

## Solid State Timers and Controllers



## **Delay-On-Make Timing Module**



Mechanical . .

Solid State DELAY-ON-MAKE TIMER

MODEL: 4389





Timing Diagram ..... External Timing Resistance Chart.....

Timing Period vs Timing Resistor						
External Resistor	DASH NO.					
(Ohms)	-1	-2	-3	-4	-5	
0	0.1	1	2	10	30	
1 Meg	4	30	100	500	900	
3 Meg	12	90	300	1,500	2,700	
5 Meg	20	150	500	2,500	4,500	
10 Meg	30	300	1,000	5,000	8,000	

The External Timing Resistance Chart indicates the range of timing that can be achieved with the external resistance value shown. I.E. The -2 range indicates a timing range of 1 to 30 seconds when the external timing resistance varies from 0 to 1 meg ohm. The -2 extended range of 300 seconds can be achieved by using a 0 to 10 meg ohm external resistance.

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ARTEN Solid State Timers and Controllers

Specifications		
Operating Voltage:	5VDC, 12V DC, 24V DC, 48V DC, 12V AC, 24V AC, 48V AC, 115V	
	AC, and 230V AC. (See Ordering Information)	
Voltage Tolerance:	±20% AC & DC models, AC 50/60Hz.	
Operating Current:	30 mA maximum all models.	
Timing Mode:	Delay-On-Make - Output contacts normally open.	
Fixed Timing:	Factory fixed at any timing period from 1 seconds to 8,000 seconds.	
Tolerances On Fixed Timing:	±10% of specified timing period.	
Adjustable Timing Ranges:	5 models provide for remotely adjustable timing from 0.1 to 8000 seconds.	
Purchase Tolerances On	(see Ordering Information).	
Adjustable Timing Ranges:	Minimum Time - 15%, +0%. Maximum Time - 0%, +15%	
Timing Resistor Rating:	Worst case power dissipation never exceeds 15 milliwatts for external	
	timing resistors.	
Timing Variation:	Less than 5% of set point over full temperature and voltage range.	
Repeatability Of Timing Period:	±1% nominal.	
Recycle Time:	Initiate switch must be open for a minimum of 200 milliseconds to assure	
	all timing and output circuits are reset.	
Initiate Switch:	SPST rated for 30 mA service at maximum operating line voltage.	
Output:	Relay contacts SPST-NO.	
Output Rating:	1/4 HP, 125, 250V AC; 8A 125, 250V AC, 8A 30V DC.	
Life:	50,000,000 mech., 100,000 electrical operations minimum at 250V AC	
I ransient Protection:	Protected by silicon transient suppressors responding to transients within	
	TX 10 <sup>-12</sup> seconds to a peak pulse power dissipation of 1500 watts, with	
	at 25° C. Movimum transient voltage protection is 6000 voltage delivered	
	through a source registered of 20 shme with a maximum duration of	
Dialactric	0.5115. 1500\/ rms all terminals to case	
Operating Temperature:	$_{-20^{\circ}C}$ to $_{+85^{\circ}C}$	
Construction:	Encansulated module with 25 quick connect wiring terminals	
Data Sheet Revision Date:	May 15, 1995	
Ordering Information Fixed Timing Models		

Part Number	Operating Voltage	<ul> <li>(X) Fixed Timing In Seconds</li> </ul>	$\Gamma_{\rm Mammalos}$ $4290\Gamma_{\rm Mam}$ 0.45
4389F - 1 - X	5V DC		Example: 4389F - 9 - 45
4389F - 2 - X	12V DC	Specify the fixed timing	Is a model 4389E with 230V AC
4389F - 3 - X	24V DC	Specify the fixed titling	oporating voltage with a fixed
4389F - 4 - X	48V DC	period in seconds from	time of 45 seconds +10%
4389F - 5 - X	12V AC	0 1 to 8000	$\frac{1}{1000} = \frac{1000}{1000} =$
4389F - 6 - X	24V AC		The 15 seconds is measured
4389F - 7 - X	48V AC		from the time the initiate switch
4389F - 8 - X	115V AC		is closed
4389F - 9 - X	230V AC		13 010300.

Ordering Information Adjustable Timing Models .....

Part Number	Operating Voltage	(X) Timing Range In Seconds	Example: 4389A - 8 - 2
4389A - 1 - X 4389A - 2 - X 4389A - 3 - X 4389A - 4 - X 4389A - 5 - X 4389A - 6 - X 4389A - 7 - X	5V DC 12V DC 24V DC 48V DC 12V AC 24V AC 48V AC	-1 (0.1-30) -2 (1-300) -3 (2-1000) -4 (10-4500) -5 (30-8000)	Is a model 4389A with 115V AC operating voltage with a adjustable time of 1 - 300 seconds The adjustable timing period is
4389A - 8 - X 4389A - 9 - X	115V AC 230V AC	3 (30 0000)	measured from the time the initiate switch is closed.

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