



Solid State Timers and Controllers

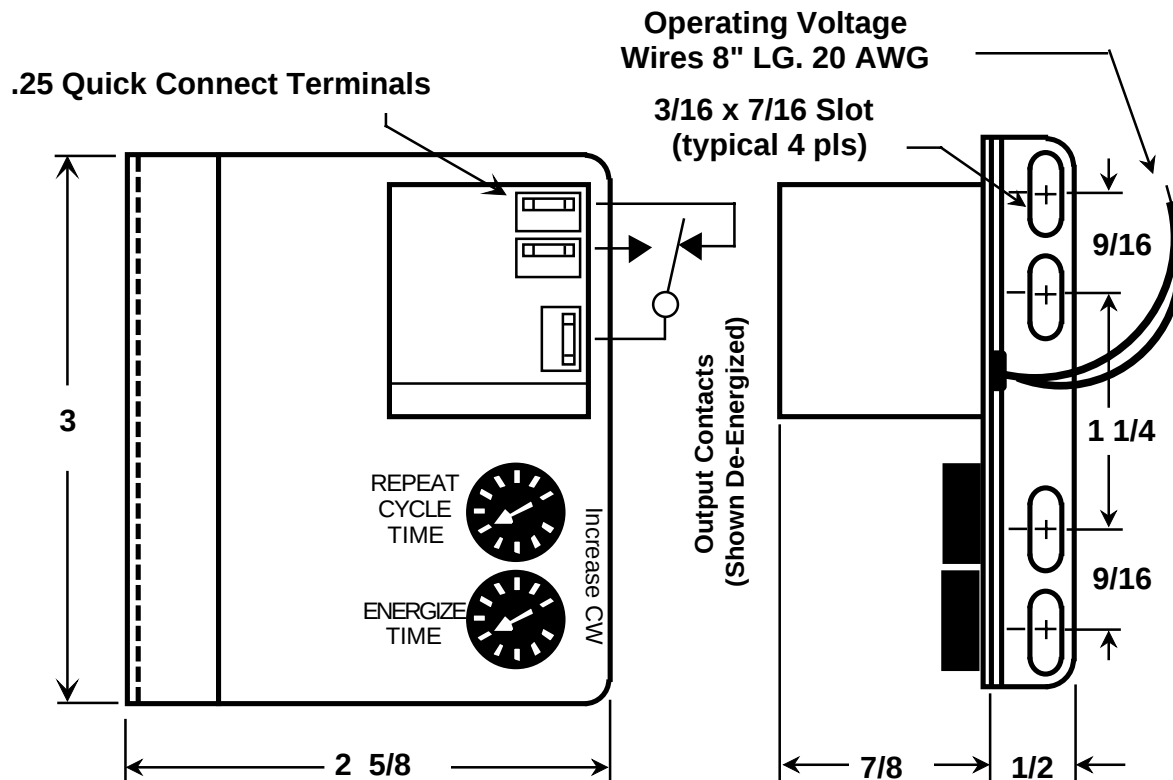
4690

Repeat Cycle Timer

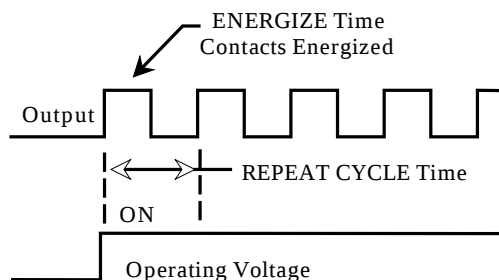


The model 4690 is a form fit and functional replacement for the older synchronous motor driven repeat cycle timers, which were cam adjusted to vary only the energize time, with the repeat cycle time being fixed by the diameter of the cam assembly and the motors gear ratio. The model 4690 provides direct functional replacements and permits both the repeat cycle time as well as the energize time to be adjustable. When operating voltage is applied to the 4690, the power contacts energize. This marks the start of the energize time and the beginning of the repeat cycle time. At the end of the energize timing period, the power contacts de-energize, and remain de-energize for the balance of the repeat cycle time. At the end of the repeat cycle time, the power contacts energize once again and the cycle repeats. The model 4690 is available in adjustable models that provide repeat cycle times from 0.1 to 1000 seconds in three ranges, with adjustable energize times up to 100% of the repeat cycle time. The model 4690 is also available in either AC or DC operating voltages, and fixed timing.

Mechanical



Timing Diagram Contact Rating Chart



VOLTAGE	LOAD TYPE	NORMALLY OPEN	NORMALLY CLOSED
AC	INDUCTIVE	2 - 30 A @ 12 - 240V AC	2 - 15 A @ 12 - 240V AC
	RESISTIVE	2 - 30 A @ 12 - 240V AC	2 - 15 A @ 12 - 240V AC
	MOTOR	1 HP @ 120V AC	1/4 HP @ 120V AC
		2 HP @ 240V AC	1/2 HP @ 240V AC
	TUNGSTEN	TV - 5 @ 240V AC	TV - 3 @ 240V AC
	BALLAST	6 A @ 277V AC	3 A @ 277V AC
DC	RESISTIVE	1 - 20 A @ 5 - 28V DC	1 - 10 A @ 5 - 28V DC



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Specifications

Operating Voltage:	12V DC (-2), 24V DC (-3), 48V DC (-4), 110V DC (-5), 24V AC (-6), 48V AC (-7), 115V AC (-8) AC voltage @ 50/60Hz.
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.
Timing Mode:	Repeat Cycle Timing.
Fixed Repeat Cycle Timing:	Repeat cycle time fixed, and specified from 0.1 to 1000 seconds.
Fixed Energize Timing:	Energize time fixed at any time within the specified repeat cycle time.
Adjustable Repeat Cycle Times:	Three ranges of adjustable repeat cycle timing from 0.1 to 1000 seconds.
Adjustable Energize Times:	Can be adjusted up to 100% of the set repeat cycle time.
Purchase Tolerances	
On Adjustable Timing Ranges:	Adjustable timing guaranteed with maximums of -15% on the low times and +15% on the high times. Ex: The -3 repeat cycle timing range is specified as adjustable from 10 to 1000 seconds, and including tolerance specification can range from as low as 8.5 to a high of 1150 seconds.
Repeatability Of Timing Period:	±1% nominal.
Timing Variation:	±6% maximum variation from preset timing period over entire operating voltage and temperature range specified.
Recycle Time:	200 mS maximum to assure starting in energize period.
Output:	SPDT power relay contacts.
Output Rating:	See <i>Contact Ratings Chart</i> .
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.
Data Sheet Revision Date:	May 8, 1995

Ordering Information For Fixed Timing Models

4690F	— Operating Voltage —	Repeat Cycle Time —	RCT Tolerance —	Energize Time —	ET Tolerance
4690F	- 2 12V DC	Specify From 0.1 To 1,000 Seconds	-B 5% -C 10% -D 20%	Specify From 0.1 Second To 90% of The Repeat Cycle Time Specified	-B 5% -C 10% -D 20%
	- 3 24V DC				
	- 4 48V DC				
	- 5 110V DC				
	- 6 24V AC				
	- 7 48V AC				
	- 8 115V AC				

Example: 4690F - 8 - 600 - C - 60 - C Is a model 4690F operating from 115V AC with a fixed repeat cycle time of 600 seconds ±10%, and an energize time of 60 seconds ±10%.

Ordering Information For Adjustable Timing Models

4690A	— Operating Voltage —	Repeat Cycle Timing Range —	Energize Timing Period
4690A	- 2 12V DC	-1 0.1-10 Second -2 1-100 Second -3 10-1000 Second	-1 0.1-10 Second -2 1-100 Second -3 10-1000 Second
	- 3 24V DC		
	- 4 48V DC		
	- 5 110V DC		
	- 6 24V AC		
	- 7 48V AC		
	- 8 115V AC		

Example: 4690A - 4 - 3 - 2 Is a model 4690A operating from 48V DC with an adjustable repeat cycle time of 10 to 1000 seconds and an adjustable energize time of 1 to 100 seconds.