

TIME BASED METERS PUMP CONTROLLERS

USER MANUAL

MODELS	290-TIME-1	290-TIME-P3
	290-TIME-P1	

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INSTALLATION

Step-by-Step Guide

1. Read Manual to familiarize yourself with the operation of the meter.
2. Mount Unit. **FOR PUMP (P) MODELS:** Attach feed tubes to the Squeeze tubes using wire ties or stainless hose clamps. **NOTE:** Pick up tube may float so you might need to weigh it down.
3. Connect the 15' of 2 wire twisted pair signal wire to the dry contact switch (red to the more positive side). **IMPORTANT:** If you shorten this wire, remove all shielding from the ends of the twisted pair and put tape around the ends. At no time should the shielding be grounded.
4. Connect the 120VAC power source plug into the 120VAC receptacle.
5. Apply power to the unit.
6. Set your Presets (how often to feed chemicals) and Timers (how much chemical to feed). Use the Worksheet at the end of the manual to figure these values. These values can be changed any time to get the correct balance.
7. You can use the "Prime Pump" function to prime these pumps if need be.

NOTE FOR PUMP (P) MODELS: CHECK PUMP SQUEEZE TUBE REGULARLY FOR INTEGRITY

INSTALLATION

TIME-P1 Model

PUMP OUTPUT

(Only in Pump Control Versions)

The TIME-P1 models come with two 120 VAC pigtails with female receptacles. Any 120 VAC pump which draws no more than **five amps** can be plugged into these receptacles. When the preset number of seconds is attained, the pump will be energized for the length of time that the operator has designated in TIMER1 and TIMER2.

TWISTED PAIR

All models of the meter come with 15 feet of twisted pair wire to be connected to a switchable device. The "OFF" position is the normal, open state. When contact is made ("ON"), the meter begins to accumulate seconds. The **red** wire must be connected to the positive terminal and the **black** wire to the negative terminal.

USE WITH A DRY CONTACT ONLY



120 VAC POWER

The meter operates off 120 VAC. The TIME-1 meter uses a two wire cord and plug while all pump models use a three wire grounded plug.

230 VAC POWER users should connect directly to the terminal strip inside the meter.

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 the

TIME-P3 Model

PUMP OUTPUT

(Only in Pump Control Versions)

The TIME-P3 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. Pump models of the time meters use a three wire grounded plug.

230 VAC POWER users should connect directly to the terminal strip inside the meter.

PUMP 1

PUMP 2



TWISTED PAIR

All models of the meter come with 15 feet of twisted pair wire to be connected to a switchable device. The "OFF" position is the normal, open state. When contact is made ("ON"), the meter begins to accumulate seconds. The **red** wire must be connected to the positive terminal and the **black** wire to the negative terminal.

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 the board is removed outside its protective casing.

PUMP PARAMETERS (TIME-P3 ONLY)

10' HEAD MAX

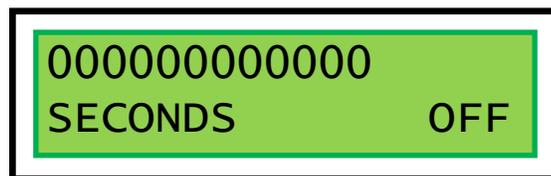
75' LATERAL RUN MAX

QUICK START

USING THE METER

JP Tech's Time Based meters are designed for measuring accumulated seconds. TIME-P1 and TIME-P3 models of the Time Based meters can also control two (2) pumps.

JP Tech's Time Based meters incorporate a simple menu design featuring a two (2) button keypad. Pressing the **SELECT** key once cycles through different menu screens. Holding the **SELECT** key for about three (3) seconds will enable changes to be made on the menu screen chosen (not applicable on all screens; see the *Menu Operation* section for information on which values are editable).



The default menu screen, showing the non-resettable second total

After holding the **SELECT** key for three (3) seconds, a flashing cursor will appear, allowing for changes to be made. In this mode, the **SELECT** key moves your cursor right, and the **CHANGE** key advances the selected value by one. Once you have set the values you want, hold the **SELECT** key to return to the menu.

NOTE: The **SELECT key will not change any values by itself! It only provides a way to move through menu screens or move the flashing cursor.**

When the cursor is not flashing, pressing both the **SELECT** and **CHANGE** keys together will take you back to the default 'SECONDS' screen (as shown above). However, while editing values (cursor is flashing), pressing both the **SELECT** and **CHANGE** keys together will reset the value to zero.

MENU OPERATION

Menu Hierarchy

1. One Shot Count (**Default Screen if One Shot Mode is enabled**)
1. Cumulative Second Total (**Default Screen**)
2. Resettable Second Total
3. Prime Pump (if either pump is enabled)

IF PUMP 1 IS ENABLED

4. Preset 1
5. Preset 1 Count Left
6. Timer 1
7. Timer 1 Count Left
8. Cycle Count 1

IF PUMP 2 IS ENABLED

9. Preset 2
10. Preset 2 Count Left
11. Timer 2
12. Timer 2 Count Left
13. Cycle Count 2

14. Setup

- 14.1. Relay 1
- 14.2. Relay 2
- 14.3. Display Mode
- 14.4. One Shot Mode
- 14.5. Keyed On/Off
- 14.6 SW Debounce

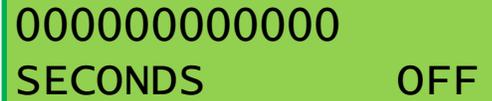
MENU OPERATION

Main Menu Screens

NOTE: The status of the meter is indicated in the lower right hand corner. **OFF** indicates that the counters are off, and **ON** that the counters are on. **(P Models Only):** If pumps are enabled, **P1** (pump 1), **P2** (pump 2), or **P12** (pumps 1 and 2) will appear.

1. CUMULATIVE SECOND TOTAL

This menu screen shows the accumulated second total over the life of the meter. This is the default menu screen and will appear when both the **SELECT** and **CHANGE** keys are pressed at the same time.

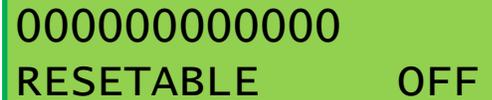


000000000000
SECONDS OFF

NOTE: This value cannot be reset and is good to 1 trillion seconds. This is for EPA compliance and lifetime tracking standards.

2. RESETTABLE SECOND TOTAL

This menu screen totals accumulated seconds similar to CUMULATIVE SECOND TOTAL, but can be reset to zero at any time.



000000000000
RESETTABLE OFF

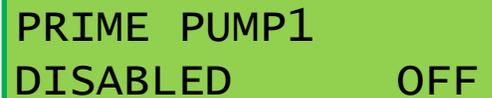
NOTE: Remember that while editing values, pressing both the **SELECT** and **CHANGE** keys together will reset the value to zero. Outside of editing values, this will navigate back to the CUMULATIVE SECOND TOTAL menu screen.

3. PRIME PUMP (if either pump is enabled)

Holding **SELECT** on this screen will allow you to enable/disable both pumps separately. Press **SELECT** to switch between PUMP 1 and PUMP 2. When a pump is enabled, the "OFF" symbol will disappear, replaced by either a P1 (pump 1), P2 (pump 2), or P12 (pumps 1 and 2) to indicate which pump(s) is on.



PRIME PUMP OFF



PRIME PUMP1
DISABLED OFF

NOTE: There is no automatic shutoff once pumps are enabled!

(TOP) The prime pump main menu
(BOTTOM) The prime pump submenu, allowing pumps to be enabled/disabled

14. SETUP

Holding **SELECT** on this screen will allow you to enter Setup (see page 9; *Setup Options* for more information).

MENU OPERATION

Pump Controls (P models only)

4. PRESET 1 / 9. PRESET 2

This screen is used to set the interval of seconds before the pump is turned on. The pump will activate for the length of time (in seconds) specified in the corresponding TIMER.



PRESET1
000000 OFF

5. PRESET 1 COUNT LEFT / 10. PRESET 2 COUNT LEFT

This screen shows the number of seconds remaining before the meter activates the corresponding TIMER.



PRESET1 CNT LEFT
000000 OFF

NOTE: This screen is for information purposes only and does not need to be edited.

6. TIMER 1 / 11. TIMER 2

This screen is used to set the amount of time (in seconds) the corresponding pump should run. The number of seconds in PRESET COUNT LEFT will count to zero (0), activating the corresponding pump for the amount of time (in seconds) set here.



TIMER1
000000 OFF

7. TIMER 1 COUNT LEFT / 12. TIMER 2 COUNT LEFT

This screen shows the amount of seconds remaining while the corresponding pump is currently "on". This screen can also be used to add time to the current pump cycle without affecting the TIMER setting.



TIMER1 CNT LEFT
000000 OFF

8. CYCLE COUNT 1 / 13. CYCLE COUNT 2

This screen shows the number of times the corresponding PRESET and TIMER have completed their cycles.



CYCLE COUNT1
000000 OFF

MENU OPERATION

Setup Options

14.1 RELAY 1 / 14.2 RELAY 2

This screen is used to select what kind of device you are controlling. You can choose between a PUMP or to DISABLE one or both of the relays. Enabling either of the relays will allow access to the corresponding PUMP and TIMER menus.

A green rectangular box with a black border containing the text "RELAY1" on the top line and "DISABLED" on the bottom line.

14.3 DISPLAY MODE

Holding **SELECT** will allow you to toggle between seconds, minutes, or hours as the default unit of time on the meter.

A green rectangular box with a black border containing the text "DISPLAY MODE" on the top line and "SECONDS" on the bottom line.

14.4 ONE SHOT MODE

One Shot Mode allows you to close the dry contact for a burst, rather than closing for the period of time set in TIMER.

A green rectangular box with a black border containing the text "ONE SHOT" on the top line and "DISABLED" on the bottom line.

14.5 KEYED ON/OFF

This screen allows you to enable or disable the keyed on/off function. If ENABLED, holding the **CHANGE** key for three (3) seconds enables the timer. For most users, this should remain DISABLED.

A green rectangular box with a black border containing the text "KEYED ON/OFF" on the top line and "DISABLED" on the bottom line.

14.6 SW DEBOUNCE

When the contacts of a switch close, sometimes they can bounce, so that a single press can appear like multiple presses. If this is happening, enabling Switch Debounce will ignore quick subsequent presses of the switch detected within the second range input here. Switch debounce is preset at the factory, and usually does not need to be changed.

A green rectangular box with a black border containing the text "SW DEBOUNCE" on the top line and "01" on the bottom line.

MAINTENANCE

The PERISTALTIC Series of metering pumps require a minimal amount of maintenance to achieve optimal performance. Periodically check the squeeze tube for cracks, deterioration, or swelling. The squeeze tube will typically need to be replaced about every 6 months (chemical compatibility and duty cycle can cause this interval to vary). NOTE: squeeze tubes are NOT a warranty item.

VERY IMPORTANT: When replacing squeeze tubes, **DO NOT TWIST THE TUBES WHEN FITTING THEM AROUND THE ROLERS.** Insert them so they remain flat in the same plane. (The writing on the tubes should be inline on both sides of the rollers.)

Applying lube to the squeeze tube once a month can extend the life of the tube, minimize wear on other contacting parts, and promote smoother pump operation. Use Knight Tube Lube (P/N 245-4-SQZLUBE) or an equivalent silicone-based lubricant.

1. Remove the faceplate of the pump.
2. Apply a thin bead of Tube Lube to the inner surface (the side that the rollers contact) of the squeeze tube between the 9 o'clock and 3 o'clock positions. Avoid getting the lube near the pinch points where the bottom of the faceplate grips the tube.
3. Put the faceplate back on the pump

Activate the pump under normal conditions—the lubricant will be evenly distributed as the pump rotates.

CAUTION: To avoid severe or fatal shock, always disconnect main power when servicing the unit.

PARTS LIST

<u>ITEM</u>	<u>PART NUMBER</u>
ELASTIC SQUEEZE TUBE <i>(Standard with unit. Good for weak to strong alkalis, weak to medium acids.)</i>	245-4-ELSQZTUB
THERMISTANT SQUEEZE TUBE <i>(Has superior acid-resistant and alkali-resistant qualities.)</i>	245-4-TMSQZTUB
FLUORO-VITON SQUEEZE TUBE <i>(Good for strong solvents and acids.)</i>	245-4-FVSQZTUB
SQUEEZE TUBE LUBRICANT	245-4-SQZLUBE
100 RPM/24 VDC PERISTALTIC GEARMOTOR	245-4-GEARMOTOR-FV
ROLLER FOR PERISTALTIC UNITS	245-4-ROLLER
FACEPLATE FOR PERISTALTIC UNITS	245-4-FACEPLATE
ROLLER / TUBE PUMP HOUSING	245-4-PMPBODY
DELIVERY TUBING—20' ROLL <i>(Polyethylene 1/4' OD, rigid wall tubing)</i>	245-4-PLYTB20
DELIVERY TUBING—50' ROLL	245-4-PLYTB50
DELIVERY TUBING—100' ROLL	245-4-PLYTB100
PERISTALTIC HINGE	245-4-HINGE
PICK UP TUBE	245-4-PICKUP

NOTE: CHECK YOUR SQUEEZE TUBES PERIODICALLY FOR INTEGRITY (ABLE TO EXPAND AFTER BEING SQUEEZED BY THE ROLLERS).

ORDER PARTS

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JP TECH, INC.

LIMITED PRODUCT WARRANTY

JP Tech warrants to first user of each new JP Tech product or component that it is free from defect in material and workmanship. The obligations of JP Tech under this warranty are expressly limited to the following:

- JP Tech will repair or replace, at its option, any defective components for a period of twelve (12) months from date of shipment. No charges are covered for the removal or replacement of defective components.
- This warranty applies only if the product is defective under normal use. It does not apply to breakage or defect from accident, alteration, misuse, or abuse of the product or component. In addition, this warranty is effective only if the product or component is installed in a location and manner prescribed by JP Tech's instructions and only if it is so maintained. This warranty becomes null and void if the product or component is altered by anyone other than JP Tech, its authorized representatives, or by expressed written authorization for a specific situation.
- If JP Tech elects to send a service technician to a customer site to repair a defect, the cost of transportation and/or living expenses will be paid for by the customer. Should the defect turn out to be the result of the customer's misuse, improper installation, or maintenance of the product or component, the customer will be responsible for the full cost of the service call including labor charges plus the aforementioned travel and living expenses.
- JP Tech will repair or replace any defective part within a product at the sole discretion of JP Tech. If JP Tech should choose to supply a part to the customer as a no-charge warranty replacement, the customer assumes all cost of installation associated with the replacement part. If the product needs to be returned for warranty service, a Returned Material Authorization (RMA) must be issued by JP Tech prior to such return. All returned material must be sent freight prepaid or it will not be accepted by JP Tech irrespective of warranty issues.
- There are no implied warranties of merchantability or of fitness for a particular purpose. The above warranty is made in lieu of all other guarantees or warranties, express or implied. JP Tech distributors or OEMs who purchase JP Tech products for resale are not authorized to assume any other obligation or liability for JP Tech.
- JP Tech will in no case or under any circumstances be liable for special, incidental or consequential damages, loss of profit or commission for any loss caused by any delay in production or shipment of product, or defect of any kind in any product or component covered by the sale. Without limitation, JP Tech will not be so liable with respect to furnishing of any product, or component, delay in such furnishing, use, resale, or other cause. JP Tech's liability arising out of the supply of any product or component, its use, resale or other disposition, or out of any guarantee or warranty, express or implied, or any other cause, shall in no way exceed the cost to JP Tech of the product or component which JP Tech agrees to repair or replace. JP Tech's liability for any product or component terminates upon expiration of the applicable repair or replacement period.

This implementation of this warranty may, under separate agreement, be subrogated to exclusive distributors or manufacturers who shall assume all or portions of the liability associated with warranty costs.

This warranty may be modified, wholly or in part, at any time by JP Tech without notice to past or future customers. The warranty revision in effect at the time of shipment shall prevail in any claims rendered.

JP TECH, INC.

TERMS AND CONDITIONS OF SALE

The purchase of any products or services supplied by JP Tech shall be governed by the terms of this agreement. Purchaser of these products and services acknowledges and agrees to these terms without modification by any competing document or any agreement not reduced to writing and authorized by an officer of JP Tech, Inc.

- Pricing is the effective price at the time of the order. If the shipment of product is postponed by buyer, the price may be changed to reflect any price changes enacted by JP Tech. Prices may be changed by JP Tech at any time for any reason without notice to purchaser except for accepted orders not affected by a purchaser initiated delay. Prices, unless otherwise stipulated, do not include shipping and handling charges.
- Certain products may require initial and progress payments before the commencement and continuation of design, engineering, component procurement, and manufacture. These products will not be shipped until all progress payments have been made. Cancellation of any orders in progress will necessitate the forfeitures of any payments received to date as well as payment of any costs accrued in excess of paid amounts.
- Orders must be accepted by JP Tech at their home office. Acceptance of any purchase order, regardless of the method, is conditioned on assent of buyer to the terms and conditions contained herein.
- Sales are FOB point of shipment. Sales terms are net 30 days from date of shipment. Present or future sales, use, or other taxes on sales, installation or use shall be paid by purchaser. Purchaser shall pay 1% interest per month on all outstanding amounts due to JP Tech. Interest accrual shall begin on the 31st day after shipment for all outstanding amounts.
- All sales are final. Any decisions to accept return of product after shipment and receipt by purchaser shall be at the sole discretion of JP Tech and not until payment has been made and agreement by purchaser to pay all shipping, cancellation, and restocking charges that may accrue.
- Shipping dates given prior to shipment are estimated, actual delivery will be based on factory and engineering loading at the time of manufacture as well as the availability of parts required for manufacture. JP Tech shall not be liable for any costs or damages arising out of or related to any delays in shipment or delivery, including but not limited to liquidated damages, unless otherwise agreed in writing.
- JP Tech may change design or construction of any product or component in any way they see fit. Upgrades for previously purchased products may be available for certain products for a price that will be determined when appropriate.
- Except as provided herein, any controversy, claim or dispute arising out of or related to any order or sale or breach there of, including but not limited to any breach of warranty claims, shall be litigated in state court, Walworth or Waukesha Counties, Wisconsin, and shall be governed by the laws of Wisconsin. If JP Tech is the prevailing party, JP Tech shall be entitled to collect all reasonable fees and costs, including court costs and attorney fees.