



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 (Delay-on-Make):

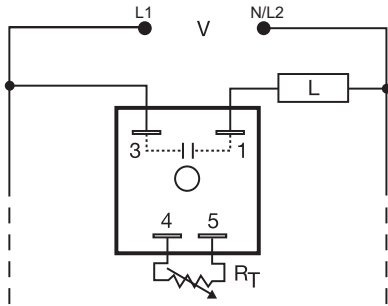
Upon application of input voltage, the time delay begins. The output is de-energized before and during the time delay. At the end of the time delay, the output energizes and remains energized until input voltage is removed. Reset: Removing input voltage resets the time delay and output.

For more information see:

Appendix A, pages 156-164 for function descriptions and diagrams.

Appendix B, page 165, Figure 1 for dimensional drawing.

Connection:



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

R_T Selection Chart				
Desired Time Delay*				R_T
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_T add at least 30% for tolerance of unit and the R_T .

Features

- UL approved for air conditioning & refrigeration equipment
 - Fixed or adjustable delays from 0.05 - 600s
 - 24 to 230VAC
 - Fail-safe design eliminates contactor chatter problems
 - $\pm 2\%$ repeat accuracy
- Approvals:

Auxiliary Products:

- **External adjust potentiometer:**
P/N: P1004-XX
P/N: P1004-XX-X
- **Female quick connect:**
P/N: P1015-64 (AWG 14/16)
- **Mounting bracket:** P/N: P1023-6
- **Quick connect to screw adaptor:**
P/N: P1015-18
- **Versa-knob:** P/N: P0700-7
- **DIN rail:** P/N: C103PM (All)
- **DIN rail adaptor:** P/N: P1023-20
- **Plug-on adjustment module:**
P/N: VTP(X)(X)

Time Delay	VTP P/N
1 - 0.05-3s	VTP4B
2 - 0.5-60s	VTP4F
3 - 2-180s	VTP4J
4 - 5-600s	VTP5N

Selection Table for VTP Plug-on Adjustment Accessory.

Available Models:

TAC1223	TAC1413
TAC1411	TAC14164
TAC141150	
TAC1412	

If desired part number is not listed, please call us to see if it is technically possible to build.

Order Table:

TAC1	X	X	X
	Input Voltage	Adjustment	Time Delay*
	2 - 24VAC	1 - Fixed	1 - 0.05 - 3s
	4 - 120VAC	2 - External adjust	2 - 0.5 - 60s
	6 - 230VAC		3 - 2 - 180s
			4 - 5 - 600s

*If fixed delay is selected, insert delay (0.05 - 600) in seconds.

Specifications

Time Delay	
Type	Analog circuitry
Range	0.05 - 600s in 4 adjustable ranges or fixed
Repeat Accuracy	$\pm 2\%$
Tolerance (Factory Calibration)	$\pm 20\%$
Recycle Time	≤ 20 ms after timing, during timing - 0.1% of time delay or 75ms, whichever is greater
Time Delay vs Temp. & Voltage	$\leq \pm 10\%$
Input	
Voltage	24, 120, or 230VAC
Tolerance	$\pm 20\%$
AC Line Frequency	50/60 Hz
Output	
Type	Solid state
Form	NO, open during timing
Rating	0.5A steady state, 10A inrush at 60°C

Voltage Drop	120 & 230VAC: $\approx 4.2V @ 0.5A$ 24VAC: $\approx 2.5V @ 0.5A$
--------------	---------------------------------------------------------------------

Protection

Circuitry	Encapsulated
Dielectric Breakdown	$\geq 2000V$ RMS terminals to mounting surface
Insulation Resistance	≥ 100 M Ω

Mechanical

Mounting	Surface mount with one #10 (M5 x 0.8) screw
Dimensions	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/Storage Temperature	-40° to 80°C / -40° to 85°C
Humidity	95% relative, non-condensing
Weight	≈ 2.4 oz (68 g)