

DELAY-ON-DROPOUT TIME DELAY RELAYS

DOD Series Delay-On-Dropout Time Delay Relays



The DOD Series time delay relays feature solid state analog circuitry and true delay-on-dropout. Contacts are 2 form C (DPDT) and are rated 1000VA, 90W maximum switching power, 250V AC, 48V DC maximum switching voltage and 4 amperes maximum switching current. Power requirements: AC units-2 VA or less; DC units-2 watts or less. UL file #E96739(M). CSA file #LR62586. Mounting: 8-pin octal style plug. Spade terminal style available. Timing tolerance:fixed units +/- 5%, adjustable units 0 to +25% of max.specified delay time, min.specified delay time at low end. Repeatability: +/- 5%.

Ordering Information:

120 A .6 - 60 S L DOD
 ↑ ↑ ↑ ↑ ↑ ↑ ↑
 A B C D E F G

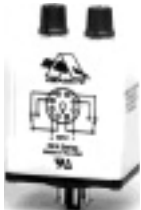
- A: Denotes nominal input voltage. Voltages Available: 24 & 120V AC; 24, 48 & 110V DC **Custom Voltages are available.**
- B: Denotes type of input current required for operation:A = AC - Alternating Current, D = DC - Direct Current
- C & D: Denotes range of knob adjustability for timing (in seconds or minutes) where: C= Minimum time delay. D= Maximum time delay for adjustable TDR'S.
- Note: 1.) Contact factory for ranges available. **Custom Timing is available.**
 2.) Both values (C & D) can be replaced by a single value for a factory preset time delay in seconds or minutes from 0.1 secs. through 300 secs.
- E: Denotes use of seconds or minutes in timing value(s), S = seconds, M = minutes.
- F: Enter "L"if optional 11-pin spade terminals are required. Call factory for dimensional differences.
- G: Denotes DPDT (2 form C) 4 amp delay on dropout DOD Series Time Delay Relay.

Mfr. No.	Delay	Input Voltage	Mode of Operation
120A.1-10SDOD	.1-10 SEC	120V AC	DPDT
120A.6-60SDOD	.6-60 SEC	120V AC	DPDT
120A1.2-120SDOD	1.2-120 SEC	120V AC	DPDT
120A3-300SDOD	3-300 SEC	120V AC	DPDT
24D.1-10SDOD	.1-10 SEC	24V DC	DPDT
24D1.2-120SDOD	1.2-120 SEC	24V DC	DPDT
24D3-300SDOD	3-300 SEC	24V DC	DPDT

Many other configurations available;consult factory.

ADJUSTABLE RECYCLE TIME DELAY RELAYS (FLASHERS)

DFA Series Recycling Timers



The DFA Series recycling timer has solid state digital CMOS circuitry with DPDT isolated 10A relay contacts. The OFF and ON time is user adjustable over a 100:1 span. Adjustable cycling timers provide a continuously operating off/on cycle as long as power is applied to the input terminals. Two knob operated potentiometers provide user adjustment of both the flash rate and duty cycle. Contact rating:10 Amps @ 240V AC resistive. Operating temp. range: -45 C to +70 C. Mounting:8-pin octal style plug. Spade terminal style available. Timing tolerance:fixed units +/- 5%, adjustable units 0 to + 10% of maximum specified delay time, minimum.specified delay time at low end.Repeatability:+/- 1%. Reset:Upon interruption of power. Timing cycle interrupt transfer: None.

Ordering Information:

120 A A / A R* L DFA
 ↑ ↑ ↑ ↑ ↑ ↑ ↑
 A B C D E F

- A: Denotes nominal input voltage. Voltages Available: 12, 24, & 120V AC; 12, 24, 48 & 110V DC **Custom Voltages are available.**
- B: Denotes type of input current required for operation:A = AC - Alternating Current, D = DC - Direct Current
- C: Denotes first timing period. Contact factory for timing ranges available. For standard units this is an "OFF" time delay. Fixed timing available. If fixed timing is desired, please indicate S for secs., M for mins. or H for hours.
- D: Denotes second timing period. For standard units this is an "ON" timing period. Fixed timing available.
- *Note: If the ON time delay period is desired to occur first upon application of input power, place an "R" after the second timing period code letter.
- E: Enter "L"if optional 11-pin spade terminals are required. Call factory for dimensional differences.
- F: Denotes 10 ampere 2 form C adjustable recycle flasher - DFA Series.

Mfr. No.	Recycle Delay	Input Voltage	Mode of Operation
120AA/ADFA	.1-10 SEC	120V AC	DPDT
120AC/CDFA	.6-60 SEC	120V AC	DPDT
120AF/FDFA	1-100 MIN	120V AC	DPDT
12DA/ADFA	.1-10 SEC	12V DC	DPDT
12DC/CDFA	.6-60 SEC	12V DC	DPDT
12DF/FDFA	1-100 MIN	12V DC	DPDT
24DA/ADFA	.1-10 SEC	24V DC	DPDT
24DC/CDFA	.6-60 SEC	24V DC	DPDT
24DF/FDFA	1-100 MIN	24V DC	DPDT

Many other configurations available;consult factory.

ADJUSTABLE RECYCLE TIME DELAY RELAYS (FLASHERS)

HDFA Series Recycling 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 amperes maximum @ 250V AC or 30V DC. Operating Temp. Range: -40 C to 65 C. Mounting: Single center hole mount. Timing cycle interrupt transfer: None.

Ordering Information:

120 A A / A R HDFA
 ↑ ↑ ↑ ↑ ↑ ↑
 A B C D E F

- A: Denotes nominal input voltage. Voltages available: 12V, 24V & 120V AC; 12V, 24V, 48V & 110V DC. **Custom voltages are available.**
- B: Denotes type of control input power required for operation: A = AC- Alternating Current; D = DC - Direct Current.
- C: Denotes first timing period which is an "OFF" time delay. See chart below. If fixed time is required, specify time followed by S=seconds; M=minutes; or H=hours.
- D: Denotes second timing period; see chart below. For fixed timing, specify time followed by S=seconds; M=minutes; or H=hours.
- E: Add "R" only if the "ON" time delay period is to occur first. When using "R" option, enter timing range for ON-Time in "C" & OFF-Time in "D".
- F: Denotes Amperite HDFA Series 10 ampere SPDT recycling timer.

Mfr. No.	Recycle Delay	Input Voltage	Mode of Operation
120AA/AHDFA	.25-10 SEC	120V AC	SPDT
120AC/CHDFA	.6-60 SEC	120V AC	SPDT
120AF/FHDFA	1-100 MIN	120V AC	SPDT
12DA/AHFA	.25-10 SEC	12V DC	SPDT
12DC/CHDFA	.6-60 SEC	12V DC	SPDT
12DF/FHDFA	1-100 MIN	12V DC	SPDT
24DA/AHDFA	.25-10 SEC	24V DC	SPDT
24DC/CHDFA	.6-60 SEC	24V DC	SPDT
24DF/FHDFA	1-100 MIN	24V DC	SPDT

Many other configurations available; consult factory.

FLASHERS



DFS Series Flashers

The DFS Series flasher has CMOS circuitry. Units are 100% solid state with no moving parts to wear out, units have three terminals and are packaged in the familiar 2" x 2" x 3/4" hockey puck enclosure, epoxy sealed. Numerous voltage ratings, both AC and DC, are available. Load current ratings available are 3 amps and 12 amps (except for 110V DC units). Flash rate is fixed and available over a range of 1 to 1000 flashes per minute, with a 50% duty cycle. UL and CSA approvals pending. Operating temp. range: -23 C to +60 C. Mounting: single center hole mount. Input voltage limits: +/- 10% of nominal.

Ordering Information:

Refer to model chart below. Select appropriate model number in accordance with the power input and load current required, and specify desired flash rate in flashes per minute (FPM). Standard flash rates: 30, 45, 60, 75, 90 and 120 FPM.

Note: Custom voltages and flash rates are available; consult factory.

MODEL	VOLTAGE	CURRENT
DFS123	12V AC	3 AMPERES
DFS124	12V AC	12 AMPERES
DFS143	24V AC	3 AMPERES
DFS144	24V AC	12 AMPERES
DFS152	120V AC	3 AMPERES
DFS154	120V AC	12 AMPERES
DFS162	230V AC	3 AMPERES
DFS163	230V AC	12 AMPERES
DFS164	110-230V AC	3 AMPERES
DFS166	110-230V AC	12 AMPERES

MODEL	VOLTAGE	CURRENT
DFS219	12V DC	3 AMPERES
DFS220	12V DC	12 AMPERES
DFS224	24V DC	3 AMPERES
DFS225	24V DC	12 AMPERES
DFS236	36V DC	3 AMPERES
DFS237	36V DC	12 AMPERES
DFS248	48V DC	3 AMPERES
DFS249	48V DC	12 AMPERES
DFS290	110V DC	0.5 AMPERES
DFS291	110V DC	2 AMPERES

EXAMPLE: DFS152- 60 denotes 120 volt AC power, 3 ampere load rating, 60 FPM.
 MODEL - FPM

FLASHERS



DFV Series Adjustable Flashers

The DFV Series adjustable flasher has solid state analog circuitry with DPDT relay output. Flash rate timing selection: Knob adjustable potentiometer. UL file #E96738(M). CSA File #LR62586. Contact rating: 10 Amps @ 240V AC resistive. Operating temp. range: -45 C to +70 C. Mounting: 8-pin octal style plug. Spade terminal style available. Transient protection: 1 Joule MOV.

Ordering Information:

120 A F 10 - 120 L DFV
 ↑ ↑ ↑ ↑ ↑ ↑ ↑
 A B C D E F G

- A: Denotes nominal input voltage. Voltages Available: 12, 24 & 120V AC; 12, 24, 48 & 110V DC
Custom Voltages are available.
- B: Denotes type of input current required for operation: A = AC- Alternating Current, D = DC- Direct Current
- C: Denotes flasher configuration.
- D & E: Denotes range of knob adjustability for flash rate where:
D= Minimum number of flashes per minute (FPM).
E= Maximum number of flashes per minute (FPM).
- Note: Standard rate is from 10 to 120 FPM. **Custom rates are available within ranges between minimum of 1 FPM and a maximum of 240 FPM .**
- F: Enter "L" if optional 11-pin spade terminals are required. Call factory for dimensional differences.
- G: Denotes 10A DPDT (2 form C) adjustable flasher - DFV Series.

Mfr. No.	FPM Adj.	Input Voltage	Mode of Operation
24AF10-120DFV	10-120	24V AC	DPDT
120AF10-120DFV	10-120	120V AC	DPDT
12DF10-120DFV	10-120	12V DC	DPDT
24DF10-120DFV	10-120	24V DC	DPDT
48DF10-120DFV	10-120	48V DC	DPDT

Many other configurations available; consult factory.



STOP-ALERT Automotive Lamp Pulsator

The STOP-ALERT is a 100% solid state device that is connected in series with one or more automotive lamps. The unit controls current to lamp to produce a pulsating illumination effect. Duty cycle: 85%. Standard pulse rate: 300 pulses per minute. Maximum surge voltage: 50V. Maximum surge current: 160A. Enclosure Material: glass reinforced black Lexan plastic. Termination: two 0.250 quick connect terminals.

Ordering Information:

STOP-ALERT™ INSTALLATION PROCEDURE:

- A. Locate existing 12V power wire feeding lamp.
- B. Cut and strip wire at convenient place.
- C. Crimp supplied terminals to exposed wires.
- D. Assemble power feed wire to terminal 1 of STOP-ALERT™.
- E. Assemble lamp wire to terminal 2 of STOP-ALERT™.

Mfr No.	Pulses Per Min.	Input Voltage	Mode of Operation
STOP-ALERT	300	12V DC	FLASHER

Many other configurations available; consult factory.