

**NEW!**

# High Amp Time Delay Relays

## TH4 Series

**Effectively and economically operate heavy loads such as pumps, compressors, and heaters.**



TH4 Series Time Delay Relays install with one screw or bolt. High-contrast markings make connection and operation simple.

### 30A CONTACTS CAN CONTROL LOADS WITHOUT A SEPARATE CONTACTOR

TH4 Series Time Delay Relays combine time-based control with high amperage switching capacity in compact 2" x 3" enclosures. This cost-effective solution can eliminate the need for a separate contactor reducing cost and saving space.

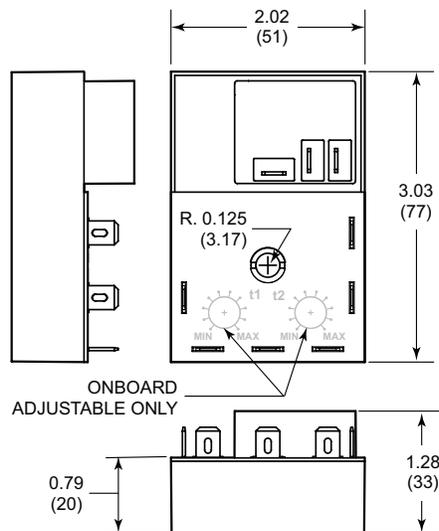
The relays operate reliably with encapsulated enclosures resistant to harsh environments.

Microprocessor-based timing provides superior accuracy and repeatability.

### FEATURES:

- 30 Amp heavy-duty switching
- Horsepower ratings up to 2HP @ 240V AC
- 14 timing functions available
- Time delay ranges from 0.05 seconds to 100 hours
- Adjustable on-board potentiometers, remote potentiometers, or factory-set fixed time delays
- Cost-effective design with compact enclosure is ideal for volume OEM applications
- Quick-connect terminals for easy wiring

Approvals:



Dimensions in inches (mm)

# TH4 Series Time Delay Relays

## APPLICATION DATA

### Voltage Tolerance:

AC Operation: +10/-15% of nominal at 50/60 Hz  
DC Operation: +10/-15% of nominal

**Load (Burden):** Maximum of 3 VA for all voltages

### Setting Accuracy:

Maximum Setting (Adjustable): +5%, -0%  
Minimum Setting (Adjustable): +0%, -50%  
Fixed Time Delay: ±2% or 50ms, whichever is greater

### Repeat Accuracy:

Constant voltage and temperature: ±0.1% or ± 0.04 seconds, whichever is greater  
Changing voltage and temperature within limits: ±5% or ± 0.1 seconds, whichever is greater

### Reset Time:

Triggered with Input Voltage: 100ms  
Triggered with Control Switch: 40ms

### Start-up Time:

Time from when power is applied until unit is timing:  
0.05 seconds

### Maintain Function Time:

Time unit continues to operate after power is removed: 0.01 Seconds.  
Interruptions longer than this time may reset the timing cycle.

### Units Triggered by a Control Switch:

Minimum required trigger switch closure time is 50ms.

### Temperature:

Operating: -28° to 65° C (-18° to 149° F)  
Storage: -45° to 85° C (-49° to 185° F)

### Output Contact Ratings:

Ratings	SPDT (NO Contact)	SPDT (NC Contact)
AC 240VAC G.P.	30A	15A
DC 28VDC RES.	20A	10A
Motor Load 115/120/125	1 HP	1/4 HP
Motor Load 230/240/250	2 HP	1/2 HP

### Life:

Mechanical: 10,000,000 operations; Full Load: 100,000 operations

### Compatibility:

Using a solid state switch to initiate the time sequence is acceptable. See [www.macromatic.com/leakage](http://www.macromatic.com/leakage) or contact Macromatic for information regarding leakage current limits and other solid state design considerations.

### Mounting:

Surface with one #8 or #10 screw;  
Recommended maximum tightening torque: 15 in-lb.

**Termination:** 0.25" male quick-connect terminals

## TYPICAL MODEL CODE

### TH4 Series

Family	Function	Output Configuration	Control Voltage	Time Ranges	Standard Modifications
TH4	Time Delay	6 SPDT	1 240V AC/DC 2 120V AC/DC 4 48V AC/DC 6 12V DC 8 24V AC/DC	-04 0.05 - 5 seconds -30 0.1 - 10 seconds -07 0.3 - 30 seconds -08 0.6 - 60 seconds -31 1 - 100 seconds -09 1.2 - 120 seconds -10 1.8 - 180 seconds -12 3 - 300 seconds -36 10 - 1,000 seconds -32 0.1 - 10 minutes -15 0.3 - 30 minutes -16 0.6 - 60 minutes -33 1 - 100 minutes -37 10 - 1,000 minutes -17 1.2 - 120 minutes -34 0.1 - 10 hours -35 1 - 100 hours -F Fixed Time Range (i.e., F5S for Fixed 5 seconds)	R1 Remote Potentiometer - 100K J Control Voltage connected at Relay Common T Single Pin Trigger, Pin 6 (Applies to functions 12, 13, 15, 16, 22, 41, & 65 only) Z Bulk Packaging
<b>SINGLE TIME</b>					
02	On Delay				
05	Interval On				
08	Flasher (Off 1st)				
09	Flasher (On 1st)				
12	On Delay (Switch Trigger)				
13	Watchdog (Switch Trigger)				
15	Single Shot (Switch Trigger)				
16	Off Delay (Switch Trigger)				
22	Single Shot Falling Edge (Switch Trigger)				
<b>DUAL TIME</b>					
31	Repeat Cycle (OFF 1st)				
41	On Delay / Off Delay (Switch Trigger)				
51	Repeat Cycle (On 1st)				
61	Delayed Interval				
65	Delayed Interval (Switch Trigger)				

Dual Time functions come with matching time ranges as standard. Can be ordered in non-matching combinations. See [www.macromatic.com/onoff](http://www.macromatic.com/onoff) for details.

All combinations of R1, J and T are allowed where appropriate with the function as described above except as noted.