General information

Each flow meter kit includes a pre-assembled flow meter with the specified tailpiece size, a plastic wall bracket, screws, hose clamps and 25 ft of flow meter cable.

1. Use stainless steel tailpieces for carbonated water, syrups and wine. Use chrome plated tailpieces for draft beer.
2. Hands tighten the plastic nuts at room temperature. When the washers are cold, sealing the adaptors may be difficult. Grab the two plastic nuts and twist. The amount of pressure required to seal the tailpieces on the washers is directly proportional to the pressure of the gas used to push the liquid. If the gas pressure is high, you will need to tighten the nuts more firmly. DO NOT GRAB THE FLOW METER BY THE CENTER TO TIGHTEN THE ADAPTORS (you could damage the coil).
3. Using a sharp utility knife cut the tubing where the flow meter will be installed. Leave enough line to be able to move the kegs easily.

Caution: Install the flow meter at least 30 cm (12 inches) from transformers, blowing fans or motors. These devices emit a magnetic field (60Hz), which can be picked up by the flow meter. If the counter moves without any liquid being dispensed, move the flow meter away from the source.

Pre-Mix
Whether it is wine, juice, or soft drink, if it's ready to serve it's Pre-Mix. As with draft beer, one flow meter per line will be necessary.

Post-Mix

1. Measuring carbonated water
The ratio of the mixture (or "Brix") is usually the same for all the syrups (5:1). By installing the flow meter in the carbonated water (soda) line, the flow meter system will register the total amount of soft drink served through the dispenser.

2. Measuring syrups.
If you want to know the quantity of each flavor served, you will need to install a flow meter on each of the syrup lines. **It is necessary to use the flow meter model number 50-032 (slower flow rate).**

Installing the tailpieces

4. Select the tailpieces corresponding to the internal diameter of the tubing.
5. Install the tailpieces as shown on the pictures bellow.

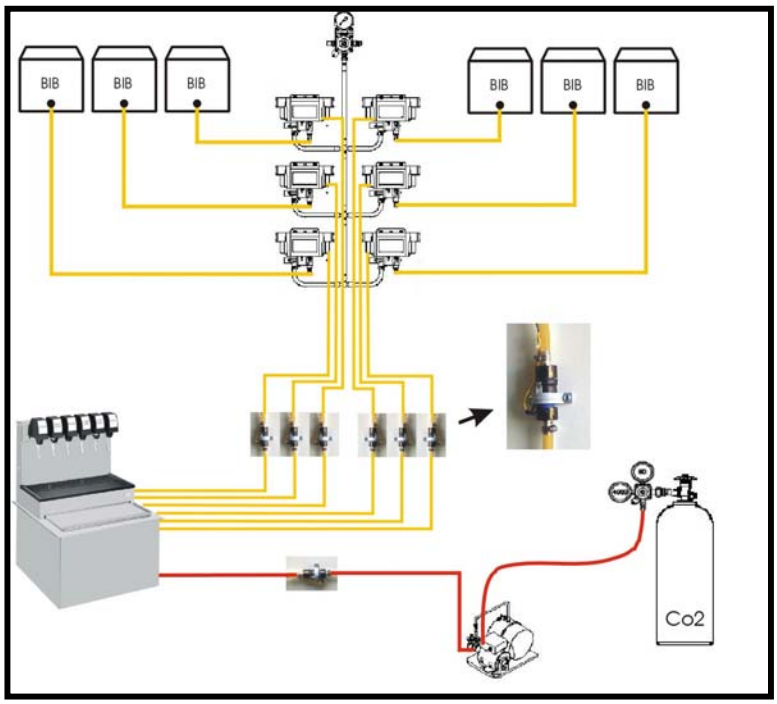



Installation

Draft beer and wine

6. Remove the keg coupler and open the faucet to decompress the product line.
7. Slide a hose clamp on each side, check the flow direction and insert the flow meter.
8. Tighten both clamps and secure your flow meter to the wall using the bracket.
9. Re-install the keg coupler and check for leaks.
10. The insertion of the flow meter has created an air pocket in the beverage line. You must evacuate the air pocket before proceeding with the calibration of the system.
11. Leave the faucet open until the air pocket has passed. Let the beer rest for a few minutes.
12. If empty keg detectors are present, install the flow meter directly at the outlet as it will prevent the flow meter from ever being in contact will foam.

SOFT DRINK



Carbonated water

13. Shut the water, CO_2 and carbonator pump off.
14. Depressurize the carbonated water line. Install **stainless steel tailpieces** corresponding to the internal diameter of the line and the washers.
15. Using a sharp utility knife cut the tubing where the flow meter will be installed. Leave enough line to be able to move the keg easily.
16. Slide a hose clamp on each side, check the flow direction and insert the flow meter.
17. Tighten both clamps and secure your flow meter to the wall using the bracket.
18. Turn the water, CO_2 and the pump back on. Pour enough carbonated water to bleed the line of any trapped air pockets.
19. Check for leaks.

Syrups:

20. Disconnect the power to the pumps or shut off the gas pressure to the pumps to cut the pressure within the feed lines. Depressurize each flavor.
21. Slide a hose clamp on each side, check the flow direction and insert the flow meter.
22. Pressurize the feed lines and check for leaks.

Connecting the flow meters to the Auper monitor system

- Pass your flow meter cables out of the cooler to where the Auper monitor system is installed.
- Secure your cables with cable ties and cut them near the monitor system.
- Strip ¾ inch (2 cm) of the insulation off the wires.

Multiple pairs flow meter cables

Flow meters can be connected to a multiple pair cable. The distance between a flow meter and the Auper flow meter system can be as far as 1000 ft.

Monitor IV

Location

The Monitor IV being a control system should be installed in such a way as to be tamper proof. Cables and connections should be protected and secured out of reach. The power source should not be installed where it can easily be disconnected. Do not connect the Monitor IV power source to an electrical outlet that can be turned off at night.

Using a small "Phillips" screwdriver, remove the four screws on the cover and pull towards the front to remove it. To replace the cover push it from the front towards the back.

Insert your wires using the access holes in the back of the monitor. If you are using a single cable (4 pairs), remove the power supply cable and use its access hole for your cable. Replace the power supply cable by using one of the smaller holes available.

1. Strip ½ inch (1.25 cm) of the insulation from the end of the wires making sure not to cut the wires.
2. Lift the terminal levers into the open position and insert the wires.
3. Once the wires are inserted, press down on the terminal levers to close the contact. Make sure the contact is closed on the copper wire to guarantee a secured and solid connection.
4. Connect the power supply wires to the 12 Volts @ 20 VA power supply. Make sure that the power supply is not easily accessible or that it can be accidentally disconnected
5. Locate the SW2 switch on the circuit board. This button is pressed to enter and browse through the programming modes.

Testing the connections

6. Press on SW2 once. **IMPULSE MODE**

The impulse mode is used to verify that all the flow meters are connected properly to the Monitor IV. From left to right, 4 dots represent lines 1 to 4.

- **When a flow meter is connected to a line, the corresponding dot is up.**
- **If no flow meter is connected to a line, the corresponding dot is down.**
- **When a flow meter detects liquid flowing though it, the corresponding dot will alternate up and down.**
- **If a flow meter is installed backward, the corresponding dot will be up but will not alternate when product is flowing.**

Calibration

The calibration procedure insures the accuracy of the measurements of the flow meter system. Each flow meter must be calibrated with the product it is measuring. The flow meter should be re-calibrated if the product is changed or if the dispensing flow rate was changed by a factor of 30 % or more. Calibrating an Auper flow meter system requires you to pour a measured amount of product at each faucet into a graduated cylinder. In the calibration mode, the system calculates how much liquid flows through each flow meter for one turbine impulse. During the calibration procedure all four lines are calibrated at the same time. This feature prevents you from having to go back and forth to the Monitor IV to set the calibration values.

As soon as the system is put in the calibration mode, the amount of liquid dispensed at each faucet is used to calibrate the metering system. If liquid is dispensed on a line that you did not intend to calibrate, the calibration of that flow meter will be changed. Only the lines that have detected liquid flowing will calibrate. When you are ready to calibrate your meters, tell everyone not to use any of the beverage lines for the duration of the calibration procedure to prevent unwanted re-calibrations.

Calibration procedure

7. Press SW2 once: The display shows **CAL. WITH 20 oz.**

Press the front panel button to alternate between **CAL. WITH 1 UNIT** and **CAL. WITH 20 oz.**

The Monitor IV can be programmed to measure ounces, liters, gallons, glasses, etc...

- ❑ To calibrate to count ounces select the **CAL. WITH 20 oz**
- ❑ For all other measuring units select the **CAL. WITH 1 UNIT**

When the calibration value is selected, press SW2 once. The display shows **C1 0000 → 00.0000**

You have now entered the calibration mode. Even though only one line is showed on the display, all four lines are in calibration mode.

- If you selected "USE 20" to calibrate to measure ounces: Pour and measure exactly 20 ounces of product at each faucet using a graduated cylinder.
- If you selected "USE 1", pour exactly one unit (1 Liter, 1 gallon, 1 glass or the amount of product corresponding to 1 dollar) at each faucet using a graduated cylinder.

TIP: For Draft beer, before you calibrate, spray some WD 40 oil in the graduated cylinder to kill the foam. You can stop to let the foam settle when you calibrate.

The display will show the corresponding flow meter pulses on line 1**.** Line 2,3 and 4 are not displayed but are still being calibrated. *For example:* ***C1 0502→00.0000***

Press the front panel button to calibrate all 4 lines. The display will show the result of the calculation (For ex: 20/300 = 0.066666 or 1/502 = 0.001992) **C1 0502 → 00.001992**

If you are not satisfied with the measure and wish to re-calibrate either one, or all lines, remain in this mode after pressing the front panel button to set the calibration values. Start again on the lines you want to re-calibrate. Lines, on which the pulse counter remained at zero indicating no product was served, will retain their old calibration. Make sure that no one uses the dispenser while you calibrate to avoid unwanted re-calibrations.

Master calibration reset

In order to reset all the calibrations, press and hold the front panel button as you plug the power source.

- Press the front panel button to exit and keep the old calibration.
- Press the SW2 button to reset all calibrations.

Other modes

8. Press SW2 once : **CLR 1 ? 123456.78**

This mode allows you to reset the displayed counter to zero by pressing the front panel button. To continue without resetting the counter press SW2. To clear the other counters, keep pressing SW2 until the display shows **CLR 2 ? 876543.21.** Every time you go through all the mode selections, the line number changes. This mode should only be used at the time of installation. A reset key module is available if you want to reset your counters daily.

9. PRESS SW2 once: **CLR PWF ? : 06**

This mode allows you to reset the power fail counter to zero by pressing the front panel button. To continue without resetting the counter, press SW2.

10. PRESS SW2 once: ***SYSTEM DISABLED***

This mode may be used to disable the system from counting at the time of installation when priming the lines. As long as the display shows "system disabled", the counters are not registering. Press Sw2 to exit this mode and activate the system.

11. Press SW2 once: **CLEAR ALL DISABLED /ENABLED.**

A reset key module is available for the Monitor IV. The key is used to reset all the counters to zero at the end of each shift. If you are using the reset key then the " clear all " function must be enabled. To alternate between enabled and disabled press the front panel button.

12. Press SW2 once: **QUIT SETUP MODE ?**

If you wish to exit the configuration mode, press the **selection key** on the front panel. The system, will ask if you wish to save the configuration. To save the configurations press the front panel button. To quit without saving the configuration press SW2.

WARRANTY

Auper Electronic Controls Inc warrants that this product is in good working condition, according to its specifications at the time of the shipment, for a period of one (1) year from the date of purchase. Should the product, in Auper Electronic Controls opinion, malfunction within the warranty period, Auper Electronic Controls Inc will repair or replace the product without charge. Any replaced part becomes the property of Auper Electronic Controls Inc. This warranty does not apply to the software component of a product or a product which has been damaged due to an accident, misuse, abuse, improper installation, usage not in accordance with product specifications and instructions, natural or personal disaster or unauthorized alterations, repairs or modifications.

LIMITATIONS

All warranty for this product, expressed or implied, are limited to one year from the date of purchase and no warranty, expressed or implied, will apply after that period.

No warranties for this product, expressed or implied will apply to any person who purchases the product in used condition.

The liability of Auper Electronic Controls Inc with respect to any defective product will be limited to the repair or replacement of such product.

In no event shall Auper Electronic Controls Inc be responsible or liable for any damages arising

(a) from the use of the product;

(b) from the loss of use, revenue or profit of the product; or

(c) as a result of any event, circumstances, action or abuse beyond the control
of Auper Electronic Controls Inc ; whether such damage be direct, indirect, consequential, special or otherwise and whether such damages are incurred by the person to whom this warranty extends or a third party.

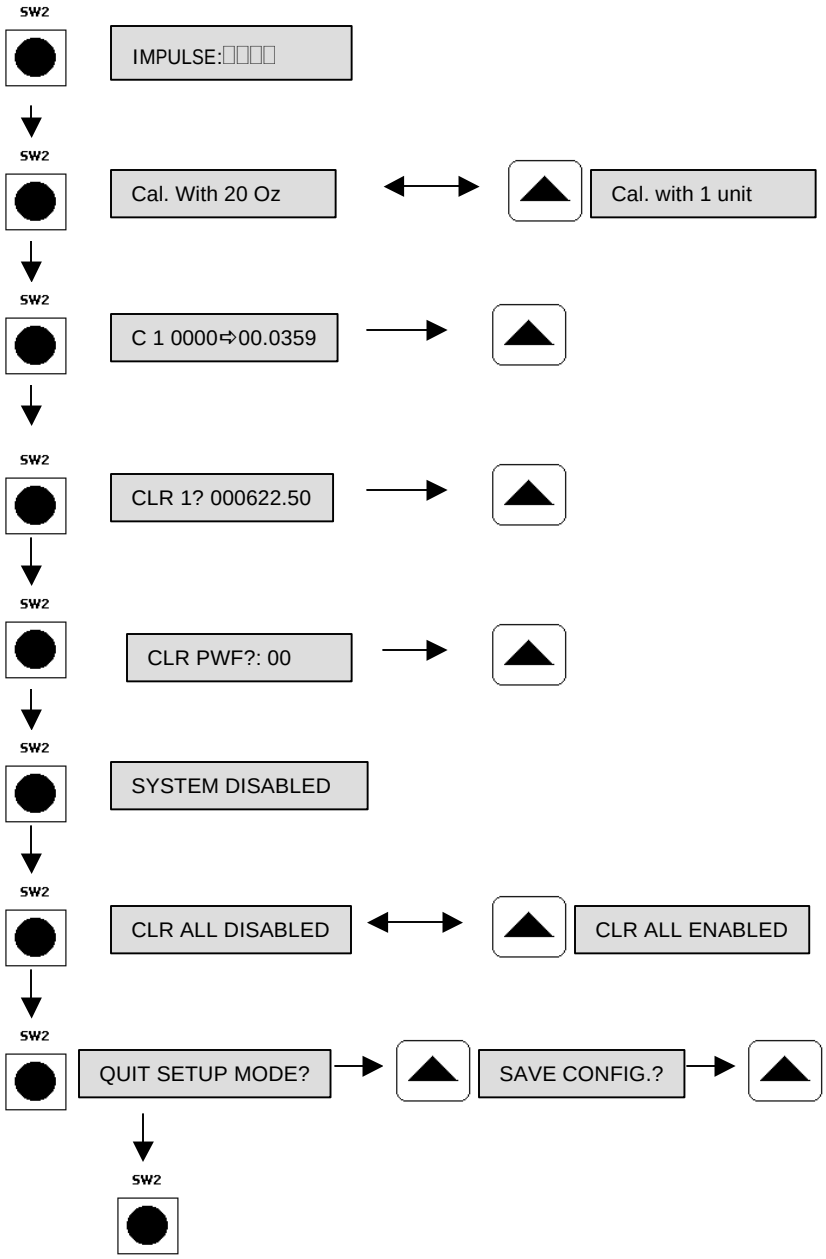
MONITOR IV Version 5.0

PROGRAMMING AND OPERATION MODES

FLOW CHART FC50400

PROGRAM MODE

The SW2 switch is located on the PC Board. The Monitor cover must be removed to access the switch. Please refer to the installation guide for detail.



Description

Impulse mode

Display the connected lines.

Calibration mode

To select the unit of measure.

Pour 20 ounces or 1 unit on all the lines that requires calibration. Press on the arrow to accept the calibration for all the lines.

To see the next line value press on SW2 until you see the C2 value. Repeat for the C3 and C4.

To reset the displayed line counter.

To see the next line to clear press the SW2 until you see CLR2. Repeat for the CLR3 and CLR4.

To reset the power failure counter.

To momentarily stop counting (lines cleaning).

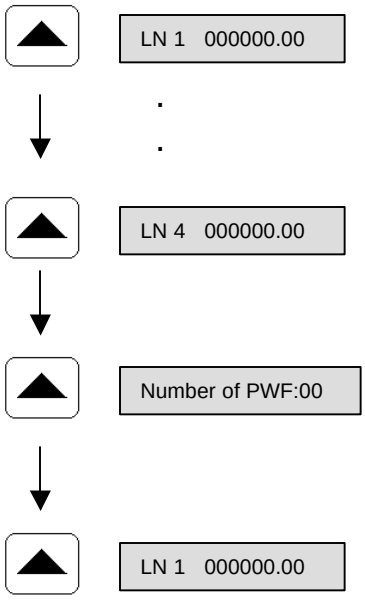
To enable clear all function when a reset key switch is installed.

To quit programming and save all changes including the calibration.

To quit programming without saving any change.

RUN MODE

Description



Display the line counters.

To scroll down the lines.

Display the power failure counter.

End of run mode. Loops back to the beginning.