# TAC1 SERIES

## **Delay-on-Make**





## Wiring Diagram



V = Voltage L = Load

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

## **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 (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.

## Features & Benefits

FEATURES	BENEFITS		
Analog circuitry	Repeat accuracy + / - 2%, Factory calibration + / - 20%		
0.5A steady state, 10A inrush	Provides 100 million operations in typical conditions.		
Connects in series with load relay coil	Fail-safe design eliminates contactor chatter		
Meets UL 873	UL Recognized for air conditioning and refrigeration equipment		
Fully encapsulated	Protects against shock, vibration and humidity		

## **Accessories**



### P1004-XX, P1004-XX-X Versa-Pot

Panel mountable, industrial potentiometer recommended for remote time delay adjustment.



### The 90° orientation of mounting slots makes installation/removal of modules guick and easy.

P1023-6 Mounting bracket

P0700-7 Versa-Knob Designed for 0.25 in (6.35 mm) shaft of Versa-Pot. Semi-gloss industrial black finish.

#### P1015-64 (AWG 14/16) **Female Quick Connect**

These 0.25 in. (6.35 mm) female terminals are constructed with an insulator barrel to provide strain relief.



#### P1015-18 Quick Connect to Screw Adapter Screw adapter terminal designed for use with

all modules with 0.25 in. (6.35 mm) male quick connect terminals.

## **Ordering Information**

MODEL	INPUT VOLTAGE	ADJUSTMENT	TIME DELAY
TAC1223	24VAC	External	2 - 180s
TAC1411	120VAC	Fixed	1s
TAC1412	120VAC	Fixed	2s
TAC1413	120VAC	Fixed	3s
TAC14164	120VAC	Fixed	64s

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### Accessories



#### C103PM (AL) DIN Rail

35 mm aluminum DIN rail available in a 36 in. (91.4 cm) length.



### P1023-20 DIN Rail Adapter

Allows module to be mounted on a 35 mm DIN type rail with two #10 screws.



VTP(X)(X) Plug-on Adjustment Module Mounts on modules with in-line adjustment terminals. Rated at 0.25W at 55°C. Available in resistance values from  $5K\Omega$  to  $5M\Omega$ .

#### Selection Table for VTP Plug-on Adjustment Accessory

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

### **Selection Guide**

R <sub>T</sub> Selection Chart					
Des	Bt				
	11				
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 s	electina	an exterr			

When selecting an external  $R_T$  add at leas 30% for tolerance of unit and the  $R_T$ .

## **Function Diagram**



V = Voltage NO = Normally Open Contact NC = Normally Closed Contact TD = Time Delay R = Reset  $-\sqrt{-} = Undefined$  Time

## **Specifications**

#### Time Delay Type

Range Repeat Accuracy Tolerance (Factory Calibration) Recycle Time

#### Time Delay vs Temp. & Voltage

Input Voltage Tolerance AC Line Frequency Output Type Form Rating Voltage Drop

### Protection

Circuitry Dielectric Breakdown Insulation Resistance Mechanical Mounting Dimensions

### Termination

Environmental Operating/Storage Temperature

Temperature Humidity Weight Analog circuitry 0.05 - 600s in 4 adjustable ranges or fixed  $\pm 2\%$ 

±20% < 20ms after timing, during timing - 0.1% of time delay or 75ms, whichever is greater

 $\leq \pm 10\%$ 

24, 120, or 230VAC ±20% 50/60 Hz

Solid state NO, open during timing 0.5A steady state, 10A inrush at 60°C 120 & 230VAC:  $\approx 4.2V @ 0.5A$ 24VAC:  $\approx 2.5V @ 0.5A$ 

Encapsulated  $\geq$  2000V RMS terminals to mounting surface  $\geq$  100 M $\Omega$ 

Surface mount with one #10 (M5 x 0.8) screw H 50.8 mm (2"); W 50.8 mm (2"); D 30.7 mm (1.21") 0.25 in. (6.35 mm) male quick connect terminals

 $-40^{\circ}$  to  $80^{\circ}$ C /  $-40^{\circ}$  to  $85^{\circ}$ C 95% relative, non-condensing  $\approx 2.4$  oz (68 g)

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