

Dedicated  
timers

# Random Start or Anti-Short Cycle TAC1 Series Delay on Make HVAC/R Timer



10 YEAR WARRANTY

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- UL Approved for Air Conditioning & Refrigeration Equipment
- Fixed or Adjustable Delays From 0.05 ... 600 s
- 24 ... 230 V AC, 50 ... 60 Hz
- Fail-safe Design Eliminates Contactor Chatter Problems
- +/-2% Repeat Accuracy

Approvals:

### Accessories

**B** External adjust potentiometer  
P/N: P1004-XX (fig A)  
P1004-XX-X (fig B)

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

Versa-knob  
P/N: P0700-7

Plug-on adjustment module  
P/N: VTP(X)(X)  
DIN rail P/Ns: C103PM (Al)

DIN rail adaptor  
P/N: P1023-20

See accessory pages for specifications.

### Description

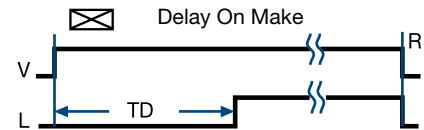
The TAC1 Series was designed to delay the operation of a compressor relay. It eliminates the possibility of relay chatter due to half-wave failure of the output. It connects in series with the load relay coil and provides a delay on make time delay each time input voltage is applied. It can be used for random start, anti-short cycling, sequencing, and many other applications. It is an excellent choice for all air conditioning and refrigeration equipment.

### Operation

Upon application of input voltage, the time delay begins. The output is de-energized before and during the time delay. At the end of the time delay, the output energizes and remains energized until input voltage is removed.

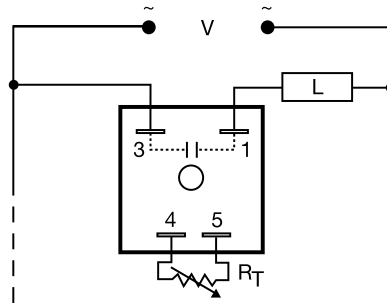
**Reset:** Removing input voltage resets the time delay and output.

### Function



V = Voltage TD = Time Delay R = Reset  
L = Load ——— = Undefined time

### Connection



Load may be connected to terminals 3 or 1.  
R<sub>T</sub> is used when external adjustment is ordered.

### Available Models-

TAC12160  
TAC1411  
TAC1413

TAC1217  
TAC14110  
TAC14164

TAC1223  
TAC1412

Don't see what you need? Call us for a minimum quantity and price quote!

### Ordering Table

TAC1 Series	X Input	X Adjustment	X Time Delay *
	-2 - 24 V AC	-1 - Fixed	-1 - 0.05 ... 3 s
	-4 - 120 V AC	-2 - External Adjust	-2 - 0.5 ... 60 s
	-6 - 230 V AC		-3 - 2 ... 180 s
			-4 - 5 ... 600 s

Example P/N: TAC1221 Fixed – TAC141300

\*If Fixed Delay is selected, insert delay [0.05 ... 600] in seconds.

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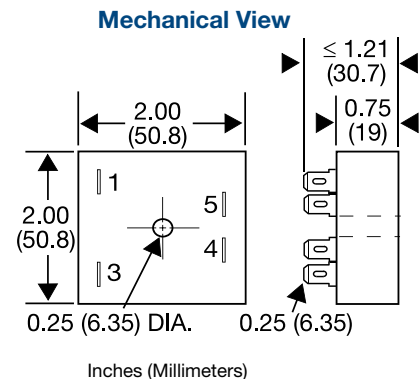
## Technical Data

<b>Time Delay</b>	
Type	Analog circuitry
Range	0.05 ... 600 s in 4 adjustable ranges or fixed
Repeat Accuracy	+/-2%
Tolerance (Factory Calibration)	+/-20%
Recycle Time	≤ 20 ms after timing, during timing--0.1% of time delay or 75 ms, whichever is greater
Time Delay vs. Temperature & Voltage	≤ +/-10%
<b>Input</b>	
Voltage	24, 120, or 230 V AC
Tolerance	+/-20%
Line Frequency	50 ... 60 Hz
<b>Output</b>	
Type	Solid state
Form	Normally Open, open during timing
Rating	0.5 A steady state, 10 A inrush at 60°C
Voltage Drop	120 & 230 V AC: ≅ 4.2 V at 0.5 A 24 V AC: ≅ 2.5 V at 0.5 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 ... +80°C
Storage Temperature	-40°C ... +85°C
Humidity	95% relative, non-condensing
Weight	≅ 2.4 oz (68 g)

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Desired Time Delay*				R <sub>T</sub>
Seconds				
1	2	3	4	Megohm
0.05	0.5	2	5	0.0
0.5	10	30	60	0.5
1.0	20	60	120	1.0
1.5	30	90	180	1.5
2.0	40	120	240	2.0
2.5	50	150	300	2.5
3.0	60	180	360	3.0
			420	3.5
			480	4.0
			540	4.5
			600	5.0

\* When selecting an external R<sub>T</sub> add at least 30% for tolerance of unit and the R<sub>T</sub>.



Time Delay	VTP P/N	Fig. A P/N	Fig. B P/N
1 - 0.05 ... 3 s	VTP4B	P1004-12	P1004-12-X
2 - 0.5 ... 60 s	VTP4F	P1004-12	P1004-12-X
3 - 2 ... 180 s	VTP4J	P1004-12	P1004-12-X
4 - 5 ... 600 s	VTP5N	P1004-13	P1004-13-X

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