



ALARM SAF

FT-200 Programmable Timer; 7 Day, Multi-Event with FPI*

Operating Voltage

6-24 volts AC/DC

Operating Current

Voltage	6VDC	12VDC	24VDC
Relay Inactive	3mA	14mA	16mA
Relay Active	26mA	40mA	42mA

Program Memory Backup

Internal 10-year Lithium Battery will provide clock memory backup for 6 months continuously. The battery will not provide relay transfer on power loss.

Output

Single Pole, Double Throw (Form "C")
 Relay Hold In Time Adjustment: 1-60 Seconds
 Contact Rating 1A @ 26VDC
 0.5A @ 115VAC

Output Format

- Single Pulse - Relay activates at ON time, holds for time period set by delay adjustment, then deactivates. The OFF time has no effect on the output relay activation, but must be programmed in.
- Double Pulse - Relay activates for time period set by delay adjustment, then deactivates, for both the ON and OFF times
- Interval Time - Relay activates at ON time, holds, and deactivates at OFF time.

Time Format

24 hour (military) format. RESET button resets ALL clock programming.

Programming Capability

84 weekly events can be handled by the FT-200 Timer. Six ON timers and six OFF timers are programmable for daily, weekly, or individual day operation. Block time periods are also provided to control several days with a single programming input. The provided blocks are: Monday thru Friday; Saturday and Sunday; Monday thru Saturday; Monday thru Sunday.

Mode Set Dipswitch

To enable function: Set indicated switch ON

	Single Pulse	Double Pulse	Interval Time	Battery Enable
4	3	2	1	

*First Person In (FPI)

Accepts Normally Closed Switch or Solid State Activation for "Authorized Only" operation. Provides freedom from the necessity of Holiday programming. This requires a momentary loss of ground at FPI Terminal to transfer the relay.

Time Set

Activate the Memory Backup Battery by switching mode set dipswitch 1 to ON.

The Liquid Crystal Display (LCD) will come on showing Apply system power to the FT-200 unit.



Press and **HOLD** the leftmost button marked

To set HOURS, use the button marked

To set MINUTES, use the button marked

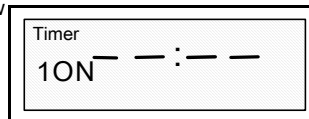
To set DAY OF THE WEEK, use the button marked

Release the button marked

ON/OFF Times

Press and release the button marked **Timer** once to enter program mode.

The LCD will show



Pressing the **Timer** button a second time will set the unit to timer 1 OFF.

This sequence will continue for 6 ON timers and 6 OFF timers for a total of 12 timers

To Program

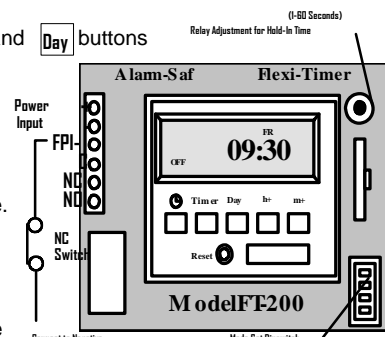
an ON or OFF instruction for a particular day and time:

Select the desired timer: 1 thru 6 ON; 1 thru 6 OFF

Program the desired time and day using the **h+**, **m+**, and **Day** buttons

If a DAY is NOT selected, the action will occur EVERY day.

NOTE: The **Day** blocks are accessed by stepping the **Day** button



To Program

an ON or OFF instruction for all week:

Select the desired timer: 1 thru 6 ON; 1 thru 6 OFF

Using the **h+** and **m+** buttons, program the desired time.

To Program

an ON or OFF instruction for a block of time:

Select the desired timer: 1 thru 6 ON; 1 thru 6 OFF

Using the **h+** and **m+** buttons, program the desired time

Using the **Day** button, program the desired block: Mon-Fri; Sat-Sun; Mon-Sat; Mon - Sun

CAUTION: An ON timer will only provide an output if the clock is OFF prior to the ON instruction.

If the ON and OFF timer are programmed for the same time, the OFF time will take priority.

To Exit Program

Press and release the button to exit program mode

Select Output Format

Select one: Single Pulse, double pulse, or interval time, and adjust relay hold time 1-60 seconds.

Note: If no selection is made, relay will **NOT** activate.

Holidays

There are two methods to compensate for holidays with the FT-200

1. Override Command: Manually program an OFF instruction into an unused timer for the same time as the normal ON instruction. When two commands are programmed for the same time, the OFF instruction will take priority.
2. First Person In (FPI): Allows the OFF instruction to be delayed until the manual operation of a key switch, keypad, relay, etc. The FPI terminal is held at negative and momentarily opened upon arrival at premises.

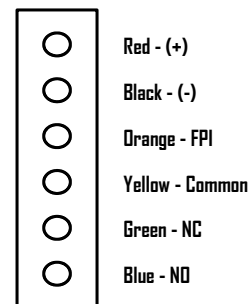
Example

A security system disarms at 07:00 and arms at 17:00 each day. If a condition arises to prevent the employees from arriving on time, the premises would be unprotected after 07:00. This can be avoided by use of the FPI feature because the disarming of the system would not take place until a manual keypad or keyswitch were activated. Disarming of the system would therefore require two situations to occur:

The FT-200 to signal a disarm should occur

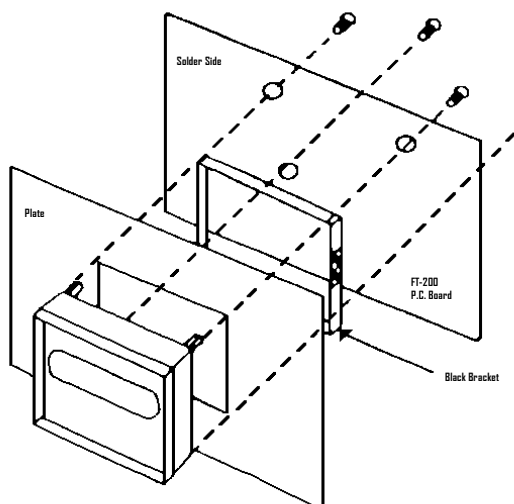
The FPI input to be activated

This feature ELIMINATES the need for holiday programming and compensates for late arrival or holiday NO arrival



Daylight Savings Time

The clock must be adjusted twice a year to compensate for time changes (only the time, not the program)



To convert the FT-200 Flexi-Timer for flush-mount use:

1. Detach clock and mounting standoffs from P.C. board and save.
2. Unplug the clock (cable connector) from the P.C. board. NOTE: The connectors have a locking mechanism. Use a screwdriver and pry the tab on top of the connector up while gently pulling on the cable connector.
3. Install the clock module in the plate by inserting thru the front, then push the black bracket over the module and up tight against the plate. NOTE: The bracket has two flexible tabs that face towards the plate.
4. Place the solder-side of the P.C. board in position against the clock standoffs and snap the standoffs into their corresponding holes.
5. Push the plug (cable connector) into the P.C. board connector until the tab on the connector locks them together.



The FT-100 and FT-200 timers will give a maximum of 84 (1-60 second) weekly events (12 events per day/7 days a week) or 42 (1 min. to 23 hrs. 59 mins.) weekly intervals (6 intervals per day/7 days a week). The FT-100 and FT-200 timers have three relay modes: Single Pulse, Double Pulse and Interval Time. Single Pulse will allow a 1-60 second pulse on the transition from an off time to an on time. Double Pulse will allow a 1-60 second pulse on the on and off times. Interval Time allows the relay to 'latch' on between the on and off times.

PROGRAMMING THE TIMER:

A. SET TIME OF DAY:

1. Power the timer and enable the battery by setting dip switch 1 down.
2. Press the reset button (the small round button next to the picture of the hand).
3. Press and release the button with the picture of a clock above it. The colon (:) should begin flashing.
4. Press and hold the clock button. Using the M+, H+, and Day buttons, set the current time and day.
5. Release the clock button.

B. SET EVENTS – SINGLE PULSE:

1. Press and release the Timer button once. The display should read "Timer 1 On."
2. Press the H+ and M+ buttons to set the time of day you want a pulse to occur.
3. Press the Day button to set the day(s) you want the pulse to occur.
4. Press and release the Timer button. The display should read "Timer 1 Off"
5. Use the H+ and M+ buttons to set the off time for 1 minute after the on time. This will return the timer to the off state, preparing it for the next on time.
6. Use the Day button to set the same day(s) as the on time.
7. Repeat steps 1 through 6 for Timers 2 through 6. Leave the timer as "--:--" if it is not being used
8. When event setting is complete, press the Clock button to return to the time of day.
9. Set dip switch 4 down towards the P.C. board.
10. Press the button bar on the bottom right of the clock face to manually activate the relay. The relay should pulse when the timer transfers from Off to On.
11. Use the potentiometer on the P.C. board to set the length of the relay pulse.
12. When done, verify the timer says "Off" or the next event will not occur.

C. SET EVENTS – DOUBLE PULSE:

1. Press and release the Timer button once. The display should read "Timer 1 On."
2. Press the H+ and M+ buttons to set the time of day you want a pulse to occur.
3. Press the Day button to set the day(s) you want the pulse to occur.
4. Press and release the Timer button. The display should read "Timer 1 Off"
5. Press the H+ and M+ buttons to set the time of day you want a pulse to occur.
6. Press the Day button to set the day(s) you want the pulse to occur.
7. Repeat steps 1 through 6 for Timers 2 through 6. Leave the timer as "--:--" if it is not being used.
8. When event setting is complete, press the Clock button to return to the time of day.
9. Set dip switch 3 down towards the P.C. board.
10. Press the button bar on the bottom right of the clock face to manually activate the relay. The relay should pulse when the timer transfers from Off to On and from On to Off.
11. Use the potentiometer on the P.C. board to set the length of the pulse.
12. When done set the timer to its appropriate state (On or Off) based on the current time.



D. SET EVENTS – INTERVAL TIME:

1. Press and release the Timer button once. The display should read "Timer 1 On."
2. Press the H+ and M+ buttons to set the time of day you want the relay to activate.
3. Press the Day button to set the day(s) you want the relay to activate for this event.
4. Press and release the Timer button. The display should read "Timer 1 Off"
5. Press the H+ and M+ buttons to set the time of day you want the relay to deactivate.
6. Press the Day button to set the day(s) you want the relay to deactivate.
7. Repeat steps 1 through 6 for Timers 2 through 6. Leave the timer as "--:--" if it is not being used.
8. When event setting is complete, press the Clock button to return to the time of day.
9. Set dip switch 2 down towards the P.C. board.
10. Use the button bar on the bottom right of the clock face to set the timer to its appropriate state (On or Off) based on the current time.

E. PROGRAMMING NOTES:

1. If an On and Off time are programmed to happen at the same time, the Off time will take precedence. This can be used to disable one day in a block event or to temporarily manually disable an off time during a holiday.
2. Power must be applied to the timer for the relay to activate. The onboard battery (if present) will not activate the relay.
3. In Single Pulse mode, the OFF times have no effect on the relay operation, but must be programmed to prepare the timer for the next ON time.
4. The FT-100 and FT-200 must be powered by a clean and stable power source of 6 or 12 volts AC or DC for the FT-100 or 6 to 24 volts AC or DC for the FT-200
5. The FT-100 & FT-200 use 24 hour (military) time format: 00:00 = midnight - 23:99 = 11:59 p.m.

F. PROGRAMMING EXAMPLES

1. SINGLE PULSE

a. A company's security system requires a two second contact closure to arm or disarm. Their operating hours are:

Monday - Thursday	8:00 a.m. - 5:00 p.m.
Friday	8:00 a.m. - 4:00 p.m.
Saturday and Sunday	12:00 p.m. - 5:00 p.m.

b. TIMER PROGRAMMING

Timer 1 ON	8:00	Monday-Friday Block	Timer 4 ON	--:--	Leave Blank
Timer 1 OFF	8:01	Monday-Friday Block	Timer 4 OFF	17:00	Friday
Timer 2 ON	12:00	Saturday-Sunday Block	Timer 5 ON	16:00	Friday
Timer 2 OFF	12:01	Saturday-Sunday Block	Timer 5 OFF	16:01	Friday
Timer 3 ON	17:00	Monday-Friday Block	Timer 6 ON	17:00	Saturday-Sunday Block
Timer 3 OFF	17:01	Monday-Friday Block	Timer 6 OFF	17:01	Saturday-Sunday Block

c. EXPLANATION OF PROGRAMMING

Timer 1 sets a Monday through Friday Block to give a pulse at 8 a.m.
Timer 2 sets a pulse for Saturday and Sunday at 12 noon.
Timer 3 sets a Monday through Friday block to give a pulse at 5 p.m.

Timer 4 is only an off time for Friday at 5 p.m. This is to 'counteract' the Friday in the block time for 5 p.m., so that the pulse only occurs Monday through Thursday.
Timer 5 sets a pulse for 4 p.m. on Friday.
Timer 6 sets a pulse for Saturday and Sunday at 5 p.m.



2. DOUBLE PULSE

a. A high school needs to ring the bells 12 times a day (beginning and end of 6 periods), Monday-Friday. The times for the bells are as follows:

First Period: 7:30 a.m. - 8:20 a.m.
Second Period: 8:30 a.m. - 9:20 a.m.
Third Period: 9:30 a.m. - 10:20 a.m.
Fourth Period: 10:30 a.m. - 11:20 a.m.

Lunch: 11:30 a.m. - 11:50 a.m.
Fifth Period: 12:00 p.m. - 12:50 p.m.
Sixth Period: 1:00 p.m. - 1:50 p.m.

b. TIMER PROGRAMMING

Timer 1 ON 7:30 Monday-Friday Block
Timer 1 OFF 8:20 Monday-Friday Block

Timer 4 ON 10:30 Monday-Friday Block
Timer 4 OFF 11:20 Monday-Friday Block

Timer 2 ON 8:30 Monday-Friday Block
Timer 2 OFF 9:20 Monday-Friday Block

Timer 5 ON 12:00 Monday-Friday Block
Timer 5 OFF 12:50 Monday-Friday Block

Timer 3 ON 9:30 Monday-Friday Block
Timer 3 OFF 10:20 Monday-Friday Block

Timer 6 ON 13:00 Monday-Friday Block
Timer 6 OFF 13:50 Monday-Friday Block

c. EXPLANATION OF PROGRAMMING

Each timer's ON and OFF time gives a momentary contact closure.

3. INTERVAL TIME

a. A business needs to shunt a set of door contacts to allow entry during the following times:

Monday-Friday 6:00 a.m. - 5:00 p.m.
Saturday 8:00 a.m. - 5:00 p.m.

b. TIMER PROGRAMMING

Timer 1 ON 6:00 Monday-Friday Block
Timer 1 OFF 17:00 Monday-Friday Block

Timer 4 ON --:-- Leave Blank
Timer 4 OFF --:-- Leave Blank

Timer 2 ON 8:00 Saturday
Timer 2 OFF 17:00 Saturday

Timer 5 ON --:-- Leave Blank
Timer 5 OFF --:-- Leave Blank

Timer 3 ON --:-- Leave Blank
Timer 3 OFF --:-- Leave Blank

Timer 6 ON --:-- Leave Blank
Timer 6 OFF --:-- Leave Blank

c. EXPLANATION OF PROGRAMMING

Timer 1 ON - Activates the relay at 6:00 a.m. on Monday-Friday.
Timer 1 OFF - Deactivates the relay at 5:00 p.m. on Monday-Friday.
Timer 2 ON - Activates the relay at 8:00 a.m. on Saturday.
Timer 2 OFF - Deactivates the relay at 5:00 p.m. on Saturday.

**G. USE OF THE FPI (FIRST PERSON IN) FEATURE (FT-200 ONLY):**

The FPI feature on the FT-200 is a means of compensating for holidays. It allows overriding of the OFF times in any mode. A normally closed contact is connected between the FPI terminal and ground. When the timer reaches an ON time, it operates the relay as normal. When an OFF time is reached, the relay will remain in its current state until the connection to ground on the FPI terminal is momentarily removed.

EXAMPLE:

A department store's security system needs to be active at 10:00 p.m. until the manager arrives after 7:00 a.m.

A keypad with a normally closed output is connected from the FPI terminal to ground.

Timer 1 ON is set for 22:00, 7 days a week.

Timer 1 OFF is set for 7:00, 7 days a week.

All other timers are left blank.

At 10:00 p.m. each night, the FT-200 will automatically arm the system. At 7:00 a.m., the system will remain armed, until the proper code is entered into the keypad, at which time, the system will disarm. If the code is entered before 7:00 a.m., the system will not disarm. If the code is not entered (such as on a holiday), the system will remain armed through the next ON time, and will wait for the proper code after the next OFF time, at which time it will disarm.

This keeps the building secure until there is an authorized person present. It also keeps the building secure on holidays, since an authorized person will never enter the code.