

Delay On Make (Operate) TAC1 Series Timing Module



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

Description

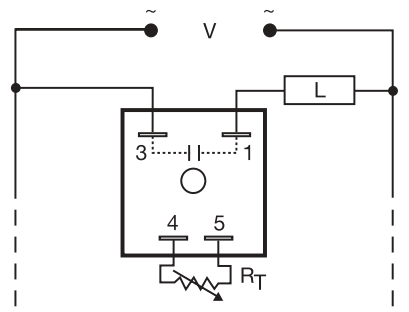
The TAC1 Series was designed to operate the coil of a compressor relay and to eliminate the possibility of relay chatter due to half-wave failure of the output. It connects in series with the load relay coil and provides a delay-on-make delay each time input voltage is applied. It can be used for random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

Operation

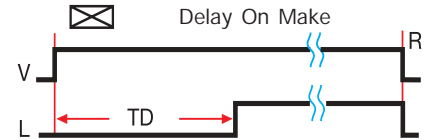
Upon application of input voltage, the time delay begins. The output is de-energized before and during the time delay. At the end of the time delay, the output is energized and remains energized until input voltage is removed.

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

Approvals:



Load may be connected to terminals 3 or 1. R_T is used when external adjustment is ordered.



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

Ordering Table

TAC1 Series	X Input	X Adjustment	X Time Delay *	
	-2 - 24 V AC	-1 - Fixed	-1 - 0.05 ... 3 s	*If Fixed Delay is selected, insert delay [0.05 ... 600] in seconds.
	-4 - 120 V AC	-2 - External Adjust	-2 - 0.5 ... 60 s	
	-6 - 230 V AC		-3 - 2 ... 180 s	
			-4 - 5 ... 600 s	

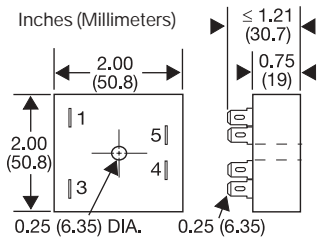
Example P/N: TAC1221 Fixed - TAC141300

Desired Time Delay*					R _T Megohm
Seconds					
1	2	3	4		
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_T add at least 30% for tolerance of unit and the R_T.

Technical Data

Time Delay	
Type	Analog circuitry
Range	0.05 ... 600 s in 4 adjustable ranges or fixed
Repeat Accuracy	+/-2%
Tolerance (Factory Calibration)	+/-20%
Recycle Time	≤16 ms after timing, during timing--0.1% of time delay or 75 ms, whichever is greater
Time Delay vs. Temperature & Voltage	≤ +/-10%
Input	
Voltage	24, 120, or 230 V AC
Tolerance	+/-20%
Line Frequency	50 ... 60 Hz
Output	
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
Protection	
Circuitry	Encapsulated
Dielectric Breakdown	≥ 2000 V RMS terminals to mounting surface
Insulation Resistance	≥ 100 MΩ
Mechanical	
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
Environmental	
Operating Temperature	-40°C ... +80°C
Storage Temperature	-40°C ... +85°C
Humidity	95% relative, non-condensing
Weight	≅ 2.4 oz (68 g)



Accessories

<p>Mounting bracket P/N: P1023-6</p>	<p>External adjust potentiometer P/N: P1004-XX</p>
<p>Female quick connect P/N: P1015-64(AWG 14/16)</p>	<p>Plug-on adjustment module P/N: VTP(X)(X)</p>
<p>Quick connect to screw adaptor P/N: P1015-18</p>	<p>DIN rail adaptor P/N: P1023-20</p>

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

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

See accessory pages at the end of this section.