

# MegaTron

Controller

Supplemental

## Auxiliary Flow Meter Instructions

**Notice:** This manual includes instructions for the Auxiliary Flow Meters that is not covered in the main MegaTron manual but will refer to items covered in the main manual.

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# MegaTron Controller Aux Meter Option W Manual Table of Contents

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# I. Introduction

The MegaTron microprocessor based controllers are designed to provide a wide range of control functions for recirculating water treatment systems. The controller is programmed through a front panel keypad and can be configured to provide a customized control system for your application. This manual covers the features associated with the Auxiliary Flow Meter input option "W".

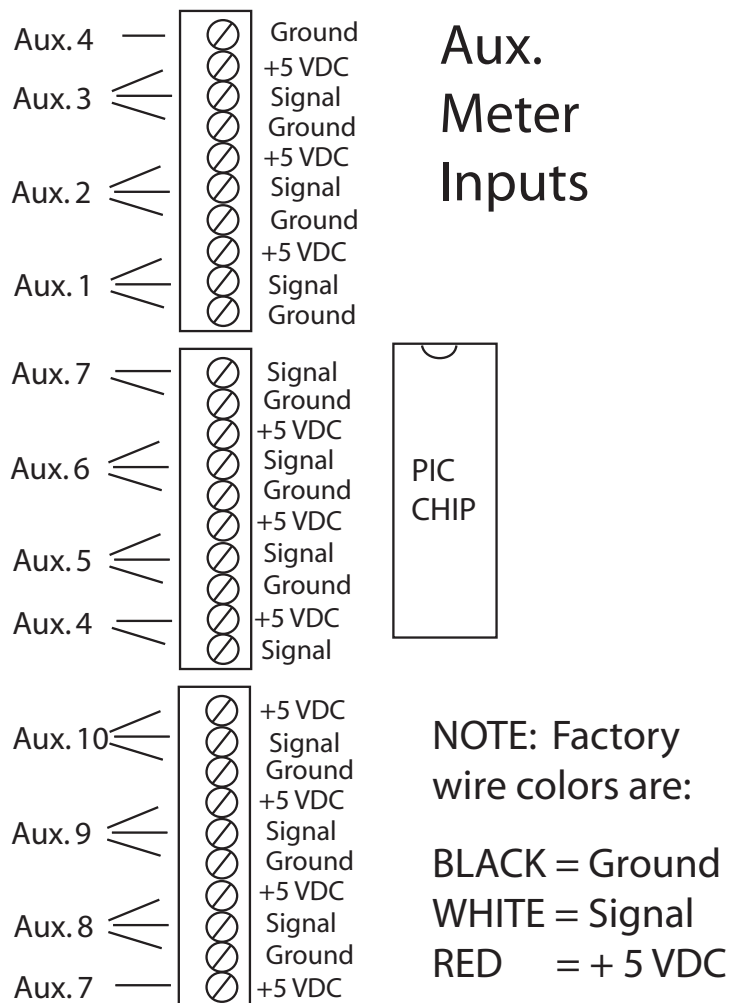
## Description of Option W

MegaTron controllers with "W" option may have 0 to 10 Aux Meters. Just a "W" in the model number indicates the expansion capability to have aux meter inputs. A "W" followed by a number indicates how many aux meter inputs the controller is equipped to read (W3 = 3 aux meter inputs). These additional inputs are for tracking various flow meter devices like Advantage Controls' FloTracker in a metering pump's discharge tubing. They can also be linked to a system's water meter input for additional tracking and alarm capabilities.

## Electrical Wiring

Auxiliary flow meter inputs come pre-wired from the factory using low voltage 3-wire cables with Molex connectors. These connection are made on the motherboard of the controller that can be accessed behind the display panel.

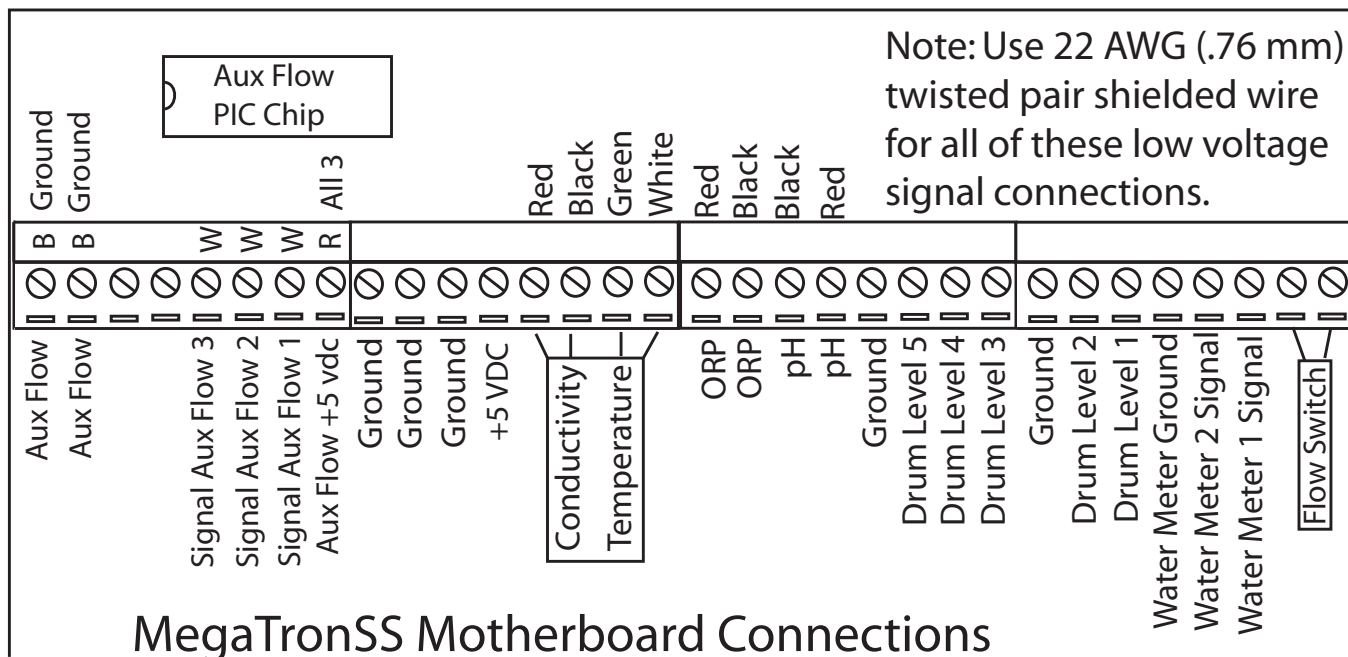
### A. MegaTron Motherboard Connections



### Notes:

1. Low voltage signal wires (probes, flow switch, water meter, etc...) should never be run in conduit with high voltage (like 115VAC) wires.
2. Liquid tight fittings and some labeled signal leads are provided for all signal (low voltage) connections for both pre-wired and conduit units.

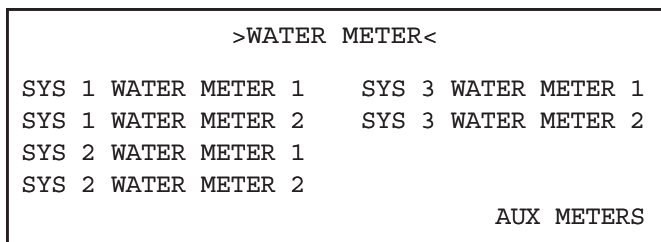
## B. MegaTronSS Motherboard Connections



## II. Operations

### 1. Totalizers

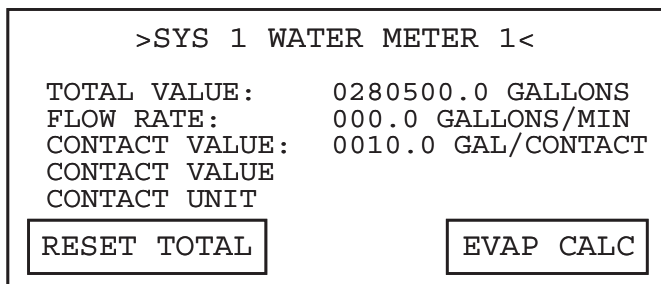
Units with Auxiliary Flow meter inputs have a Home menu selection for Totalizers. The Totalizer menu has selections for each of the System Water Meters plus one named Aux Meters.



Select the system water meter to set-up or go to Aux Meters to set-up the auxiliary flow meters.

### 1.1 Water Meters

Each system with a timer on it will have 2 water meter inputs. Each of these can have the incoming contact defined allowing the controller to keep track of water usage. If desired the controller can calculate evaporation loss by subtracting the deference between a systems 2 water meter inputs.



**CONTACT VALUE** - Defines the numerical value for a contact; i.e. 10.

**CONTACT UNIT** - Defines the units of measure for a contact; i.e. Gallons / Contact

**RESET TOTAL** - Resets the totalizer count.

**EVAP CALC** - Defines which way to subtract the 2 water meter inputs for an evaporation value.

## 1.2 Aux Meters

A unit may have 0 to 10 Aux Meters. These additional inputs are for tracking various flow meter devices like Advantage Controls' FloTracker in a metering pump's discharge tubing. They can also be linked to a system's water meter input for additional tracking and alarm capabilities.

```
>FLOW METER<
FM01: AUX METER A      FM06: AUX METER F
FM02: AUX METER B      FM07: AUX METER G
FM03: AUX METER C      FM08: AUX METER H
FM04: AUX METER D      FM09: AUX METER I
FM05: AUX METER E      FM10: AUX METER J
```

Select the Aux Flow Meter to set-up or review.

### 1.2.a Aux Meter Review

A review screen of the current settings is provided with a selection for the Tracking method and also the Settings.

```
>FLOW METER 1<
TOTAL VALUE: 9966.0 ML
FLOW RATE: 0.0 ML/MIN
CONTACT VALUE: 0.33 ML/CONTACT
LAST RESET ON: 08/25/2006
VOLUME ALARM: 1000 LITERS (24 HOURS)
ALARM NOTIFY: (DISPLAY)
VOLUME: 0.0 LITERS
VERIFY ALARM: 100 SEC (DISPLAY)
RELAY LINK: SYS1 TIMER3

[SETTINGS] [TRACKING]
```

**SETTINGS** - Access the various settings for the flow meter.

**TRACKING** - Provides a pop-up screen to select either FloTracker or Rate and Volume tracking.

**NOTE:** Select Tank Inventory or FloTracker if the aux meter is a FloTracker. Select rate and volume if tracking a water meter or other batch flow device.

### 1.2.b Aux Meter Settings

```
>FLOW METER 1 SETUP<
PULSE VALUE          VOLUME ALARM
UNITS                 RESET VOLUME
RESET TOTAL          TANK SIZE
VERIFY ALARM
RELAY LINK
```

**PULSE VALUE** - Defines the numerical value for a contact, i.e. 225.

**UNITS** - Defines the units of measure for a contact, i.e. Pulses / Ounce.

**Note:** An Advantage FloTracker gives 3.3ml/pulse or 10 pulses/ounce. Set the Units to pulses / once if you want to totalize in gallons

**RESET TOTAL** - Resets the totalized count of the meter.

**VERIFY ALARM** - If a flow meter is linked to a control relay the controller will give an alarm if it does not receive a contact or pulse from the aux meter within the amount of time defined.

**RELAY LINK** - The relay link informs the controller that the particular aux meter input is relevant to the control function that the selected relay is being driven by. For example, if the aux flow meter is a metering pump's FloTracker then it should be linked to the relay that is driven by the feed timer that pump will be controlled by. If the aux meter is going to be linked to a water meter in a bleed of line then it should be linked to the relay that is controlling the bleed off valve.

**VOLUME ALARM** - If Tank Inventory or FloTracker has been selected as the Tracking method, an alarm will occur when the defined amount of product is left in the tank. For example, if the Tank Size is defined as 30 gallons, the tank volume is reset (controller is told that it is starting with a full 30 gallons) and the Volume Alarm value is 5 gallons, an alarm will occur when 25 gallons has passed through the aux meter.

If Rate and Volume tracking has been selected an alarm will occur if the defined Volume Alarm amount is measured within a 24 hour period. This would be used if the aux meter is linked to a water meter in a bleed off line.

**RESET VOLUME** - Resets the Volume Alarm totalization back to the full defined tank size.

**TANK SIZE** - The size of chemical tank that product usage is being measured out of.

SETTINGS with RATE/VOLUME TRACKING

```

>FLOW METER 2 SETUP<
PULSE VALUE          VOLUME ALARM
UNITS                RESET VOLUME
RESET TOTAL
VERIFY ALARM
RELAY LINK           METER LINK
  
```

**METER LINK** - An aux meter input can be linked to a system card's water meter input. This allows the system card to read the water meter and the aux meter input to use the contacts for additional tacking and alarm capabilities.

**2. Timer Set Up**

If a Pulse or Percent timer is linked to an auxiliary flow meter input via the relay link in the aux meter settings it will have additional settings to allow for feeding based on volume instead of just time.

**2.1 Pulse Timer**

A pulse timer linked to an aux meter input will have an additional selection for the RUN type. The run type will have 3 options: Time, Volume and PPM.

```

>SYSTEM 1 TIMER 1<
  >SET RUN TYPE (PPM)<
    -> VOLUME
  USE UP/DOWN KEYS TO CHANGE
  PRESS ENTER TO ACCEPT
  
```

**TIME** - Timer runs for a set amount of timer.

**VOLUME** - Timer runs until the aux meter reads a set volume has passed through it.

**PPM** - Timer runs until enough volume has passed through to maintain a PPM set point based on make-up volume and cycles.

If Time is selected the standard Pulse timer settings found in the full manual apply.

If PPM is selected the controller requires additional information to be entered under the PPM selection in the timer's settings.

```
>SYSTEM 1 TIMER 1 SETUP<
CYCLES
TEST FACTOR
PPM GOAL
```

**CYCLES** - Sets how the controller will get a cycles value.  
**TEST FACTOR** - The calculation factor to use if a particular trace % of the overall product volume desired.  
**PPM GOAL** - The PPM goal that the timer is to reach before it turns off.

If Volume or PPM are selected the following settings will also be in the Pulse timer menu.

```
>SYSTEM 1 TIMER 1 CHANGE<
ACCUMULATE                LIMIT TIME
PPM (OR VOLUME)          ALARM NOTIFY
METER INPUT
RUN TYPE
RESET
```

**ACCUMULATE** - The number of gallons or liters from water meter to count before activating timer.  
**PPM or Volume** - is shown depending upon the Run Type that is selected.  
**METER INPUT** - Since each system with timers has two water meter inputs you must select which meter to get contacts from.  
**RESET** - Resets the timer volume calculation.  
**LIMIT TIME** - This is a safety limit timer setting that will stop the timer from running even if the set Volume or PPM has not been reached.  
**ALARM NOTIFY** - Feed limit alarm notification selections.

**2.2 Percent Timer**

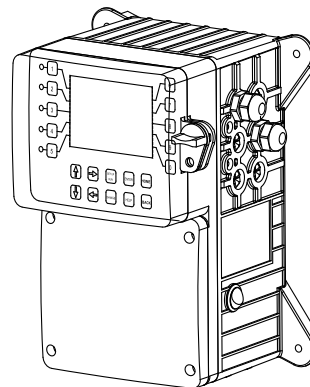
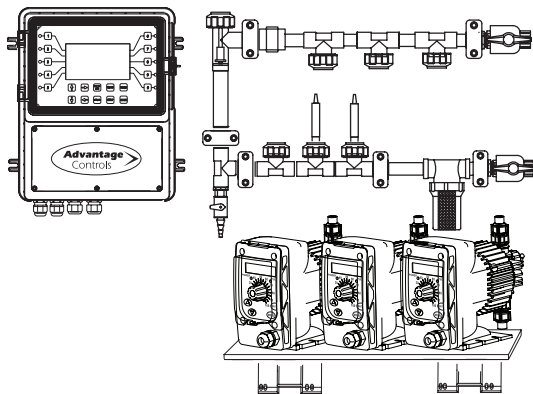
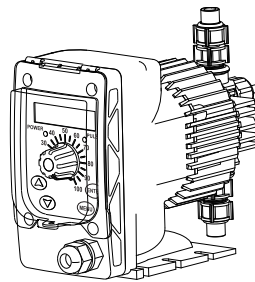
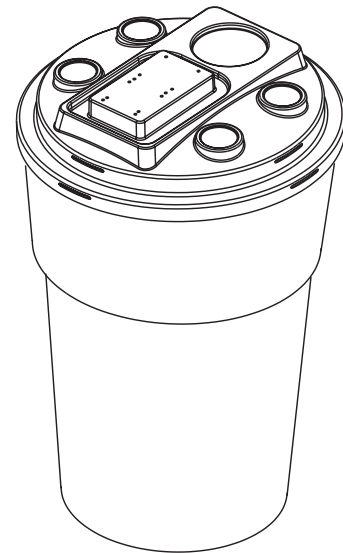
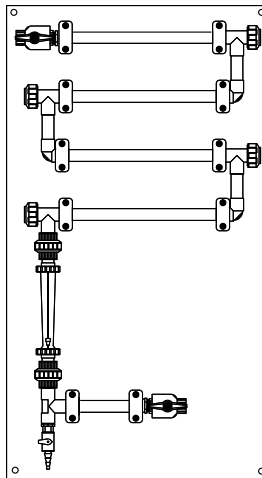
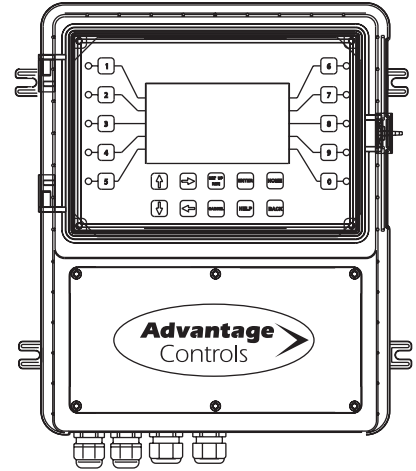
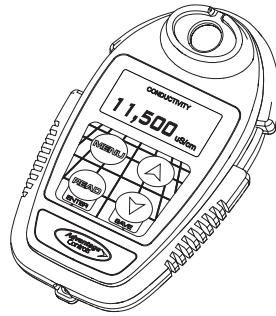
```
>SYSTEM 1 TIMER 1 CHANGE<
VOLUME
CYCLE TIME
RUN TYPE
LIMIT TIME
ALARM NOTIFY
```

**VOLUME** - The amount of volume that must pass through the aux meter when the timer is activated.  
**CYCLE TIME** - The amount of time in MM:SS that the cycle is going to be.  
**RUN TYPE** - Select between volume or just time.  
**LIMIT TIME** - This is a safety limit timer setting that will stop the timer from running even if the set Volume or PPM has not been reached.  
**ALARM NOTIFY** - Feed limit alarm notification selections.

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