B 5%
	-4 (48V DC)	Specify the dash Number for 4605A	-C 10 %
	-5 (110V DC)		-D 20 %
	-6 (24V AC)		
<b>4605A -</b> (Adjustable Timing)	-7 (48V AC)	-1 (0.1-3)	For 4605F Fixed Timing only
	-8 (115V AC)	-2 (1-30)	
	-9 (230V AC)	-3 (2-100)	
		-4 (10-500)	
		-5 (30-900)	
		Range In Seconds	

Examples:

4605F - 2 - 90 - C Is a model 4605F with 12V DC operating voltage with a fixed delay-on-make timing period of 90 seconds. Purchase tolerance on the interval time is 10%.

4605A - 5 - 2 Is a model 4605A with 110V DC operating voltage with an adjustable delay-on-make timing period from 1 to 30 seconds.

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