

PT2724 Series

Two (2) Channel

365 Day 24 Hr. Timer/Controllers

Models Include:

PT2724

- Timer module

PT2724E

- Timer module in enclosure

Installation Guide



More than just power.™

Rev. 020317

Installing Company: _____ Service Rep. Name: _____

Address: _____ Phone #: _____

Overview:

Altronix PT2724/PT2724E is an extremely versatile two channel 365 Day 24 Hour Timer/Controller designed to support a wide range of applications. Such applications include: Home and Building Automation, Security, Access Control, Lighting Control, etc.

The timer is equipped with two independently controlled form "C" relay contact that provide many latching and/or momentary operations during a program schedule of your choice. The EE-Prom memory allows for programming of unit prior to or during field installation. Events may be set for single or multiple operations on a daily and/or weekly schedule. The block programming feature enables repeating an event on any combination of consecutive days. PT2724 will compensate for daylight savings time if desired. It automatically adjusts for leap year and individually selected holiday exceptions can be programmed to override regularly scheduled events.

Specifications:

Input:

- 12 to 24 VAC or VDC operation.

Relay:

- Two (2) form "C" relay contacts are rated 10A @ 120VAC/28VDC.
- Standby current: 10mA (relay off), 50mA (relay on).
- Tandem relay mode allows both channels to activate simultaneously for all events.

Features:

- EE Prom memory protects against loss of programming due to power failure.
- Accurate crystal controlled clock.
- Momentary and/or Latching Events.
- 50 individually programmed daily/weekly events.
- Block programming capacity can accommodate a total of 350 events per week.
- 10 programmable Holiday dates per channel.
- "First man in" option.

Features (cont'd):

- Standard or Daylight Savings Time settings.
- Automatic compensation for leap year.

Visual Indicators:

- Alphanumeric LCD display simplifies programming.

Battery Backup:

- Built-in charger for 12VDC sealed lead acid or gel type batteries (Max charge current 100mA).
- Optional lithium battery backup maintains clock. Order Altronix part # LB2032.

Mechanical:

- **PT2724** - Timer module.
Board Dimensions (approx.):
5.25" x 3.6" x 1" (133.4mm x 91.4mm x 25.4mm).
- **PT2724E** - Timer module in enclosure.
Enclosure Dimensions (H x W x D approx.):
8.5" x 7.5" x 3.5" (215.9mm x 190.5mm x 88.9mm).

Installation Instructions:

1. Mount PT2724A/PT2724AE/DPT724A in desired location.

Carefully Review:

Basic Operation

(pg. 3)

Terminal Identification Table

(pg. 3)

Push Button Layout and Description

(pg. 4)

Programming Instructions

(pg. 4-7)

2. Connect 12 to 24 volts AC or DC to terminals marked [+ DC - / ~ AC ~].
When using DC carefully observe polarity.
3. Connect 12VDC battery (optional) to terminals marked [+ BAT - / 12VDC].
4. Insert lithium battery (optional/not included. Order part LB2032) in battery holder (*Fig. 1, pg. 3*) with the + positive side facing up.
5. Connect devices to be controlled to dry relay outputs marked [NO, C, NC] of either Channel A or Channel B.
Note: It is important when connecting DC powered electromechanical devices such as Mag Locks, Electric Strikes, Bells, Relays, etc. to install a catch diode across the pos (+) and neg (-) terminals of the device. Connect diode as close to the device as possible with the banded side facing the pos (+) terminal. This will reduce the possibility of interference.
6. Program clock and desired event schedule (*see programming instructions pg. 4-7*).

Basic Operation:

PT2724 controls two independently operated dry form “C” relays. Relays can be programmed to: turn on (latch), turn off (release latch) or pulse (momentary toggle) at a specified time and day (this is referred to as an event). Events are programmed via the push buttons and LCD display. Events may be programmed to occur on any day of the week at any time. In addition, events may be programmed as a block events that repeat at a specific time on two (2) or more consecutive days (i.e. MO-FR, SU-TH, etc). Multiple combinations of individual and block events may be programmed. Holiday exceptions are individually selected by date and will override all regularly scheduled events.

Output Relay Modes:

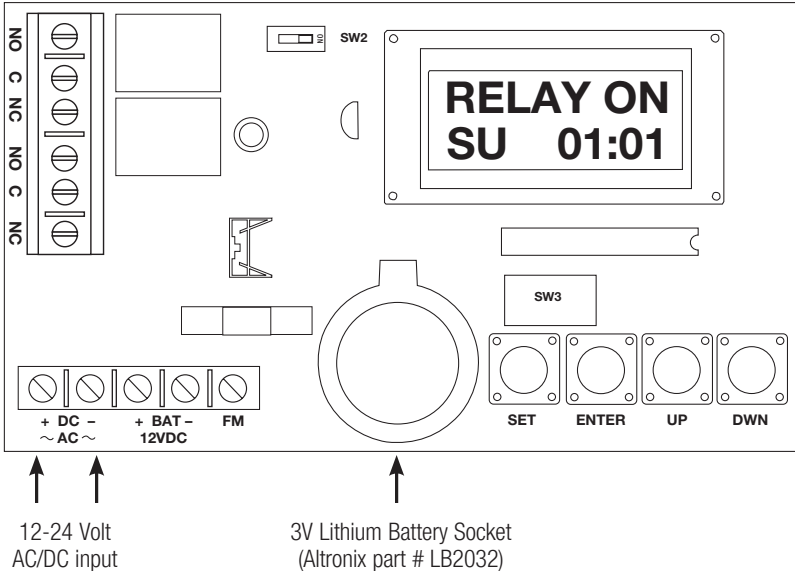
Mode	Status
Relay OFF	De-energizes the relay until a relay ON event is detected.
Relay ON	Energizes the relay until a relay OFF event is detected.
Disable	Used to cancel an existing programmed event.
Pulse	Momentarily energizes the relay for a selectable time period of 1 sec. to 15 secs.

Time is displayed in 24 hr. military format.

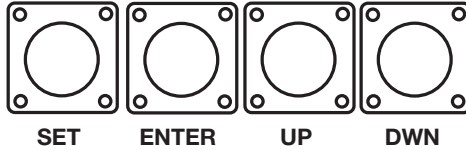
Terminal Identification Table:

Terminal Legend	Function/Description
NO, C, NC, CH A NO, C, NC, CH B	Dry Contact outputs used to switch controlled devices. When these relays are energized (ON) the NC and C terminals are open and the NO and C terminals are closed. When this relay is de-energized (Off) the NC and C terminals are closed and the NO and C terminals are open.
+ DC – ~ AC ~	AC or DC Input 12 to 24 volt. When using DC carefully observe polarity
+ BAT – 12VDC	12VDC stand-by battery input (battery leads provided).
FM	When this terminal is connected to DC neg. (–) the “First Man in” feature is enabled. The relay will remain in its present position until this connection is terminated. At that time the relay will resume normal operation and latest scheduled events will occur.

Fig. 1



Push Button Layout:



Push Button Description Table:

Push Button	Function/Description
SET	Scrolling keys for programming. Escaping out of existing programming.
ENTER	Accepts selections made to programming.
UP	Scrolls through selections.
DOWN	Scrolls through selections.

UP and **DOWN** keys can be used to select data entries.
After scrolling to the correct entry, depress **ENTER** to accept.

SW2 DIP Switch	Selects tandem or individual relay operation.
SW3 Slide Switch	Selects channel to be programmed.

Programming Instructions:

A. Setting Clock/Calendar:

Upon initial power up RLY OFF
SU 01:01 will appear on display.

Depress **SET**. ENTER to
SET TIME will appear on display.

Depress **ENTER**. 01/01/01
SU/01:01 will appear on display.

Enter the current date, day of week and time (military) by depressing **UP** and **DWN** to make the selection, then depress **ENTER** to accept.

Next, select either DS (daylight savings mode) or ST (standard time mode) by depressing **SET** until

ENTER to
SET BK appears on display.

Depress **ENTER** to scroll until flashing cursor appears under DS (daylight savings mode) in display.

To change mode depress **UP** or **DWN** until ST (standard time mode) will appear in display.

Depress **ENTER** to accept correct selection.

Note: The flashing cursor denotes location of data entry selection to be made. If an entry was made in error or requires changing, depress **SET** to backspace, make the correct selection and depress **ENTER** to accept data and advance the cursor. To change or program clock/calendar simply repeat the steps above.

B. Setting and Adding Events:

Select channel A or B by moving slide switch SW3 to appropriate position.

Note: Channel cannot be changed in the middle of programming events. To change channels, you must exit programming then change channel switch position then enter program mode again.

1. Setting Events

Depress **SET** until ENTER to
SET EVENT appears on display.

Depress **ENTER**. A01 ^ OFF
SU 00:00 will appear on display.

Note: A01 indicates Channel A event 01. When cursor ^ appears, you are able to scroll through events.

Depress **ENTER** until the flashing cursor appears under OFF (relay function) position in display. Now select type of event required, by scrolling using the **UP** and **DWN** push buttons until either: **ON** - Relay ON (latching mode), **OFF** - Relay OFF (latching mode), **PL** - Relay Pulse (momentary) appears in display. Depressing **ENTER** will make selection. When selecting the pulse mode, PL01 will appear in the display. It is now necessary to assign the length of time (duration of relay activation). The pulse can range in length from 1 second minimum to 15 seconds maximum and is selected by using **UP** or **DWN** push buttons, then depressing **ENTER** to accept. **Note:** If pulse duration is not selected, relay output defaults to 1 second. Next, select individual day of the week and time (military) by scrolling using **UP** and **DWN** push buttons and depress **ENTER** to accept. You may continue to program events by repeating the previous steps or exit programming by depressing **SET**. **Note:** When programming additional events, it is necessary to select the next consecutive event number following the last event program to continue. **Note:** When it is required to have the same event repeated on two (2) or more consecutive days of the week (Block Programming), the event must be programmed as a block by selecting **BK** in the day field.

A01^ OFF
BK 00:00

Note: To program the consecutive days of the week refer to **Setting Block Event (weekly repeat) and Daylight Savings Time** - section **C1** below.

2. Adding Events

Depress **SET** until

ENTER to
SET EVENT

 appears on display.

Depress **ENTER**

A01^ OFF
SU 00:00

 appears on display.

Depress **ENTER**. If the event is not programmed, the cursor will move to the OFF (relay function) position. If the event is programmed, the cursor will move to the position and the programmed information of the event will be displayed. At this point depress the **UP** button to step up through the programmed events. When an unprogrammed event is reached, the cursor will move to the OFF (relay function position). At this point refer to setting events or setting holiday events.

C. Setting Block Events (weekly repeat) and Daylight Savings Time:

Select channel A or B by moving slide switch SW3 to appropriate position.

Note: Channel cannot be changed in the middle of programming events. To change channels you must exit programming then change channel switch position then enter program mode again.

Depress **SET** until

ENTER to
SET BK

 appears on display.

Depress **ENTER**.

A=SA/SU
TIME=DS

 will appear on display.

1. Block Event Programming

Flashing cursor will appear at the location of the first day of the week desired. Depress **UP** and **DWN** to select day. Depress **ENTER** to confirm selection, then cursor will appear at the location of the last day of the week desired. Depress **UP** and **DWN** to select day. Depress **ENTER** to confirm selection.

1) Monday through Thursday depress **MO** followed by **TH**.

2) Wednesday through Sunday depress **WE** followed by **SU**.

2. Daylight Savings Programming

The cursor will appear under DS (auto clock adjust daylight savings mode) in display. To change mode depress **UP** or **DWN** once ST (clock does not adjust standard time mode) will appear in display.

Depress **ENTER** to accept correct selection.

Note: Select **DS** for areas that observe daylight savings or **ST** for areas that don't observe daylight savings.

D. Setting Holiday Events:

(These events will occur on programmed Holiday Dates - see Setting Holiday Dates below).

Note: When a holiday event is entered, all holidays will follow that event.

Select channel A or B by moving slide switch SW3 to appropriate position.

Note: Channel cannot be changed in the middle of programming events. To change channels you must exit programming, then change channel switch position then enter program mode again.

Find the first unprogrammed event (refer to **Adding Events** - section B2 page 5).

Depress **ENTER** until the flashing cursor appears under OFF (relay function) position in display.

Now select type of operation required, by scrolling using the **UP** and **DWN** push buttons until either:

ON - Relay ON (latching mode), **OFF** - Relay OFF (latching mode), **PL** - Relay Pulse (momentary)

appears in display. Depressing **ENTER** will make selection.

When selecting the pulse mode, PL01 will appear in the display. It is now necessary to assign the length of time (duration of relay activation). The pulse can range in length from 1 second minimum to 15 seconds maximum and is selected by using **UP** or **DWN** push buttons, then depressing **ENTER** to accept.

Note: If pulse duration is not selected, relay output defaults to 1 second.

Next select **HL** (holiday) and time (military) by scrolling using **UP** and **DWN** push buttons and depress **ENTER** to accept. Exit programming by depressing **SET**. If no holiday event has been entered and a holiday date is entered, the unit will stay in its last position when that date comes up.

Note: When a holiday event is entered, all holidays will follow that event.

E. Setting Holiday Dates:

Select channel A or B by moving slide switch SW3 to appropriate position.

Note: Channel cannot be changed in the middle of programming events. To change channels you must exit programming, then change channel switch position then enter program mode again.

It is now necessary to assign these holiday events specific calendar dates which they are to occur on.

Depress **SET** until

ENTER to
SET EVENT

appears on display.

Depress **ENTER**

A01^ HOL
SU 00:00

appears on display.

Enter the holiday date, day of week and year by depressing **UP** and **DWN** to make the selection then depress **ENTER** to accept.

Note: Holiday events will override all regularly programmed events that occur on a particular holiday date.

F. Delete/Disable Events or Edit Events:

Select channel A or B by moving slide switch SW3 to appropriate position.

Note: Channel cannot be changed in the middle of programming events. To change channels you must exit programming, then change channel switch position then enter program mode again. Previously programmed regularly scheduled and/or holiday events may be deleted/disabled without having to erase all events.

Depress **SET** until

ENTER to
SET EVENT

appears on display.

Depress **ENTER**

A01^ ON
TU 00:00

appears on display.

Now scroll using **UP** and **DWN** push buttons to the event you wish to delete, depress **ENTER** to move flashing cursor under relay option, then depress **UP** and **DWN**. Push buttons until DIS is displayed, depress **ENTER** to confirm.

G. Delete All Events:

This will delete all previously programmed events.

Depress **SET** until

ENTER to
CLR MEM

appears on display.

Depress **ENTER**

CLEAR
MEMORY?

appears on display.

Depress **ENTER**

PRESS UP
& ACCEPT

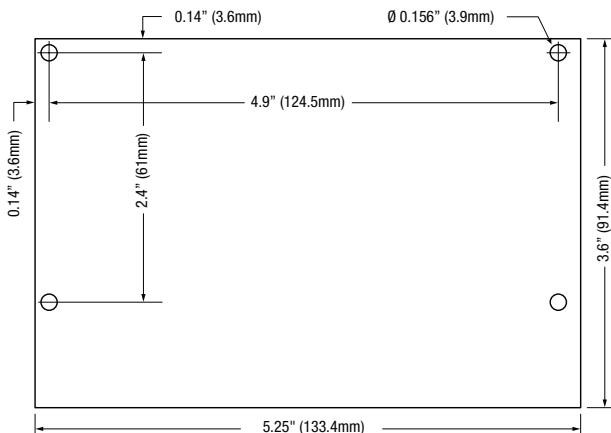
appears on display.

H. Tandem Relay Mode:

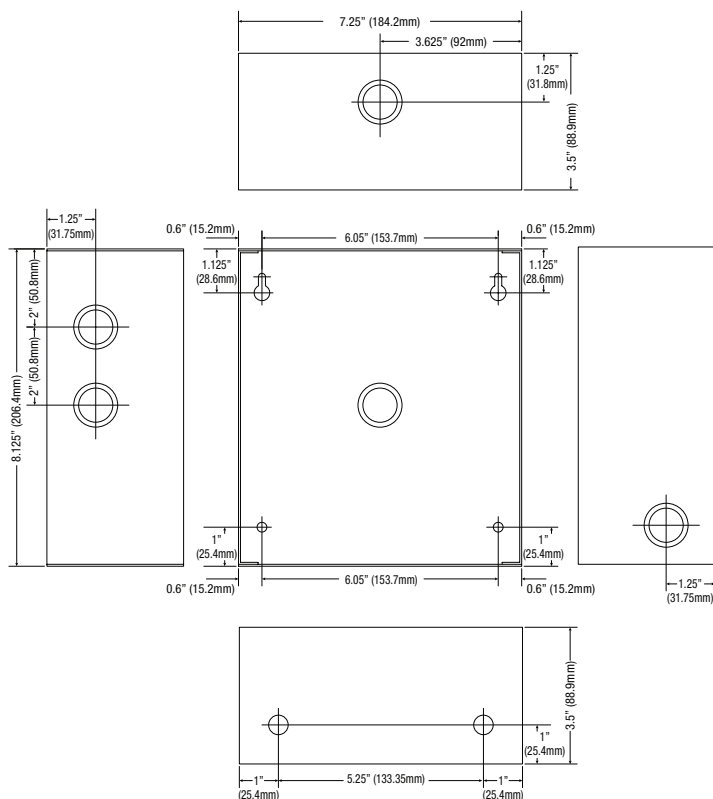
Note: When using the Tandem Relay mode, sequential On/Off or Off/On events must be programmed in the same channel. (If there is a Channel Program conflict, such as CH A is set to ON and Channel B is set to OFF. The ON command will override the OFF and both relays will remain ON.

[illegible]

5.25" x 3.6" x 1" (133.4mm x 91.4mm x 25.4mm).



8.5" x 7.5" x 3.5" (215.9mm x 190.5mm x 88.9mm)



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