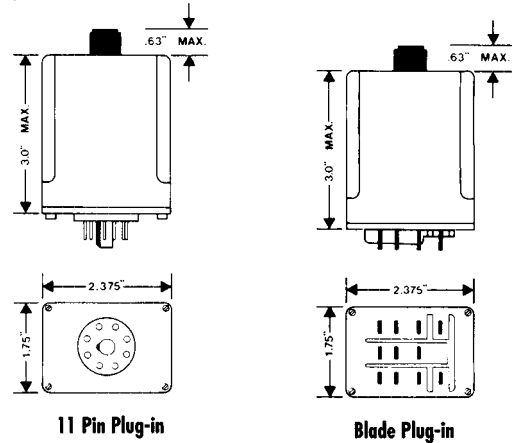


Programmable Multi-Mode Relay Output



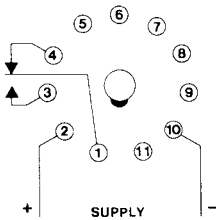
DIMENSIONS INCHES



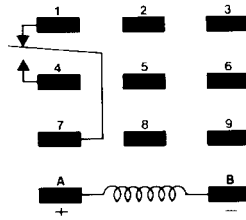
OPERATION

The TDU Series is one of the most versatile single timers available today. One model replaces forty-eight industry standard devices; 4 wide delay ranges x 6 most common modes of operation x 2 supply voltages—since they will operate on both AC and DC. The CMOS digital circuitry provides high accuracy, repeatability and fast reset times. The heavy duty relays are rated for continuous operation at 10 amps. All programming is easily accomplished externally by using one or more jumpers between designated base pins—no trap doors to open, no switches to set, no disassembly required.

WIRING DIAGRAM



SPDT 11 Pin Plug-in
RB-11/PF113A



SPDT Blade Plug-in
QC-11

ORDERING INFORMATION

TDU-XXX-X XX		
SUPPLY VOLTAGE		ENCLOSURE STYLE
12-D	12 VDC	A 11-pin octal plug-in
24-A	24 VAC or DC	B Blade plug-in
48-D	48 VDC	
120-A	110/120 VAC or DC	
240-A	240 VAC	
TYPE OF OPERATION		
K	Knob Adjustable	
L	Lock Shaft Adjustable	

SPECIFICATIONS

SUPPLY VOLTAGES: 24,120 or 240 VAC, 50/60 Hz; or 12, 24, 48 or 110 VDC, $\pm 10\%$

OPERATING MODES:

1. Interval
2. ON-Delay
3. OFF-Delay
4. Single Shot
5. Flasher – OFF First
6. Flasher – ON First

TIMING RANGES:

1. 0.15 to 15 seconds
2. 0.6 to 60 seconds
3. 5 to 480 seconds
4. 0.6 to 64 minutes

TIMING TOLERANCES

Minimum Setting: +0–20%
Maximum Setting: $\pm 10\%$

REPEATABILITY: 0.1% typical; 0.5% maximum

OUTPUT RATING: SPDT, 10 A @ 24 VDC or 250 VAC, resistive; 211 VA @ 120 VAC, inductive

TEMPERATURES

Operate: 32° to 131°F (0° to +55°C)
Storage: -49° to 185°F (-45° to +85°C)

RESET TIMES

Before Time Out: 100 milliseconds
After Time Out: 50 milliseconds

RECYCLE TIME: 40 milliseconds

FALSE TRANSFER: No

REVERSE POLARITY PROTECTED: Yes

POWER CONSUMPTION: 3 watts (approximately)

LIFE EXPECTANCY

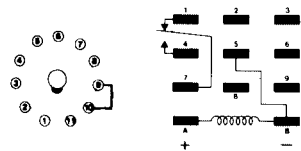
Mechanical: 10 million operations (minimum)
Electrical: 100,000 operations (minimum)

TIMING RANGE SELECTION

CAUTION: Do not program with power on! Wire for one timing range only!

4 different ranges can be obtained by either leaving 2 designated terminals unconnected or by connecting them to the appropriate terminals shown below. Because the Time Delay programming is the same regardless of the mode of operation only the wiring connections affecting the Time Delay are shown here.

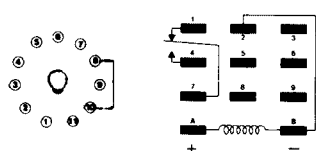
0.15 to 15 seconds



Jumper 9 to 10

Jumper 5 to B

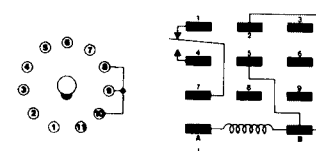
0.6 to 60 seconds



Jumper 8 to 10

Jumper 2 to B

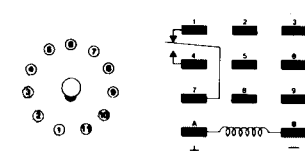
5.0 to 480 seconds



Jumper 8 and 9 to 10

Jumper 2 and 5 to B

.6 to 64 minutes



No Connections To 8 and 9

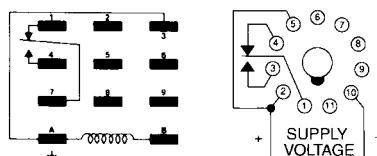
No Connections To 2 and 5

MODE OF OPERATION SELECTION

Interval

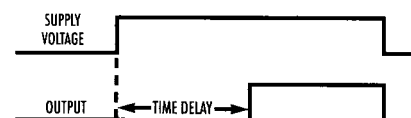
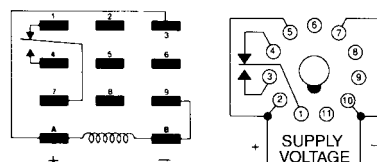
When voltage is applied to the input terminals, the relay energizes and the time delay begins. Upon completion of the delay period, the relay de-energizes. Reset during or after the delay period is accomplished by removal of the supply voltage.

Wire for one mode only!



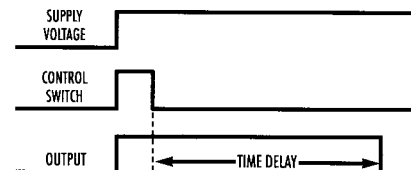
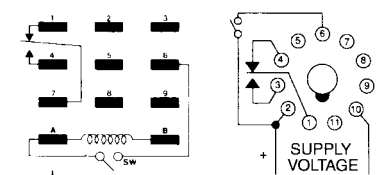
ON-Delay

The time delay begins when power is applied to the input. Upon completion of the delay period, the relay energizes. Reset during or after the delay period is accomplished by removal of the input voltage. The timer will not false transfer if supply voltage is removed prior to completion of the delay period.



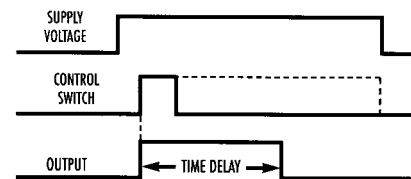
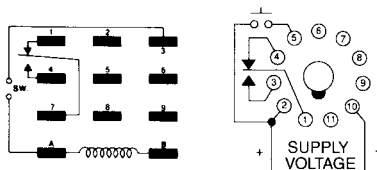
OFF-Delay

Voltage is continuously applied to the input. An external isolated switch controls the timer. When closed, the relay energizes. Opening the switch initiates the delay period. Upon completion of the delay period, the relay de-energizes. If the control switch recloses during the delay period, the relay remains energized and the timer resets to zero.



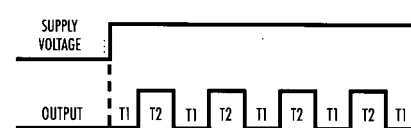
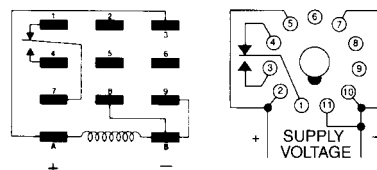
Single-Shot

Voltage is continuously applied to the input. An external isolated switch controls the timer. When closed (momentary or maintained), the relay energizes and the delay period begins. Upon completion of the delay period, the relay de-energizes.



Flasher—OFF Time First

When supply voltage is applied to the input, the OFF time begins. Upon completion of the OFF time, the relay energizes and the ON time begins. Upon completion of the ON time, the relay de-energized and one cycle is complete. This OFF/ON cycling continues until supply voltage is removed from the input. THE OFF TIME ALWAYS EQUALS THE ON TIME.



Flasher—ON Time First

When power is applied to the input, the relay energizes and ON time begins. Upon completion of the ON time, the relay de-energizes and the OFF time begins. Upon completion of the OFF time, the relay energizes and one cycle is complete. This ON/OFF cycling continues until supply voltage is removed from the input. THE ON TIME ALWAYS EQUALS THE OFF TIME.

