

*Installation Guide  
for*



*AT4  
Annual Event Timer*



## AT4 - Annual Event Timer

### Overview:

Model AT4 is an extremely versatile 24 Hour 365 Day Event Timer designed to support a wide range of applications. Such applications include: Home and Building Automation, Security, Access Control, Lighting Control, Etc. AT4 is equipped with four independently controlled form "C" relay contacts 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. AT4 will compensate for daylight savings time if desired. It automatically adjusts for leap year and is Y2K compatible. Individually selected holiday exceptions can be programmed to over-ride regularly scheduled events.

### Specifications:

- 12 to 24 volts AC or DC operation
- Standby current: 20mA with relays off combined with 40mA for each relay on.
- Four (4) Form "C" relay contacts are rated 10amp @120VAC/28VDC.
- EE Prom memory protects against loss of programming due to power failure.
- Clock synchronization 60Hz (AC operation).
- Accurate crystal controlled clock (DC operation).
- Momentary and/or Latching Events.
- 254 individually programmed daily/weekly events.
- Block programming capacity can accommodate a total of 1778 events per week.
- 254 programmable Holiday events.
- "First man in" option.
- Alphanumeric LCD display simplifies programming.
- Standard or Daylight Savings Time settings.
- Automatic compensation for leap year.
- Each relay operates independently.
- Built-in charger for 12VDC sealed lead acid or gel type batteries (Max charge current 300mA).
- Lithium battery backup maintains clock.
- User friendly keyboard programming.
- Unit is Y2K compatible.

Enclosure dimensions: 12.25"H x 7.75"W x 4.5"D



### Installation Instructions:

1. Mount AT4 enclosure in desired location.

#### **Carefully Review:**

#### **Basic Operation pg. 3**

#### **Terminal Identification Table pg. 3**

#### **Keyboard Layout and Description pg. 4**

#### **Programming Instructions pgs. 4-6**

2. Connect 12 to 24 Volts AC or DC to terminals marked [-DC+]. (when using DC carefully observe polarity).
3. Connect 12VDC battery (optional) to terminals marked [Bat-] and [Bat+] .
4. Insert lithium battery (not supplied or required. Order model LB2032) in battery holder as shown in fig. 1 pg. 4.  
With the + positive side facing up.  
**Note:** Lithium Battery (2032) must only be installed after initial power up of AT4.
5. Connect devices to be controlled to dry outputs marked RLY1 [NC, NO, C] - RLY4 [NC, NO, C]  
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. 4-6).

**Basic Operation:**

AT4 controls four (4) independently operated dry relay outputs. Relays, if so programmed will turn on (latch), turn off (latch) or pulse (toggle) at a specified time and day (this is referred to as an event). Events are programmed via the keyboard and LCD display. These events can be designated to operate any one of the four (4) relays independently. Relay 1 corresponds to RL01, Relay 2 corresponds to RL02, etc. on the display. Events may be programmed to occur on any day of the week at various times. In addition, events may be repeated at a specific time on two (2) or more consecutive days (i.e. M-F, Sun-Th, etc) Multiple combinations of individual and block events may be programmed. Holiday exceptions are individually selected by date and will over-ride all regularly scheduled events.

The four (4) output relay modes consist of:

Relay OFF - De-energizes the relay (s) selected until a Relay On event is detected

Relay ON - Energizes the relay (s) selected until a Relay OFF event is detected.

Disable - Used to cancel and existing programmed event.

Pulse - Momentarily energizes the Relay(s) for a selectable time period of 1 sec. to 15 sec

Output relays are designated by the following:

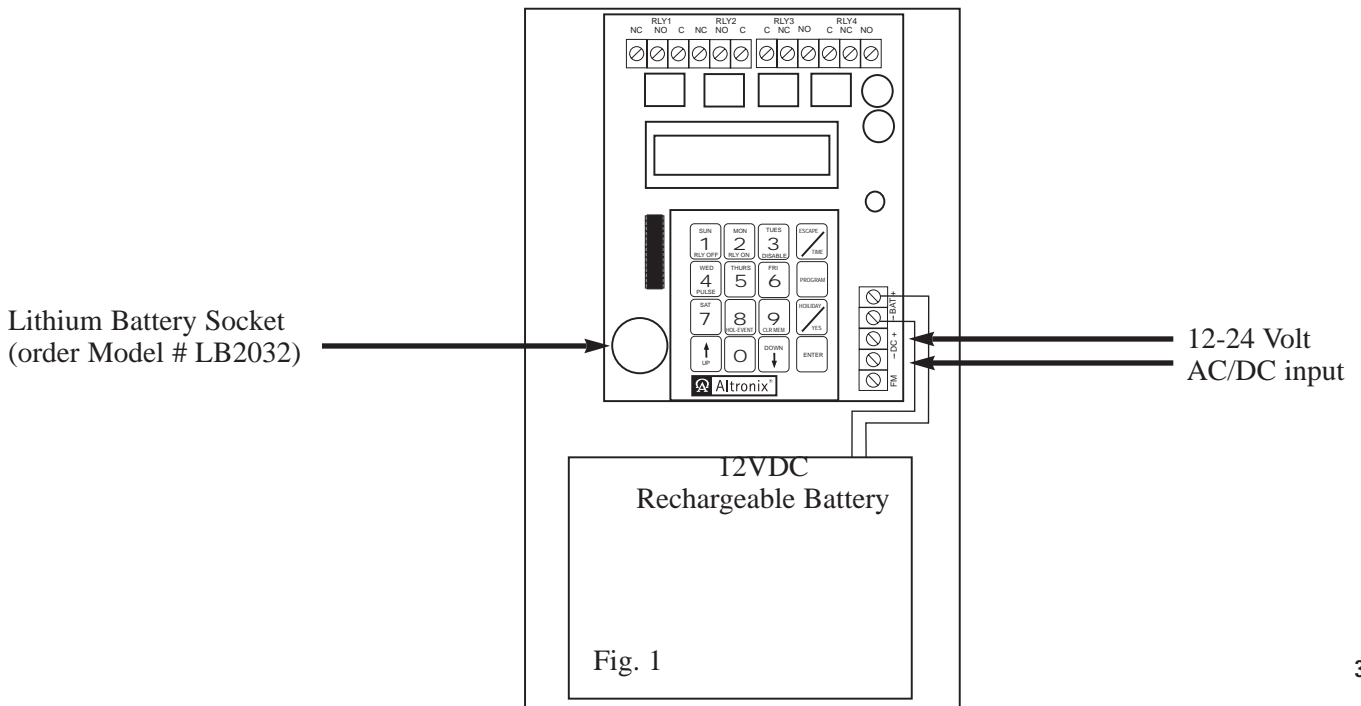
RL01 = Relay 1, RL02 = Relay 2, RL03 = Relay 3, RL04 = Relay 4

Time is displayed in 24 hr military format.

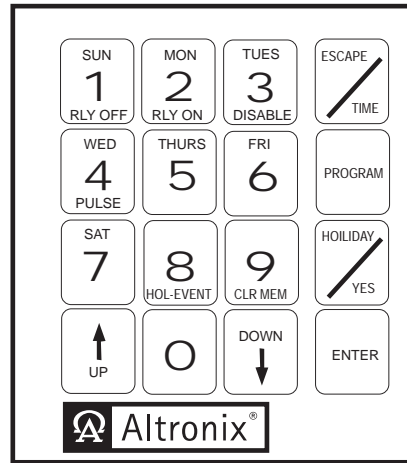
UP and DOWN keys can be used to select data entries. After scrolling to the correct entry, depress ENTER to accept.

**Terminal Identification Table:**

Terminal Legend	Function/Description
RLY1: NC, NO, C	Dry Contact output 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 these relays are de-energized (Off) the NC and C terminals are closed and the NO and C terminals are open.
RLY2: NC, NO, C	
RLY3: C, NC, NO	
RLY4: C, NC, NO	
- DC +	AC or DC Input 12 to 24 volt. When using DC carefully observe polarity.
- BAT+	12VDC standby battery input (battery leads provided).
FM	When this terminal is connected to DC neg. (-) the "First Man in" feature is enabled. All relays will remain in their present position until this connection is terminated. At that time relays will resume normal operation and latest scheduled events will occur



## Keyboard Layout:



## Keyboard Description Table:

Key	Function/Description
1	Selects Sundays, Relay Off or numeral one (1)
2	Selects Monday, Relay On or numeral two (2)
3	Selects Tuesday, Relay Disable or numeral three (3)
4	Selects Wednesday, Relay Pulse or numeral four (4)
5	Selects Thursday or numeral five (5)
6	Selects Friday or numeral six (6)
7	Selects Saturday or numeral seven (7)
8	Selects Holiday Event or numeral 8
9	Clears entire programmed memory or selects numeral 9
0	Selects numeral 0
Up/Down	Scrolling keys for programming
Escape/Time	Backspaces cursor when in programming mode, enables clock set mode, exit all program modes.
Program	Enables event programming.
Holiday/Yes	Enables holiday event selection. Confirms request to clear all previously programmed events.
Enter	Advances cursor when in programming mode.

Note: Most keys are multi-functional and will be used to input different information depending on the mode AT4 is in.

## Programming Instructions

### A. *Setting Clock/Calendar:*

Upon initial power up

SET CLOCK NOW!  
01/01/98 SU 00:00 DS

Will appear in display.

Enter today's date, present day of the week, current time (24 hr. military format) by depressing number keys.

**Note:** The flashing cursor denotes location of data entry selection to be made. If an entry was made in error or requires changing, depress either ESCAPE to backspace, or ENTER to accept data and advance the cursor.

- 4 Now select either DS (daylight savings mode) by depressing DOWN or ST (standard time mode) by depressing UP followed by ENTER.

Example: To program 02/14/99 SU 10:25 am DS (daylight savings) depress the following sequence of keys:



To change or reprogram clock/calendar depress TIME and make new selections carefully repeating steps above.

**B. Setting Events:**

Depress PROGRAM once. EVNT #0001^RL01 SU/SU  
RLY 00:00 Will appear in display.

Depress ENTER until the flashing cursor reaches the RL01 display location. Select the output relay (RLY1 through RLY4) desired by depressing 1 through 4.

Next, select the day of week by depressing SUN through SAT. If this event is to occur on only one specific day, repeat the previous entry again.

**Note:** When it is required to have the same event repeated on two (2) or more consecutive days of the week (Block Programming), enter the first day followed by the last day by depressing SUN through SAT.

Example:

- 1) Monday through Thursday depress MON followed by THURS.
- 2) Wednesday through Sunday depress WED followed SUN.

Next select type of event required:

Depress RLY OFF for Relay OFF (Latching Mode)

Depress RLY ON for Relay ON (Latching Mode)

Depress PULSE for Relay PLS (Pulse/Toggle Mode)

When selecting Pulse/Toggle Mode it is 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 by depressing the number keys 0 through 9.

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

Next select the time (military format) of day(s) event should occur by depressing the number keys 0 through 9. Depress ENTER to accept. Display automatically scrolls to the next event number to be programmed. You may continue to enter events by repeating the previous steps or exit programming by depressing ESCAPE.

**Note:** When programming additional events it is necessary to select the next consecutive event number following the last event programmed to continue.

Example: To program event #1 to cause Relay 2 to Toggle/Pulse for five (5) seconds on both Sat. and Sun. at 11:59 pm, depress the following sequence of keys:



You may continue to program the next event or depress ESCAPE to exit.

**C1. Setting Holiday Events:**

Depress PROGRAM once. Select the next available event number by depressing keys 0 through 9.

Depress ENTER until the flashing cursor reaches the RL01 display location. Select the output relay (RLY01 through RLY04) desired by depressing 1 through 4. Next depress HOL-EVENT.

HL/HL will appear in the display designating this event as a holiday.

Next select type of event required:

Depress RLY OFF for Relay OFF (Latching Mode)

Depress RLY ON for Relay ON (Latching Mode)

Depress PULSE for Relay PLS (Pulse/Toggle Mode)

When selecting the Pulse/Toggle mode it is 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 by depressing the number keys 0 through 9.

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

Next select the time (military format) of holiday event should occur by depressing the number keys 0 through 9. Depress ENTER to accept. Display automatically scrolls to the next event number to be programmed. You may continue to enter holiday events by repeating the previous steps or exit programming by depressing ESCAPE.

Example: To program holiday event #2 to cause Relay 2 to Latch (Relay On) at 08:00 am depress the following sequence of keys:



**Note:** Holiday events will always override any regularly scheduled events.

### C2. Setting Holiday Dates:

It is now necessary to assign these holiday events the specific calendar dates they are to occur on. To set holiday event dates depress HOLIDAY/YES once HOL #0001 01/01/01 will appear in display. Depress ENTER until the flashing cursor reaches the date display location. Next make your selection by depressing the number keys 0 through 9. You may continue to add holiday event dates by repeating the previous steps or exit programming by depressing ESCAPE.

Example: To program holiday events to occur on Dec. 25, 2000 depress the following sequence of keys:



You may continue to program the next holiday date or depress ESCAPE to exit.

### D. Delete/Disable Events or Edit Events:

Previously programmed regularly scheduled and/or holiday events may be deleted/disabled without having to erase all events. To proceed depress PROGRAM once. Locate the event number by depressing the number keys 0 through 9. When cursor is flashing under ^ symbol in display, scrolling feature is activated. By depressing UP you can scroll through all the events programmed. If any event needs to be modified or disabled depress ENTER. Next, depress ENTER until flashing cursor reaches the RLY display location. Depress DISABLE and RLY DIS will appear in display. Depress ENTER until the next event number appears to accept modification. Repeat the previous steps above to locate and disable other events or depress ESCAPE to exit.

Previously programmed regular and/or Holiday events may be edited by depressing PROGRAM once. Locate the event number by depressing the number keys 0 through 9 or scroll using the UP key. Proceed to make any changes (i.e. RL#, Day, Relay Event Type, Time) and depress ESCAPE to exit.

### E. Delete All Events:

All previously programmed events can be deleted by simply depressing CLR MEM.

CLEAR ALL EVENTS? will appear in display. Accept by depressing YES followed by 1 to confirm deletion.

**Customer Event Log**

Event #	Relay #	Day/Block	Holiday Dates	Event Type

