

TIME BASED METERS PUMP CONTROLLERS

**MODELS - TIME-1 TIME BASED TOTALIZER
 TIME-PMP-3 TIME BASED CONTROLLER**

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I. OVERVIEW FOR TIME BASED METERS

JP Tech's Time Based meters incorporate several screen options in the Menu designed for ease of operation, information gathering, and programming. All models incorporate displays showing accumulated total time in seconds, minutes, or hours and a resettable total time display .

All models use a two (2) button keypad to cycle through the Menu displays available and to set the parameters of the meter:

- ◆ The **SELECT** key, when pressed and released, cycles through the different screens available to the specific model. In all screens (except the SECONDS, MINUTES, OR HOUR, SETUP and SPECIAL FUNCTION screens where applicable), holding the **SELECT** key for about 3 seconds will enable the flashing cursor; releasing and pressing again will position the cursor for a change to be made. *The **SELECT** key will not change any existing information. It only provides a way to move through the menu or move the flashing cursor.*
- ◆ The **CHANGE** key is used to change a value or option related to the specific display chosen with the SELECT key (for example RSTBLE = VALUE and RELAY1 = OPTION). NOTE: Pressing and releasing, **at any time**, BOTH the **SELECT** and the **CHANGE** keys together will take you back to the AH TOTAL default screen.

◆ HOW TO ENTER OR CHANGE DATA:

VALUES: RESETTABLE SCREEN: From the SECONDS, MINUTES, OR HOUR screen, PRESS/RELEASE the **SELECT** key. This will bring you to the RSTBL (Resettable) screen. To enter any value or reset existing values, PRESS/HOLD the **SELECT** key for about 3 seconds until the *LEFT MOST DIGIT* begins to flash. When it flashes, release the **SELECT** key. If you want the digit that is flashing to stay the same, PRESS/RELEASE the **SELECT** key *ONCE*. This will move the flashing cursor over to the right one digit. **[This is the method used to move the flashing cursor over for all screens.]**

If you want to change the value of the flashing digit, PRESS/RELEASE the **CHANGE** key *ONCE*. Each time the **CHANGE** key is pressed and released, the value of the digit increases by one (1) and cycles from 0 through 9. **[This is the method used to change the value of the flashing cursor for all screens.]**

Once you have set the values you want, PRESS/HOLD the **SELECT** key until the flashing cursor disappears (about 3 seconds).

◆ **HOW TO ENTER OR CHANGE DATA (Cont.):**

OPTIONS: RELAY1: To select the options for RELAY1, PRESS/RELEASE the **SELECT** key until the **SETUP** screen is shown. PRESS/HOLD the **SELECT** key at the **SETUP** screen for about 3 seconds until the RELAY1 screen appears.

To select the RELAY1 options, PRESS/HOLD the **SELECT** key until the flashing cursor appears just to the right of “PUMP” (the programmed setting). PRESS/RELEASE the **CHANGE** key to scroll through the options available until the correct option is shown. PRESS/HOLD the **SELECT** key for about 3 seconds until the flashing cursor stops. Your new option has been set. PRESS/RELEASE the **SELECT** key at this point takes you to the next screen.

◆ **TURNING COUNTING ON AND OFF:**

There are two (2) ways this meter can switch the counting on and off: (1) via software or by (2) contact switch.

1. Software On and Off.

To turn the counting On and Off in software, the meter must be in the default screen: SECONDS, MINUTES, OR HOURS. This screen will be the first one to appear on the initial energizing of the meter. This screen will also have a “OFF” in the lower right hand corner indicating that the timer is off at this point.

To change the status of the counter from OFF to On, PRESS/HOLD the **CHANGE** key for about 3 seconds. When the word “ON” appears, release the **CHANGE** key. In the “ON” condition, seconds begin to be recorded in the SECONDS, MINUTES, OR HOUR screen and in the RSTBL (Resettable) screen. At the appropriate time either P1, P2, or P12 will appear instead of the “ON” word indicating which pump(s) is activated.

◆ TURNING THE COUNTER ON AND OFF

1. Software On and Off (cont.)

To shut the counter off, PRESS/HOLD the **CHANGE** key for about 3 seconds until the word “OFF” appears. In this mode, the seconds, minutes, or hours will stop counting and the presets will be put on hold. This software ON and OFF functions the same in the ONE SHOT mode as it does in the regular pump control mode.

NOTE: When the meter is in any other screen than SECONDS, MINUTES, OR HOUR, the operation of the **SELECT** and **CHANGE** keys will operate like they are described in the OVERVIEW.

2. CONTACT SWITCH (HARDWARE ON AND OFF):

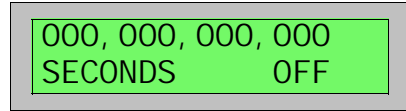
Next to the power cord of the meter, there is a shielded twisted pair to which a switching device can be attached. When the contact is closed, the counter is turned “ON” (the word “ON” will appear in the SECONDS, MINUTES, or HOUR screen) and the time will begin to be counted and recorded. All other pump settings will be activated at this time. When the contact is opened, “Off” will once again appear in the SECONDS, MINUTES, or HOUR screen and the time will stop being accumulated, pump functions will complete their timed sequence if already started; then stop. This hardware ON and OFF operates the same in the ONE SHOT mode as it does in the regular pump control mode. The twisted pair wire needs to be connected to a “DRY” contact switch.

II. MODEL TIME-1 MENU OPERATION

This model monitors cumulative seconds, has permanent memory retention in case of a power failure, and can record up to 1 trillion seconds.

There are two (2) screens with this model.

- A. To the right is the default display screen that shows the cumulative **TIME** in seconds (shown), minutes, or hours (See DISPLAY MODE below).

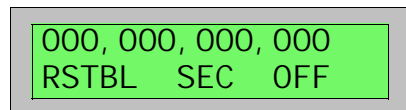


000,000,000,000
SECONDS OFF

This display will appear when the meter is first energized and is the screen that will appear when BOTH the **SELECT** key and the **CHANGE** key are pressed and released at the same time when you are in the main menu. The **OFF** appears in all screens when the meter is switched to the “OFF” position.

NOTE: This value cannot be reset and is good up to one (1) trillion seconds.

- B. To the right is the **RSTBL (Resettable)** screen. This display totals cumulative time in seconds (shown), minutes, or hours like the **TIME** screen but can be reset to zero or any other value at any time.



000,000,000,000
RSTBL SEC OFF

Programming: See ‘OVERVIEW’

III MODEL TIME-PMP-3 MENU OPERATION

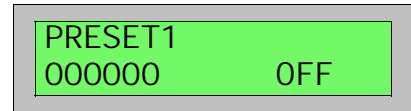
This model incorporates everything the Model TIME-1 has plus it can support 2 pumps with associated Presets and Timers or one (1) pump and one (1) rectifier or two (2) rectifiers. All internal output relays are fused. Also, the status of the pump (s) will be indicated in each of the main display screens by either an **OFF** (the counter is OFF and the pump(s) is OFF), **ON** (the counter is on but the pump(s) is not engaged), **P1** (pump 1 is engaged, counter ON), **P2** (pump 2 is engaged, counter ON) , or **P12** (pumps 1 and 2 are engaged, counter ON).

Besides the 2 display screens that Model TIME-1 has, Model TIME-PMP-3 has 13 additional screens.

A. TIME screen. (See TIME-1 menu)

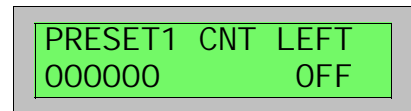
B. RSTBL screen (See TIME-1 menu)

C. To the right is the **PRESET1** screen. This screen is used to set the interval of SECONDS before Pump 1 is turned on. The **PRESET2** screen operates the same way for Pump 2.



Programming: See 'OVERVIEW'

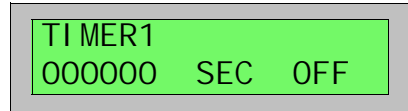
D. To the right is the **PRESET1 CNT LEFT** screen. This screen shows the amount of seconds of Preset time that is remaining before it activates the timer (see below). This screen is generally for information purposes only and does not need to be edited.



Programming: See 'OVERVIEW'

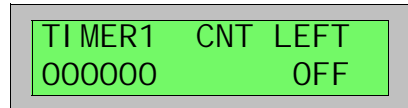
III MODEL TIME-PMP-3 MENU OPERATION (Cont.)

E. To the right is the **TIMER1** screen. This screen is used to set the running time in SECONDS for Pump 1. When the PRESET1 CNT LEFT screen counts down to zero, the TIMER1 value is activated and turns ON Pump 1. Values up to 999999 seconds (16,666 minutes or 11.6 days) are available. **TIMER2** for Pump 2 works the same way.



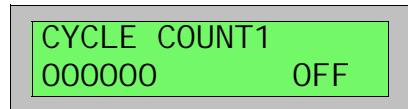
Programming: See 'OVERVIEW'

F. To the right is the **TIMER1 CNT LEFT** screen. This screen shows the amount of SECONDS remaining during the "ON" pump condition. This screen can also be used to ADD time to the current pump cycle for a one time add without effecting the TIMER1 setting. **TIMER2 CNT LEFT** for Pump 2 works the same way.



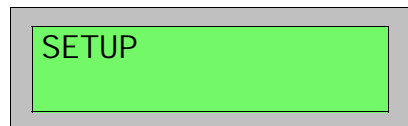
Programming: See 'OVERVIEW'

G. To the right is the **CYCLE COUNT1** screen. This screen shows the number of times the PRESET1 and TIMER1 have cycled through their counts. **CYCLE COUNT2** shows a similar value for PRESET2 and TIMER2.



Programming: See 'OVERVIEW'

H. To the right is the **SETUP** screen/menu. This screen provides access to menu items that usually need to be set only once or changed rarely. The RELAY1, RELAY2, DISPLAY MODE, ONE SHOT, and KEYED ON/OFF are submenus of this screen.



III MODEL TIME-PMP-3 MENU OPERATION (Cont.)

H. SETUP (Cont.)

A rectangular screen with a grey border and a light green background. The text "RELAY1" is on the top line and "PUMP" is on the bottom line, both in black capital letters.

1. To the right is the **RELAY1** submenu screen. This display allows you to DISABLE the output of relay #1 or have it ENABLE a PUMP. When first energized, the default setting is "PUMP" indicating that PUMP 1 relay is enabled.

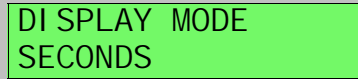
Programming: See 'OVERVIEW'

2. To the right is the **RELAY2** screen. This screen operates the same as RELAY1. The default setting is "PUMP".

A rectangular screen with a grey border and a light green background. The text "RELAY2" is on the top line and "PUMP" is on the bottom line, both in black capital letters.

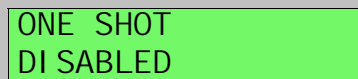
Programming: See 'OVERVIEW'

3. To the right is the **DISPLAY MODE** submenu screen. This display allows you to select how the TIME UNITS will be displayed in the first main screen and the Resettable screen. You have a choice between SECONDS (default), MINUTES and SECONDS, or HOURS, MINUTES, and SECONDS.

A rectangular screen with a grey border and a light green background. The text "DI SPLAY MODE" is on the top line and "SECONDS" is on the bottom line, both in black capital letters.

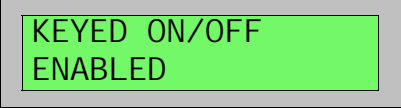
Programming: See 'OVERVIEW'

4. To the right is the **ONE SHOT** submenu screen. This screen allows you to change your meter system from a TIME Based unit to a ONE SHOT based add system. For most users of the TIME-PMP-1 meter, this screen/function will stay DISABLED. See ADDENDIX for the ENABLED functions and screens for the ONE SHOT: ENABLED.

A rectangular screen with a grey border and a light green background. The text "ONE SHOT" is on the top line and "DI SABLED" is on the bottom line, both in black capital letters.

III MODEL TIME-PMP-3 MENU OPERATION (Cont.)

H. SETUP (Cont.)



KEYED ON/OFF
ENABLED

5. To the right is the **KEYED ON/OFF** submenu screen. This screen allows you to disable or enable the key operation to turn the counter on or off.

Programming: See 'OVERVIEW: TURNING COUNTER ON AND OFF'

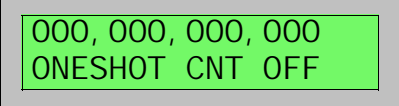
REMEMBER: PRESSING, AT ANY TIME, BOTH THE SELECT KEY AND THE CHANGE KEY TOGETHER BRINGS YOU BACK TO THE MAIN TIME SCREEN.

APPENDIX

I. ONE SHOT ENABLED OPTION

The ONE SHOT is based on the number of times the ONE SHOT is activated (via key or dry contact) and not on timed sequencing. Each time the ONE SHOT is activated, one (1) count is added to the accumulative total in the ONESHOT CNT screen and the TIMER(S) is activated.

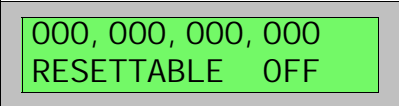
A. Upon enabling the **ONE SHOT** option in the **SETUP** submenu screen, the screen to the right now becomes your default main screen. When the ONE SHOT is turned on (via key pad or dry contact from a hoist, etc.) the “OFF” changes to an “ON”, one count is added to this screen, and the TIMER(s) is activated. At the appropriate time, P1, P2, or P12 will also appear instead of the “OFF” indicating which pump is activated. The counts in this screen are non-resettable.



000,000,000,000
ONESHOT CNT OFF

NOTE: NO PRESETS ARE NECESSARY AND WILL NOT BE AN OPTION IN THE ONE SHOT MODE.

B. To the right is the **RESETTABLE** screen. This screen shows the running counts of the ONE SHOT like the default screen above but can be reset to any value you wish. This screen also shows the status of pumps.



000,000,000,000
RESETTABLE OFF

Programming: See ‘OVERVIEW’ in the Main Manual

C. The programming and functioning of the **TIMER1,2; TIMER1,2 CNT LEFT; CYCLE COUNT1,2;** and **SETUP** screens are the same as in the TIMED based mode explained in the Main Manual.

INSTALLATION



**PUMP OUTPUT
(Only in Pump Control
Versions)**
The TIME-PMP-3 models come with either one or two peristaltic pumps. When the preset number of seconds is attained, the pump(s) will be energized for the length of time that the operator has designated in TIMER1 or TIMER2. Facing the controller, Pump 1 is to the left and Pump 2 is to the right.

120 VAC POWER
The meter operates off 120 VAC. The TIME-PMP-3 meters use a three wire grounded plug.

TWISTED PAIR:
The meter comes equipped with a Twisted Pair wire to be connected to a switchable device. The “OFF” position is the Normally Open state. When contact is made (closed), the meter begins to accumulate seconds.
USE WITH A “DRY” CONTACT ONLY

WARNING:
All board components and circuitry use a “floating ground” and must remain isolated from all other circuits and grounds. This is only an issue if board is removed outside its protective casing.