

# Solid State Timer

**Sartrex Part No. 972 010**



Timer Top View

The Sartrex Solid State Timer is a pin-compatible replacement for the obsolete Agastat 91xx series timer used in control applications. This is a custom designed unit with the same form fit and function as the original unit.

Its current configuration with the timer mounted on an octal plug makes this the standard replacement for the Agastat timer for CANDU applications. These applications include performing critical timing functions within the Safety Shutdown and other systems.

Stringent testing during the Sartrex Acceptance Test assure the customers that the unit will meet all timing specifications for critical applications.



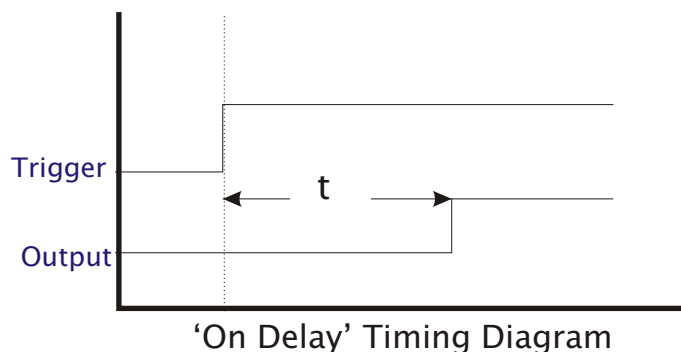
Timer Side View

## Main Operation Modes

This timer has three main modes of operation. The user selects the different modes by means of an internal switch. Having the switch inside the housing prevents tampering in the field.

### On Delay Mode

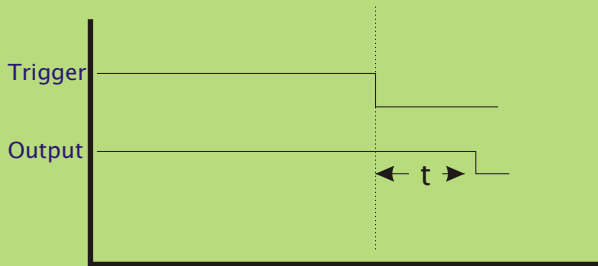
In this mode of operation, the timer delays the starting and/or energizing of a unit or instrument by  $T_s$  sec. (selected time). The internal circuitry enables energizes the output relay after 't' seconds.



## Main Operation Modes cont.

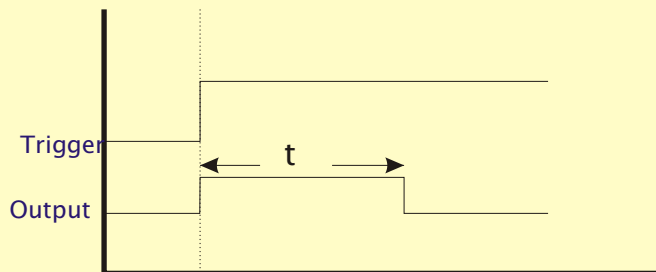
### Slow Release Mode

In this mode of operation, the output relay is energized when the control signal is applied after a small confirmation time. The output de-energizes 't' seconds after the control signal is removed.



### Reverse Delay Mode

In this mode of operation, on the rising edge of the trigger, the output will be energized for a period of 't' seconds. The operator has the option to retrigger or block triggering.



## Specifications

### Timing Ranges

This timer has four ranges that the user can select using the rotary switch on at the top of the timer. Refer to the chart for the available ranges.

Range	Low End	High End		
0	40 msec.	4 sec.		
1	.3 sec.	30 sec.		
2	1.3 sec.	130 sec.		
3	10 sec.	1000 sec.		

Input Voltage: 48VDC (39-57VDC) or 95VDC (85 -105VDC)

Output Contacts : 5A Resistive @30VDC (Max. 125VDC)  
10A @ 250VAC

Seismic & Transient Qualification

### Some Sample Applications

Original Agastat Model No.	Application Description	Time Setting
9110	SDS 1 Boiler Level Low	1 sec.
9110-B1	SDS 1 Boiler Feedline Low Pressure	9 sec.
9110-B1	SDS 1 Trip Seal In Relay	180 msec
9110-B1	SDS 1 Loss of Power Relay	500 msec.

Replaces Agastat 9103-C, 9110,9111,9112,9108,9107 & other series  
various pin-out configurations with optional 8 or 11 pin octal conn

Rev. 1, Aug. 18, 2003



222 Snidercroft Rd  
Concord, ON, Canada  
L4K 1B5  
Phone(905) 669-2278  
Fax (905) 669-6127  
Web www.sartrex.com