

# TIME DELAY RELAYS

## Octal Plug-in & Din

### C10 Series

- ▶ Solid state analog circuitry
- ▶ Delay-on operate timing mode
- ▶ DPDT (2 from C) isolated 10 ampere relay contacts
- ▶ UL/CSA



### DC10 Series

- ▶ Solid state CMOS digital circuitry
- ▶ Delay-on operate timing mode
- ▶ DPDT (2 from C) isolated 10 ampere relay contacts
- ▶ UL/CSA



### CI Series

- ▶ Solid state analog circuitry
- ▶ One-shot timing mode (interval on)
- ▶ DPDT (2 from C) isolated 10 ampere relay contacts
- ▶ UL/CSA



### CIR Series

- ▶ Solid state analog circuitry
- ▶ Triggered 1-shot timing mode (triggered interval on)
- ▶ DPDT (2 from C) isolated 10 ampere relay contacts
- ▶ UL/CSA



### CR10 Series

- ▶ Solid state analog circuitry
- ▶ Triggered Delay-on release timing mode
- ▶ DPDT (2 from C) isolated 10 ampere relay contacts
- ▶ UL/CSA



### DCR10 Series

- ▶ Solid state CMOS digital circuitry
- ▶ Triggered Delay-on release timing mode
- ▶ DPDT (2 from C) isolated 10 ampere relay contacts
- ▶ UL/CSA



### DOD Series

- ▶ Solid state analog circuitry
- ▶ True Delay on Drop-out
- ▶ DPDT (2 from C) isolated 4 ampere relay contacts
- ▶ UL/CSA



### SWDC Series

- ▶ Solid state CMOS digital circuitry
- ▶ Delay-on-make with 10 position dip switch
- ▶ Timing range span 1023:1 .delays up to 2.8 hours
- ▶ DPDT (2 from C) isolated 10 ampere relay contacts



### SWPDC Series

- ▶ Solid state CMOS digital circuitry (dip switch)
- ▶ Delay on Operate timing mode
- ▶ DPDT (2 from C) isolated 10 ampere relay contacts



### SWRDC Series

- ▶ Delay on Operate timing mode
- ▶ DIN Rail mounting or octal plug-in
- ▶ Din-SPDT 8A, Octal - DPDT (2 from C) 10A
- ▶ 16 overlapping timing ranges
- ▶ 2 LED indicators



### SWUDC Series

- ▶ Solid state CMOS digital circuitry
- ▶ 4 timing modes available
- ▶ DPDT (2 from C) isolated 10 ampere relay contacts
- ▶ Dip switch selection
- ▶ UL/CSA





# TIME DELAY RELAYS, AUTOMOTIVE & POWER RELAYS

## Miniature & Cube

### ADOD Series

- ▶ Solid state digital circuitry
- ▶ Automotive voltage range
- ▶ delay on Dropout function
- ▶ 40 Ampere SPST (Form A)
- ▶ Compact size



### C Series

- ▶ Solid state analog circuitry
- ▶ Delay-on Operate Timing mode
- ▶ Low current relay
- ▶ Output with SPDT contacts
- ▶ UL/CSA



### CR Series

- ▶ Solid state analog circuitry
- ▶ Triggered Delay-on release timing mode
- ▶ Low current relay
- ▶ Output with SPDT contacts
- ▶ UL/CSA



### HDOD Series

- ▶ Solid state CMOS digital circuitry
- ▶ True Delay on Drop-out
- ▶ DPDT (2 from C) isolated 4 ampere relay contacts



### ST1 Series

- ▶ Delay-on operate timing mode
- ▶ 100% solid state CMOS circuitry
- ▶ Fixed or adjustable delays, From milliseconds to hours
- ▶ 1 ampere
- ▶ UL/CSA



### ST1A Series

- ▶ Delay-on operate timing mode
- ▶ 100% solid state CMOS circuitry
- ▶ Fixed or adjustable delays, From milliseconds to hours
- ▶ 2 amperes; 10 amperes available



### ST1D Series

- ▶ 100% solid state CMOS digital circuitry
- ▶ Delay on Operate timing mode
- ▶ 3 ampere continuous load
- ▶ Dip switch timing selection



### ST2 Series

- ▶ One-shot timing mode (interval on)
- ▶ 100% solid state circuitry
- ▶ Fixed or adjustable delays from milliseconds to hours
- ▶ CMOS digital circuitry



### STB Series

- ▶ Triggered Delay on Release timing mode
- ▶ 100% solid state circuitry
- ▶ Fixed or adjustable delays from milliseconds to hours
- ▶ CMOS digital circuitry



### AR2 Series Automotive Relays

- ▶ Automotive Relays
- ▶ 40A Rating
- ▶ Contact arrangement 2C or 1A
- ▶ Operating ambient temperature 40 to +85C
- ▶ FASTON terminal arrangement



### MP2 Series Miniature Power Relays

- ▶ DPDT (2 from C) contact arrangement
- ▶ 10A Rating
- ▶ 12, 24 & 110V DC & 120V AC units available
- ▶ Quick connect/solder terminals





# FLASHERS, RECYCLE TIMERS & SEQUENCERS

## Miniature & Cube

### D Series

- ▶ No moving parts to wear out
- ▶ 2A load rating
- ▶ AC or DC units available
- ▶ Fixed flash rates available from 2-1,000 FPM
- ▶ No current leakage to load
- ▶ UL/CSA



### DF Series

- ▶ Universal Input -24V to 120V AC/DC or single voltage
- ▶ 2A load rating
- ▶ Fixed flash rates available from 2 to 1,000 FPM
- ▶ UL/CSA



### DFS Series

- ▶ 100% solid state circuitry
- ▶ 3 ampere and 12 ampere models available
- ▶ Fixed flash rates from 1 to 1,000 FPM
- ▶ Familiar hockey puck enclosure
- ▶ UL



### DFW Series

- ▶ Ideal for emergency or police vehicular use
- ▶ Small, compact, reliable and easy to install with 1/4" Q.C. or #14 gauge wire termination
- ▶ 15A relay contacts
- ▶ Flash rate fixed at 110 FPM



### DFWS Series

- ▶ 100% solid state circuitry
- ▶ Alternating output - drives two independent loads
- ▶ 10 ampere current rating
- ▶ Fixed flash rates from 1 to 1,000 FPM



### Head-Alert

- ▶ Headlight Modulator
- ▶ Enhances vehicular lamp illumination
- ▶ 100% solid state circuitry
- ▶ Quick and simple installation
- ▶ Incandescent lamp power rating 120 watts



### HDA Series

- ▶ Adjustable Recycling Timer (flasher)
- ▶ Solid state CMOS digital circuitry
- ▶ 10 ampere SPDT relay contacts
- ▶ Fixed or adjustable delays from milliseconds to hours



### SEQ Series

- ▶ Sequential Recycling Relay (Flasher)
- ▶ 100% Solid state
- ▶ Two to four individual load circuits
- ▶ 5 ampere load current rating
- ▶ Dip switch timing selection



### STOP-ALERT & STOP ALERT 2 & 2M

- ▶ Vehicular lamp pulsators
- ▶ Solid state circuitry
- ▶ Quick and simple 2 terminal installation
- ▶ Stop-alert enhances brake light continuously
- ▶ Stop Alert 2 & 2M flash 5 seconds then go steady



## Octal Plug-in

### DFA Series

- ▶ Adjustable Recycling Timer (flasher)
- ▶ Solid state CMOS digital circuitry
- ▶ DPDT (2 form C) isolated 10 ampere relay contacts
- ▶ UL/CSA



### DF10 Series

- ▶ Fixed Flash rates available from 10 to 240 FPM
- ▶ Solid state analog circuitry
- ▶ DPDT (2 form C) 10Amp relay contacts
- ▶ 12V to 120V AC or DC input voltage available
- ▶ UL/CSA



### DFV Series

- ▶ Knob adjustable 10-120 FPM
- ▶ Solid state analog flasher circuitry
- ▶ DPDT (2 form C) 10 Amp relay contacts
- ▶ 12V to 120V AC or DC input voltage available
- ▶ UL/CSA





# PRODUCT SELECTION CHART

| FUNCTION   | SERIES | INPUT VOLTAGE | CONTACT                              | TIMING RANGE          | FEATURES                   | PACKAGE             |
|--|--------|---------------|--------------------------------------|-----------------------|----------------------------|---------------------|
| <b>DELAY-ON-MAKE</b><br>(NORMALLY OPEN)                        | C      | 5-120 AC/DC   | 1 FORM A, B OR C; 1 AMP              | 0.1 SEC - 300 SECS    | SOLID STATE ANALOG HYBRID  | MINIATURE           |
|  | C10    | 12-240 AC/DC  | 2 FORM C; 10 AMP                     | 0.1 SECS - 480 SECS   | SOLID STATE ANALOG HYBRID  | OCTAL/SPADE         |
|  | DC10   | 12-240 AC/DC  | 2 FORM C; 10 AMP                     | 0.1 SEC - 60 HOURS    | SOLID SATE DIGITAL HYBRID  | OCTAL/SPADE         |
|  | ST1    | 12-240 AC/DC  | 1 FORM A; 1 AMP                      | 0.1 SEC - 100 HOURS   | SOLID SATE DIGITAL         | HOCKEY PUCK         |
|  | ST1A   | 12-230 AC/DC  | 1 FORM A; 2 AMP                      | 0.1 SEC - 100 HOURS   | SOLID SATE DIGITAL         | HOCKEY PUCK         |
|  | ST1D   | 12-120 AC/DC  | 1 FORM A; 3 AMP                      | 0.2 SEC - 1023 SECS   | SOLID SATE DIGITAL         | HOCKEY PUCK         |
|  | SWDC   | 12-120 AC/DC  | 2 FORM C; 10 AMP                     | 0.1 SECS - 2.8 HOURS  | DIGITAL SET                | OCTAL/SPADE         |
|  | SWPDC  | 12-120 AC/DC  | 2 FORM C; 10 AMP                     | 0.1 SEC - 160 HOURS   | SOLID STATE DIGITAL HYBRID | OCTAL/SPADE         |
|  | SWRDC  | 12-120 AC/DC  | 1 FORM C; 8 AMP, 2 FORM C;<br>10 AMP | 0.1 SECS - 120 MINS   | SOLID STATE DIGITAL HYBRID | DIN/OCTAL/<br>SPADE |
|  | SWUDC  | 12-140 AC/DC  | 2 FORM C; 10 AMP                     | 0.1 SECS - 77.5 HOURS | SOLID STATE DIGITAL HYBRID | OCTAL/SPADE         |
| <b>DELAY-ON-RELEASE</b><br>(FORM A, B OR C CONTACTS)           | C      | 5-120 AC/DC   | 1 FORM A, B OR C; 1 AMP              | 0.1 SEC - 300 SECS    | SOLID STATE ANALOG HYBRID  | MINIATURE           |
|  | C10    | 12-240 AC/DC  | 2 FORM C; 10 AMP                     | 0.1 SECS - 480 SECS   | SOLID STATE ANALOG HYBRID  | OCTAL/SPADE         |
|  | DC10   | 12-240 AC/DC  | 2 FORM C; 10 AMP                     | 0.1 SEC - 60 HOURS    | SOLID SATE DIGITAL HYBRID  | OCTAL/SPADE         |
|  | SWDC   | 12-120 AC/DC  | 2 FORM C; 10 AMP                     | 0.1 SECS - 2.8 HOURS  | DIGITAL SET                | OCTAL/SPADE         |
|  | SWPDC  | 12-120 AC/DC  | 2 FORM C; 10 AMP                     | 0.1 SEC - 160 HOURS   | SOLID STATE DIGITAL HYBRID | OCTAL/SPADE         |
|  | SWRDC  | 12-120 AC/DC  | 1 FORM C; 8 AMP, 2 FORM C;<br>10 AMP | 0.1 SECS - 120 MINS   | SOLID STATE DIGITAL HYBRID | DIN/OCTAL/<br>SPADE |
|  | SWUDC  | 12-140 AC/DC  | 2 FORM C; 10 AMP                     | 0.1 SECS - 77.5 HOURS | SOLID STATE DIGITAL HYBRID | OCTAL/SPADE         |
| <b>TRIGGERED DELAY-ON-RELEASE</b><br>(FORM A, B OR C CONTACTS) | CR     | 5-120 AC/DC   | 1 FORM A, B OR C; 1 AMP              | 1 SEC - 600 SECS      | SOLID STATE ANALOG HYBRID  | MINIATURE           |
|  | CR10   | 12-120 AC/DC  | 2 FORM C; 10 AMP                     | 0.1 SECS - 480 SECS   | SOLID STATE ANALOG HYBRID  | OCTAL/SPADE         |
|  | DCR10  | 12-120 AC/DC  | 2 FORM C; 10 AMP                     | 0.1 SEC - 60 HOURS    | SOLID SATE DIGITAL HYBRID  | OCTAL/SPADE         |
|  | SWUDC  | 12-140 AC/DC  | 2 FORM C; 10 AMP                     | 0.1 SECS - 77.5 HOURS | SOLID STATE DIGITAL HYBRID | OCTAL/SPADE         |



# PRODUCT SELECTION CHART

| FUNCTION   | SERIES            | INPUT VOLTAGE | CONTACT                               | TIMING RANGE                      | FEATURES                    | PACKAGE     |
|--|-------------------|---------------|---------------------------------------|-----------------------------------|-----------------------------|-------------|
| <b>DELAY-ON-DROPOUT</b><br>(TRUE OFF DELAY)            | ADOD              | 12V DC        | 1 FORM A; 40 AMP                      | FIXED; SECS, MINS, HOURS          | SOLID STATE DIGITAL         | AUTOMOTIVE  |
|  | DOD               | 12-120 AC/DC  | 2 FORM C; 4 AMP                       | 0.1 SECS - 300 SECS               | SOLID STATE ANALOG HYBRID   | OCTAL/SPADE |
|  | HDOD              | 12-120 AC/DC  | 2 FORM C; 4 AMP                       | 0.1 SECS - HOURS                  | SOLID STATE DIGITAL         | HOCKEY PUCK |
| <b>INTERVAL</b><br>(ONE-SHOT, NORMALLY OPEN)           | CI                | 12-120 AC/DC  | 2 FORM C; 10 AMP                      | 0.1 SEC - 600 SECS                | SOLID STATE ANALOG HYBRID   | OCTAL/SPADE |
|  | ST2               | 12-240 AC/DC  | 1 FORM A; 2 AMP                       | 0.1 SEC - 100 HOURS               | SOLID STATE DIGITAL         | HOCKEY PUCK |
|  | SWUDC             | 12-140 AC/DC  | 2 FORM C; 10 AMP                      | 0.1 SECS - 77.5 HOURS             | SOLID STATE DIGITAL HYBRID  | OCTAL/SPADE |
| <b>TRIGGERED INTERVAL</b><br>(ONE-SHOT, NORMALLY OPEN) | CIR               | 12-120 AC/DC  | 2 FORM C; 10 AMP                      | 0.1 SECS - 480 SECS               | SOLID STATE ANALOG HYBRID   | OCTAL/SPADE |
|  | STB               | 12-230 AC/DC  | 1 FORM A; 2 AMP                       | 0.1 SEC - 100 HOURS               | SOLID STATE DIGITAL         | HOCKEY PUCK |
|  | SWUDC             | 12-140 AC/DC  | 2 FORM C; 10 AMP                      | 0.1 SECS - 77.5 HOURS             | SOLID STATE DIGITAL HYBRID  | OCTAL/SPADE |
| <b>RECYCLING</b><br>(FLASHER)                          | D                 | 6-120 AC/DC   | 1 FORM A; 2 AMP                       | FIXED; 2 - 1000 FPM               | SOLID STATE ANALOG          | MINIATURE   |
|  | DF                | 6-240 AC/DC   | 1 FORM A; 2 AMP                       | FIXED; 2 - 1000 FPM               | SOLID STATE ANALOG          | MINIATURE   |
|  | DF10              | 12-120 AC/DC  | 2 FORM C; 10 AMP                      | FIXED; 1 - 240 FPM                | SOLID STATE ANALOG          | OCTAL/SPADE |
|  | DFA               | 12-120 AC/DC  | 2 FORM C; 10 AMP                      | ADJUSTABLE; 0.1 SECS - 240 HOURS  | SOLID STATE DIGITAL HYBRID  | OCTAL/SPADE |
|  | DFS               | 12-240 AC/DC  | 1 FORM A; 3 or 12 AMP                 | FIXED; 1 - 1000 FPM               | SOLID STATE ANALOG          | HOCKEY PUCK |
|  | DFV               | 12-120 AC/DC  | 2 FORM C; 10 AMP                      | ADJUSTABLE; 1 - 240 FPM           | SOLID STATE ANALOG          | OCTAL/SPADE |
|  | DFW               | 12-24 DC      | 2 FORM A; 15 AMP                      | FIXED; 10 - 120 FPM               | SOLID STATE DIGITAL HYBRID  | AUTOMOTIVE  |
|  | DFWS              | 12-120 AC/DC  | 2 FORM A; 10 AMP                      | FIXED; 1 - 1000 FPM               | 100% SOLID STATE            | AUTOMOTIVE  |
|  | HDFA              | 12-120 AC/DC  | 1 FORM C; 10 AMP                      | ADJUSTABLE; .25 SECS - 24 HOURS   | SOLID STATE DIGITAL HYBRID  | HOCKEY PUCK |
|  | HEAD-ALERT        | 12V DC        | 120 WATTS INCANDESCENT                | 250 Hz MODULATOR FREQUENCY        | 100% SOLID STATE            | MINIATURE   |
|  | STOP-ALERT        | 12V DC        | 1 FORM B; 5 AMP                       | 300 FPM 85% DUTY CYCLE            | SOLID STATE ANALOG          | MINIATURE   |
|  | STOP-ALERT 2 & 2M | 12V DC        | 1 FORM B; 5 AMP                       | 5 FLASHES THEN STEADY             | SOLID STATE ANALOG          | MINIATURE   |
| <b>SEQUENTIAL RELAY</b><br>(FLASHER)                   | SEQ               | 12-120 AC/DC  | 1 FORM A, SPST N.O. ; TRIAC OR MOSFET | 2 TO 4 LOADS; MILLISECONDS - MINS | 100% SOLID STATE            | HOCKEY PUCK |
| <b>AUTOMOTIVE POWER</b>                                | AR2               | 12V DC        | 1 FORM C, 2 FORM A; 40 AMP            | NOT APPLICABLE                    | AUTOMOTIVE RELAY            | MINIATURE   |
|  | MP2               | 12-120 AC/DC  | 2 FORM C; 10 AMP                      | NOT APPLICABLE                    | GENERAL PURPOSE POWER RELAY | MINIATURE   |