

## Delay On Make/Break CT Series HVAC/R Timer



TEN YEAR  
WARRANTY

- Delay on Make and Delay on Break In One Unit
- Use For Fan Delays in Heating or Cooling Equipment
- Use For Multiple Load Sequencing
- 24 V AC Operation
- Factory Fixed Delays From 1 ... 600 s in 1 s Increments

Approvals:

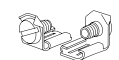
### Accessories



Mounting bracket  
P/N: P1023-6

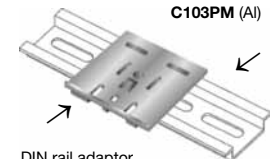


Female quick connect  
P/N: P1015-64 (AWG 14/16)



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

DIN rail P/Ns:  
C103PM (Al)



DIN rail adaptor  
P/N: P1023-20

See accessory pages for specifications.

### Description

The CT Series combines a delay on make and delay on break time delay into one unit and may be used to control fan delays in heating and/or cooling equipment. The CT includes bypass circuitry to allow it to operate with cooling anticipators  $\geq 3000$  ohms. It is designed to operate in 24 V AC control circuits. Several CT modules may be combined to provide sequencing ON of any number of loads and sequencing OFF of the same loads, such as electric heating elements.

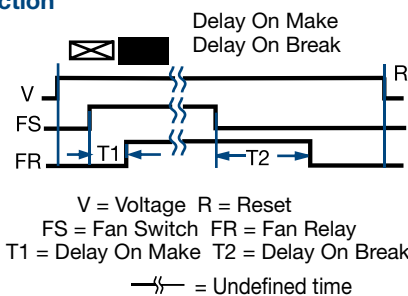
### Operation

#### Forced Air Heating or Air Conditioning (as shown):

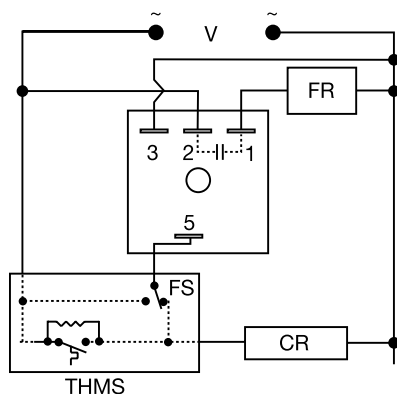
When the thermostat closes, the compressor relay is immediately energized. At the end of a fixed delay on make delay (T1), the fan relay is energized. When the thermostat opens, the compressor relay is de-energized and the delay on break delay is initiated. On completion of the fixed delay on break delay (T2) the fan relay is de-energized. If the thermostat is reclosed during the delay on break delay, the delay on break delay is reset and the fan relay remains energized. If the thermostat is closed when input voltage is applied, the delay on make delay (T1) begins as normal.

**Reset:** Removing input voltage resets the output and time delays.

### Function



### Connection



CR = Compressor Relay THMS = Wall Thermostat  
Dashed lines are internal connections.

### Available Models-

CT1S12  
•CT1S45  
CT30S1

CT1S30  
CT1S8  
CT30S150

CT1S300  
CT1S90  
•CT45S45

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### Ordering Table

**CT Series**

**X**

**Delay on Make (Fixed)**

Specify time in seconds from  
**1 ... 600 s**  
followed by (**S**)

**X**

**Delay on Break (Fixed)**

Specify time in seconds from  
**1 ... 600 s**

**Example P/N:** CT1S120, CT20S60

# Delay On Make/Break

## CT Series

### HVAC/R Timer

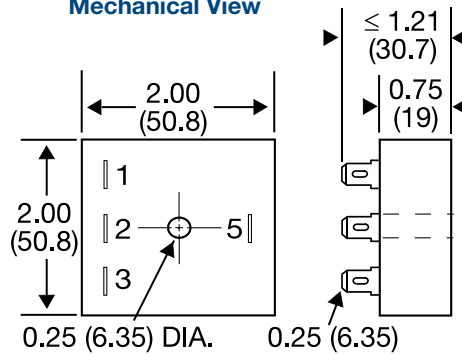
Dedicated  
timers

#### Technical Data

<b>Time Delay</b>	
Type	Microcontroller
Range	1 ... 600 s
Repeat Accuracy	+/-5%
Tolerance (Factory Calibration)	+/-20%
Recycle Time	≤ 300 ms
<b>Input</b>	
Voltage	24 V AC
Tolerance	+/-15%
Line Frequency	50 or 60 Hz
<b>Output</b>	
Type	Solid state
Form	Normally open
Rating	0.75 A steady state, 5 A inrush at 55°C
Voltage Drop	≅ 1.25 V
<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 ... +70°C
Storage Temperature	-40°C ... +85°C
Humidity	95% relative, non-condensing
Weight	≅ 2.4 oz (68 g)
<b>Thermostat</b>	Anticipator Resistor: ≥ 3000 Ω

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#### Mechanical View



Inches (Millimeters)