



Flashers

D Series Compact Flashers



The D Series are solid state analog flashing devices. No moving parts to wear out. 2 Amp rating. **Output:** AC units — TRIAC; DC units — transistor. Compact size. 3-terminal configuration. No current leakage to load. Fixed flash rates. **Duty Cycle:** 50%. UL File #E96739(M). CSA File #LR62586. **Operating Temperature Range:** -23°C to +60°C. **Mounting:** Single-screw or optional 2-screw panel mount.

Stock No.	Mfr.'s Type	Flash Rate F.P.M.	Input Voltage	Mode of Operation	EACH
70200141	115AF60D	60	115 VAC	Flasher	25.41
70200142	115AF90D	90	115 VAC	Flasher	25.41
70200149	24DF60D	60	24 VDC	Flasher	25.41

DF Series Encapsulated Flashers



The DF Series are totally encapsulated solid state analog flashing devices. **Universal Input:** 24 to 120 VAC or VDC operation in one device. No moving parts to wear out. 2 Amp rating. Compact size. 2 Terminal configuration — Easy connection to load. Fixed flash rates. **Duty Cycle:** 50% UL File #E96739(M). CSA File #LR62586. **Operating Temperature Range:** -23°C to +60°C. **Mounting:** Single-screw or optional 2-screw panel mount.

Stock No.	Mfr.'s Type	Flash Rate F.P.M.	Input Voltage	Mode of Operation	EACH
70200151	24-120F30DF	30	24-120 VAC/VDC	Flasher	25.41
70200153	24-120F60DF	60	24-120 VAC/VDC	Flasher	23.28
70200154	24-120F90DF	90	24-120 VAC/VDC	Flasher	25.41

DFS Series Solid State Flashers



The DFS Series are CMOS digital three terminal flashers that are packaged in the familiar 2" x 2" x 3/4" hockey puck enclosure, epoxy sealed. **Load Current Ratings:** 3 A and 12 A available. **Flash Rate:** Fixed and can be customer specified over a range of 1 to 1,000 flashes per minute with a 50% duty cycle. UL File #E96739(M). **Operating Temperature:** -23°C to +60°C. **Mounting:** Center hole.

Stock No.	Mfr.'s Type	Flash Rate F.P.M.	Input Voltage	Mode of Operation	EACH
70200193	DFS152-60*	60	120 VAC	Flasher	46.63
70200194	DFS154-60†	60	120 VAC	Flasher	54.57
70200195	DFS219-60*	60	12 VDC	Flasher	43.66
70200196	DFS220-60†	60	12 VDC	Flasher	49.50
70200197	DFS225-60†	60	24 VDC	Flasher	54.57

*3 A. †12 A.

DFV Series Adjustable Flasher



The DFV has solid state analog circuitry with DPDT relay output. Adjustable Flasher Circuitry. **Flash Rate Timing Selection:** Knob adjustable potentiometer. UL File No. E96739 (M). CSA File No. LR62586. **Contact Rating:** 10 A at 240 VAC res. **Operating Temperature Range:** -45°C to +70°C. **Mounting:** 8-Pin octal style plug. Spade terminal style available.

Stock No.	Mfr.'s Type	Flash Rate F.P.M.	Input Voltage	EACH
70200169	120AF10-120DFV	10-120	120 AC	58.90
70200170	24DF10-120DFV	10-120	24 DC	58.90
70200171	12DF10-120DFV	10-120	12 DC	58.93

G Series Glass Tube Delay-on-Operate and Delay-on-Release TDRs

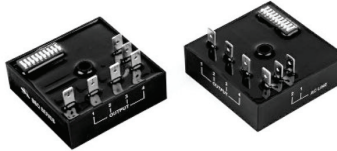
Timing cycle begins upon application of power to the heater terminals. At the end of the initial delay time the relay contacts transfer and remain in a transferred state until input power is removed. When the heater input power is removed, the contacts transfer back to their original state at the end of a reset (release) delay period. The G Series relays are hermetically sealed thermal timing devices. **Timing Selection:** Fixed delay times: up to 300 seconds. **Contact Rating:** 3 A @ 115 VAC. **Contact Form:** SPST form A (NO) or B (NC). UL File #E96739(M). **Operating Temperature:** -55°C to +80°C. **Mounting:** 8-Pin octal socket. **Expected Life @ 25°C:** 500,000 Operations min. at rated loads. **Contact Material:** Silver-Cadmium Oxide.



Stock No.	Mfr.'s Type	Delay in Seconds	Input Voltage	Contact Form*	EACH
70200065	115C180	180	115	NC	145.61
70200189	115NO120	120	115	NO	166.16
70200181	115NO2	2	115	NO	166.16
70200191	115NO30	30	115	NO	166.16
70200192	115NO5	5	115	NO	166.16

*NC = Normally closed, delay on break; NO = Normally open, delay on make.

SEQ Series Sequential Recycling Relays



The SEQ sequential recycling relay has 100% solid state timing circuitry. The relay is packaged in a 2" x 2" x 0.75" enclosure with center hole mounting, epoxy sealed. Timing is user adjustable by means of DIP switches. Maximum load rating is 5 amperes. The SEQ is used to alternately switch 2- to 4-loads in a repeating sequence. Typical applications include ON/OFF cycling for equipment burn-in test, lighting controls and automatic cycling of electrically operated devices.

Features:

- ▶ 100% Solid State
- ▶ Two to Four Individual Load Circuits
- ▶ 5 Ampere Load Current Rating
- ▶ Fixed and User Adjustable Timing
- ▶ Timing from Milliseconds to Minutes
- ▶ OEM Customization

Stock No.	Mfr.'s Type	Delay	Input Voltage	EACH
70200109	120A1-32SSEQ	1-32 Sec	120 VAC	79.77
70200111	120A1-32MSEQ	1-32 Min.	120 VAC	79.77
70200112	12D1-32SSEQ	1-32 Sec	12 VDC	79.77
70200113	12D1-32MSEQ	1-32 Min.	12 VDC	75.84

STB Series Solid State Triggered Delay-on-Release TDRs



The STB Series triggered delay-on-release time delay relay has CMOS digital timing circuitry. Units are 100% solid state with no moving parts to wear out. The relay is packed in the familiar hockey puck enclosure, epoxy sealed. Timing is adjustable by means of a user supplied resistor or potentiometer. Factory fixed units available. **Contact Rating:** 2 Amp continuous load. **Mounting:** Single center hole mount. **Repeatability:** ±2%. **Timing Cycle Interrupt Transfer:** None.

Stock No.	Mfr.'s Type	Delay in Seconds	Input Voltage	EACH
70200199	120A1-10SSTB	0.1-10	120 AC	38.84
70200200	12D1-10SSTB	0.1-10	12 DC	38.84
70200201	12D1-100SSTB	1-100	12 DC	38.84
70200202	24D1-10SSTB	0.1-10	24 DC	38.84

Time Delay Relays and Flashers

SWUDC Series Four Mode TDR



The SWUDC has CMOS digital circuitry with DPDT relay output. **Four Timing Modes:** Delay-on-operate, delay-on-release, delay-on-operate and release, and interval or one-shot all-in-one unit. **Timing Selection:** Binary coded DIP switch plus vernier knob adjustment. User selectable timing ranges covering 0.1 sec to 77.5 hrs. UL File #E96739(M). CSA File #LR62586. **Contact Rating:** 10 A @ 240 VAC res. **Operating Temperature Range:** -45°C to +70°C. **Mounting:** 11-Pin octal style plug. Spade terminal style available.

Stock No.	Mfr.'s Type	Delay Time	Input Voltage	EACH
70200176	12SWUDC	User Selectable	12 VAC/VDC	92.45
70200177	24SWUDC	User Selectable	24 VAC/VDC	92.45
70200178	120SWUDC	User Selectable	120 VAC/VDC	92.45

Interval-On TDRs



CI Series



ST2 Series

CI Series (Low Cost 10 Amp TDR)

The CI Series has solid state analog circuitry with DPDT relay output. One-shot, interval-on timing mode. **Timing Selection:** Knob adjustable potentiometer or fixed. UL File #E96739(M). CSA File #LR62586. **Contact Rating:** 10 A @ 240 VAC res. **Operating Temperature Range:** -45°C to +70°C. **Mounting:** 8-Pin octal style plug. Spade terminal style available.

Stock No.	Mfr.'s Type	Delay in Seconds	Input Voltage	EACH
70200104	120AP-1-60CI	0.1-60	120 VAC	66.06
70200107	12DP-1-60CI	0.1-60	12 VDC	66.06
70200110	24DP-1-60CI	0.1-60	24 VDC	66.06

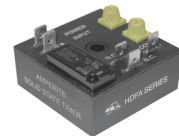
ST2 Series Solid State Interval (One-Shot) Timers

The ST2 Series interval-on time delay relay has CMOS digital circuitry. Units are 100% solid state with no moving parts to wear out. The relay is packaged in the popular hockey puck enclosure, epoxy sealed. Timing can be factory fixed or adjustable by use of a user supplied resistor or potentiometer. **Contact Rating:** 2 A continuous load. **Mounting:** Single center hole mount. **Timing Tolerance:** Fixed units ±10%. **Repeatability:** ±2%. **Timing Cycle Interrupt Transfer:** None. UL File #E96739(M).

Stock No.	Mfr.'s Type	Delay in Seconds	Input Voltage	Mode of Operation*	EACH
70200203	120A1-100SST2	1.0-100	120 VAC	NO	32.81
70200204	120A2-20SST2	0.2-20	120 VAC	NO	32.81
70200205	12D1-100SST2	1.0-100	12 VDC	NO	32.81
70200206	12D2-20SST2	0.2-20	12 VDC	NO	32.81
70200207	24D1-100SST2	1.0-100	24 VDC	NO	32.81
70200208	24D2-20SST2	0.2-20	24 VDC	NO	32.81

*NO = Single pole, normally open contacts.

Adjustable Recycle Time Delay Relays (Flashers)



HDFA Series Adjustable Recycle Timers

The HDFA Series low cost adjustable recycling timers are packaged in the familiar hockey-puck enclosure and may be used to alternately switch power to two independent loads. Both OFF and ON times are independently adjustable by means of built-in potentiometers. Load power is controlled by an isolated SPDT relay contact. Timing ranges are adjustable of a 100:1 span and cover 0.25 seconds to 100 minutes. **Contact Rating:** 10 Amps maximum @ 250 VAC or 30 VDC. **Operating Temperature Range:** -40°C to +65°C. **Mounting:** Single-center hole mount. **Timing Cycle Interrupt Transfer:** None.

Stock No.	Mfr.'s Type	Recycle Delay	Input Voltage	Contact Form*	EACH
70200209	120AA/AHDFFA	0.25-10 Sec	120 VAC	SPDT	54.38
70200210	120CA/CHDFFA	0.6-60 Sec	120 VAC	SPDT	54.38
70200212	12DA/AHDFFA	0.25-10 Sec	12 VDC	SPDT	54.38
70200213	12DC/CHDFFA	0.6-60 Sec	12 VDC	SPDT	54.38
70200214	12DF/HDFFFA	1-100 Min.	12 VDC	SPDT	54.38

*SPDT = Single pole double throw contacts.