

# Recycling (Pulse Generator) TSDR Digi-Timer Timing Module



### Description

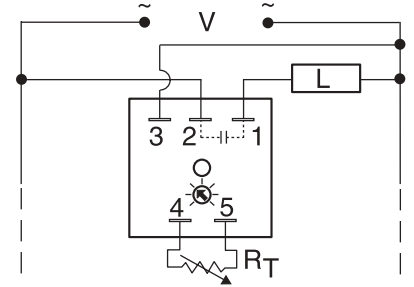
The TSDR Digi-Timer is an ON/OFF or OFF/OFF recycling timing module designed to control metering pumps, chemical valves, flash lamps, or use in energy saving or duty cycling applications. It is available with input voltages of 24, 120, or 230 V AC, and time delays of 0.1 s to 1000 m in 6 ranges. It may be ordered with both time delays factory fixed, or one delay fixed and the other delay external or knob adjustable. Encapsulated for added protection.

### Operation

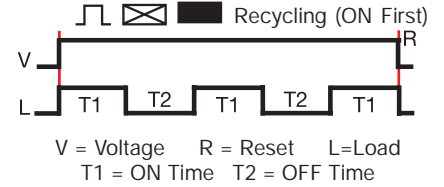
Upon application of input voltage, the output is energized and the ON time begins. At the end of the ON time, the output de-energizes and the OFF time begins. At the end of the OFF time, the output is energized and the cycle repeats as long as input voltage is applied. The OFF time may be the first delay in some recycling timers.

**Reset:** Removing input voltage resets the output and time delays, and returns the sequence to the first delay.

Approvals:



R<sub>T</sub> is used when external adjustment is ordered. A knob, or terminals 4 & 5 are only included on adjustable units.



- ON/OFF or OFF/OFF Repeat Cycle Timing
- ON Time and OFF Time Can Be Different
- 24, 120, or 230 V AC Input Voltage
- Fixed or Adjustable Delays From 0.1 s ... 1000 m
- Fixed, External, or Knob Adjustable Delays

### Ordering Table

TSDR Series	X Input	X Adjustment	X ON Time *	X First Delay	X OFF Time *
	-2 - 24 V AC	-1 - Fixed	-0 - 0.1 ... 10 s	-A - ON Time	-0 - 0.1 ... 10 s
	-4 - 120 V AC	-2 - ON Time Knob adj./ OFF Time Fixed	-1 - 1 ... 100 s	-B - OFF Time	-1 - 1 ... 100 s
	-6 - 230 V AC	-3 - ON Time Ext. adj./ OFF Time Fixed	-2 - 10 ... 1000 s		-2 - 10 ... 1000 s
		-4 - ON Time Fixed/OFF Time Ext. adj.	-3 - 0.1 ... 10 m		-3 - 0.1 ... 10 m
		-5 - ON Time Fixed/OFF Time Knob adj.	-4 - 1 ... 100 m		-4 - 1 ... 100 m
			-5 - 10 ... 1000 m		-5 - 10 ... 1000 m

\*If Fixed Delay is selected, insert delay [0.1...1000] followed by (S) sec. or (M) min.

NOTE: Adjustable range zero cannot be combined with fixed times greater than 100 m.

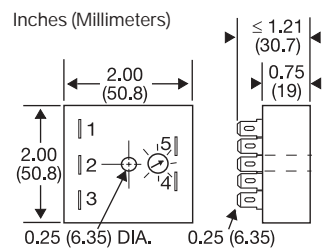
### Technical Data

<b>Time Delay</b>	
Type	Digital integrated circuitry
Range	0.1 s ... 1000 m in 6 adjustable ranges or fixed
Repeat Accuracy	+/-0.5%
Tolerance (Factory Calibration)	≤ +/-10%
Reset Time	150 ms
Time Delay vs. Temperature & Voltage	≤ +/-5%
<b>Input</b>	
Voltage	24, 120, or 230 V AC
Tolerance	+/-20%
Line Frequency	50 ... 60 Hz
<b>Output</b>	
Type	Solid state
Rating	1 A steady state, 10 A inrush at 55°C
Voltage Drop	≅ 2.5 V at 1 A
<b>Protection</b>	
Circuitry	Encapsulated
Dielectric Breakdown	≥ 2000 V RMS terminals to mounting surface
Insulation Resistance	100 MΩ
<b>Mechanical</b>	
Mounting	Surface mount with one #10 (M5 x 0.8) screw
Package	2 x 2 x 1.21 in. (50.8 x 50.8 x 30.7 mm)
Termination	0.25 in. (6.35 mm) male quick connect terminals
<b>Environmental</b>	
Operating Temperature	-40°C ... +60°C
Storage Temperature	-40°C ... +85°C
Humidity	95% relative, non-condensing
Weight	≅ 2.4 oz (68 g)

Desired Time Delay*						R <sub>T</sub> Megohm
Seconds			Minutes			
0	1	2	3	4	5	
0.1	1	10	0.1	1	10	0.0
1	10	100	1	10	100	0.5
2	20	200	2	20	200	1.0
3	30	300	3	30	300	1.5
4	40	400	4	40	400	2.0
5	50	500	5	50	500	2.5
6	60	600	6	60	600	3.0
7	70	700	7	70	700	3.5
8	80	800	8	80	800	4.0
9	90	900	9	90	900	4.5
10	100	1000	10	100	1000	5.0

NOTE: Time ranges 0 & 5 cannot be ordered in the same unit.

\* When selecting an external R<sub>T</sub> add at least 20% for tolerance of unit and the R<sub>T</sub>.



ON Time		
Time Delay	VTP P/N	
0 - 0.1 ... 10 s	VTP5C	
1 - 1 ... 100 s	VTP5G	
2 - 10 ... 1000 s	VTP5K	
3 - 0.1 ... 10 m	VTP5N	
4 - 1 ... 100 m	VTP5P	
5 - 10 ... 1000 m	VTP5R	

OFF Time		
Time Delay	VTP P/N	
0 - 0.1 ... 10 s	VTP5C	
1 - 1 ... 100 s	VTP5G	
2 - 10 ... 1000 s	VTP5K	
3 - 0.1 ... 10 m	VTP5N	
4 - 1 ... 100 m	VTP5P	
5 - 10 ... 1000 m	VTP5R	

### Accessories

Mounting bracket  
P/N: P1023-6

External adjust potentiometer  
P/Ns:  
P1004-13 (fig A)  
P1004-13-X (fig B)

Female quick connect  
P/N:  
P1015-64(AWG 14/16)

Plug-on adjustment module  
P/N:  
VTP(X)(X)

Quick connect to screw adaptor  
P/N: P1015-18

Versa-knob  
P/N: P0700-7

DIN rail adaptor  
P/N: P1023-20

DIN rail P/Ns:  
C103PM (Al)  
17322005 (Steel)

See accessory pages at the end of this section.