c UL us

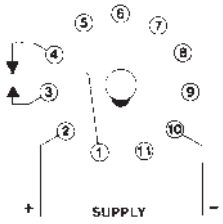
Programmable Multi-Mode Relay Output

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.

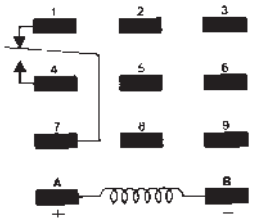
SPECIFICATIONS

TIMING RANGES	1	0.15 to 15 SEC
	2	0.6 to 60 SEC
	3	5 to 480 SEC
	4	0.6 to 64 MIN
OPERATING MODES	1	Interval
	2	ON-Delay
	3	OFF-Delay
	4	Single Shot
	5	Flasher – OFF First
	6	Flasher – ON First
OUTPUT RATING	SPDT, 10 A @ 24 VDC or 250 VAC, resistive; 211 VA @ 120 VAC, inductive	
TIMING TOLERANCES	Minimum Setting	+0–20%
	Maximum Setting	±10%
REPEATABILITY	0.1% typical; 0.5% maximum	
RESET TIMES	Before Time Out	100 mSEC
	After Time Out	50 mSEC
RECYCLE TIME	40 mSEC	
SUPPLY VOLTAGE	24,120 or 240 VAC, 50/60 Hz; or 12, 24, 48 or 110 VDC, ±10%	
FALSE TRANSFER	No	
REVERSE POLARITY PROTECTED	Yes	
POWER CONSUMPTION	3 watts (approximately)	
TEMPERATURE RATING	Operate	32° to 131°F (0° to +55°C)
	Storage	-49° to 185°F (-45° to +85°C)
LIFE EXPECTANCY	Mechanical	10 million operations (minimum)
	Electrical	100,000 operations @ rated load
WEIGHT	5 oz.	

WIRING

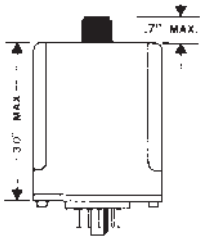


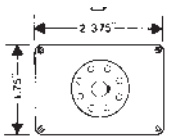
SPDT 11 Pin Plug-in
RB-11/PF113A



SPDT Blade Plug-in
70-463-1

DIMENSIONS (INCHES)





Octal and 11 Pin Plug-in

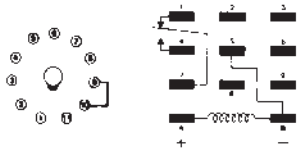
MODEL NUMBER >>>>>> TDU				
Supply Voltage				
12 VDC	12	D		
24 VAC or DC	24	A		
48 VDC	48	D		
110/120 VAC or DC	120	A		
240 VAC	240	A		
Type of Operation				
Knob Adjustable			K	
Lock Nut Adjustable			L	
Enclosure Style				
11-pin octal plug-in				A
Blade plug-in				B

TIMING RANGE SELECTION

CAUTION: DO NOT PROGRAM WITH POWER ON! *WIRE FOR ONE TIMING RANGE ONLY!*

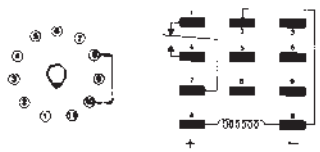
4 different ranges can be obtained by either leaving 2 designated terminals unconnected or by connecting them to the appropriate terminals shown below. Because the Time Delay programming is the same regardless of the mode of operation only the wiring connections affecting the Time Delay are shown here.

0.15 to 15 seconds



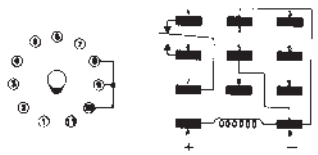
Jumper 9 to 10 | Jumper 5 to B

0.6 to 60 seconds



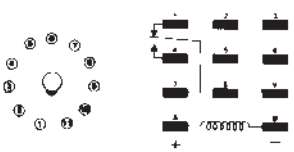
Jumper 8 to 10 | Jumper 2 to B

5.0 to 480 seconds



Jumper 8 and 9 to 10 | Jumper 2 and 5 to B

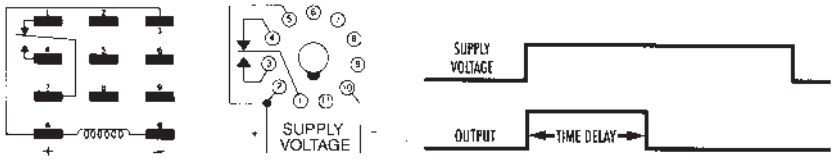
.6 to 64 minutes



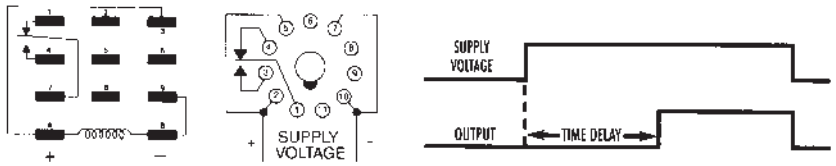
No Connections To 8 and 9 | No Connections To 2 and 5

OPERATION–*WIRE FOR ONE MODE ONLY!*

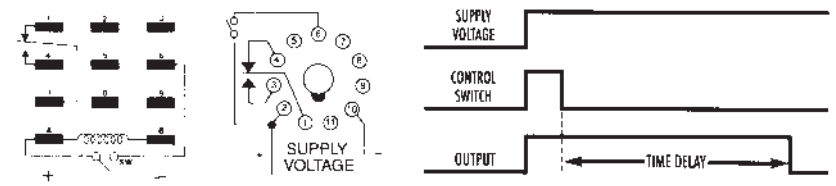
INTERVAL: When voltage is applied to the input terminals, the relay energizes and the time delay begins. Upon completion of the delay period, the relay de-energizes. Reset during or after the delay period is accomplished by removal of the supply voltage.



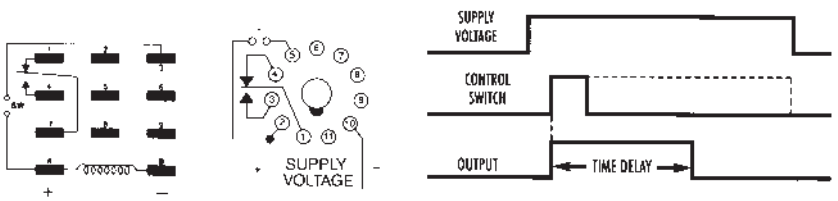
ON-DELAY: The time delay begins when power is applied to the input. Upon completion of the delay period, the relay energizes. Reset during or after the delay period is accomplished by removal of the input voltage. The timer will not false transfer if supply voltage is removed prior to completion of the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



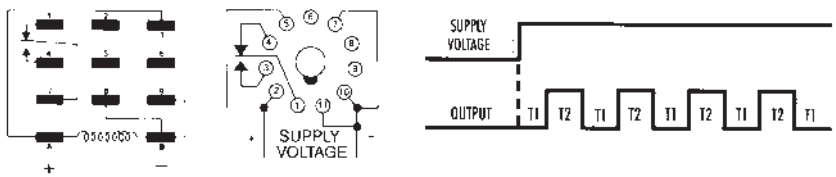
OFF-DELAY: Voltage is continuously applied to the input. An external isolated switch controls the timer. When closed, the relay energizes. Opening the switch initiates the delay period. Upon completion of the delay period, the relay de-energizes. If the control switch recloses during the delay period,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