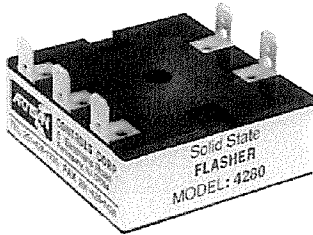




Solid State Timers and Controllers

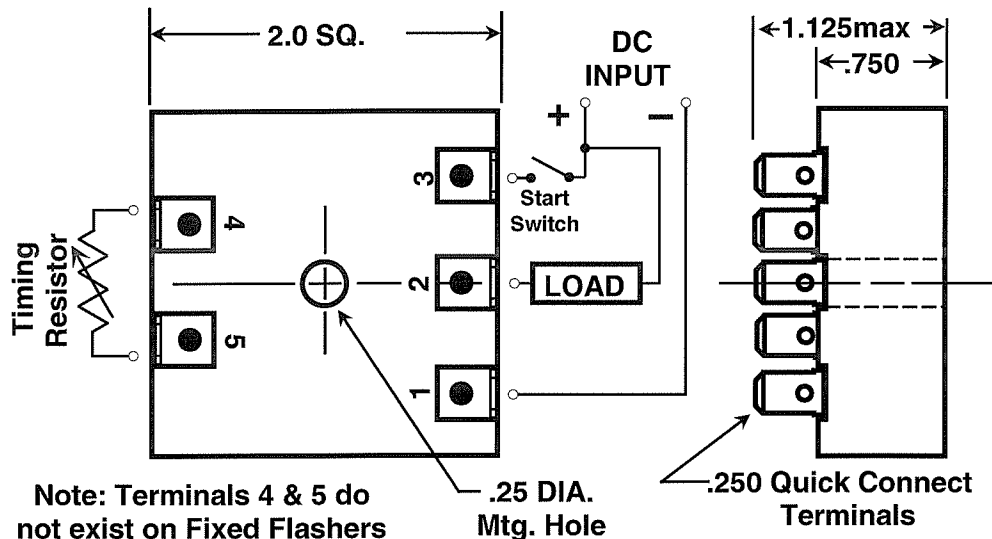
4280

DC Power Flasher

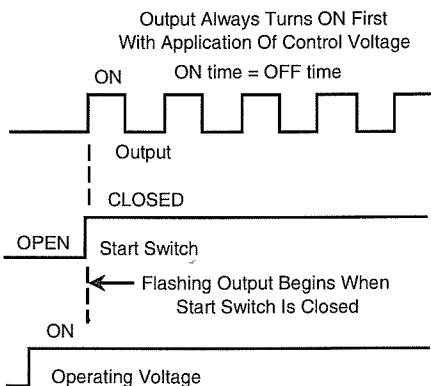


The Model 4280 is an all solid state flasher intended for use in DC circuits only. Capable of flashing load circuits up to ten amperes at a fifty percent duty cycle. Output switch is ON for as long as it is OFF. Flash rates from 1 flash per minute up to 6000 flashes per minute are available. A unique feature of the model 4280 is the low operating power and low voltage drop across the output switch when in the ON state. The model 4280 has internal transient protection devices to assure reliable operation even when operating in automotive electrical systems, such as forklift trucks, and utility vehicles. Available in both fixed and adjustable timing models.

Mechanical & Wiring



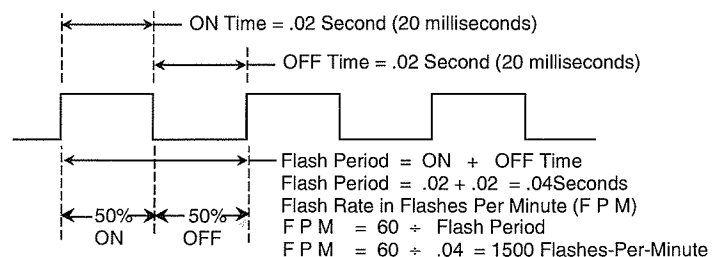
Timing Diagram



How To Find The Flash Rate

The timing diagram shown below is for an application that requires the load circuit to be ON for 20 milliseconds and OFF for 20 milliseconds. (Remember - the ON and OFF times will essentially be equal due to the 50% duty cycle specification inherent in the model 4280)

The voltage across the load circuit would look something this:





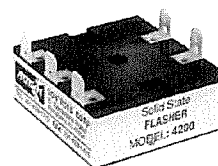
Solid State Timers and Controllers

Specifications

- Voltage:** 5V DC, 12V DC, 24V DC, 74V DC, 110V DC.
- Voltage Tolerances:** $\pm 20\%$.
- Timing Mode:** Flasher.
- Fixed Flash Rate:** Factory fixed at any rate from 1 to 6000 flashes-per-minute (FPM)
- Tolerances On Fixed Timing:** 10%.
- Adjustable Flash Rate:** 1 - 45, 30 - 1000, 60 - 2000, 100 - 4000, 200 - 6000 FPM.
- Purchase Tolerances**
- On Adjustable Flash Rate:** Minimum Flash Rate - 15%, +0%. Maximum Flash Rate - 0%, +15%
- External Flash Rate Resistor Range:** 0 to 1 meg ohm for all models.
- Flash Rate Resistor Rating:** Worst case power dissipation never exceeds 3 milliwatts.
- Flash Rate Variation:** Less than 6% of set point over full temperature and voltage range.
- Repeatability Of Flashing Period:** $\pm 1\%$ at stabilized operating voltage temperature.
- Recycle Time:** Operating voltage must be removed for a minimum of 10 milliseconds to assure that the flasher and output circuits are reset.
- Output Rating:** 2mA to 10A inductive with inrush current to 50A for 100 milliseconds.
- Output Switch Characteristics:** 1 volt drop maximum across output switch when ON and load current is 10A, 1mA leakage when OFF.
- Transient Protection:** Output Switch protected by silicon transient suppressors responding to transients within 1×10^{-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 8.3ms.
- Dielectric:** 1500V rms all terminals to case.
- Operating Temperature:** -40°F to +165°F
- Construction:** Encapsulated module with .25 quick connect wiring terminals.
- Data Sheet Revision Date:** May 16, 1995

Ordering Information All Models

Part Number	Operating Voltage	Flashes Per Minute
4280F - Fixed Flash Rate	-1 (5V DC)	Fixed Flash Rate (4280F) Specify 1- 6000 FPM
	-2 (12V DC)	
4280A - Adjustable Flash Rate	-3 (24V DC)	Adjustable Flash Rate (4280A)
	-4 (74V DC)	-A 1-45 FPM
		-B 30-1000 FPM
		-C 60-2000 FPM
	-5 (110V DC)	-D 100-4000 FPM
		-E 200-6000 FPM



Examples Of Part Numbers.

- 4280F - 5 - 600 Is a model 4280F with 110V DC operating voltage, with a fixed FPM (Flashes Per Minute) of 600.
- 4280A - 4 - B Is a model 4280A with 74V DC operating voltage, with adjustable FPM (Flashes Per Minute) ranging from 30 to 1000 flashes-per-minute (FPM).